National Credit Union Administration Examiner's Guide

Effective: 5/2018

Incorporated by Reference in 69U-100.045(4), F.A.C.

Examiner's Guide

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Risk-Focused Examinations

What is a risk-focused examination (RFE)?

An **RFE** allows the examiner to identify the areas of a credit union's operations that pose the greatest risk to the **NCUSIF** . Examiners will use a combination of procedures required by the agency (**NCUA** Instruction 5000.20, Examination Scope) and their own professional judgment to determine the scope of the exam.

The NCUA developed and implemented the RFE program in 2002 to focus field staff attention and resources on areas of elevated risk. Over time, the RFE program has evolved to address new and emerging risks in the industry and to respond to the NCUA's annual supervisory focus.

A comprehensive RFE scope includes required, baseline, and optional/expanded review areas, as well as the sound, reasoned judgment of field staff in determining which baseline and optional/expanded review areas are relevant and necessary.

- Required - Examiners must complete the required review areas at every RFE unless the credit union does not offer the product or service covered by the review. For each required review area, field staff must complete any associated **AIRES** questionnaire.
- Baseline - Field staff must be familiar with the full scope of baseline review areas for each type of supervised credit union and use their own judgment and understanding of the risks of each credit union to determine which baseline review areas to include in the scope of an examination. Field staff do not have to review every baseline area in every examination of every credit union. Rather, they should allocate their time and resources appropriately to the credit unions and credit union operations that pose the greatest risk. However, field staff must document their reason for opting out of a baseline review area.
- Optional/Expanded - Examiners may identify additional areas of review using their own professional judgment and taking into consideration the risk profile of the credit union. Examiners will document their reason for expanding the scope beyond the required and baseline reviews in the Exam Scope.

How is NCUA authorized to perform RFEs?

Part 204 of the Federal Credit Union Act gives the NCUA the authority to conduct examinations of any insured credit union. Specifically, the act states:

> "The [NCUA] Board shall appoint examiners who shall have power, on its behalf, to examine any insured credit union, any credit union making application for insurance of its member accounts, or any closed insured credit union whenever in the judgment of the Board an examination is necessary to determine the condition of any such credit union for insurance purposes. Each

examiner shall have power to make a thorough examination of all of the affairs of the credit union and shall make a full and detailed report of the condition of the credit union to the Board."

Why does NCUA perform RFEs?

The NCUA implemented the RFE program in an effort to better allocate agency resources and assist in meeting the agency's strategic goals. Under this approach, the agency's resources are focused on the credit unions that pose the greatest risk to the NCUSIF. In addition, examiners are able to allocate time and apply the most scrutiny to activities posing the highest risk.

Which credit unions receive an RFE?

NCUA Instruction 5000.20, Examination Scope outlines the eligibility requirements for defined-scope and risk-focused examinations for all federally insured credit unions. The instruction is updated annually and eligibility requirements may change from year to year.

The current exam requirements are as follows:

Asset Size	CAMEL Rating	Type of Exam
Less than $30 million	1, 2, and 3	Defined-scope examination
	4 and 5	Defined-scope examination, at a minimum, plus additional reviews as necessary to appropriately supervise the risk
$30–50 million	1, 2, and 3	Region has discretion to choose a defined-scope examination or an RFE (However, newer examiners will be limited to conducting only defined-scope examinations for FCUs in this asset size range.)
	4 and 5	RFE

Asset Size	CAMEL Rating	Type of Exam
More than $50 million	All	RFE, ensuring examination scope requirements are met

How does a risk-focused exam differ from a defined-scope exam?

The primary difference between the two types of exams is that in a defined-scope exam the risk areas have already been identified and the scope is pre-determined. This means that an examiner will not perform a preliminary risk assessment or develop an individualized exam scope.

Defined-Scope Examination	Risk-Focused Examination

• Scope is predetermined and primarily focuses on internal controls, recordkeeping, and lending (no preliminary risk assessment is performed)
• Required procedures are outlined in the **SCUEP** workbook (there is no opt-out provision)
  ◦ Tier 1 (always required unless the credit union does not offer the product or service)
  ◦ Tier 2 (if triggered)
  ◦ Tier 3 (if triggered)
• To expand the scope, an examiner must obtain **SE** approval
	• Scope is determined by the examiner who conducts a preliminary risk assessment to identify specific risks at the credit union
	• Review areas are dictated by the annual NCUA Instruction 5000.20, Examination Scope, which includes:
	  ◦ Required
	  ◦ Baseline (can opt out based on examiner judgment)
	  ◦ Optional/ Expanded (can opt in based on examiner judgment)

How does NCUA conduct RFEs?

RFEs , which are performed onsite, are complemented by ongoing offsite supervision, which may include a review of board meeting minutes, financial statements, Call Reports, **FPR** , policy revisions, and **RATE** . Additional onsite supervision may be required for certain credit unions as discussed in the NSPM.

Each examination results in a report and CAMEL rating that:

- Evaluates the soundness of credit unions on a uniform basis,

- Quantifies the degree of risk to the NCUSIF, and
- Identifies institutions that require additional supervisory attention.

The examination process involves the following broad steps:

- Make a preliminary assessment of expected risk.
- Determine appropriate examination steps and procedures.
- Document process and transaction reviews and results.
- Evaluate information, using the total analysis process, to assign CAMEL ratings and the level and anticipated direction of risk for each risk category.
- Assess future examination resource needs.

Workpapers & Resources

- NCUA Instruction 5000.20, Examination Scope
- NSPM
- NCUA Letter to Credit Unions 07-CU-12, CAMEL Rating System (December 2007)
- NCUA Letter to Federal Credit Unions 02-**FCU** -09, Risk-Focused Examination Program (May 2002)

Last updated October 11, 2016

Total Analysis Process

What is the total analysis process?

TAP is a comprehensive process that requires examiners to look beyond individual facts and "static" balance sheet figures to determine the true financial condition, quality of service, and risk potential of supervised credit unions. The goal of TAP is to accurately and holistically assess a credit union based upon a sum of its parts—in other words, to not "lose sight of the forest for the trees."

How do examiners implement TAP?

As part of TAP, examiners will review numerous financial ratios and perform a series of data analyses. This analysis helps examiners understand a credit union's financial ratios both individually and as part of an interrelated system, where trends or risk exposures in one area can affect another. Examiners also look at financial indicators such as adverse economic trends, unusual growth patterns, or concentration levels. These indicators can serve as triggers of changing risk and possible future problems. When negative indicators are present, examiners must determine the action needed to reverse unfavorable trends and formulate, with credit union management, recommendations and plans to ensure implementation of these actions.

TAP helps examiners assess critical aspects of a credit union's operations: Capital Adequacy, Asset Quality, Management, Earnings, and Liquidity/Asset-Liability Management (CAMEL). TAP is also used when examiners assess the seven critical risk areas (Credit, Liquidity, Interest Rate, Compliance, Strategic, Transaction, and Reputation). Each risk area is assigned a rating of low, moderate, or high, as well as a "direction" (increasing, decreasing, or unchanged).

The culmination of TAP occurs with the examiner assigning a rating of 1 to 5 to each of the CAMEL components (a "component rating") and an overall score (the "composite rating"). The CAMEL Rating System provides an accurate and consistent assessment of a credit union's financial condition and operations, measures risk, and is used to allocate supervision resources.

NCUA examiners are required to use the total analysis process described in this guide. TAP includes the following steps:

1. Collecting data
2. Reviewing data
3. Analyzing and interpreting data
4. Reaching conclusions
5. Making recommendations and developing plans for action.

Valid TAP results depend on the examiner considering and accurately interpreting all pertinent data. The examiner then has the tools to make meaningful recommendations and design action plans that will mitigate unacceptable risks.

Inappropriate recommendations and action plans may result if an examiner does not properly apply TAP. To reduce this possibility, examiners should:

- Perform a final review of all data.
- Discuss analysis, risk assessments, and conclusions with management.
- Ensure that recommendations and action plans are practical, specific, and understandable.
- Ensure that the plans will achieve an appropriate level of risk reduction.

Workpapers & Resources

- NCUA Letter to Credit Unions 07-CU-12, CAMEL Rating System (December 2007)

Last updated October 11, 2016

Collecting Data

Examiners collect two primary types of data throughout an examination: qualitative and quantitative. Qualitative data is information gathered that is more descriptive in nature, typically not based on numbers, and therefore not measurable. Sometimes qualitative data can be gathered, categorized, coded, and turned into quantitative data. Quantitative data is information dealing with numbers that can be measured and calculated.

Qualitative Data

Examiners obtain qualitative data by observation (for example, reading minutes, policies, recent correspondence, prior exam reports including scope comments, and watching staff perform duties) and through discussions with officials and employees. In addition, examiners must review loan files, and may find valuable information in investment files.

Qualitative data may also be gathered by reviewing prior exam reports in **AIRES** including the Examination Overview, which summarizes a credit union's overall condition in narrative form, and examination workpapers (for example, Key Ratios, Financial History, and Reasonableness Ratios).

Quantitative Data

Data submitted by credit unions through the 5300 Call Reporting process appears on various AIRES workpapers, including the Financial History and Key Ratios tab. Examiners collect this data by using the download function in AIRES to request a historical download for the credit union. They will also collect data by requesting an AIRES share and loan download from the credit union. The credit union will either perform this download themselves or obtain the download from their core processor.

The Financial History workpaper, which is key to TAP, consolidates data provided by the credit union. This data is used to compute the ratios in the Key Ratios workpaper. For additional financial history data, examiners may collect and analyze data using alternative analysis tools like the **FPR** or optional AIRES workpapers, such as:

- Risk Reports
- Concentration Trends
- Reasonableness Ratios
- Two-Minute Profitability Test

Last updated October 11, 2016

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Reviewing Data

In this section of the Total Analysis Process, the examiner familiarizes him or herself with the data and evaluates the accuracy and reasonableness of the data. This complex evaluation of the examination data requires examiners to use their professional judgment.

Imported data automatically carries forward to the Financial History, Key Ratios, and various investment, loan, and share reports. Examiners should also verify the integrity of 5300 Call Report data during the examination and/or supervision process to ensure that **AIRES** workpapers and the **FPR** are accurate.

If an examiner finds an error on a 5300 Call Report, he or she should correct the data by requiring the credit union to upload a corrected Call Report. If the change is material in nature, the examiner should also consider requiring that the credit union restate the appropriate financial statements.

If a credit union is unable or unwilling to upload a corrected Call Report, the examiner can upload the report on behalf of the credit union.

Last updated October 11, 2016

Analyzing and Interpreting Data

Analyzing and interpreting data is the most complex phase of the TAP. In this portion, examiners:

- Break down and reassemble data
- Relate individual parts of the data to the whole
- Note trends, and
- Identify risk

The examiner's ability, judgment, experience, and skill all come into play in the process of analyzing and interpreting data. If examiners place too much emphasis on minor facts or ignore significant facts, they may arrive at erroneous conclusions. When in doubt about the significance of an issue, examiners should seek guidance from a supervisor.

Placing Data into Perspective

Credit unions are often chartered with the primary goal of providing loans to members. Lending programs require that the credit union take a reasonable business risk, which results in earnings sufficient to maintain or build net worth. However, by emphasizing zero delinquency and loan losses, the examiner could diminish a primary reason for the credit union's existence and decrease its income.

Discussions with management to obtain additional information not readily available will increase an examiner's understanding of issues, and potentially change the assessment of risk. Information regarding the sponsor's support and future viability, local economic conditions, and other relevant information are necessary to properly assess risk.

To effectively interpret data, examiners should establish a hypothesis and test it using available data. For example, if the delinquency ratio is high and increasing, an examiner may establish a hypothesis that either underwriting is weak, that there is a collection problem, or both. The examiner must then test this hypothesis by reviewing loan files for underwriting weaknesses and collection policies and procedures for effectiveness.

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Analysis Methods

Examiners use a variety of methods to interpret data, including:

- Financial data analysis
- Trend analysis
- Reasonableness analysis
- Qualitative data analysis
- Multi-view analysis

Financial Data Analysis

Financial data analysis includes the review of the component parts of a financial statement in relation to the whole. There are two important aspects of this analysis:

1. Financial data analysis is static in the sense that the examiner reviews the composition of a financial statement as of a specific date.
2. The credit union's financial ratios should fall within reasonable parameters. Examiners may use various **AIRES** workpapers to assist in making this determination.

During financial data analysis, the examiner will review statistical data on various AIRES workpapers. Examiners generally use the Key Ratios workpaper to evaluate and appraise a credit union's overall financial condition. However, examiners may use other financial ratios to complete an analysis or to corroborate hypotheses the examiner reached after reviewing the Key Ratios workpaper. Examiners can also evaluate management's financial vision by reviewing ratios against the credit union's projected ratios in the budget or business plan.

When analyzing the financial and operational structure of a credit union, examiners should:

- Step back from exam details and individual ratios (and often from the computer)
- Think about the big picture, how the various aspects of the credit union's operations interact, and how individual ratios relate to each other
- Assess management's ability to identify, measure, monitor, and control current and future risk

Numerous ratios which measure a variety of credit union functions provide the basis for analysis. Examiners must understand these ratios both individually and as a group, depending on the type of analysis being performed. Some individual ratios may not provide an accurate picture without a review of the related ratios. For example, operating income, gross income, and provision expense are all related to return on average assets. Analyzing a group of ratios may help an examiner determine why a ratio falls outside a reasonable parameter.

To identify risk, examiners should analyze financial data and the ratios developed from that data. For example, the return on average assets is a financial data analysis ratio developed from net income and assets.

During the financial analysis, the examiner may compare a credit union's ratios to the same ratios of similar size credit unions. Examiners can create a customized query based on a variety of criteria using Call Report data. In addition, a credit union may identify its own peer group to be used for comparative analysis.

Examiners should exercise caution when comparing credit union ratios to peer averages. Economic, geographic, and other differences between credit unions may result in misleading comparisons. Peer ratios do not represent standards or goals for the credit union to attain; they serve only as benchmarks. As such, examiners should use peer ratios as analysis points only. Examiners should not recommend specific action based solely on a peer or national average.

Trend Analysis

Trend analysis involves comparing a financial data ratio to itself over several time periods to help determine the level and direction of risk in a credit union. This analysis is generally conducted on annualized data; however, seasonal fluctuations may warrant an examiner using a different trend analysis period.

Example of an Alternative Trend Analysis Period

Typically, a teacher credit union will accumulate shares through the school year, until school adjourns in late spring. At this time, shares could decline significantly as members make withdrawals. Such seasonal fluctuations can cause wide variances in a credit union's net worth ratio, which can be taken into account by adopting a trend analysis period to compare net worth ratios year-over-year (March to March, for instance) as opposed to on an annualized basis.

Trend analysis lets examiners identify, question, and evaluate operational changes at a credit union. Examiners should allocate extra time for trend analysis in credit unions that have recently implemented new strategies or programs. While these are not always an indication of higher risk, poorly implemented and controlled programs are often a contributing factor noted in MLRs.

Where new strategies or programs have been implemented by a credit union, examiners should review recent and projected growth and compare actual results to projections. This can help an examiner identify unreasonable growth rates and determine if additional analysis is warranted. While trend analysis often requires looking back at prior ratios, it also serves as a valuable forecasting tool.

Reasonableness Analysis

When one or more ratios fall outside reasonable parameters, as defined by the **NCUA** or the examiner, a credit union's financial condition may be at-risk, misstated, or otherwise suspect. Examiners should analyze financial performance ratios to determine if they are reasonable. For example, the following unreasonable ratios would merit a reasonableness analysis:

- The cost of funds exceeds the average stated share dividend rates

- The yield on loans in a highly-loaned-out credit union with no reported delinquency equals less than half the stated loan rates
- The yield on investments falls well below market in comparison to the balance

Applying Reasonable Parameters

Consider the close relationship between asset composition and gross income. If loans comprise 90 percent of a credit union's assets and those loans have a 15 percent **APR** and nominal loan delinquency, the examiner would expect relatively high gross income. However, if gross income as a percentage of average assets equals only 6.9 percent, the results fall outside the examiner's reasonable parameters or expectations and warrants further review.

The examiner should determine the cause of an unreasonable ratio by conducting a reasonableness analysis. AIRES can compute share costs and loan yields within optional workpapers for shares and loans. It can also calculate reasonableness ratios. By performing reasonableness tests, the examiner might identify transaction risks such as:

- Unauthorized disbursements
- Out-of-balance conditions
- Negative share accounts (overdrafts)
- Payment of personal expenses from credit union funds
- Fictitious loan or share accounts or other fictitious records

Fraud or embezzlement often cause the financial performance ratios to fail tests of reasonableness, which may serve as a red flag indicating the need for more in-depth review. Examiners should evaluate all available data before drawing a conclusion regarding fraud or embezzlement within a credit union.

Examiners may find the Reasonableness Ratio worksheet in the AIRES Exam workbook useful in determining reasonable parameters.

Qualitative Data Analysis

The main purposes for reviewing qualitative data are to help project a credit union's future viability and to determine the control environment surrounding various operations. In an effective exam, qualitative analysis requires examiners to go beyond merely identifying trends; they must look for causes behind a credit union's quantitative performance.

Qualitative data includes information and conditions that are not measurable in dollars and cents, percentages, numbers, etc. It can have an important bearing on a credit union's current condition, and can be used to more fully assess a credit union. Examples of qualitative data include:

- Loan file reviews

- Investment file reviews
- Comments from officials and employees who have been interviewed
- Meeting minutes,
- Information derived from direct observation (for example, witnessing internal control procedures/separation of duties in effect)
- Internal operating procedures and board level policies
- Attitude and ability of credit union officials
- Economic conditions within the general economy
- Financial condition of the sponsoring organization

A credit union's future heavily depends on management's ability to identify, measure, monitor, and control risk. When a credit union implements new strategies or programs, examiners should perform extensive qualitative data analysis on management's tools for mitigating risk.

Multi-View Analysis

Just as a single product can present multiple risks, examiners can perform a variety of analyses—a multi-view analysis—on any product. For example, examiners can evaluate loans by analyzing:

- The amount current and the amount delinquent (the amount delinquent can be further broken down into length of delinquency)
- Concentrations of specific loan types or to single borrowers, geographic locations, etc.
- The loan turnover rate
- The percentage of high risk loans (may require profiling loans)
- The amount allocated to a new loan program
- The amount unsecured and secured

This approach allows examiners to look beyond static balance sheet figures to more accurately assess a credit union's financial condition and risk potential.

Red Flags

While not designed to detect fraud, the results of an examiner's analysis may warrant expanded procedures if red flags exist. Examiners can refer to AIRES Questionnaire - Red Flags.

Workpapers & Resources

- AIRES Questionnaire - Red Flags
- NCUA Custom Call Report Query

Last updated October 11, 2016

Reaching Conclusions

After collecting, reviewing, and interpreting all appropriate data, the examiner will document his or her conclusions. In this step of TAP, the examiner identifies concerns, explains their causes, and assesses risk to arrive at a CAMEL rating. The CAMEL rating reflects an examiner's assessment of a credit union's capital adequacy, asset quality, management, earnings, and asset liability management. CAMEL ratings also allow examiners to measure risk and to allocate resources for supervision purposes.

Key ratios alone do not automatically determine a CAMEL rating. Examiners should follow TAP to ensure that data is collected, reviewed, and interpreted in an appropriate manner.

When evaluating CAMEL components, examiners consider quantitative and qualitative data. **NCUA** Letter to Credit Unions 07-CU-12, CAMEL Rating System, outlines these areas more fully. Examiners have the discretion to increase or decrease the component or overall ratings they deem necessary using their professional judgment. Increases or decreases should be supported in the exam report.

Risk Ratings

In addition to considering quantitative and qualitative data, examiners must also determine the level of the overall risk in the following risk areas:

- Credit
- Liquidity
- Interest rate
- Compliance
- Strategic
- Transaction
- Reputation

Example of Assigning Risk Level

An examiner determines that a credit union's **MBL** portfolio has high credit risk. However, MBLs only make up a small percentage of the credit union's total assets. As a result, the examiner concludes that the credit union has either low or moderate credit risk. The assignment will depend on the remainder of the balance sheet and management's future plans for the MBL program.

The examiner will evaluate the level (high, moderate, or low) and anticipated future direction (increasing, unchanged, or decreasing) for each risk area.

Example of Assigning Anticipated Future Direction of Risk

An examiner determines that a credit union has plans to rapidly increase its indirect loan portfolio. Although the portfolio currently represents a small portion of the credit union's overall portfolio, the examiner determines that the impact of the proposed growth represents increasing credit risk.

Examiners can make sound recommendations only by reaching informed and logical conclusions. Depending on a credit union's circumstances and the degree of examiner judgment required, examiners may find some conclusions difficult to reach. When this occurs, examiners should seek assistance from their supervisor.

Workpapers & Resources

- NCUA Letter to Credit Unions 07-CU-12, CAMEL Rating System (December 2007)

Last updated October 11, 2016

Making Recommendations and Developing Plans for Action

After analyzing credit union operations and reaching conclusions, the examiner will make recommendations to ensure the safe and sound operation of a credit union, if necessary. Action plans that address a material area of concern will be documented and communicated to the credit union in a DOR. Plans for corrective action are also documented in a **DOR** .

Because management's responsibility includes implementing the action plans, examiners should work with management to create an effective DOR when possible. Well-designed, achievable, and measurable action plans should reduce unacceptable risks and prevent problems from recurring.

If the examiner concludes there are no major areas of concern but has recommendations to enhance operations, the recommendations may be documented in the Examiner's Findings and Supplementary Facts workpaper.

Workpapers & Resources

- NSPM

Last updated October 11, 2016

Chapter 4

INTERNAL CONTROLS

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Chapter 4

INTERNAL CONTROLS

Examination Objectives

- Determine whether the credit union has implemented efficient and effective operations and risk management systems
- Determine whether the credit union accurately records transactions
- Determine timeliness and reliability of financial reporting
- Determine whether the credit union complies with regulations, internal policies, and internal procedures
- Assess whether the credit union has implemented adequate internal controls to safeguard assets

Associated Risks

- Strategic risk occurs when management fails to (1) perform necessary due diligence as it applies to internal controls surrounding existing and proposed products and services, (2) act on recommendations included in examinations and internal/external audit reports, and (3) allocate the necessary resources to implement proper internal controls;
- Transaction risk occurs when internal controls do not sufficiently deter or detect errors, omissions, or material misstatements;
- Compliance risk occurs when the credit union fails to adhere to applicable laws and regulations; and
- Reputation risk occurs when management fails to meet its fiduciary duties, resulting in poor publicity or administrative action.

Overview

Internal control is defined as a process, developed by a credit union's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories:

- Effectiveness and efficiency of operations;
- Reliability of financial reporting; and
- Compliance with applicable laws and regulations.

Internal control does not guarantee that the entity will achieve its objectives or even remain in business. Rather, internal control provides

management with reasonable assurance regarding the achievement of objectives. Inherent limitations to internal control exist and cost/benefit considerations will prevent implementation of all possible controls. Inherent limitations may also limit the effectiveness of internal controls.

§113 of the *FCU Act* states that the board of directors shall have the general direction and control of the affairs of the credit union, including the proper and profitable conduct of credit union operations, the safety of credit union assets, and the accuracy and adequacy of financial statements. The board retains overall responsibility for the affairs of the credit union. As part of that responsibility, the board establishes internal controls, which include organizational plans, policies, and operating procedures to maintain control over the duties delegated to paid employees.

Internal control systems assist management with the following:

- Measuring performance, making decisions, evaluating processes, and managing risks;
- Achieving its objectives and avoiding surprises; and
- Detecting mistakes caused by personal distraction, carelessness, fatigue, errors in judgment, or unclear instructions in addition to fraud or deliberate noncompliance with policies.

Effective and well-designed control systems are still subject to execution error. In other words, human beings still must execute most control systems and even well trained personnel with the best of intentions can become distracted, careless, tired or confused.

Consistent application and thorough understanding of internal control by credit union personnel can determine the effectiveness of board and management policies. Controls typically (1) limit authorities, (2) safeguard access to and use of records and credit union assets, (3) separate and rotate duties, and (4) ensure both regular and unscheduled reviews, including testing.

Safety and Soundness

The *FCU Act* and the bylaws establish the basic organizational pattern for credit unions. A credit union's growth necessitates further divisions

of duties and responsibilities. The following organizational procedures enhance the attainment of internal control:

- Approval of loan applications by a separate credit committee elected by the members or appointed by the board, or by a loan officer appointed by the credit committee or the board;

- The signing and countersigning of checks and notes by a person other than a disbursing officer;

- Approval of membership applications by the board, executive committee, or membership officer, rather than by the paid board officer, the financial officer, any assistant to the paid board officer or financial officer, or a loan officer;

- Internal audits by the supervisory committee or internal auditor conducted independently of any official or employee; and

- Maintenance of separate lists of accounts opened and closed for the information of the directors and supervisory committee by persons other than those handling the accounting records.

The bylaws and *Supervisory Committee Guide for Federal Credit Unions* contain other examples and information for achieving control through organization. (Appendix 4A, Conflicting Management Positions, addresses prohibited positions within the credit union and the officers or employees.)

Accurate Financial Statements

Essentially, the accounting system provides a credit union's management with the complete and accurate financial information needed to conduct sound and effective operations. Management uses financial statements produced by the system to report to the members, creditors, insurers, and NCUA. Adherence to generally accepted accounting principles and standards will assure compliance with the full and fair disclosure provisions of §702.402 of *NCUA Rules and Regulations*.

Other Laws and Regulations

Internal controls are checks and balances built into policies and procedures. The *FCU Act* requires several internal controls, while others develop out of daily experience.

Internal controls for credit unions prescribed by law, regulation, or sound business practices include providing a statement of account to each member, which shows the record of the member's transactions, and obtaining evidence from each borrower regarding receipt of loan funds.

The credit union's operating procedures should contain internal controls such as the following:

- Dividing duties so that no one person has sole control over any transaction and its recording;

- Establishing the flow of work so that one employee, acting independently, automatically verifies the work of another without necessarily duplicating any work already performed; and

- Providing physical and mechanical facilities that support the maximum level of accuracy and work output.

Internal Control Components

The formality of any control system will depend largely on a credit union's size, the sophistication of its operations, the number of employees, and its risk profile. Small credit unions can design less formal and less structured control systems that can achieve similar effectiveness as more formal and structured control systems at larger or more sophisticated credit unions. Effective control systems should have:

- A control environment;
- Risk assessment;
- Control activities;
- Accounting, information, and communication systems; and
- Self-assessment or monitoring.

Control Environment

The control environment reflects the commitment of the board and management to internal control. It provides discipline and structure to the control system. Elements of the control environment include:

- The organizational structure of the credit union. (Is the credit union's organization centralized or decentralized? Are authorities and responsibilities clear? Are reporting relationships well designed?);
- Management's philosophy and operating style. (Are the credit union's business strategies formal or informal? Is its philosophy and operating style conservative or aggressive? Have its risk strategies been successful?);
- Personnel's integrity, ethics, and competence;
- The external influences affecting the credit union's operations and risk management practices (e.g., independent audits);
- The attention and direction provided by the board of directors and its committees, especially the audit or risk management committees; and
- The effectiveness of human resources' policies and procedures.

Risk Assessment

Risk assessment is the identification, measurement, and analysis of risks - internal and external, controllable and uncontrollable, at individual business levels and for the credit union as a whole. Management must assess all risks in the credit union. Uncontrolled risk-taking can prevent the credit union from reaching its objectives and can jeopardize its operations. Effective risk assessment helps determine the risks, needed controls, and management of those controls.

Control Activities

Control activities are the policies, procedures, and practices established to help ensure that credit union personnel carry out board and management directives at every business level throughout the credit union. These activities help ensure that the board and

management act to control risks that could prevent a credit union from attaining its objectives. They should include:

- Reviews of operating performance and exception reports. For example, senior management should regularly review reports showing financial results to date versus budget amounts, and the loan department manager should review weekly reports on delinquencies or documentation exceptions;

- Approvals and authorization for accessing and performing transactions and activities, including wire transfers. For example, an appropriate level of management should approve and authorize all transactions over a specified limit, and authorization should require dual signatures;

- Segregation of duties to reduce a person's opportunity to commit and conceal fraud or errors. For example, custody of assets should not rest with the person who authorizes or records transactions;

- Dual control or joint custody over access to assets (e.g., cash, negotiable collateral, official checks, etc.);

- The requirement that officers and employees in sensitive positions take two consecutive weeks of out-of-office vacation each year, if practical;

- Design and use of documents and records to help ensure recording of transactions and events. For example, using pre-numbered documents facilitates monitoring;

- Safeguards for access to and use of assets and records. For example, to safeguard data processing areas, a credit union should secure facilities and control access to computer programs and data files; and

- Independent checks on completion of jobs and accuracy of recorded amounts. Examples of independent checks include account reconciliation, computer-programmed controls, management review of reports that summarize account balances, and user review of computer-generated reports.

Credit union directors must hold management and staff responsible for their actions. Credit unions must maintain written procedures or controls for certain areas, including, but not limited to, lending, investments, fraud prevention, the Bank Secrecy Act, privacy, and Truth in Savings. Although credit unions should have written internal control procedures in all areas, the mere existence of the procedures will not suffice. Personnel must understand control procedures and follow them conscientiously.

Control Systems

Accounting, information, and communication systems capture and distribute pertinent and timely information in a form that enables the board, management, and employees to carry out their responsibilities.

Accounting systems contain the methods and records that identify, assemble, classify, record, and report a credit union's transactions.

Information and communication systems assist staff in understanding (1) how they fit into the credit union's control system, (2) how their roles relate to those of others, and (3) how they must maintain their accountability. Information systems produce reports on operations, finance, and compliance that enable management and the board to run the credit union. Management must understand the information system's full capabilities (e.g., availability and content of reports.). Communication systems disburse information throughout the credit union as well as to members and regulators. (Appendix 4B contains a list of Information Systems Reports that examiners may find useful during an examination and when evaluating a credit union's internal controls.)

Self-Assessment or Monitoring

Self-assessment or monitoring is the credit union's own oversight of the control system's performance; employees within the area evaluate departmental or operational controls. Part of the normal course of daily operations and activities should involve ongoing monitoring. Internal and external audit functions, as part of the monitoring system, may provide independent assessments of the quality and effectiveness of a control system's design and performance.

All credit union personnel should share responsibility for self-assessment or monitoring. All employees should understand their responsibility to report breaches of the control system.

Internal Control Evaluation

Evaluating internal control involves:

- Identifying the internal control objectives relevant to the credit union;
- Reviewing pertinent policies, procedures, and documentation;
- Discussing controls with appropriate levels of personnel;
- Observing the control environment;
- Testing transactions as indicated by the level of risk;
- Sharing findings, concerns, and recommendations with the board of directors and senior management; and
- Determining that the credit union has promptly corrected noted deficiencies.

Examiners should base the scope, type, and depth of an internal control review on the credit union's size, complexity, scope of activities, and risk profile. Assessment of the credit union's audit function plays an important part in this determination. When management or examiners note internal control weaknesses, the credit union should take immediate action to correct the deficiencies.

Strategic Risk

The strategies developed by management often determine effectiveness and efficiency of operations. Factors impacting the control environment include the integrity and ethical values of management, the competence of personnel, management philosophy and operating style, assignment of authority and responsibilities, and the guidance provided by the board. Examiners should also consider the following when assessing strategic risk:

- Involvement of board and management in the risk evaluation process. The board should perform due diligence on proposed, new and existing products and services and should evaluate internal or external resources used by management to ensure identification and monitoring of risk areas;

- The competency, knowledge level, and adequacy of resources of personnel involved in the risk assessment and evaluation processes;

- Whether the board and management discuss and appropriately evaluate risks and consider control issues during the planning stages for new products and activities;

- Whether audit personnel or other internal control experts participate when the credit union develops new products and activities;

- Whether the board and management consider and appropriately address technology issues; and

- The adequacy of the fidelity bond or other risk insurance coverage in relation to the requirements in *NCUA Rules and Regulations*.

Transaction Risk

Policies and procedures set by the board and implemented by management should ensure the accuracy and integrity of data and information. Examiners should consider the following items when evaluating this type of risk:

- Whether current policies and procedures exist to ensure decisions made by officials, management and staff have appropriate approvals and authorizations for transactions and activities;

- Whether accounting controls exist to provide reasonable assurance that staff carries out transactions according to management's authorization, and records transactions to permit accurate and timely preparation of financial statements;

- Whether processes exist to ensure that:

  - Staff independently verifies the performance and integrity of each function (e.g., lending, wire transfers, etc.) using an appropriate sample of transactions;

- Staff reconciles accounts continually, independently, and in a timely manner and resolves and clears outstanding items, both on and off balance sheet;

- Staff keeps policy overrides to a minimum and reports exceptions to management;

- Management has limited the control for employees in sensitive positions or risk-taking activities (see the Control Activities section of this chapter.)

Compliance Risk

Credit unions must comply with applicable laws and regulations. Examiners should assess the adequacy of information systems by determining:

- The type, number, and depth of reports generated for operational, financial, managerial, and compliance-related activities;
- Whether the credit union reviews the reports;
- Whether the credit union runs sufficient reports to properly run, monitor, and control the institution;
- Whether the credit union properly restricts access to information systems;
- Whether management performs the appropriate depth of due diligence and compliance review; and
- Whether management addresses compliance issues when considering new products and services.

Reputation Risk

Reputation risk revolves around adequacy of information as it applies to credit union staff and management, members, and third parties (e.g., vendors, external auditors, etc.) To assess the adequacy of communication systems, examiners should consider the following:

- Reviewing procedures for imparting significant information throughout the credit union (from the top down and from the bottom up in the organizational chain), ensuring that personnel understand the following:

  - Their roles in the control system;
  - Their activities in relation to others; and
  - Their accountability for the activities they perform;

- Reviewing information disbursed to external parties for compliance with fair credit and privacy regulations prior to its release;

- Assessing the frequency and thoroughness of verification of accounting, information, and communication systems by considering the following:

  - Frequency of testing given the level of risk and sophistication of the systems;
  - Sufficiency of ongoing reviews of the systems' accuracy;
  - Competency, knowledge, and independence of the personnel doing the testing;

- Determining oversight by senior management and the board over internal controls, control reviews, and audit findings. The board or a designated board committee should review management's actions to address material control weaknesses and verify the objectivity and adequacy of corrective actions. Examiner's should review the following:

  - Minutes of appropriate board and committee meetings, and
  - Audits or other control review reports and follow-up reports;

- Reviewing the frequency and comprehensiveness of reports to the board or board committee and senior management. Sufficient detail and timely presentation will allow for resolution and appropriate action;

- Assessing the oversight by the board or supervisory committee of audit and other control functions. The board or supervisory

committee should review the qualifications and independence of personnel evaluating controls (e.g., external auditors, internal auditors, or line managers);

- Evaluating the adequacy and independence of the audit or other control review function by considering the following:

  - Organizational structure and reporting lines;
  - Scope and frequency of audits or reviews;
  - Results of audit or other control review evaluations and supporting work papers;
  - Audit or control review reports, management responses, and follow-up reports; and
  - Appropriate and prompt attention directed in areas with identified control weaknesses; and

- Reviewing management's responses, documentation, and tracking of findings to enact adequate follow-up. Credit unions should establish a system of accountability to ensure satisfactory and effective follow up on control weaknesses.

Workpapers and References

- Workpapers
  - Management Review Questionnaires
  - Loan Internal Control Questionnaires
  - Loans-Lines of Credit/Credit Cards
  - Collection Program
  - Investment Internal Control Questionnaires
  - Cash Control Questionnaire
  - Information Systems Review
  - Red Flags
  - Red Flag Procedures

- References
  - *Federal Credit Union Act* §113
  - *NCUA Rules and Regulations* §702.402
  - *Supervisory Committee Guide for Federal Credit Unions*
  - *Accounting Manual for Federal Credit Unions*
  - Generally Accepted Accounting Principles
  - *Federal Credit Union Handbook*

CONFLICTING MANAGEMENT POSITIONS - APPENDIX 4A

Conflicting Positions

Positions In Federal Credit Unions and Persons Who are Prohibited From Holding Them

Position	Prohibited by Law, Regulation, or Bylaw	Prohibited by Principles of Sound Internal Control
Chief Executive Officer (CEO)	Vice President Secretary Assistant Secretary Treasurer Assistant Treasurer Manager Assistant Manager Membership Officer (if the President countersigns checks)	Member of the supervisory committee Supervisory committee assistant Credit union employee
Assistant Executive Officer	President Secretary Assistant Secretary Treasurer Assistant Treasurer Manager Assistant Manager Membership Officer (if the Vice-President countersigns checks)	Member of the supervisory committee Supervisory committee assistant Credit union employee
Recording Officer (Secretary)	President Vice President Manager Assistant Manager	Member of the supervisory committee Supervisory committee assistant Credit union employee
Assistant Secretary	President Vice President Treasurer	
Financial Officer (Treasurer)	President Vice President Member of the supervisory committee Supervisory committee assistant Membership Officer Assistant Secretary	Member of Credit Committee
Assistant Treasurer	President Vice President Membership Officer	Member of the supervisory committee Supervisory committee assistant
Director	Manager Assistant Manager (Only one director may also be a member of the supervisory committee)	Credit union employee

Position	Prohibited by Law, Regulation, or Bylaw	Prohibited by Principles of Sound Internal Control
Executive Committee Member	Any officer or employee other than a director (Only directors may serve as Executive Committee members)	Member of the supervisory committee Member of the credit committee Credit union employee Membership Officer
Supervisory Committee Member	Member of the credit committee Credit union employee Treasurer (Only one board member may also serve on this committee.)	Loan Officer Membership Officer Assistant Treasurer President Vice-President Secretary
Credit Committee Member	Member of the supervisory committee Supervisory committee assistant (Only one credit committee member may also be appointed a loan officer.)	Treasurer Manager
Loan Officer	Membership Officer (Only one credit committee member may be appointed a loan officer.)	Member of the supervisory committee Supervisory committee assistant
Membership Officer	Treasurer Assistant Treasurer Loan Officer Manager Assistant Manager President or Vice-President if checks are countersigned	Member of the supervisory committee Supervisory committee assistant
Manager	Member of the board of directors except by bylaw provision President Vice-President Member of the supervisory committee Supervisory Committee Assistant Membership Officer	Relative of any official Member of the credit committee
Assistant Manager	Member of the board of directors Member of the supervisory committee Supervisory Committee Assistant Membership Officer	Relative of any official

Position	Prohibited by Law, Regulation, or Bylaw	Prohibited by Principles of Sound Internal Control
Supervisory Committee Assistant	Treasurer Assistant Treasurer Manager Assistant Manager Member of the credit committee Credit union employee	Loan Officer Membership Officer Relative of any official or employee Assistant Treasurer President Vice-President Secretary
Credit Union Employee	Member of the supervisory committee Supervisory Committee Assistant	Relative of any official Member of the board of directors

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INFORMATION SYSTEM (IS) REPORTS – APPENDIX 4B

Examiners may use the following loan, share, and other reports frequently generated by the credit unions' information system (IS) to assist in the review of internal controls whether the credit union provides a download or generates the reports in-house. Good internal controls also require regular review of these reports by credit union management and the internal audit staff.

File Maintenance report - Identifies all changes made through the computer system that affect members' accounts. Also called the Non Financial Transaction report, this report usually differentiates between old and new data so the user can determine the credit union's changes. Changes that occur most often include: addresses, telephone numbers, loan due dates, payment amounts, interest rates, and maturity dates. Examiners may review a sample of these changes to determine that management properly authorized the changes and staff properly documented them.

Paid Ahead Loans report - Identifies loans with advanced due dates. When reviewing this report, the examiner should compare the borrower's actual payments over time to the note's required payment schedule. If discrepancies exist, the examiner should review a sample of related loan files, being especially cognizant of paid ahead loans where staff performs frequent file maintenance changes or where the prior activity date is long past (may be a deficiency balance that the credit union failed to charge off). Since a payment is due every month on open-end loans, they should not appear on the paid ahead report. Most IS reports flag open end loans so they do not appear on this report; however, the credit union may not have implemented this feature.

Accrued Interest Greater than Scheduled Payment report - Often reveals large portions of accrued interest that the credit union has not collected on specific accounts. In most cases, the majority of borrowers on this report are also delinquent or the note is a single payment note. If delinquency is not an issue, the examiner should determine why the account is on this report.

No Payments in the Last 90 Days report - Accounts listed are typically delinquent or single payment notes. This report can help the examiner pinpoint collection department problems. Examiners should inquire as to discrepancies between this report and the paid ahead report, and should review file maintenance changes made to these accounts.

Interest Rates < 5% or > 18% report - Examiners should review loan rates that fall into these categories and determine their accuracy. Interest rates greater than 18% are in error or illegal. Likewise, examiners should determine reasons for rates less than 5% (loans with no or special interest rates could be work-out loans).

Supervisory Override report - Documents system overrides by personnel who have the authority to make the specified changes. Credit unions should establish parameters that limit employees' access to the overall IS (proper segregation of duties). Because of staff limitations in small credit unions, one person may have the authority to make all changes, making the review of internal controls more critical.

First Payment Date >45 days from Original Loan Date report - Determines if the credit union has advanced due dates of any closed-end loans. In cases where the IS calculates delinquency from the first payment date rather than from the next due date, the IS must change the first payment when it advances the due date. The credit union should review the files of the loans appearing on the report to determine that the credit union appropriately approved an extension.

Loan Accounts with a PO Box report - Reveals different loan accounts with the same post office box, which could disclose fictitious loans.

Non-Amortizing Loans report - Reveals those loans with no principal reduction over time. Single payment or student loans may appear on this report. Examiners should review loans on the report and determine if and why the IS advances due dates.

Cash Transactions over $10,000 report - Identifies cash transactions that the credit union must report on the Currency Transaction report

and file with the Treasury Department. The review of this report may reveal fictitious deposits.

Cash Payment Loans report - Reveals those loan accounts where the credit union applied cash payments rather than payroll deduction payments to the remaining principal. Examiners may find this report useful if they suspect fictitious loan activity.

Negative Share and Share Draft report - Identifies accounts with negative balances as of the report date (usually printed as of month end); however, examiners may ask the credit union to print the report while they are on-site to determine if the credit union is hiding overdrafts. Reviewing a sample of related accounts may allow examiners to ascertain the reasons for and the duration of the negative accounts.

Shares > $100,000 report - May identify the credit union's share mix, share concentrations, uninsured shares, and possibly illegal deposits.

Share Accounts with a PO Box report - Reveals if different accounts have the same post office box. The credit union (or examiners at the examination) should trace a sample of accounts to membership cards and review them for validity. If the credit union provides a download of share accounts, the examiner can apply various sort commands to the accounts on the report.

NSF's YTD report - Tracks those members with the most non-sufficient funds (NSFs) for the year. The credit union (or examiners) should compare the report to the credit union's share draft policies to review for NSF abuse. Most IS can generate this report.

Dormant Share Accounts report - Identifies accounts with no activity for the past year (or another given time frame.) Examiners should determine that the credit union is in compliance with the state's abandoned property laws.

Insiders' report – Identifies the accounts of officials and often includes accounts of key management and family members of officials and key management.

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Chapter 5

SUPERVISORY COMMITTEE

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Chapter 5

SUPERVISORY COMMITTEE

Examination Objectives

- Determine the necessary supervision and examination scope based on the review of the supervisory committee audit, internal audit reports and risk management reports
- Determine whether the supervisory committee audit and verification meets the requirements of §715 and §741.202 of the *NCUA Rules and Regulations*
- Determine if the supervisory committee performs other duties to meet their fiduciary responsibility
- Determine the advisability of other audits (e.g., e-commerce, internal control, *Statement of Auditing Standard (SAS) No. 70*, etc.)

Associated Risks

- Compliance risk – Includes the risk that the audit and verification does not comply with the laws and regulations;
- Reputation risk – Includes the risk that the supervisory committee did not meet its fiduciary duties, resulting in poor publicity or administrative action;
- Strategic risk – Includes the risk that management fails to act on recommendations included in examinations or internal/external audits, or did not allocate the necessary resources to implement proper internal controls; and
- Transaction risk – Includes the risk that internal controls do not sufficiently deter or detect errors, omissions or material misstatements.

Overview

Reviewing the supervisory committee audit is a required and important aspect of the annual examination. The quality of the audit helps examiners determine the depth of their review. A quality audit can lead to examiner confidence in the records and thereby limit the extent of review. Conversely, a poor audit may necessitate expanding the examination scope.

The examiner should ensure that persons performing the audit and verification functions performed them in accordance with §715 of

NCUA's Rules and Regulations. The examiner's review and evaluation of these functions serve as key elements in determining the examination's scope. Examiners will complete the required questionnaire, SC- Pre-Examination Supervisory Committee Audit And Verification Review.

Additionally, examiners may also complete the following optional questionnaires depending on the type of audit performed:

- SC-Financial Statement Audit by CPA (described in Appendix A);
- SC-Balance Sheet Only Audit by CPA (described in Appendix A);
- SC-Examination of Internal Control over Call Reporting by CPA (described in Appendix B); and,
- SC- Non-Opinion (described in Appendix C or D).

Scope Development and Planning

The following documents can provide guidance for the examiner during the scope development and planning phase:

- Any report of reportable conditions or material weaknesses (sometimes referred to as a management letter);
- The annual audit report;
- Engagement Letter;
- Internal audit reports, if any;
- Risk management or any other applicable audits, if any;
- Support for the verification of accounts; and
- Minutes of the supervisory committee meetings;

Meeting with the Supervisory Committee

The examiner may arrange a meeting with the chairman of the supervisory committee to:

- Explain the examiner's mission in reviewing the audit and verification functions;
- Discuss the supervisory committee's role and responsibilities, if necessary (§715.3);
- Answer any questions the supervisory committee may have; and
- Determine the extent of the committee's knowledge of the credit union's operations, management, and the status of the credit union's financial condition.

Meeting with the Internal Auditor

The examiner may arrange a meeting with the internal auditor to:

- Evaluate the independence and experience of personnel conducting internal control reviews, adequacy of staff size, appropriateness of audit schedule, and sufficiency of scope;
- Assess the reliability and effectiveness of any internal control review;
- Review audit reports, letters reporting material weaknesses or reportable conditions, and management's written response to auditors' findings; and
- Review internal audit working papers.

Meeting with the External Auditor and Review of Working Papers

The type of audit and the examiner's familiarity with the external auditor will determine the extent of the meeting and review of the audit working papers. If examiners choose to contact the external auditor, they may find it beneficial to obtain the auditor's risk assessment, their conclusions, and resulting modifications to the audit program, including the following:

- Auditor memorandums relating to audit planning, preliminary analytical procedures, materiality thresholds, discussions with management, etc; and

- Working papers related to general risks (client's business and industry; significant changes; materiality; general summary of internal controls; and general assessment of risk) and the auditor's assessment detailing conclusions reached.

To clarify the auditor's risk assessment as it relates to the examination scope, the examiner should ask about the following:

- Significant accounts (higher risk is generally localized in a few account balances);

- Risk level assessed (low, moderate, high) for inherent, control, detection, and assertions risk for each significant account. **Inherent risk plus Control risk = Risk of Material Misstatement (RMM)**;

- Risk factors in place to mitigate risk (e.g., monitoring by third parties, inquiry or observation of controls, prior audit experience, and procedures performed in understanding and testing controls provide evidential matter);

- Conclusions and findings of control testing. **No assurance = Maximum control risk**; and

- The auditor's assessment of combined risk (RMM) and resulting determination of audit program steps.

The examiners' understanding of these aspects of the auditor's work may help them plan and determine the examination scope. If examiners decide to review the supervisory committee and its functions, but have not obtained the information discussed above in the planning phase, they should obtain these items early in the fieldwork phase to minimize duplication of effort, when possible. If the examiners cannot rely on the work of the external auditor, they may need the duplication of efforts to properly assess risk areas.

Reviewing the Annual Supervisory Committee Audit

NCUA Rules and Regulations §715.4-§715.8 set forth the minimum requirements for a supervisory committee audit and verification consistent with the *FCU Act* §115. Supervisory committees often engage external auditors to assist them in meeting this requirement.

The approach the examiner should take in reviewing the audit depends on the type of audit for which the supervisory committee contracted:

- Financial statement opinion audit (Appendix A);
- Balance sheet only opinion audit (Appendix A);
- An examination of internal controls over call reporting (Appendix B); or
- Other supervisory committee audits such as:
  - CPA Agreed-Upon Procedures Audits (Appendix C); and
  - Non-opinion audits (Appendix D).

Certain circumstances may prompt the examiner to consider requiring an independent audit performed by a CPA. Refer to §715.11, Sanctions for failure to comply with this part, and §715.12, Statutory audit

remedies for Federal Credit Unions, of the *NCUA Rules and Regulations*.

Reviewing the Engagement Letter

NCUA Rules and Regulations §715.9 (b), Engagement letter, requires that the supervisory committee obtain an engagement letter when they hire a compensated auditor. Also, §715.9(c), Contents of the letter, §715.9(d), Complete scope, and §§715.9(e), Exclusions from scope, discuss the minimum requirements for such an engagement letter.

CPAs generally submit engagement letters to the supervisory committee before beginning their work. The examiner should review the engagement letter in light of §§715.9 (b) through (e) to determine if the supervisory committee properly contracted for the audit. Examiners may find these letters a source of valuable information. These letters include, among other things, the audit scope, the audit period, and the expected reports. In many cases, the auditor will summarize highlights of these matters in the body of the letter and provide greater detail in schedules or appendices to the letter. The letter may specify procedures for various audit areas. In addition, it may specify any limitations on the auditor's scope, including omission of auditing procedures (e.g., evaluation of the allowance for loan losses or confirmation of loans or deposits, if required.)

Sometimes, a supervisory committee can predetermine an unacceptable audit simply by failing to include necessary items (scope, timing, delivery, etc.) Examiners should review the Engagement Letter to ensure the supervisory committee contracted for an acceptable audit. §715.9 of the *NCUA Rules and Regulations* encourages improved contracting practices with the goal of improving compliance with regulatory requirements for audits.

Engagement letter provisions particularly helpful to the examination process, if enforced, include:

- Timely delivery of the audit report within 120 days of completion of the period under audit (§715.9(c)(6));
- Except for opinion audits, the appendix to the letter setting forth the agreed upon procedures (§715.9(c)(3));

- Certified scope, or alternatively a list of exclusions from scope and qualifying reminder that the supervisory committee remains responsible for excluded scope (§715.9(d)(e)); and
- A clause to the effect that the independent accountant agrees to permit the regulator to review and to photocopy applicable original working papers, as the regulator may request (§715.9(c)(7)).

Finding an Audit or Verification Unacceptable

Examiners may consider an audit or verification unacceptable and may develop plans of action when they determine:

- The audit scope did not include material areas of the credit union operations;
- Working papers do not support material parts of the audit; or
- Lack of independent control over the verification process.

When examiners take exception to the annual supervisory committee audit, they should convey the following information to the credit union and document it in the examination working papers:

- Specific audit sections in question;
- Records or accounts with significant errors or record keeping deficiencies; and
- Time anticipated for resolving the problems.

Examiners should consult with their supervisory examiners, and in state-chartered credit unions the state supervisory authority, before enforcing *NCUA Rules and Regulations* §715.11, Sanctions for Failure to Comply With This Part and §715.12, Statutory Audit Remedies for Federal Credit Unions.

If Compensated Auditor's Audit Appears Lacking

When examiners have concerns with the acceptability of the CPA's work, they have several options available. At a minimum, they should sit down with the CPA and discuss their concerns. The meeting will serve as a fact-gathering opportunity that assists the examiner in determining whether the auditors used additional audit steps and if so, how they used the additional steps. Examiners must maintain their objectivity and independence, and should reserve adverse, constructive comments for the final meeting with the supervisory committee. If the

supervisory committee agrees with the examiner's conclusions, they should together determine timeframes for making the corrections.

If, after reviewing the audit working papers and discussing concerns with the independent accountant, examiners have not satisfied themselves that the independent accountant met the minimum requirements of the audit, they should consult with their supervisory examiners. Examiners should clearly describe the circumstances, procedures followed, findings, and conclusions in their working papers. If examiners cannot determine adequate completion of certain audit steps or if they have concerns with independence or thoroughness, they should discuss all major audit findings with the supervisory committee and document the discussion in their working papers. Additionally, an examiner may:

- Recommend that the supervisory committee perform the additional tests in the coming year, before the next examination, to provide NCUA with needed assurances; or
- Recommend that the board and supervisory committee include additional special procedures in engagement letters of future audits.

In extreme, rare, and well-documented instances, supervisory examiners should consult with the regional director or associate regional director regarding cases that may require forwarding referrals through the Office of Examination and Insurance to either the state licensing authority, the AICPA Ethics Division, or to take other action as the Office of General Counsel may advise.

In such cases, examiners should not rate the audit itself unacceptable even though they cannot determine evidence of the satisfactory completion of various test checks or audit procedures. NCUA's policy is that independent, licensed, certified public accountants have established and documented auditing standards which govern their work, whether "opinion" audits (GAAS) or "agreed-upon procedures" engagements (refer to SSAE No. 10). Before examiners find audits "unacceptable" in meeting §715, they should request that Central Office program and legal staff perform a review in relation to the professional accounting and auditing standards, and the likelihood of prevailing (cost/benefit) should the agency decide to proceed legally.

NCUA recognizes that independent accountants can err. Therefore, agency policy encourages examiners to review and to question, when appropriate, an independent accountant's work. However, examiners should stop short of labeling the audit "unacceptable", unless NCUA can solidly assert that the CPA fell short of this standard and support this assertion in a due process proceeding.

Reviewing the Internal Audit Department

Internal auditors can serve several valuable functions. They appraise the soundness and adequacy of accounting, operating and administrative controls.

The success of the internal audit function depends in large part on the independence maintained by internal audit personnel. Internal auditors should report directly to the supervisory or audit committee, rather than to management. This enables the function to be "free from influence" of management and, to some degree, the board of directors.

The major factors that the examiner must consider while reviewing and evaluating the internal audit function are (1) the independence and thoroughness of the internal auditors, and (2) the adequacy and effectiveness of the audit program.

The qualifications and responsibilities of internal auditors vary with the credit union's size and complexity and the emphasis that the board places on the audit function. In some credit unions, auditors have no other responsibilities beyond the internal audit function; in others, they are regular employees with part-time audit duties.

Examiners should satisfy themselves that audit staff supervisors possess an adequate knowledge of audit objectives and an understanding of the audit procedures performed by the staff.

The final measure of the auditor's thoroughness is the quality of the work performed and the ability to communicate the results of that work. Accordingly, the examiner's conclusions should reflect the adequacy of the audit program and the audit reports.

Internal Audit Program Adequacy

The examiner should consider the following:

- Scope and frequency of the audit work;
- Documentation of the work performed;
- Content of the audit programs; and
- Conclusions reached and reports issued.

A documented record of the work performed (best created through audit working papers) must exist. These working papers should contain, among other things, audit work programs and analyses that clearly indicate the procedures performed, the extent of testing, and the basis for the conclusions reached.

Audit work programs deserve separate attention. The work programs, normally found in large complex credit unions with internal audit departments, serve as the primary evidence of the audit procedures planned and performed. As such, they should be written and should cover key areas of a credit union's operations. Each program should provide a clear, concise description of the audit work required, and present individual audit procedures logically. The detailed procedures included in the program will vary depending on, among other factors, the size and complexity of the credit union's operations. Most audit programs should include:

- Surprise audits, where appropriate;
- Maintenance of control over records selected for audit;
- Review and evaluation of the credit union's policies and procedures and the system of internal control;
- Proof of detail to related control records; and
- Verification of selected transactions or balances.

Completion of the specific procedures included in all work programs should enable the internal auditor to reach conclusions that will satisfy the related audit objectives. The work performed should support conclusions drawn and audit reports prepared from the work program results. When appropriate, the reports should include the internal auditor's recommendations for required remedial actions.

Prompt and effective management response to the auditor's recommendations is the final measure of the audit program's effectiveness.

Internal Audit Review

The examiner's review and evaluation of the internal audit function are key elements in determining the scope of the examination. Based on careful evaluation, examiners should conclude whether they find the work performed by the internal auditors acceptable, partially acceptable, or not acceptable.

The concept of partial reliance or acceptability applies only to the review and evaluation of the internal audit function. The examiner may detect weaknesses in the internal audit function or procedures that are not of such magnitude to make the internal audit function unacceptable. In such situations, the examiner should draw a partially acceptable conclusion.

Verifications

NCUA requires federal credit union supervisory committees to verify the members' accounts with the credit union's records at least once every two years. *NCUA Rules and Regulations* §715.8, Requirements for verification of accounts and passbooks, provides that the supervisory committee (or their representative) can base the verification on a 100 percent sample, a random statistical sample, or, for CPAs only, a non-statistical sampling option. Examiners should refer to Chapter 24 of the Supervisory Committee Guide, “What Must a Verification Involve?”

Working Paper Access

In reviewing the audit, the examiner should determine if the auditor properly documented completed audit procedures in working papers in support of the audit or verification report. The *NCUA Rules and Regulations* §715.10, Audit report and working paper maintenance and access, requires the committee to maintain adequate working papers to support its audits.

The auditor's working papers include all the evidence gathered to show work done, the methods and procedures followed, and the conclusions reached. There are no standard working papers. The committee or

auditor prepares working papers that best serve their intended purpose. The working papers should:

- Coordinate and organize all phases of the audit;
- Facilitate preparation of the final audit report; and
- Substantiate in detail the opinions and findings in the report.

When the supervisory committee performs the verification or audit, the examiner generally has little or no difficulty accessing the original working papers. These papers form the basis for judging the adequacy of a supervisory committee audit.

Examiners may have more difficulty obtaining the working papers when the supervisory committee directs a CPA to complete some or all of the work. Independent accountants generally consider the working papers confidential and the property of the accounting firm. The CPA may ask that the examiner:

- Sign a document before obtaining access to working papers; and/or
- Review the working papers in the CPA's office.

In the latter case, the auditor may also require the presence of an employee during the examiner's review. With the exception of signing a waiver document, the examiner should cooperate as fully as possible with these practices.

Signing Waiver Document to Gain Working Paper Access

It is NCUA's policy that examiners not sign waiver letters. Most letters go beyond simply acknowledging receipt of the working papers. The letters often contain qualifying language and restrictions on the regulator's use of information obtained in the working papers.

Supervised Access

Reviewing working papers may require significant time and travel when the auditing firm is not local. In such instances, the examiner-in-charge may arrange through the supervisory examiner for another examiner to review the working papers. While auditing firms generally permit examiners supervised access, some will not permit examiners to photocopy original working papers. Regional or national accounting firms often have this policy. An examiner should not take exception to

the denial of photocopying privileges unless it clearly and directly affects the examiner's ability to discern and document the audit's acceptability.

Denial of Access

In rare instances, an independent auditor may refuse the examiner access to working papers. The examiner should then contact the supervisory committee chairman for help in getting access to the papers. *NCUA Rules and Regulations* §715.10(b), Working papers, requires allowing the examiner access to original audit working papers. If the auditor still refuses, examiners should notify the supervisory committee that they could rate the auditor's work unacceptable and possibly require the supervisory committee to re-do it. With some of the larger firms, the Office of Examination and Insurance (E&I) can assist in obtaining examiner access by contacting and interceding at the national level.

Examiners should reserve comments about audit working papers until they finish the review and develop an overall picture of the work's adequacy. After completing the review, the examiner discusses the findings with the auditor and the supervisory committee.

Addressing Deficiencies with the Supervisory Committee

Examiners should reach specific agreements with the supervisory committee to correct deficiencies during the next audit or verification or within a reasonable time. Examiners should request that the board president invite the chairman or whole committee to the joint conference or exit interview.

Mandatory Auditor Rotation

If a credit union has used a particular external auditor for a series of years, and the independence, competence, and level of audit work is otherwise adequate, examiners should not recommend that the credit union routinely rotate external auditors. Examiners should not suggest auditor rotation for rotation-sake. If examiners have concerns about the quality of the audit, they should document these specific concerns and raise them with the supervisory committee. The questioning of a particular auditor's quality of work and citing of §715.11 and §715.12 in applicable circumstances will most likely bring the supervisory committee to its own conclusion to hire another auditor.

Other Committee Duties

The supervisory committee has responsibilities beyond the audit and verification functions. These additional duties (Chapter 4 of the Supervisory Committee Guide) include (1) resolution of member complaints; (2) strengthening internal controls; (3) authority to call special membership meetings and remove officers, directors, or credit committee members; and (4) reviewing management's corrective action.

Working Papers and References

- Working papers
  - Scope Workbook
  - Supervisory Committee Questionnaires
    - (Required) SC - Supervisory Committee Audit and Verification Review; and
    - (Optional) depending on the type of audit performed:
    - SC-Financial Statement Audit by CPA;
    - SC-Balance Sheet Only Audit by CPA;
    - SC-Examination of Internal Controls over Call Reporting by CPA; and,
    - SC- Non-Opinion
- References
  - *Federal Credit Union Act*
    - 111 - Compensation
    - 115 - Supervisory Committee
  - *Federal Credit Union Bylaws*
    - Article IV (12/87 and 10/91)– Meeting of Members
    - Article V (10/99) - Meetings of Members
    - Article X (12/87 and 10/91)- Supervisory Committee
    - Article IX (10/99) – Supervisory Committee
  - *NCUA Rules and Regulations*
    - 715 - Supervisory Committee Audit
    - 741.202 – Requirements for Insurance
  - *Supervisory Committee Guide*
  - AICPA Audit and Accounting Guide (relevant to Credit Unions)

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OPINION AUDITS - APPENDIX 5A

Reviewing Financial Statement or Balance Sheet Only Opinion Audits

An “opinion audit” expresses an opinion on the fair presentation of the financial statements in all material respects in accordance with generally accepted accounting principles (GAAP). These audits include the following:

- A financial statement audit - the auditor will audit the balance sheet, income statement, statement of equity and other comprehensive income, and statement of cash flows, and will present an opinion on all the statements, taken as a whole; or

- A balance sheet only audit - the auditor will audit the balance sheet and render an opinion. That means the auditor will not audit the income statement accounts, statement of equity and other comprehensive income, and statement of cash flow information.

The objective of an independent, licensed CPA conducting an audit differs from the objectives of an internal audit or an NCUA examination. In unusual situations, the examiner may conduct an in-depth review of the thoroughness and independence of the CPA or the adequacy of the CPA's audit.

The American Institute of Certified Public Accountants (AICPA) establishes standards for thoroughness and independence of CPAs, the auditing standards CPAs must follow in connection with their audits of financial statements, and standards governing CPAs’ reports. Not all CPAs are members of the AICPA; however, all must follow professional standards adopted, whether by their respective state societies or the state agency issuing their licenses.

Peer Review

Accounting firms receive a peer review (a quality control-type review) performed by another (external) certified public accounting firm on a regular basis (every two to three years). Examiners should request and review a copy of the most recent peer review report. They should note any areas that may trigger expansion of procedures or reduced reliance on the audit and verification.

Professional Standards

Generally accepted auditing standards[1] (GAAS) are the standards an independent accountant's opinion audit must meet. GAAS falls into three categories: general standards, standards of fieldwork, and standards of reporting.

The general standards require that the person performing the audit:

- Have adequate technical training and proficiency;
- Maintain an independence in mental attitude; and
- Exercise due professional care in the performance of the audit and the preparation of the report.

Review of Independence

CPAs must remain independent of those they serve. Independence is defined as the ability to act with integrity and objectivity. Ordinarily, the examiner will not need to test for independence. However, the examiner may occasionally have sufficient reason to question a CPA's independence or the quality of the work.

The examiner should investigate a recent change in CPAs by a credit union, particularly if the change occurred after an audit began.

The examiner should also investigate if the CPA:

- Has a direct financial interest in the credit union;
- Is connected with the credit union in a capacity equivalent to that of a member of management or was a director of the credit union;
- Maintains, completely or in part, the books and records of the credit union and did not perform audit tests with respect to such books and records; or,
- Has received from the credit union an unsecured loan considered material in amount relative to the net worth of the borrower.

In such instances (the above list is not inclusive), the CPA would not have complied with professional standards. Accordingly, the examiner should not rely on any work performed by the CPA without reviewing

[1] Auditing standards, as distinct from auditing procedures, are concerned not only with the auditor's professional qualifications, but with the judgment exercised in the performance of an audit and with the resulting reports.

the procedures followed in the audit. The examiner should perform a review of the CPA's working papers. If the procedures satisfy the Part 715 requirements, the examiner can rely on the work performed.

If an examiner remains concerned that the auditor has not complied with independence standards, the examiner should document these concerns and follow the guidance detailed in the Supervisory Committee chapter. Examiners should not state, either orally or in examination reports or working papers, that they question the CPA's independence.

Review of Compliance with Fieldwork Standards

Fieldwork standards require the following:

- Adequately planned work;
- Properly supervised assistants, if any;
- Proper study and evaluation of existing internal controls as a basis for reliance thereon for determining the audit scope and procedures, including the extent of testing; and
- Sufficient evidence to afford a reasonable basis for an opinion regarding the financial statements under audit.

The examiner may occasionally have sufficient reason to question a CPA's thoroughness. If the examiner questions thoroughness, the examiner should not rely on any work performed by the CPA without reviewing the procedures followed in the audit. If the procedures satisfy the Part 715 requirements, the examiner should rely on the work performed.

Review of Audit Procedures

The examiner should review the last report issued by the CPA. If an audit is currently in progress, the examiner may review the engagement letter, the auditors' risk assessment, and their conclusions and resulting modifications to the audit program.

The examiner should obtain and review any adjusting journal entries suggested by the CPA to determine if such entries are normal recurring accruals or if the entries indicate inadequate accounting records.

Audit Documentation Standards for Financial Statement Audits

Audit documentation (work papers) provides the principal support for the auditor's report and may serve as a resource for the examiner when developing the preliminary examination scope and risk assessment. Documentation includes, but is not limited to audit programs, analyses, memoranda, letters of confirmation, and schedules prepared or obtained by the auditor. Paper, electronic forms, or other media are acceptable.

Audit documentation illustrates the auditor's:

- Extent of planning for the fieldwork;
- Understanding of internal controls; and
- Collection of sufficient information to express an opinion.

The audit documentation supporting a balance sheet audit or an audit of the financial statements should show the examiner that the external auditor met the audit standards required by GAAS.

Audit documentation must sufficiently:

- Identify the audit team and specify who performed and reviewed the work;
- Disclose the nature, timing, extent, and results of auditing procedures performed, and the evidence obtained; and
- Establish that the accounting records reconcile with the financial statements.

The auditors consider the following when determining the documentation for an audit area:

- Risk of material misstatement (RMM) associated with financial statement assertions[2] or with the account or class of transactions;
- Extent of judgment involved in performing the work and evaluating the results;
- Basis for the auditing procedure;
- Significance of the evidence obtained to the assertion being tested;
- Nature and extent of exceptions identified; and

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[2] Declaration, contention, statement.

- Need to document a conclusion, or the basis for a conclusion, not readily determinable from the documentation of the work performed.

The audit documentation must include:

- Abstracts or copies of significant credit union contracts or agreements that the auditor examined;
- Details of document inspection or confirmation, including testing of controls and substantive tests[3]; and
- Significant findings or issues, the action taken to address them, and the basis for the conclusions reached. Such significant issues may include accounting for complex or unusual transactions, modifications of audit procedures, and significant difficulties in applying audit procedures (e.g., problems with management during the audit).

Additional audit standards require the auditors to document:

- The auditor's understanding with the client;
- That the client has made the auditor aware of all the attorney's claims required for disclosure;
- That the auditor prepared a written audit program for every audit;
- The reasons for aggregate misstatements and the auditor's conclusions as to whether they cause material misstatement of the financial statement;
- Management's written response as to the purposes and uses of financial statements prepared in conformity with another country's accounting standards, if applicable;
- Oral communications with management regarding illegal acts that come to the auditor's attention;
- The auditor's understanding of the credit union's internal controls components (for purposes of planning the audit), and the auditor's conclusion about the assessed level of risk;
- Reportable conditions and other internal control related matters;
- Oral confirmations and if confirmations were not requested, reasons for failure to do so;

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[3] Independent tests that are quantitative in nature to support a financial statement assertion or contention.

- Audit requirements for governmental entities that are not included in the terms of the engagement;
- Risk of material misstatement due to fraud and the auditor's response to risk factors; and
- Written representations from management.

Additionally, before reissuing reports on prior period financial statements, the original auditor must obtain representation letters from management and any successor auditors.

Audits may also contain:

- The nature and effect of cumulative misstatements and whether these misstatements cause the financial statements to be materially misstated. (SAS 47, *Audit Risk and Materiality*). A misstatement may consist of any of the following:

  - Difference between the amount, classification, or presentation of a reported financial statement element, account, or item;
  - Omission of a financial statement element, account, or item;
  - Financial statement disclosure not presented in accordance with GAAP; and
  - Omission of information required to be disclosed in accordance with GAAP.

- The analytical procedure used to support a significant financial statement contention. They must include:

  - The factors considered in developing the expectation, if they can not be determined from the documentation;
  - The comparison results of the expectation to the credit union records; and
  - Any additional auditing procedures performed in response to significant unexpected differences arising from the analytical procedure and the results of each additional procedure.

- A statement (when an auditor doubts the ability of a credit union to continue as a going concern) that complies with (SAS 59, *The Auditor's Consideration of an Entity's Ability to Continue as a Going Concern*) discussing:

- The condition or events that led to the belief that substantial doubt exists about the credit union's ability to continue as a going concern and the auditor's conclusions regarding the credit union's ability to continue as a going concern, including the effect on the financials;
- The significant elements of management's plan in overcoming the adverse effects of the condition or events;
- The procedures performed and evidence obtained to evaluate the significant elements of management's plans; and
- Whether to include an explanatory paragraph in the audit report or a qualified or adverse opinion.

Standards Governing Reporting

The reporting standards deserve particular attention because examiners must understand CPAs and their functions. Reporting standards require that CPAs:

- Conduct their audits in accordance with generally accepted auditing standards (GAAS);
- State whether they presented the financial statements in conformity with generally accepted accounting principles (GAAP); and
- State whether such principles have been consistently applied in the current period in relation to the preceding period.

In addition, the CPA must provide reasonably adequate informative disclosures in the financial statements or otherwise in the report. The report must contain an expression of opinion regarding the financial statements taken as a whole, or an assertion that the CPA cannot express an opinion. The CPA must state in the report any reasons for the inability to express an overall opinion on the financial statements.

When no material exception exists, the CPA will issue an unqualified (clean) opinion. When a material exception exists, but not so material as to negate an opinion on the financial statements taken as a whole, a qualified opinion is appropriate. Judgment in the circumstances determines what is sufficiently material. If the matter relates to the scope of the procedures or the fairness of presentation of the financial statements, the phrase, "except for" normally appears. Only in situations where an uncertainty exists should the auditor use the phrase

"subject to". The following circumstances may require departure from the auditor's standard report:

- The credit union has restricted the scope of the audit, or conditions exist that do not permit the application of auditing procedures considered necessary in the circumstances;
- Inadequate disclosure or lack of conformity with GAAP affect the financial statements in that they do not fairly present financial conditions, results of operations, or changes in financial position;
- Consistent application of accounting principles has not occurred; or
- Unusual uncertainties exist as to the outcome of future events, and the auditor cannot reasonably estimate their effect on the financial statements.

CPAs issue an adverse opinion when the matter to which they have taken exception is so pervasive that the financial statements do not present fairly the financial position, results of operations, or change in financial position, or do not conform to GAAP.

CPAs issue a disclaimer of opinion when either the credit union or circumstances restricted the scope of their examination in important respects, or when uncertainties affect the financial statements.

In the case of a qualified, adverse or disclaimer of opinion, the auditor should set forth all material reasons for issuing the particular report form. As to limitations of scope, the report would specify the omission of any generally accepted auditing procedures and the reasons for the omission. If the credit union requested the omission, the report should so specify.

If examiners remain concerned that the CPA did not comply with general standards, the standards of fieldwork or the reporting standards, they should document the concerns and refer to the section of the Supervisory Committee chapter entitled, “If Compensated Auditor’s Audit Appears Lacking” for guidance on how to proceed. Examiners should not state, either orally or in examination reports or working papers, that they question the CPA's competence.

References

- Supervisory Committee Guide
- AICPA Audit and Accounting Guide, Audits of Credit Unions
- AU Section 339, *Audit Documentation*
- Statement of Auditing Standard (SAS) No. 96
- Statement of Auditing Standards (SAS) No. 59, *The Auditor's consideration of an Entity's Ability to Continue as a Going Concern*
- Statement of Auditing Standards (SAS) No. 47, *Audit Risk and Materiality*

EXAMINATION OF INTERNAL CONTROL OVER CALL REPORTING BY A CPA - APPENDIX 5B

Engagement Performance

Performing an examination of internal control over call reporting requires that the auditor:

- Plan the engagement;
- Obtain an understanding of internal control;
- Evaluate the design effectiveness of the controls;
- Test and evaluate the operating effectiveness of the controls; and
- Form an opinion on the effectiveness of the credit union's internal control, or management's assertion, thereon, based on the control criteria. (AT 400.16)

Reviewing an Examination of Internal Control Over Call Reporting

The examination of internal control over call reporting differs from an audit of the financial statements in many ways, including the following:

- In a financial statement audit, the auditors' consideration of internal control enables the auditor to plan the audit and determine the nature, timing, and extent of testing they will need to perform. Such work forms the basis for the expression of an opinion on the fair presentation of the financial statements, taken as a whole, in all material respects in accordance with GAAP.

- In an examination of internal control over call reporting, the auditor examines management's assertion about the effectiveness of the credit union's internal control, to express an opinion about whether the credit union maintained, in all material respects, effective internal control as of a point in time based on chosen control criteria.

Accordingly, an auditor's consideration of internal control in a financial statement audit is much more limited than that of an auditor engaged to examine management's assertion about the effectiveness of the credit union's internal control over call reporting.

In examining management's assertions with regard to internal control over call reporting, the auditor can express an opinion on either of the following:

- The effectiveness of the credit union's internal control, in all material respects, based on the control criteria; or

- Whether management has fairly stated its assertion about the effectiveness of internal control, in all material respects, based on the control criteria.

The opinion relates to the credit union's internal control taken as a whole, and not to the effectiveness of each individual component.

A credit union's internal control over call reporting includes those policies and procedures that pertain to the credit union's ability to record, process, summarize, and report financial data consistent with the assertions embodied in the call report. Management may present its assertions about the effectiveness of the credit union's internal control in either a separate report that will accompany the auditor's report or a representation letter to the auditor.

An auditor engaged to examine management's assertion about the effectiveness of a credit union's internal control should comply with the general, fieldwork and reporting standards relative to "opinion audits." (See the Supervisory Committee chapter for additional information.) This appendix also discusses some additional requirements the auditor should perform.

Management's Assertion and Representations

A sample management assertion might read as follows:

> . . . that ABC Federal Credit Union maintained effective internal control over call reporting as of [date];

or

> . . . that ABC Federal Credit Union's internal control over call reporting sufficiently meets the stated objects as of [date].

For many credit unions, the auditor may help management draft the written assertion, which will become the subject of the engagement.

Management will also provide the auditor written representations, which may include the following:

- Acknowledging management's responsibility for establishing and maintaining internal control;
- Stating that management has performed an evaluation of the effectiveness of the credit union's internal control and specifying the control criteria used;
- Stating that management has disclosed all significant deficiencies in the internal controls that could adversely affect the credit union's ability to record, process, summarize, and report financial data in the call reports;
- Describing any fraud that involves management or other employees who have a significant role in internal control; or
- Stating whether any subsequent internal control changes occurred, including any corrective actions taken by management with regard to significant deficiencies and material weaknesses.

Management's refusal to furnish all required representations could cause the auditor to qualify or disclaim an opinion in the report.

Control Criteria

By selecting the definition and description of internal control for the purpose of assessing its effectiveness, management determines the components of the credit union's internal control (AT400.12). The internal control framework most often cited, and the one most credit unions will select, based on the advice of their auditor, will most likely be *Internal Control-Integrated Framework,* published by the Committee of Sponsoring Orgnaizations (COSO) of the Treadway Commission. This definition and description of internal control includes the following five components:

- Control environment;
- Risk assessment;
- Control activities;

- Information and communication; and
- Monitoring.

This appendix does not provide an in-depth discussion of these control criteria, or of other control criteria the credit union may use. The management assertion under examination should specify and describe the control criteria management has selected for examination of the credit union's internal controls.

Engagement Performance

Some of the types of auditor functions and documentation an examiner should see when reviewing work-steps and working papers for an Internal Control Over Call Reporting engagement include the following:

- Planning the engagement:
  - Review overall strategy for the scope and performance of the engagement;
  - Understand financial reporting practices, economic conditions, laws and regulations, technological changes, organization, operating characteristics, capital structure, etc.;
  - Review preliminary judgments about materiality levels, inherent risk, and other factors relating to possible material weaknesses; and
  - Review preliminary judgments about the effectiveness of internal control (internal audit function).
- Obtain an understanding of internal control:
  - Inquire of appropriate management, supervisory, and staff personnel;
  - Inspect credit union documents; and
  - Observe credit union activities and operations.
- Evaluate the design effectiveness of the controls:
  - Understand controls within each component of internal control; and

  - Focus on the significance of controls in achieving the objectives of the control criteria rather than on specific controls in isolation.

- Test and evaluate the operating effectiveness of the controls:

  - Obtain sufficient evidence to support the opinion and corroborate the results of the tests; and
  - Perform tests of controls to learn the nature of the control, significance of the control in achieving the control criteria, operating effectiveness of the control, risk of noncompliance with the control, etc.

- Form An Opinion:

  - Communicate reportable conditions and material weaknesses.
  - Report should include the following regarding the examination of Internal Control Over Call Reporting by a CPA (AT 400.45):

    i. Title which includes "independent";
    ii. Identification or statement of management's assertion about the effectiveness of the credit union's internal control over call reporting;
    iii. Statement that the assertion is the responsibility of management;
    iv. Statement that the auditor's responsibility is to state an opinion with regard to management's assertion;
    v. Statement that the examination was conducted in accordance with attestation standards of the AICPA;
    vi. Statement that the examination provides a reasonable basis for the opinion;
    vii. The opinion; and
    viii. Auditor's signature and date.

Example of Auditor's Written Opinion

Following is a sample, unqualified opinion as set forth in attestation standards (AT 400.46) that an examiner might see as the product of this type of engagement:

We have examined management's assertion included in the accompanying [title of management report], that ABC Federal Credit Union maintained effective internal control over call reporting as of December 31, 200X based on [identify stated or established criteria]. Management is responsible for maintaining effective internal control over call reporting. Our responsibility is to express an opinion on the effectiveness of internal control based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants and, accordingly, included obtaining an understanding of internal control over call reporting, testing, and evaluating the design and operating effectiveness of internal control, and performing such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

Because of inherent limitations in any internal control, misstatements due to error or fraud may occur and not be detected. Also, projections of any evaluation of internal control over call reporting to future periods are subject to the risk that internal control may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, ABC Federal Credit Union maintained, in all material respects, effective internal control over call reporting as of December 31, 200X, based on [identify stated or established criteria].

References

- AICPA Audit and Accounting Guide (relevant to Credit Unions)

AGREED UPON PROCEDURES ENGAGEMENTS – APPENDIX 5C

Agreed Upon Procedures Audit Performed By a CPA

Supervisory committees may hire CPAs to perform a review that, in conjunction with procedures performed by the supervisory committee, meets the minimum requirements of a supervisory committee guide audit under Part 715 of the *NCUA Rules and Regulations*. Statement on Standards for Attestation Engagements (SSAE) No. 10 guides the independent accountant's performance for this type of engagement.

An agreed upon procedures (AUP) engagement is one in which the credit union supervisory committee engages an independent accountant to issue a report of findings based on specific procedures performed on specified subject matter (elements, accounts, or items of the financial statements.) The supervisory committee and the independent accountant agree upon the procedures that the supervisory committee believes the independent accountant should perform (*Supervisory Committee Guide*, Appendix A sets forth minimum procedures).

Agreement on Sufficiency of Procedures

The supervisory committee has responsibility for the sufficiency (nature, timing, and extent) of the procedures. The examiner reviews the supervisory committee function and the annual audit report for compliance with the *Federal Credit Union Act* and Part 715 of the *NCUA Rules and Regulations*.

Some independent accountants may seek NCUA's written assurance on the sufficiency of the procedures and ask NCUA to take responsibility for sufficiency of the procedures along with the supervisory committee. Examiners should not provide such assurances nor agree to NCUA's being identified as a specified user.

Standards Governing Agreed Upon Procedures by a CPA

Examiners should understand that the general (training and proficiency, adequate knowledge of subject matter, suitability and availability of criteria, independence, due professional care), fieldwork (planning and supervision, obtaining sufficient evidence, representation letter), and reporting standards for attestation

engagements govern the performance and reporting by independent accountants for these types of engagements (AT 101 and 201.)

Examiner's Review of Agreed Upon Procedures by a CPA

The examiner should focus on the following:

- Whether the (combined) scope of work adequately meet *NCUA Rules and Regulations* §715.7, Supervisory Committee audit alternatives to a financial statement audit, and related minimum requirements set forth in Appendix A of the *Supervisory Committee Guide*. (Scope includes aggregate work performed by the supervisory committee, audit work performed by others, and agreed upon procedures performed by a CPA.); and

- Whether individuals performing the work used procedures adequate to fulfill the scope requirements (i.e., can users place full reliance on the procedures performed.)

Scope Review

In reviewing and assessing the adequacy of the audit's scope, the examiner should use good judgment and reasonableness in what they deem acceptable. The *Supervisory Committee Guide*, Appendix A, sets forth the minimum audit scope. NCUA has provided the following in its Guide:

> By publishing this Appendix, NCUA is not representing that a supervisory committee which performs or has performed these minimum procedures, and these procedures only, will have fully meet the requirements of Part 715.

The supervisory committee determines the scope of the work based on the risk, exposure, and other circumstances of the individual credit union. The supervisory committee must ensure that the audit meets the minimum requirements of *NCUA Rules and Regulations* Part 715. They cannot delegate that responsibility to a CPA. The engagement letter may omit certain key scope requirements (e.g., assessment of the reasonableness of the allowance for loan losses in the valuation of loans.) Consequently, the CPA may meet the terms of the engagement letter yet the audit scope may lack key scope requirements. The examiner should direct findings and exceptions about scope to the supervisory committee, not the CPA.

If, on the other hand, the CPA did not meet the engagement letter obligation or the examiner has independence or thoroughness concerns, the examiner should follow the procedures outlined in the Supervisory Committee chapter for taking action regarding the independent accountant.

Review of Procedures Performed to Meet Scope

Attestation standards limit the procedures independent accountants can perform. They cannot perform procedures open to varying interpretations. Independent accountants should not use terms of uncertain meaning (e.g., general review, limited review, check, or test) to describe the procedures. Examiners should understand this aspect of professional standards when evaluating work steps performed by an independent accountant to meet *NCUA Rules and Regulations* §715.7(c) requirements.

Examples of appropriate procedures include (AT 201.17):

- Execution of a sampling application after agreeing on relevant parameters;
- Inspection of specified documents detailing attributes thereof;
- Confirmation of specific information with third parties; and
- Comparison of documents, schedules, or analyses with certain specified attributes.

Examples of inappropriate procedures include (AT 201.18):

- Evaluating the competency or objectivity of another party;
- Obtaining an understanding about a particular subject; and
- Interpreting documents outside the scope of the auditor's professional expertise.

Findings and Working Papers

Report standards require independent accountants to present the results of applying Agreed Upon Procedures to specific subject matter in the form of findings. Independent accountants should avoid vague or ambiguous language in reporting findings.

The auditor should prepare and maintain working papers appropriate to the circumstances to support the Agreed Upon Procedures engagement, i.e., quantity, type, and content. Working papers should affirm that the

auditor adequately planned and supervised the work, and obtained evidential matter to provide a reasonable basis for the finding. While the working papers remain the property of the independent accountant (in most jurisdictions), the auditor must maintain them for the NCUA's review, consistent with requirements of Part 715 of the *NCUA Rules & Regulations*.

Example of Auditor's Written Agreed Upon Procedures Findings

Following is a sample written finding of Agreed Upon Procedures as set forth in attestation standards (AT 201.32) and which may serve as the product of this type of engagement:

> To the Supervisory Committee and Board of ABC Federal Credit Union:
>
> We have performed the procedures enumerated below, which were agreed to by the supervisory committee and Board of ABC Federal Credit Union, solely to assist you in connection with your supervisory audit of ABC Federal Credit Union conducted pursuant to §715 of the *National Credit Union Administration Rules & Regulations*. The procedures performed by us and enumerated in the attached supplement are in accordance with the minimum procedures described in Appendix A of the National Credit Union Administration's *Supervisory Committee Guide for Federal Credit Unions*. Because the committee is responsible to ensure that a complete set of procedures is performed and because Appendix A procedures are designed for smaller, less complex credit unions, we performed other procedures at the committee's request. This engagement to apply agreed-upon procedures was performed in accordance with standards established by the American Institute of Certified Public Accountants. The sufficiency of the procedures is solely the responsibility of the specified parties. Consequently, we make no representation regarding the sufficiency of the procedures described in the supplement either for the purpose for which this report has been requested or for any other purpose.
>
> We were not engaged to, and did not, perform an audit, the objective of which would be the expression of an opinion on the specified elements, accounts, or items. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.
>
> This report is intended solely for the information and use of [the specified parties] and is not intended to be and should not be used by anyone other than these specified parties.
>
> ______________________________
> [Signature of Independent Auditor]
> [City, State]
> [Date]

References

- *Federal Credit Union Act*
  - 115 - Supervisory Committee
- *NCUA Rules and Regulations*
  - 715 - Supervisory Committee Audit
- *Supervisory Committee Guide*
- AICPA Audit and Accounting Guide (relevant to Credit Unions)

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NON OPINION AUDITS – APPENDIX 5D

Non-Opinion Audit Conducted by the Committee or Its Non-CPA Designee

In an audit performed by the supervisory committee or its designee, the examiner looks for a critical and systematic examination of the internal controls, statements, records and accounting transactions prepared by management. Unlike an audit performed by a CPA, professional standards governing competence and independence do not govern this type of audit. Examiners use similar criteria for reviewing and evaluating non-CPA audits as for reviewing and evaluating a CPA's work.

An acceptable audit satisfies the requirements of *NCUA Rules and Regulations* §715.7 (c), Audit per Supervisory Committee Guide, in a particular credit union. An unacceptable audit does not meet the requirements. Exact acceptability standards for audits performed in credit unions do not exist. Examiners must judge the risk and exposure in each case to determine if an audit fulfilled the requirements of *NCUA Rules and Regulations* Part 715.

Examiners must use certain standards in reviewing supervisory committee work. Part 715 of the *NCUA Rules and Regulations*, the *Supervisory Committee Guide*, and the supervisory committee section of the *Examiner's Guide* contain information on these standards.

Appendix A, an important and key section of the *Supervisory Committee Guide*, sets forth the minimum procedures for performing a supervisory committee audit. Examiners should familiarize themselves with the caution expressed in the Foreword language to the Appendix. Also, as part of the review, the examiner should determine if the supervisory committee properly documented the completed audit procedures in working papers included in the audit or verification report (see Working Paper Access section.)

In some cases, minimum audit procedures remain inadequate because of the services or circumstances in a particular credit union. "High risk areas" (e.g., cash operations, share drafts, ATMs, or when a credit union experiences record keeping problems) may require expanding procedures.

Areas experiencing unusual activity or volume, or those containing recently added programs or requirements also may require expanding audit procedures. For example, unusual activity might include excessive amounts charged to officers' and directors' travel expenses for a specific period. Unusual volume might include a 30 percent loan to share ratio with the remainder of the assets invested. The first case might require an expansion of the expense review; the second might require an expansion of the investment review.

References

- *NCUA Rules and Regulations*
  - 715 - Supervisory Committee Audit
- *Supervisory Committee Guide*

Chapter 6

INFORMATION SYSTEMS AND TECHNOLOGY

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Chapter 6

INFORMATION SYSTEMS AND TECHNOLOGY

Examination Objectives

- Evaluate management's ability to recognize, assess, monitor, and control information systems and technology (IST) related risks
- Assess whether the credit union has sufficient expertise to adequately plan, direct, and control IST operations
- Determine whether the board of directors has adopted and implemented adequate policies and procedures
- Determine whether practices comply with established policies and procedures
- Determine adequacy of internal controls and oversight to safeguard assets (including IST assets) and members' information

Associated Risks

- Reputation risk stands out from the others primarily due to the risks associated with introduction of Internet services for credit union members;
- Transaction risk occurs when internal controls do not sufficiently detect errors, omissions, or material misstatements;
- Compliance risk occurs when inadequate systems and lack of controls affects conformity with compliance laws and regulations; and
- Strategic risk occurs when management due diligence has not sufficiently planned for unforeseen events.

Risk-Based Examination Consider-ations

When determining whether to perform a review of the IST function during an examination, examiners need to understand the associated risks of the systems (hardware and software) used by the credit union, the types of services provided, sensitivity of the data stored, and controls implemented by the credit union to protect the systems and data. Other considerations include:

- Results of the last examination;
- Recent external or internal audit results;
- Results of most recent third-party review;

- Results of the most recent risk analysis and/or penetration test, if conducted;
- Occurrence of security breaches or unauthorized access;
- Filing of a claim or a loss related to IST;
- Material change in services, key personnel, policies, or practices;
- Material change in systems (hardware or software); or
- Change in vendors which provide:
  - Critical systems or services; or
  - Support systems or services for critical systems or services.

Overview

Examiners cannot consider reviewing a credit union's IST function as a separate examination issue. Most credit unions tightly integrate their information processing activities into the functional operation of the credit union. For example, credit unions often use stand alone or personal computers connected to a network to supplement integrated IST functions for such things as audio response systems, loan application and approval functions, credit report retrieval, budgeting, payroll systems, website and e-Commerce systems. The nature and complexity of IST processing may significantly increase the potential risk exposure to disaster, error, or fraud within or outside the credit union or service bureau operation. While the fundamental concepts of internal control (e.g., separation of duties, audit trails, back-up, monitoring, and contingency plans) remain the same in either a computerized or manual system, the techniques and approach required to review these systems differ.

The examiner's primary responsibility in reviewing IST operation is to recognize the procedures and internal controls that minimize the exposure to loss and disruption of service. The following conditions may raise questions about the IST operations of the credit union:

- A board or management unaware or uninterested in IST operations and services;
- Inadequate short- and long-term planning for computer operations;
- Conversion to a new information processing system or modification of an existing system since the previous examination;
- Significant evidence of inefficiency or inaccuracy (e.g., slow daily balancing, delayed closing of books, delayed distribution of members' statements, inaccurate statements or records, etc.);

- Weak physical or internal controls; and
- Negative comments by users (internal and external) of the systems.

Many credit unions use the Internet to provide financial services to their members. This IST environment exposes a credit union to external threats that previously were not an issue (see Appendix 6A for a discussion on e-Commerce issues.) As a credit union's IST environment changes (vendor, hardware, or software), management must re-evaluate the associated risks.

NCUA does not expect examiners to perform a detailed IST review. Based on their judgment, examiners may request additional resources such as an IS&T subject matter examiner (SME), regional office analyst, or central office information systems officer (ISO) for needed assistance. When determining the additional resources required, the examiner should consider the following:

- Associated risks;
- Complexity of products and services;
- Management experience and expertise;
- Asset size; and
- IST vulnerabilities (IST related losses or claims, system penetration, unauthorized access, website defacements, etc.).

Credit unions or others (e.g., CUSOs, vendors) may occasionally ask the examiner to express an opinion concerning specific hardware or software systems for use in credit union operations. NCUA examiners will not make recommendations concerning specific information processing systems or services for purchase, lease, or contracting by credit unions. Credit unions that purchase accounting services must comply with the *NCUA Rules and Regulations*, §701.26, Credit Union Service Contracts.

Processing Environment

Based on the physical location of the computer and the degree of credit union management control over the day-to-day operation of the computer system, credit unions can classify their IST operations into two broad categories:

- **In-house processing** means the computer is located on the credit union premises and credit union management directs the day-to-day operation of the computer. Distinguishing between the two classes of in-house processing depends on the degree of credit union involvement in the programming, system design, and program maintenance efforts required for an on-going IST operation:

  - Turnkey systems are in-house processing systems for which a credit union has no direct responsibility for programming, system design, or program maintenance. Turnkey systems include both the hardware and software necessary to process credit union information. The credit union only furnishes adequate space and personnel to operate the computer; an outside party provides programming and continuing support. The vendor supplying the turnkey system may also arrange training for credit union staff using the system.

  - User-designed systems are in-house processing systems for which the individual credit union retains responsibility for programming, system design, and program maintenance. Even though the credit union may purchase the initial software for a user-designed system, the vendor or systems designer will modify it to meet the credit union's specific needs. Credit unions may purchase hardware directly from the manufacturer or a hardware vendor. The size of these systems can vary widely; they are not limited to large mainframe computers.

  Responsibility for programming and maintenance remains the primary distinction between turnkey and user-designed data processing systems.

- **Service bureau processing** refers to information processing services located away from the credit union and managed by an outside party. Credit unions can obtain service bureau processing from several sources, including:

  - Another financial institution;
  - A credit union service organization (CUSO);
  - An independent information processing vendor; or
  - The credit union's sponsor.

Regardless of the processing source, the distinguishing characteristics of outside processing include the physical separation from the credit union's operations and the absence of direct management responsibility for computer operations.

Controls

IST controls prevent, detect, correct, and enable recovery from problems that can result from accidents, errors, misuse, sabotage, loss of equipment, loss of data, and any other occurrence that may lead to an unwanted or unexpected disruption of service. The three major categories of IST controls are (1) management controls, (2) general controls, and (3) applications controls.

Management Controls

The examiner should have a good understanding of how a credit union manages its information system and services. Similar control issues exist for this area as for those generally found in other operational areas, and they require similar review procedures. Good IST management includes the following:

- Organization. A credit union should have a well-defined organizational structure that includes the IST department or service area. Ideally, credit unions should establish IST as a separate entity that reports directly to management and not through another department. The IST department should maintain an up-to-date topology (a visual representation of the hardware layout) to describe how various systems interact and share data.

- Planning. The credit union’s short- and long-term plans should identify management’s direction regarding its IST operation. Management should regularly document, update, and review these plans, which should include well-thought-out designs for installation of new systems and the modification of existing ones. Effective planning includes input from various sources such as a team with representatives from senior management, information technology, human resources or personnel, legal, and customer service. A diversified team allows for different perspectives in development of IST plans and effective policies and procedures.

- Policies and Procedures. The credit union should have well-documented policies and procedures for the IST operation. Management should review and update written procedures regularly. Documentation should reflect the actual practices at the credit union.

- Monitoring Operations. The crucial oversight function of IST operations can involve the use of committees such as an IST management committee, IST steering committee, or the supervisory committee.

- Audit. Auditing the IST area is a cost of doing business. Credit unions should require regular internal and external reviews of IST operations and services. IST audits or reviews will differ from one credit union to another based on the importance of IST services to the credit union and the credit union's size and complexity.

- External Requirements. Credit unions must comply with the laws, regulations, and guidelines of various governmental and regulatory bodies (international laws, federal and state regulations, etc.) as they pertain to the IST operations (see Appendix 6A.)

General Controls

General controls apply to areas of an information processing system not specifically related to any one application or function. General control issues exist in any automated environment and remain essential to the proper day-to-day operation of an information processing system. Proper general controls address the following issues:

- Organizational. Credit unions should establish and maintain separation of duties, a key element of any IST operation. In an IST environment, good internal controls prevent any single employee from having control over the input, processing, and output of transactions. Compensating controls, such as frequent and detailed review of transaction logs, can help offset weaknesses in this area.

  Management should also address other important concerns of an IST environment including personnel issues, such as employment procedures, job descriptions, security statements to help control data, and termination procedures.

- Systems Design, Development, Modification, Testing, and Implementation, commonly referred to as System Development Life Cycle (SDLC). Credit unions should document the methods and procedures for developing and testing new and enhanced systems. Implementing these procedures will help maintain the integrity of programmed applications.

- Data Center Management. The operation of the data center includes, among other things, the control and scheduling of input and output, problem prevention and correction, and reporting. Credit unions should thoroughly document procedures and regularly update them.

- Software Controls. Credit unions must control access to software by unauthorized persons, especially the control and use of the operating system, software utilities, communications, and security packages. Control of production application software helps ensure the system's integrity. System logs are useful tools for monitoring activity and changes to the system if management produces and reviews them regularly.

- Hardware Controls. Credit unions should document and enforce external controls on hardware such as access controls, terminal usage, and system support and service. Computers have internal hardware controls, such as validity, parity, and echo checks that most users do not see, however, these hardware controls monitor and check for proper hardware function.

- Physical Security. The computer room or area should demonstrate evidence of physical controls such as access controls and logs, fire and theft protection, terminal access controls, and protection of data files and media. Log-on procedures, such as user IDs, passwords, and physical or electronic keys may provide additional access control to the system.

- Contingency Plan. The ability to retain, restart, and replace information processing activity quickly is an important control feature of an information processing system. Keys to a well-run and controlled IST operation include a written and tested

contingency plan, proper backup and recovery actions and procedures, and management's commitment to contingency planning.

Application Controls

Application controls apply to the processing of data into, through, and out of the computer system. An awareness of IST controls enhances the review of automated parts of the process. While examiners do not extensively review application controls, conditions at the credit union may warrant an applications review. In these situations, the examiner should recommend that management obtain a third-party review. Application controls consist of the following:

- Data Origination. Credit unions should design source documents for easy and accurate data input. Management should properly authorize data before staff enters it into the system. Basic controls of data origination include batch totals, control totals, turnaround documents, and retention of source documents.

- Data Input. Controls of data input involve conversion, validation, editing, error handling, and separation of duties.

- Data Processing. External data processing controls maintain the operation of the system until completion of the application processing. These controls include system start-up procedures, backup and emergency procedures, error message debugging, and system and job status reporting. Internal processing validation and editing routines built into the programming check for errors. Upon completion of processing, the credit union should have in place error handling procedures to identify and correct transaction errors.

- Data Output. Management or staff should use all output from the system. Balancing and reconciliation, distribution, error handling, and records retention procedures (see *NCUA Rules & Regulations* §749 - Records Preservation Program And Record Retention Appendix) complete the application processing function.

Backup and Recovery

A multitude of problems that may cause breakdown, damage and other detrimental effects can plague computer systems. Users may question

the integrity of the data in the system when problems occur. Credit unions must regularly and routinely back up computer data. Following are several considerations involved in the backup and recovery of computer information:

- Frequency. Credit unions should back up (1) data files at least daily; (2) application files both when they make changes and routinely, usually monthly or quarterly; (3) a current copy of the operating system, and (4) vital records every three months.

- Generations. Credit unions should have available at least three generations of backups; however, many credit unions keep five sets of data file backups, one made on each day of the week.

- Storage. Credit unions must store vital records offsite, at a location far enough from the credit union's offices, to avoid the simultaneous loss of both sets of records. Credit unions should keep backup files both on- and off-site, one set of backups at each location, in order to facilitate recovery of operations should an event occur.

- Management. Credit unions should routinely control, maintain, and test backup files for quality and accuracy.

- Recovery. Credit unions should address and document relevant issues such as the speed of data file recovery, who can recover them, and under what conditions.

Contingency Planning

Restoring operations to an acceptable level within a reasonable amount of time requires that all credit unions using any type of IST services have a comprehensive, written, accurate, up-to-date, tested contingency plan. Responsibility for developing this plan lies with management. The examiner may review the contingency plan during each examination.

Credit unions should develop detailed contingency plans. These plans should take into account local as well as region-wide disasters. Contingency plans should also consider any single point of failure issues (such as telecommunication and data lines, electrical services,

etc.) Management should routinely test the contingency plan and document the results of those tests. Where the testing process identifies a failure or weakness, management should correct those issues and retest the plan. Management should ensure the contingency plan addresses the following considerations:

- Notification and contact procedures (staff, vendors, federal agencies, state agencies, local authorities, members, other appropriate third parties, etc.);
- Hardware and software requirements and needs;
- Timeframes, including acceptable downtime for the credit union and the time needed to bring processing services up after a disaster;
- Critical, priority, and support systems;
- Backup and recovery of operating system, application software, and data files;
- Current written documentation;
- Alternative sites for processing;
- Communications needs (telephone lines, fax capabilities, cell phones, data lines (T1, T3, fiber optic, etc.) and capabilities (bandwidth and throughput);
- Employees' knowledge (understanding of their duties and needs) and training;
- Administrative needs and supplies;
- Insurance coverage and requirements;
- Security for the credit union and the alternative sites; and
- Testing.

Examination and Audits

The examination and audits of the information processing and services, including both internal and external reviews, give the credit union assurance that the system's design and operation function as intended. Internally, the credit union should perform, at a minimum, quality and accuracy checks on the system's processing to ensure the presence of at least the minimum control requirements for the type of system in use. Depending on its size, type of system, and complexity, a credit union may need a complete third-party audit. Larger credit unions may need an internal IST auditor to perform routine, recurring reviews of the system.

Based on the risk-focused examination considerations discussed earlier in this chapter, examiners may perform some level of IST review during the examinations of credit unions having automated systems. Most credit unions rely on automated systems. Many credit unions could not operate at their present service level without these systems. The audit software available in AIRES allows for sampling and querying share and loan data. A download from the credit union's system helps the examiner analyze the data in the computer system by allowing the examiner to compare AIRES results with the credit union's reports. Examiners can review records for quality, completeness, and accuracy. Additionally, examiners can compare data from separate sources for consistency, and can summarize and sort data in various ways.

During the IST review, examiners should perform a review of IST management and general controls. Examiners can address review results in one or more of the following ways:

- No recommendations, based on the quality and acceptability of the review;
- Recommendation that management improve certain areas of the IST operation or services;
- Recommendation that management obtain a partial or complete third-party review; or
- Notification to the supervisory examiner of extensive problems in the system.

Effect of IST on the Auditor's Consideration of Internal Controls in a Financial Statement Audit

This section provides guidance on how the credit union's use of IST may affect internal controls relevant to the financial statement audit, the auditor's understanding of internal controls, and the assessment of control risk relative to IST.

The audit standards assert that the more complex the IST environment at a credit union, the higher the assessment of control risk and the more control testing the examiner should see in the audit documentation on internal controls regarding IST.

Generally accepted auditing standards (GAAS) state:

> When evidence of an entity's initiation, recording, or processing of financial data exists only in electronic form, the auditor's ability to obtain the desired assurance only from substantive tests[1] would significantly diminish.

Therefore, auditors should rely less on substantive tests and more on tests of controls as levels of automation increase. Consequently, the examiner should see an audit strategy designed to perform a greater degree of control testing to ensure the effectiveness of the controls. Examples of control testing can include:

- Testing system edits (e.g., posting rejects to non-existent accounts);
- Exception reporting (e.g., paid-ahead loan report or loans over a dollar limit);
- Testing authorization limits (e.g., wire transfers); and
- Testing security codes and structure (e.g., system rights).

The effect of IST on a credit union's internal controls relates more to the nature and complexity of the systems in use than to the credit union's size. Based on the complexity of the credit union, the examiner should review the audit scope or otherwise determine that the auditor considered the following:

- The adequacy of internal controls given the level and complexity of IST. For example, the credit union may have complex and highly integrated systems that share data for reporting, operations, and compliance objectives. Other examples include multiple user environment accessing a common database, web operations, or a shift from paper to an automated system.

- The types of controls significant to the audit and the testing of those controls. These may include authorization controls, reporting limits, controls to initiate transactions, security levels, and backup procedures.

- Whether the auditor used individuals with specialized knowledge. Determinants include the complexity of the system, extent of changes to existing systems, establishment of new systems, extent

[1] Independent tests that are quantitative in nature performed to support a financial statement assertion or contention.

of data sharing, and availability of audit evidence existing only in electronic form.

- The auditor's understanding of the financial reporting process. Typically, within the audit documentation for more complex credit unions, the examiner would find a system diagram, schematic, or questionnaire denoting the data flow from initiation to reporting with control points identified allowing the auditor to pinpoint potential weaknesses.

The audit scope and program must assess and address IST risks or it may be considered inadequate.

Service Bureaus

Credit unions that use service bureau operations (also called service centers) to process their information have many of the same responsibilities as those using in-house services. Management can make a serious mistake by relying heavily on a service bureau without providing adequate oversight. Management should recognize and monitor important issues including ownership and control of data, timeliness, accuracy and completeness of information processing functions, contractual obligations, contingency planning, backup and recovery of data files, financial stability of the service bureau, and service bureau audits (financial, SAS 70, etc.)

Examiners should pay particular attention to the contract between the service bureau and the credit union. A written contract must specify responsibilities of both parties. Credit union management must understand the contents of the contract with the service bureau. The provisions often contained in an IST service contract include:

- Specific work that the service bureau agrees to perform, and the frequency and general contents of the related reports;
- The basis of costs, including development, conversion, and processing, together with additional charges for special requests;
- Established time schedules for receipt and delivery of work;
- Audit responsibility, including the right of user representatives to perform audit procedures (such as a SAS 70 Report);

- Backup and record protection provisions (equipment, program, and data files) to ensure timely processing by the service bureau in emergencies;
- Establishment of liability for source documents while in transit to and from the service center (the service center should have adequate insurance coverage for those liabilities for which it bears responsibility);
- Maintenance of adequate insurance for data losses from errors and omissions;
- Confidential treatment of records;
- Ongoing compliance with federal regulations;
- Ownership and escrow of computer programs and related documentation;
- Ownership of master and transaction data files and their return in machine-readable format upon the termination of the contract or agreement;
- Price changes, cost and method of cancellation of the contract, or withdrawal from the servicing arrangement by either party, including adequate time allowance;
- Notification from the service center to the users of all systems of changes that would affect procedures, reports, etc.; and
- Financial information that the service bureau agrees to provide periodically (preferably at least annually) to credit unions.

Outsourcing

Credit unions often rely on third parties to provide and support technology-related functions and services. Outsourcing arrangements can help manage costs, provide expertise, and expand and improve services offered to members. The credit union may outsource the system or service; however, management ultimately remains responsible for managing the risks associated with the system or service. The following four key points pertain to managing outsourced technology:

- The board of directors and senior management bear responsibility for understanding the risks associated with outsourcing arrangements for technology services and ensuring implementation of effective risk management strategies and practices;

- Once the credit union has completed its risk assessment and determined its risk acceptance level, management should evaluate service providers to determine their operational and financial abilities to meet the credit union's needs;

- Credit unions should require clearly written and sufficiently detailed contracts that provide assurances for performance, reliability, security, confidentiality, and reporting; and

- Credit unions should implement an oversight program to monitor each service provider's operations and controls, financial condition, and performance standards.

(For a more in depth discussion on outsourcing, see NCUA Letter #00-CU-11, *Risk Management of Outsourced Technology Services*.)

Security and Privacy

NCUA developed the security and privacy guidelines in §716 and revised §748 of the *NCUA Rules & Regulations* in response to the Gramm-Leach-Bliley Act (GLBA).

Security

NCUA Rules and Regulations §748.0 requires each federally-insured credit union to develop a written security program. This program must strive to:

- Protect each credit union office from robberies, burglaries, larcenies, and embezzlement;
- Ensure the security and confidentiality of member records, protect against anticipated threats or hazards to the security or integrity of such records, and protect against unauthorized access to or use of such records that could result in substantial harm or serious inconvenience to a member;
- Assist in the identification of persons who commit or attempt such actions and crimes; and
- Prevent destruction of vital records, as defined in §749.

The appendix to §748 provides guidelines to assist credit unions in meeting the above four criteria. The guidelines, while not mandatory,

provide a good framework from which credit unions can work to develop their policies and procedures.

Security Policies and Procedures

Credit unions may find the following considerations useful when developing security policies and procedures:

- Identifying the services provided and systems (hardware and software) used;
- Identifying the risks and threats associated with each system and service;
- Determining the likelihood the risk or threat could occur;
- Identifying and evaluating various methodologies to mitigate the risks or threats;
- Developing the policies and procedures to address the risks or threats;
- Monitoring, and adjusting if necessary, the policies and procedures to achieve the desired results;
- Reviewing policies and procedures at least annually; and
- Training and educating staff.

Though not required, credit unions should establish a security team assigned with the responsibility of developing, implementing, monitoring, and revising security policies and procedures. Team members should include representatives from senior management, information technology department, human resources or personnel department, legal department, and customer service department. A diversified team will provide input from different perspectives in development of effective policies and procedures (see *NCUA Rules and Regulations* §748 and Appendix).

If a credit union demonstrates a weakness in one or more of the preceding steps, examiners should address that concern in a manner consistent with the risk and potential effect on the credit union.

Privacy

Credit unions must ensure their IST policies, procedures, practices, systems design, and operations comply with the privacy requirements in *NCUA Rules and Regulations* §716 (see NCUA Letter #01-CU-02, *Privacy of Consumer Financial Information* for a detailed discussion.)

Credit unions must also work with their vendors to ensure that their vendors comply with the credit union's privacy statements.

IS&T Questionnaires

AIRES contains three questionnaires to assist the examiner in performing and documenting the IST review. The purpose and description of each questionnaire is:

- e-Commerce I (EC1). EC1 is a high-level questionnaire designed to assist examiners in their review of credit union e-commerce services. EC1 primarily focuses on credit union management's actions regarding the planning, implementation, and oversight of e-commerce systems and services;

- e-Commerce II (EC2). EC2 is a detailed questionnaire designed to assist examiners in conducting an in-depth review of e-commerce systems and services. Generally, examiners use EC2 when the results of EC1 indicate problems or issues exist which, in the examiner's judgment, warrants further review. EC1 and EC2 have eleven identical major sections allowing examiners to identify concerns using EC1 and then use the corresponding section in EC2 to perform additional examination procedures as warranted. Examiners also use EC2 in large and complex credit unions; and

- Electronic Data Processing Review (EDPR). EDPR is a technical questionnaire designed to assist examiners in their review of credit union IST systems. Generally, examiners use EDPR when they wish to perform a review of a credit union's automated systems (not just e-Commerce) or, when in their judgment, a review is warranted due to:

  - Significant weaknesses noted in IST areas;
  - Lack of an adequate internal or external review program for IST systems;
  - Lack of adequate management oversight, risk analysis, or risk control;
  - Lack of adequate policies, procedures, and practices; or
  - EC1 and/or EC2 review results reveal IST concerns regarding e-Commerce systems and services (if concerns exists for e-

Commerce systems and services, similar concerns may exist for core processing systems and services.)

CAMEL Impact

Examiners should use the Management component of the CAMEL rating to address IST concerns. As part of this assessment, examiners should consider the following:

- Strategic Plan & Goals:

  - Has management developed a strategic plan for the credit union's IST systems and services?
  - Has management developed strategic goals, policies, and procedures to implement the strategic plan?
  - Are those strategic goals, policies, and procedures adequate in relation to the following:

    i. Size and complexity of the credit union;
    ii. Type of services offered;
    iii. Volume of IST activity;
    iv. Member demand, usage, and expectations; and
    v. Criticality[2] of systems and services?

- Risk Analysis:

  - Has management performed a risk analysis? If so, does the analysis include the following components:

    i. Assessment;
    ii. Impact analysis/evaluation;
    iii. Mitigation;
    iv. On-going/periodic monitoring; and
    v. Reporting procedures?

[2] Management should determine whether IST systems and services are critical or non-critical to the credit union's operations. Management should base this determination on factors such as, but not limited to, the following: risk exposure (transaction, security, compliance, reputation, etc.), type of services offered, transaction volume (number and dollar), interconnectivity impact with other credit union technology systems, member usage, and member expectations and perceptions.

- Policies:

  - Has management developed appropriate and adequate policies that address the following:

    i. Security;
    ii. Compliance;
    iii. Business continuity/resumption;
    iv. Disaster recovery; and
    v. Vendor management?

- Oversight:

  - Does management provide adequate oversight including:

    i. Adequate staffing;
    ii. Knowledgeable/informed staff (in IST activities); and
    iii. Adequate reporting procedures at various management levels?

  - Has the internal and/or external review program been modified to include reviewing procedures for IST activities?

  - Does management address issues/concerns effectively, adequately, and timely?

  - Does management have adequate vendor oversight policies, procedures, and practices?

Workpapers and References

- Workpapers
  - Electronic Data Processing Review (EDPR)
  - E-Commerce I (EC1)
  - E-Commerce II (EC2)
- References
  - Federal Laws/Regulations
    - Computer Fraud and Abuse Act (CFAA)
    - Electronic Funds Transfer Act (EFTA, REG E)
    - Expedited Funds Availability Act (EFAA, REG CC)
    - Child On-Line Privacy Protection Act (COPPA)
    - Gramm-Leach-Bliley Act (GLBA)

  - Electronic Signatures in Global and National Commerce Act (E-Sign)

- *NCUA Rules and Regulations*
  - 701.26 - Credit Union Service Contracts
  - 712 - Credit Union Service Organizations
  - 716 - Privacy of Consumer Financial Information
  - 721 - Federal Credit Union Incidental Powers
  - 748 - Credit Security Program, Report of Crime and Catastrophic Act and Bank Secrecy Act Compliance
  - 749 - Records Preservation Program And Record Retention Appendix

- Regulatory Alerts
  - 01-RA-07 *Children's Online Privacy Protection Act* (COOPA)
  - 01-RA-06 *Regulation E (Electronic Fund Transfers)*
  - 01-RA-03 *Electronic Signatures in Global and National Commerce Act (E-Sign Act)*
  - 00-RA-01 *Electronic Transfers Accounts*
  - 98-RA-08 *Electronic Transfer Act*
  - 98-RA-04 *Interagency Guidance on Electronic Financial Services and Consumer Compliance*
  - 97-RA-12 *Guidance for Reporting Computer-Related Crimes*

- Letters to Credit Unions
  - 01-CU-04 *Integrating Financial Services and Emerging Technology*
  - 01-CU-02 *Privacy of Consumer Financial Information*
  - 00-CU-11 *Risk Management of Outsourced Technology Services*
  - 00-CU-09 *AIRES 2000 Loan and Share Record Layout Specifications*
  - 00-CU-07 *NCUA's Information Systems & Technology Examination Program*
  - 00-CU-04 *Suspicious Activity Reporting*
  - 00-CU-02 *Identity Theft Prevention*
  - 98-CU-12 *Business Resumption Contingency Planning*
  - 98-CU-02 *Year 2000 Contingency Planning*

  - 97-CU-05 *Interagency Statement on Retail On-line PC Banking*
  - 97-CU-03 *Corporate Business Resumption and Contingency Planning*
  - 97-CU-01 *Automated Response System Controls*
  - 96-CU-04 *Internal Control Structure*
  - 109 *Information Processing Issues*

- *Accounting Manual for Federal Credit Unions*

- Statement of Auditing Standards (SAS) No. 94

- *FFIEC Information Systems Examination Handbook*

- Websites
  - Cybercrime: http://www.cybercrime.gov/
  - Computer Crime and Intellectual Property Section (CCIPS): http://www.usdoj.gov/criminal/cybercrime/compcrime.html #CC
  - Federal Computer Incident Response (FedCIRC): http://www.fedcirc.gov/
  - Financial Crimes Enforcement Network (FinCen): http://www.treas.gov/fincen/
  - Federal Trade Commission (FTC): http://www.ftc.gov/
  - Internet Fraud Complaint Center (IFCC): https://www.ifccfbi.gov/
  - National Infrastructure Protection Center (NIPC): http://www.nipc.gov/
  - Electronic Privacy Information Center (EPIC): http://www.epic.org/
  - Incidents.org-By The SANS Institute: http://www.incidents.org/
  - Internet Security Systems, Inc.: http://www.iss.net/
  - National Institute of Standards and Technology Resource Center: http://csrc.ncsl.nist.gov/
  - SecurityFocus (BugTraq): http://www.securityfocus.com/
  - CERT® Coordination Center: http://www.cert.org/
  - Internet Fraud (IFW): http://www.fraud.org/internet/intset.htm

- Information Technology Association of America: http://www.itaa.org/
- SANS Institute Online: http://www.sans.org/newlook/home.htm
- Security & Exchange Commission-Division of Enforcement - Complaint Center: http://www.sec.gov/enforce/comctr.htm

INTERNET AND e-COMMERCE - APPENDIX 6A

Overview

Many credit unions offer services to members via electronic means, often through the Internet and World Wide Web. Electronic financial services pose inherent risks to credit unions. Management must understand those risks and take measures to mitigate them.

Electronic financial services (EFS) comprise those services that a credit union provides via electronic means including, but not limited to, the following:

- Electronic Commerce Systems and Services:
    - Internet/World Wide Web services;
    - Home Banking (direct dial in) Services;
    - Wireless Services;
    - Audio Response/Phone Based;
    - Kiosk; and
    - e-Commerce Account Transaction Processing Services. Online e-Commerce account services include, but are not limited to, the following:

        i. Account Inquiry;
        ii. Check Order Requests;
        iii. Loan Applications;
        iv. Bill Payment;
        v. Funds Transfers;
        vi. Third-Party Transfers;
        vii. Stop Payment Requests;
        viii. On-Line Wire Transfers;
        ix. Automated Clearing House (ACH) Originations; and
        x. Account Aggregation/Screen Scraping.[1]

[1] Account aggregation and screen scraping are two different methods used to gather user account information from various sources and then compile that information in one location for the user.

- Electronic Payment Systems:

  - ACH Transactions;
  - Stored Value Cards;
  - Electronic Money; and
  - Electronic Wallets.

- ATM Systems.

There are three types of website systems:

- Informational. An Informational system displays general information such as loan/share rates, credit union contact information, and privacy notices;

- Interactive. An Interactive system contains features of an Informational website plus members can request information such as share balances, loan balances, account statements, and disclosure statements. Members can complete loan applications, member applications, share account applications, etc.; and

- Transactional. A Transactional system contains features of an Interactive website plus members can initiate and perform transactions such as paying bills, making loan payments, transferring money or funds (between one or more credit union accounts; between the credit union and third-parties), and opening new share accounts.

The introduction of website services (whether hosted internally or externally) exposes a credit union to increased risk. In addition, the type of website affects the level of risk the credit union assumes (i.e., transactional websites generally have a higher level of risk than an interactive website.)

The following four tools will assist examiners in their risk-based approach to evaluating credit union management in the area of electronic financial services:

- e-Commerce I (EC1) - high level e-Commerce questionnaire;
- e-Commerce II (EC2) - detailed review program for reviewing a credit union's e-Commerce activities;
- EDP Review (EDPR) - Electronic Data Processing Review Program for reviewing a credit union's overall information and technology systems; and
- Computer Desktop Encyclopedia computer disk.

AIRES contains the first three tools. The Computer Desktop Encyclopedia is on a computer disk with updates issued periodically throughout the year.

Threats and Vulnerabilities

Credit unions that provide web-based services face additional threats and vulnerabilities. Generally, these concerns arise because the credit union has adopted an "open environment." This is one in which external parties have access to one or more of the credit union's internal systems. Typical threats and vulnerabilities associated with the Internet and web-based services include:

- Eavesdropping or Packet Sniffing;
- Snooping or Downloading;
- Tampering;
- Spoofing;
- Jamming or Flooding (Distributed Denial of Service (DDoS));
- Injecting Malicious Code (viruses and Trojan Horses);
- Exploiting Flaws; and
- Cracking.

Effective policies, procedures, and practices, which address the following, provide the best way to deal with these threats and vulnerabilities:

- Risks assessments;
- Security measures;
- Monitoring requirements;
- Incident response procedures;
- Vendor oversight; and
- Contingency planning and business resumption contingency planning.

Risk Assessments

The credit union should have implemented a risk assessment procedure that enables it to do the following:

- Identify the threats and vulnerabilities;
- Assess the risk (likelihood of occurrence and effect on credit union);
- Establish risk tolerance thresholds (how much given risk is the credit union willing to assume);
- Implement risk mitigation strategies; and
- Monitor and adjust, as needed, risk mitigation strategies on a regular basis.

Security Measures

The types of security measures a credit union employs depends on the types of systems and services it provides, the complexity of those systems and services, the credit union's risk tolerance thresholds, and the experience of IST management. *NCUA Rules & Regulations* §748 delineates the security requirements credit unions must meet and provides guidelines they may employ to meet those requirements. A business decision by the board addresses how the credit union will implement security for its systems and data. When providing web-based services, best practices suggests using the following:

- Routers (to route data to the appropriate destination);
- Firewalls (to filter incoming and outgoing traffic);
- Virus protection (to prevent or control viruses and Trojan horses);
- Intrusion detection (to alert management when an intruder is attempting to breach, or successfully has breached, the credit union's perimeter security systems);
- Vulnerability assessments and penetration testing (to identify and determine weaknesses associated with individual systems and the IST environment as a whole);
- Security bulletin and alert monitoring (to remain aware of new security issues and install new updates and patches in a timely manner);
- Incident response procedures and employee training (to limit damage once an incident has occurred); and
- Vendor oversight program (to ensure vendors and contracts meet the credit union's minimum requirements.)

Monitoring Requirements

Each credit union should establish monitoring requirements for all phases of its IST activities, from monitoring internal systems (e.g., systems log reviews) to monitoring the operations of the vendors. Monitoring procedures allow a credit union to determine what works and what does not. This provides management the ability to make appropriate adjustments to policies, procedures, and practices.

Incident Response Procedures

The credit union's incident response plan should provide assurance that the credit union has the ability to deal with various types of incidents within reasonable timeframes, thus minimizing the risk of loss. Key factors for dealing with incidents include (1) what action to take, (2) when to take it, and (3) how to implement that action. The amount of detail in a credit union's incident response plan should relate to the size of the credit union, the complexity of its operations, and the structure of its IST environment. For example, a credit union operating in a complex in-house developed IST environment would have a different incident response plan from a credit union solely operating in an outsourced environment.

Vendor Oversight

A credit union should establish a vendor oversight program that ensures its vendors meet pre-established criteria such as security and privacy. The credit union should carefully review its vendor contracts to ascertain each party's rights and obligations and to ensure that service level agreements meet the credit union's expectations and needs. If available, credit unions should obtain and review vendor financial statements to determine the short- and long-term viability of their vendors. The credit union should decide whether obtaining a copy of a vendor's SAS 70 or other audit report (if available) would assist in determining the quality of the vendor's management, various controls, policies, procedures, and practices. Credit unions should regularly communicate with their vendors to obtain current information regarding the vendors' hardware and software systems.

Contingency Planning and Business Resumption

A credit union should determine the importance of its web-based services and products to its operations. Based on the level of criticality, the credit union needs to develop appropriate procedures to ensure an incident or disaster will minimally impact, or impact only to a

predetermined acceptable level, member services and credit union operations. Occurrence of an incident or disaster can result in reputation risk, a risk that credit unions commonly overlook. Therefore, credit unions should address not only the disruption of services and potential financial loss (volume and dollar transactions), but also the long-term costs to their reputation and the industry.

Bond Insurance Coverage

Credit unions should have implemented a risk management program to manage the risks inherent in their operations. Insurance can play a role in mitigating risks to an acceptable level so the credit union can achieve its strategic objectives.

NCUA Rules and Regulations §713, Fidelity Bond and Insurance Coverage for Federal Credit Unions, requires that each federal credit union board review its insurance coverage for adequacy in relation to the potential risks facing the credit union. The board must review the insurance coverage at least annually. A thorough risk assessment process would help determine the adequacy of the coverage in relation to the credit union's activities, including e-Commerce.

A credit union should reevaluate insurance needs whenever it considers a new product, service, or vendor relationship. These may introduce new risks for which insurance coverage may require modification.

Risks associated with e-Commerce are wide-ranging. An insurance carrier's product offerings may cover these risks in various places such as the fidelity bond, electronic computer crime coverage, and other optional coverage. The credit union and, if necessary, the examiner should review each type of coverage closely to determine its adequacy in relation to the credit union's risk exposure. The following types of insurance may cover EDP activities:

- Fidelity bond coverage principally covers the direct loss due to a physical crime such as theft of certain defined property (e.g., negotiable items) stolen by a first party (e.g., employee from an employer);

- Electronic computer crime coverage fills some of the gaps in fidelity bond coverage. It typically covers the direct loss due to an electronic computer crime resulting in the loss of defined property (e.g., negotiable items). Moreover, it can cover the risk of viruses and the manipulation or destruction of data and programs; and

- Other optional coverage fills some of the gaps in the fidelity and electronic computer crime coverage. These may cover indirect losses (e.g., business interruption or resumption and extortion) and expand defined property to include confidential member and credit union data. Some may cover additional related liabilities or expenses (even in relation to external service providers and litigation.)

Coverage varies among insurance carriers. Moreover, carriers often bundle their insurance offerings in different packages with unique marketing names. The coverage afforded by these policies may change in the future based on the insurance industry's perceived risk and claims experience.

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Chapter 7

MANAGEMENT

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Chapter 7

MANAGEMENT

Examination Objectives

- Assess management's ability to recognize, assess, monitor, and control risk
- Assess whether the credit union board of directors has sufficient expertise to adequately plan, direct, and control the operations of the credit union
- Determine whether the board and management adequately plan for future conditions and developments
- Determine whether the board is appropriately fulfilling its responsibilities and duties
- Determine whether the board has adopted adequate policies and operating strategies to conduct prudent credit union operations
- Determine whether the board establishes appropriate limits and provides direction before offering a new service or product
- Determine whether operating management has developed procedures to implement board policy
- Determine whether management performs due diligence on new, existing, and planned products and services
- Determine whether management has implemented adequate internal controls to ensure the sound operation of the credit union
- Determine whether management appropriately reports credit union operations and risk information to the board
- Determine promptness of corrective action initiated by management when deficiencies or violations in policies, practices, procedures, or internal controls arise

Associated Risks

Management affects all seven risks found in credit union operations – credit, interest rate, liquidity, transaction, compliance, strategic, and reputation. (The Risk-Focused Program chapter contains a description of the seven risks faced by credit unions.) This chapter will focus on the following risks:

- Strategic risk occurs when management fails to (1) perform adequate due diligence for existing, new, and proposed products and services, (2) act on recommendations included in examinations

and internal/external audit reports, and (3) allocate the necessary resources to adequately manage the credit union in a safe and sound manner;

- Compliance risk occurs when the credit union fails to adhere to applicable laws and regulations; and
- Reputation risk occurs when management fails to meet its fiduciary duties, resulting in poor publicity or administrative action.

Overview

Management is responsible for identifying, monitoring, measuring and controlling (i.e., managing) the risks faced by the credit union. Their ability to manage these risks determine whether the credit union can correctly diagnose and respond to financial stress. Examiners should not assess management solely on the credit union's current financial condition, nor should the management rating be only an average of the other component ratings.

Meeting with Management

Examiners should complete the credit union update questionnaire for guidance in reviewing credit union management, especially when the examiner begins examining the credit union. Examiners may use the list of topics in this section to discuss, observe, and analyze the effectiveness of management. When acquainting themselves with the credit union's activities, the list may aid examiners in engaging the managing official (often the chief executive officer or CEO) and other management in discussions about their respective areas of responsibility. This may assist the examiner in assessing management's effectiveness.

Examiners should conduct a preliminary interview with senior executive officials to discuss items such as the credit union's operations, strategic plan, products, and services. Responses to certain topics or the examiner's observations may trigger expansion of examination scope and, if necessary, corrective action.

The following list is not all-inclusive. Examiners must use their judgment if their observations direct them toward exploring other topics. Depending on the size, complexity, risk profile, and organizational structure of the credit union, examiners will discuss or

observe the following or similar matters with the appropriate management staff:

- Key personnel changes since the previous examination and future plans;
- Significant new or planned programs or services, as well as the extent to which members use existing products and services;
- Due diligence performed by management on new and planned programs and services;
- Significant acquisitions of new facilities and future plans;
- EDP conversions, upgrades or material changes;
- Problems with the sponsors and the field of membership;
- Working relationship with the board of directors;
- Material change in the investment portfolio and future plans;
- Material change in the loan portfolio and future plans;
- Recordkeeping issues (e.g., balanced general ledger, balanced individual share and loan ledgers, cash reconcilements);
- Off-balance sheet risk areas;
- Lawsuits or other contingent liabilities;
- Material changes in key policies or procedures, and future plans regarding policies and procedures;
- Return on assets, capital accumulation strategy, meeting goals;
- Management succession plan;
- Systematic review of policies and procedures;
- Frequent need for borrowed funds;
- Ground rules for dealing with department heads and other staff; and
- Procedures for daily management discussions.

To review credit union management, examiners may consider the following procedures:

- Review the credit union’s strategic and business plans and analyze management’s integration of risk management with planning and decision making;

- Review responsiveness to examination and audit suggestions and recommendations, and assess corrective actions taken to address risks identified in prior examinations and audits;

- Review the minutes of regular and special board and committee meetings for significant items;
- Review policies and procedures in each area of operation (e.g., lending, investment, personnel, etc.) and ensure that the policies and procedures are updated at least annually;
- Review the credit union's budget, budget assumptions, and budget variance analysis (budgeted items against actual performance);
- Review documentation of management's due diligence regarding existing, new, and planned products and services;
- Review the adequacy of the allowance for loan and lease losses and other valuation reserve accounts;
- Review material contracts signed by management since the last examination; and
- Review and analyze the supervisory committee's annual work plan, including the audit and verification programs and internal control procedures, using the Supervisory Committee Audit and Verification Review questionnaire, to help determine the level of general ledger review. (Refer to the Supervisory Committee chapter.)

Board, Committees, Operational Management

The board of directors has the ultimate decision-making authority. It approves policies that direct daily operational management and delegate to staff the authority necessary to fulfill their job responsibilities. (Appendix 4A to the Internal Controls chapter contains a list of management conflicting positions.) The board of directors and management have fiduciary responsibility to the members to maintain high standards of professional conduct.

Evaluating the quality and the effectiveness of management is an important part of the total analysis process and a major examination objective. Examiners evaluate the quality of management by determining the effectiveness of the board of directors, the committees, and operational management. To evaluate board and committee

effectiveness, examiners can review various documentation including board and committee minutes, the credit union's policies, the strategic and business plans, management due diligence, and financial and operational results.

Red Flags

Examiners should be aware of any "red flags" which may indicate that the examiner needs to expand analysis and review of the applicable operations. Red flags as they relate to management may include the following:

- Overly dominant manager;
- Manager or key employee involvement in gambling;
- Manager or key employee not taking regular vacations or always working late hours;
- Nepotism on part of the directors or management;
- Other forms of insider abuse or preferential treatment;
- Limited personnel not conducive to segregation of duties;
- Lack of adequate segregation of duties when the credit union has adequate staffing to achieve such;
- Failure to provide, or delays in providing, standard reports, records, and documents;
- Records maintained at home and not in credit union's control;
- Management or staff provide copies of documents rather than originals;
- Inactive supervisory committee;
- Lack of, unacceptable, or non-independent audit or verification;
- Inadequate internal controls and information systems (IS) controls;
- No internal review of override of non-financial reports;
- Bank account frequently overdrawn;
- Large amounts of cash in transit;
- High volume of excessive transactions;
- Use of borrowed funds in spite of large cash balances;
- Lack of a fraud policy;
- Extravagant management or employee lifestyle relative to salary;
- Low return on assets or on various asset categories; and/or
- Payment of above market dividends to attract deposits.

Board Responsibility

The board of directors has the following four basic responsibilities:

- Select qualified management and evaluate management's performance;
- Establish, regularly review, and revise as necessary business goals, standards, policies, and procedures;
- Review operating results and performance of new and existing activities; and
- Ensure compliance with applicable laws and regulations, and the credit union's own policies and procedures.

While fulfilling these responsibilities, board members should:

- Operate independently from management;
- Attend board meetings regularly;
- Avoid conflicts of interest and self-serving practices; and
- Ensure the credit union serves the credit and savings needs of its field of membership.

The board of directors and management should comply with all applicable laws and regulations. The board should consider obtaining an attorney's opinion on compliance when implementing new services or products. In addition, the board of directors and management must comply with laws and regulations that promote equal opportunity for all members regardless of race, color, religion, gender, national origin, age, or handicap.

Management must not use the credit union for private gain. They should restrict use of credit union property to authorized activities. Management must act impartially and not give preferential treatment to any individual.

Federal credit unions may not have fewer than five or more than 15 board members. A quorum for board meetings is the majority number (50 percent plus one) of directors that a credit union's bylaws prescribe, even if the credit union has not yet elected the prescribed number.

Board and Committee Minutes

Minutes of board and committee meetings are a primary source of information by which examiners evaluate a board and its actions. The minutes should support conclusions reached by the officials in the meeting. Analysis of the minutes should enable the examiner to evaluate how the officials and management interact and perform their job responsibilities. This information can help determine the adequacy of management and the effectiveness of the policies. Examiners may use the AIRES Board Minutes document to record information during the review of board and committee meeting minutes. By reviewing the minutes, examiners should be able to determine the following:

- Adequacy of management's reports to the board. Thorough and accurate minutes should cover all aspects of the credit union's operations and should document significant changes to capital, financial performance results, and major credit union activities. Likewise, the minutes should document supervisory committee reports presented to the board.

  A board's excessive reliance on benchmark financial statistics rather than on comprehensive financial analysis suggests that the directors may fall short in their oversight of the credit union's affairs. Undue reliance on only a few indicators may result in erroneous conclusions about the credit union's condition. Examiners should determine that reports to directors support complete, understandable, and accurate information appropriate to the size and complexity of the credit union.

  The minutes should also include significant actions such as the following (list is not all-inclusive):

  - Delegations to management;
  - Loan policy changes;
  - Increase or decrease to allowance accounts;
  - Agreements on collection problem loans;
  - Loan rate changes;
  - Recordkeeping problems;
  - Dividend declarations;
  - Consideration of new programs;
  - Investment activities;
  - Capital accumulation and maintenance policies;

- Approval of charged-off loans;
- ALM and budget review;
- Financial statement review;
- Material fixed asset purchases;
- Loans to officials;
- Progress in meeting goals;
- Review of audit reports; and
- Compliance with CUMAA requirements.

- Oversight of management. Minutes should reflect the board's discussion and approval of major strategic or operating decisions, degree of management's due diligence, and adoption of major operating policies and procedures. Management should obtain board approval before implementing new policies, offering a new service, or engaging in new activities.

- Attendance and participation. Minutes should evidence attendance by board members. Article VI, Section 8 of the *FCU Bylaws* states that if a director fails to attend regular board meetings for three consecutive months, or four meetings within a calendar year, or otherwise fails to perform the duties of a director, the board may declare the office vacant and may fill the vacancy in accordance with the Bylaws. Minutes should identify board members who ask important questions or make motions to indicate they actively participate in the meetings.

- Performance evaluations. Minutes should reflect the board's election of officers, its review of management's performance, and its deliberations regarding salaries and compensation for officers and fees for attorneys, appraisers, internal and external accountants, etc.

- Compliance with board directives. Credit unions should have internal systems to monitor operations and ensure that management takes appropriate actions that conform to board approved policies and directives.

If examiners find missing or incomplete minutes, they should advise the board that minutes comprise vital corporate records that document all board actions.

Annual Meeting

The credit union must hold an annual membership meeting, election, and a reorganizational meeting of the board in accordance with the §110, §111, and §112 of the *FCU Act* and Articles IV and V of the *FCU Bylaws*. Credit unions must adhere to the requirements contained in the specified sections of the Act and Bylaws. Additionally, credit unions should follow *Robert's Rules of Order* to ensure the annual meeting meets the standards of a properly run business meeting. The examiner should review the minutes of these meetings.

Board Appointment

The board must appoint a supervisory committee composed of not less than three, nor more than five, members who are independent of management and free from any relationship that would interfere with the exercise of independent judgment as a committee member. The supervisory committee's responsibilities include performing or causing to be performed the annual audit of the credit union and the biennial verification of member accounts. As such, the supervisory committee's independence from the board, management, and operating personnel is vital. (Refer to the Supervisory Committee chapter for more information.)

In credit unions that do not have an elected credit committee, the board may appoint a credit committee, which in turn, can appoint loan officers. The board appoints loan officers in credit unions that have no credit committee (see Article VI, Section 6 of the *FCU Bylaws*).

The board may also appoint a membership officer, if the board does not choose to act on membership applications themselves. The board should also appoint a security officer.

Depending on the size and complexity of the credit union's operation, the board may also hire an internal auditor (or in the case of a large credit union, an internal audit staff), who monitors and reports on the credit union's operations for compliance with applicable laws and regulations as well as credit union policies and procedures. Ensuring that the credit union has adopted adequate internal controls and that the officials, management, and staff adhere to these controls also falls within the purview of the internal auditor.

Operating Management

The board's most important responsibility involves selecting a capable, competent, and trustworthy manager or chief executive officer (CEO) for the credit union. Officials should define the CEO's duties and responsibilities in writing and then give the CEO the latitude needed to run day-to-day operations.

Ensuring continuity of operations requires an adequate management succession plan. A succession plan helps ensure continuity of the credit union's operation in the event the CEO or another key manager can no longer carry out the duties assigned. Adequacy of a succession plan depends largely upon the size and sophistication of the credit union. Credit unions need succession plans for not only the CEO, but also for other key personnel. An integral part of management succession plans involves cross training of both management and staff to ensure necessary backup for vacant positions.

Management contracts should not contain provisions that may cause hardship to the credit union (e.g., salary increases tied to asset growth, salary not commensurate with asset size, unreasonably long contracts, golden parachutes, and unreasonable termination provisions.) The board must implement and adhere to performance standards for the CEO and senior management and should provide written evaluations of performance at least annually.

Policies and Procedures

The board adopts policies to direct the credit union's activities. Procedures represent the methods by which the credit union implements the policies. Operating policies and procedures establish management's strategy for realizing the credit union's goals, and they provide a basis for gauging performance.

The board must provide a clear framework within which the CEO can operate and administer the credit union's affairs. This includes setting forth the credit union's business strategy in the business plan, investment and loan policies, capital planning, funds management, and risk management. The board must approve all major policies. Further, it should review and, if necessary, update those policies at least annually.

Board policies and procedures should meet the following parameters:

Exist for all major phases of the credit union's operations;

- Establish and provide guidance and direction for a credit union's operations;
- Suffice for the credit union's operations and risk profile; and
- Provide guidance and promote controlled and efficient operating practices.

Board Oversight of Operating Management

The board of directors must ensure that operating management has procedures in place to implement board-adopted policies. If applicable to the size, complexity and operation of the credit union, operating management's responsibilities include the following functions:

- Implementing the board's policies;

- Providing periodic reports and analysis to the board concerning policy compliance, such as interest rate risk (IRR) exposure reports, earnings projections, and capital projections;

- Reviewing the board's policies periodically and, when appropriate, suggesting changes;

- Managing the operations and staff to achieve the goals and objectives set forth by the board;

- Establishing operational procedures;

- Supervising investment portfolio management activities, including investing excess liquid funds in instruments that complement the credit union's overall risk/return profile;

- Maintaining an awareness of the economic and interest rate environment, particularly local economic conditions, prepayment trends, volatility, and related regulatory developments;

- Reviewing asset quality, including trends in delinquencies, non-accrual loans, real estate owned, charge offs, and recoveries. Also

reviewing the adequacy of reserves and quantifying the effect of non-performing assets on the risk/return profile;

- Developing, reviewing, and monitoring capital, business, and strategic plans, and ensuring integration of these plans into the budgeting function. Also, generating variance, rate, and volume analysis reports;

- Providing adequate support, planning, and oversight when the credit union enters new business ventures, CUSOs, or new products and services. Performing due diligence, including cost-benefit analyses of new products and services throughout the planning stages. Ensuring that product development activity and pricing coincide with the credit union’s overall risk/return profile. Setting specific standards concerning risks and assumptions;

- Managing capital market activities, debt issuance, dividend policies, and merger and acquisition analysis within the credit union’s overall risk/return profile; and

- Ensuring that the credit union’s services, products and pricing support its overall risk/return objectives. Periodically performing due diligence, including cost-benefit studies of credit union’s services, business ventures, and products and comparing the credit union’s pricing to that of its competitors.

Risk/Return Tradeoff

The board and management must realize that the credit union can generate higher returns in any given economic environment only if it takes on greater risk; this is the risk/return tradeoff. The choice between these two alternatives relates to the management of all the credit union’s financial functions. The board should analyze risk/return tradeoffs in both its planning and decision-making processes.

Examiners should not criticize management for merely taking risks. Rather, the examiner’s role is to evaluate management’s ability to identify, measure, control, and monitor the risk.

Financial Management

At the direction of the board and in conformance with the credit union's goals and strategic plan, management should develop, and the board should approve, financial and operational policies appropriate to the size and complexity of the credit union, including:

- An annual operating budget supported by specific written assumptions and a pro forma balance sheet;
- An investment policy complying with Part 703 of the *NCUA Rules and Regulations* (see the Investment chapter);
- Written lending and collection policies that comply with NCUA's Rules and Regulations, Federal Reserve Board regulations, and other applicable federal and state laws (see the Loans chapter);
- An ALM policy providing for adequate profitability, cash flow and monitoring (see the Asset-Liability Management and Liquidity chapters);
- Periodic cost-benefit analysis on major services including CUSO and branch operations;
- A growth policy consistent with the credit union's net worth needs and potential risks; and
- Procedures to address material risk presented by off-balance sheet items (e.g., letters of credit, bonds borrowing, CUSOs, any contingent liabilities).

The directors must review and give final approval to the policies and budget developed by management. Realistic policies and budget should contain adequate controls to safeguard the credit union's assets, and should correlate with the strategic plan. Examiners should review expenses, including salary increases and dividend payouts, in a credit union experiencing unstable or declining levels of capital or earnings.

Personnel Management

The examiner should determine that the board has approved the following, as appropriate for the credit union's size and complexity:

- Written personnel policies that address (and include a training program) among other things, sexual harassment, violence in the workplace, and dealing with the media;

- Written, detailed position descriptions and performance standards for all employees including top management;

- Carefully planned recruiting and screening of new employees;

- Appropriate training for credit union management and staff;

- Salary administration;

- Annual written performance evaluations of all employees, including top management;

- Internal controls for all key areas of operation including information systems, segregation of duties, audit program, recordkeeping, liquidity contingency plans, and disaster recovery;

- Written procedural manuals for all areas of operation;

- Provisions for communication;

- A fraud policy that includes appropriately filing necessary SAR forms;

- A management succession plan that addresses the steps necessary for finding a new manager or president for the credit union should termination, retirement, or resignation of the current manager/president occur; and

- An on-going concern plan that addresses possible alternatives that management will implement if the sponsor ceased or significantly reduced operations. Such a plan is especially critical in one-sponsor credit unions. Examiners should encourage management of one-sponsor groups to develop written contingency plans that include consideration of changing the credit union’s charter to allow for expansion and diversification.

Service to Members

Management's efforts to educate the membership play a key role in the credit union's ongoing success. Educational materials discussing the history, philosophy, and uniqueness of the credit union industry may foster participation and loyalty by current and potential members.

The goals of credit unions are diverse. They include:

- Meeting the financial service needs of members;
- Providing access to low-cost lending programs; and
- Providing secure savings accounts.

Management must recognize demographic changes and the effect these changes have on the services needed to keep the credit union competitive. When reviewing service to members, examiners should consider the following areas:

- Loan to share ratio. Examiners should look closely at credit unions with low loan to share ratios (particularly where safety and soundness concerns are associated with low loan to share ratios) to determine management's efforts to promote and generate loan demand.

- Market penetration. The future success of the credit union largely depends on management's efforts to promote membership and services to all potential members.

- Rate structure. A credit union's future success also largely depends upon the board setting and maintaining competitive rates.

- Management due diligence. This includes cost-benefit analyses of new, existing, and planned products and services, including branch operations and CUSO activities. The cost-benefit studies should include whether an equitable assessment of fees to members for the various services exists.

Planning

To anticipate and address rapid changes that may affect a credit union's operation, effective management requires dynamic planning

that encompasses the officials' and management's shared perception of future actions.

Planning, which requires a structure and a process, falls within two classifications: strategic and operational. Strategic planning focuses on the long-term, extensive allocation of resources to achieve the credit union's goals and objectives. Operational planning (e.g., business plan) concentrates on shorter-term actions designed to implement the strategies outlined in the strategic plan. The operational plans flow logically from the strategic plan.

The credit union should carefully monitor and document the planning function, and periodically revise projections as circumstances change. Examiners should watch for deviations in strategic or operational plans that may potentially harm the credit union (e.g., excessive use of brokered funds; initiating higher risk lending or investment programs without proper planning, experience, or controls; failure to investigate and document extensions of credit; and willingness to forgo long-term stability for short-term profits.)

Following are some key elements of a successful planning process:

- Strong commitment from the board and management;
- Meaningful engagement in the process from key stakeholders;
- Development of measurable goals, including a series of short-term goals;
- Development of strategic objectives;
- Clearly defined responsibility, authority, and accountability;
- Efficient and effective operational processes;
- Necessary managerial, financial, technological, and organizational resources to achieve goals and objectives;
- Policies, internal controls, staffing, training, and management information systems to support each area of operation and overall objectives;
- Communication of goals, objectives, and detailed business plans throughout all levels of the organization; and
- Periodic reassessment of the progress and effectiveness of the strategic plan.

Strategic Plan

Consistent with the credit union's size and complexity, the board of directors should establish a strategic plan that documents management's course in assuring that the credit union prospers in the next two to three years. At a minimum, this plan should outline the credit union's future direction and the optimal capital position relative to share and asset growth.

The strategic plan encompasses all areas of operations and often sets broad goals. It enables the credit union to maintain a well thought out focus, make sound decisions, and may help identify risks or weaknesses within its operation that an economic downturn may magnify. An integral part of the strategic plan should include strategic goals addressing the credit union's information systems and technology. This assessment should address the following:

- Evaluating the types and volume of e-Commerce services the credit union offers or plans to offer (e-Commerce services include those a credit union provides, and members access, via electronic means including, but not limited to, internet and world wide web services, home banking services, online bill paying services, account aggregation, and account transaction processing services);

- Determining the importance of the e-Commerce systems and services to the credit union's operation (e.g., website systems, home banking or PC based systems, audio response or telephone based systems, wireless systems, and kiosk); and

- Determining proper levels of monitoring and oversight of the information systems area, given the size and complexity of the credit union.

Examiners should review the credit union's planning function and goals as they relate to the credit union's risk profile and operation, including its policies, procedures, and budget. They should also review the goals that address the information system as it exists and as the credit union plans for changes in its products and services.

Business Plan

Consistent with the credit union's size and sophistication, management should establish a business plan for the next one to two years that

implements the strategies outlined in the strategic planning process. Smaller credit unions with a simple balance sheet may have a short, concise, written business plan, while credit unions with more sophisticated operations should have an extensive and detailed business plan.

Before approving the business plan, the board should ensure its consistency with the strategic plan. Likewise, examiners should review the business plan in relation to the strategic plan to determine their consistency.

The business plan should incorporate the following five steps:

- An assessment of the environment in which the credit union will operate over the medium term. The credit union should evaluate its risk profile and the external and internal factors influencing its business, including (1) economic and regulatory issues, (2) its membership base, (3) its competition, and (4) its competitive opportunities. The credit union should plan for different scenarios such as high and low interest rate environments, full employment, and layoffs.

  Essential to this assessment is the credit union's charter type, which will fall within one of the following (see §109 of the *FCU Act* and IRPS 99-1 for further details of available charters):

  - Single common-bond – one group that has a common bond of occupation or association;
  - Multiple common-bond – more than one group, each of which has a common bond of occupation or association; or
  - Community – persons or organizations within a well-defined, local community, neighborhood, or rural district.

  From this assessment, officials define measurable key objectives and the acceptable level of risk that management is willing to assume in attaining the goals. Management documents the plan's assumptions and ensures consistency of the budget, policies, procedures, and resources with the plan's objectives. The examiner should determine that management knows of the different types of charters, and should assess management's effectiveness in

developing and implementing the business plan and achieving established objectives.

- A clear, written statement of key objectives. These objectives should have the following characteristics:

  - Consistency with the strategic plan, addressing the results of the credit union's analysis of external and internal factors;

  - Measurability, including details of the mechanism the credit union will use to measure progress against the established objectives; and

  - Expression in terms of income and expense paths, projected balance sheets, and other performance indicators, accompanied by a clear statement of the acceptable level of risk that the credit union assumes in achieving the plan and the need for sufficient capital to support any risk-taking.

- Consistency with federal and state laws and NCUA regulations.

- Communication of the plan's objectives to management and staff to assure adherence to both the business plan and strategic goals.

- Implementation of the plan. The credit union's policies, procedures, and resources (employees, capital, equipment, marketing, and member relations) must support achieving the business plan's objectives. Financial performance provides a strong indicator of the credit union's viability. Therefore, the credit union's performance in achieving its plans influences the management rating.

Examiners should evaluate the business plan in light of the strategic plan to determine consistency of the plans. They should also assess whether the credit union has implemented the plan and whether the plan operates as the board intends.

Net Worth Restoration Plan

The board must prioritize maintaining an adequate level of capital for the credit union. Prompt corrective action may require development of a net worth restoration plan (NWRP) when a credit union becomes less than adequately capitalized. A NWRP addresses the same basic issues as does the business plan. The board must consider the credit union's size, complexity of operations, and field of membership when developing its NWRP. The board should specify in the NWRP the steps the credit union will take to become and remain adequately capitalized. If the credit union requires a NWRP, the examiner will review the credit union's progress toward achieving the goals set forth in the plan. (See the Prompt Corrective Action chapter).

Material Contracts

As part of determining the safety and soundness of the credit union, examiners may review all material contracts entered into by the credit union during the examination period. The extent of analysis will depend on the effect on the credit union of the contracts, either singularly or collectively. Examiners should assess the credit union's ability to fulfill the terms of long-term contracts. Examples of material contracts can include management contracts, agreements with an information processing servicer, or long-term leases on land, building, or equipment.

The examiner must understand that management agreements are confidential documents. Examiners will not disclose the terms of such agreements to anyone outside NCUA, and will disclose management agreement terms to persons within the Agency only when necessary to promote the safety and soundness of the credit union's operation.

Examiners should discuss questions concerning legality with the officials, the supervisory examiner, or the regional office, as appropriate. Examiners should send unresolved legal questions to the regional office, accompanied by a copy of the contract.

Executive Compensation

Appropriate compensation policies and practices for management and staff include defining and implementing performance standards, and providing written annual performance evaluations prior to salary adjustments. The compensated director, senior management personnel, and staff should receive reasonable compensation commensurate with

their duties and responsibilities. Compensation includes any payment of money or other items of value in consideration of employment including the following:

- Base salary;
- Commissions;
- Bonuses;
- Pension and profit sharing plans;
- Severance payments;
- Retirement;
- Director or committee fees;
- Automobile; or
- Fringe benefits.

The *FCU Act* §112 only permits compensation for one elected official. Credit unions must specifically name this position (often the Treasurer or Chief Financial Officer) in the Bylaws. Other elected official positions are volunteers. Even though the credit union may not pay its directors (except for one), it may provide or reimburse them for items such as the following:

- Mileage;
- Insurance (including reasonable life, health, and accident insurance); and
- Travel expenses.

Officials should understand their fiduciary responsibilities when establishing reimbursements, fees, and benefits for themselves. Each director should understand the importance of their responsibility for establishing policies that protect the assets of the credit union.

Credit unions can enter into employment contracts with officers and other employees with the specific approval of the board of directors; however, credit unions may not enter into contracts that constitute an unsafe or unsound practice. Unsafe or unsound practices could lead to a material financial loss or damage.

Examiners review compensation expenses for reasonableness, just as they do other credit union expenses. Examiners usually defer to the board’s decision concerning executive compensation arrangements.

However, if a troubled condition exists in the credit union or it experiences earnings problems that could present significant safety or soundness concerns leading to material financial loss or damage to the credit union, the examiner should address the problem.

Examiners should consider all of the CAMEL components in their review of employment contracts and other compensation arrangements. Examiners should ensure that the board annually reviews all employment contracts and compensation arrangements for senior management personnel. Board minutes should document justification and approval of these reviews. Likewise, renewal or extension of employment contracts requires board approval. Any director who has a personal interest in the compensation arrangements should not participate in the deliberations or vote on the arrangements.

Unsafe and Unsound Compensation Practices

While examiners generally should not require changes to compensation arrangements in healthy credit unions, they should note, when appropriate, unsafe and unsound compensation practices. The examples below (not all-inclusive) provide illustrations that may constitute unsafe or unsound compensation provisions:

- Compensation arrangements that provide incentives contrary to the safe and sound operation of the credit union. For example, compensation based primarily on short-term operating results may encourage unreasonable risk-taking to achieve short-term profits. The board should closely monitor compensation tied to current operating results;

- Compensation arrangements that significantly exceed compensation paid to persons with similar responsibilities and duties in other insured credit unions of similar size, in similar locations, and under similar circumstances, including financial health and profitability;

- Contracts that contain automatic renewals or extensions without providing for the board’s explicit review and approval;

- Contracts that provide for an excessive term. Generally, a term should not exceed three years;

- Compensation arrangements that provide for excessive total compensation paid out upon the departure of an employee, regardless of the reason (e.g., three times the employee's average annual compensation for the prior five years.) Credit unions should not make any payment when termination is for cause. Total compensation includes payments for the remaining contract term, if applicable, as well as any severance payments;

- Contracts that do not adequately reflect or define the duties and responsibilities of the employee;

- Compensation programs (including deferred compensation, retirement, and insurance) not commensurate with the duties of the employee (e.g., vesting requirements that force an employee to forfeit previously accrued amounts if they do not serve for a minimum number of years);

- Contracts that the credit union collateralizes or otherwise guarantees, unless the terms provide that the contract is unenforceable if the credit union becomes a troubled credit union or the regional director approves the contract;

- Contracts that provide for employer reimbursement of costs that employees incurred seeking to enforce employment contract terms in the absence of legal judgment or settlement;

- Change in control provisions that provide for immediate vesting, particularly for credit unions in a troubled condition;

- Contracts that require payment upon the voluntary resignation of the employee; and

- Contracts that contain golden parachute provisions, including provisions such as:

    - The credit union makes a payment to a person affiliated with the credit union and contingent on this person's resignation; and
    - The credit union makes the payment while it is in troubled condition.

Directors' Conduct

Directors must continually remain aware of the credit union's obligation to serve its members. Examiners should recognize self-serving practices that include the following:

Gratuities to directors to obtain their approval of financing arrangements:

- The unauthorized or inappropriate use of credit union services;
- The use of credit union funds by insiders to obtain loans or transact other business; and
- Transactions involving a conflict of interest.

Conflicts of Interest

Conflicts of interest (or the appearance of such) can adversely affect a credit union's profitability and reputation risk and can undermine member confidence. Officials have a fiduciary duty to avoid advancing their own personal or business interests, or those of others with whom they have a personal or business relationship, at the expense of the credit union. Thus, officials must avoid conflicts of interest of any sort, or even the appearance of a conflict of interest. They should also avoid nepotism.

The sale of assets to insiders, including fixed assets, repossessed assets, OREOs, and foreclosures, can constitute a conflict of interest and may carry additional reputation risk to the credit union and a potential cost to the share insurance fund. The sale of assets to insiders raises the possibility of negative public perception of such transactions. Insider sales may appear as sweetheart deals, even if economically sound. Credit unions must ensure that sales of covered assets occur as arms-length transactions.

The credit union should have a specific plan for dealing with conflicts of interest, including implementation of controls for avoiding abuses and procedures for dealing with policy violations. The examiner should determine if directors and management comply with the policy and, if not, comment in the examination report and take appropriate action on actual or apparent conflicts of interest.

On rare occasions, examiners may request additional information about related organizations or individuals, in order to properly analyze the financial situation of a credit union. If they do not receive the information, the examiners should contact the supervisory examiner for assistance in working with the regional office. If necessary, the Office of General Counsel may issue an order of investigation and an administrative subpoena.

Use of Consultants

The board of directors must justify and approve contracts that the credit union enters into with third parties. The board may delegate this responsibility to the CEO. Hiring consultants to perform some functions does not remove responsibility for decisions regarding credit union operations from the board and management. The board should adopt a policy requiring management to obtain bids when contracting with third parties on behalf of the credit union. A cost-benefit study may help management determine if performing the job using consultants would result in more cost efficiency and benefit to the credit union than performing the job in-house. The board should reach agreements with the consultants on what output the consultant will provide and should develop reports that will track that output.

Management must use care in contracting with outside parties that propose to provide business plans or financial models at no direct cost to the credit union. These vendors often expect the credit union to transact business with them on an exclusive basis, and management may feel an obligation to do so. Contracting with such parties could lead to proposals or transactions that do not serve the credit union’s best interest.

Management should guard against excessive reliance on outside consultants and should remain wary of overly simplistic assumptions. Credit unions sometimes hire third parties, such as consulting firms, investment brokers, lawyers, accountants, information systems and technology specialists, or other professionals to provide services not usually required in the normal course of business.

Due Diligence Over Third Party Service Providers

Credit unions frequently partner with outside parties to enhance member services. Use of third-party service providers may enable the credit union to offer programs such as leasing, indirect lending, and sub-prime lending. Third-party arrangements can provide the following benefits to the credit union:

- Enhance the cost effectiveness of applicable programs;
- Enable credit unions access to expertise they do not possess in-house; and
- Promote programs that they may find infeasible if entered into independently.

Conversely, third-party relationships implemented without proper planning, management due diligence, and internal controls can result in financial stress for credit unions due to unanticipated costs, legal disputes, and asset losses.

Due Diligence Review

The officials should require a due diligence review before entering into any arrangement with a third party. The following identifies minimum procedures a credit union should follow before entering into a third-party arrangement, however, information gathered from a third-party review may lead to further inquiries or fact-finding:

- Planning. The officials should determine whether the proposed activities comply with the credit union's overall business strategy and risk tolerances. Risks may include the potential loss of capital invested if the activity fails, the loss of member confidence if the program does not meet management's expectations, and the costs associated with attracting and retaining qualified personnel and investing in the required infrastructure (e.g., technology, space, communications).

- Background check. To understand how the third party has performed in other relationships, management should contact credit unions or other clients of the third party. Sources such as the Better Business Bureau and Federal Trade Commission maintain complaint histories on businesses.

- Legal review. The credit union's attorney should review all contracts. The officials must clearly understand the ownership, rights, and responsibilities of each party to the contract. Additionally, they must ascertain the implications in the event of dissolution of the third party. For example, the review should state which party bears the cost of collateral disposition, and whether recourse exists. When necessary, the credit union should exercise its right to modify contracts to make them fair and equitable. Further, a credit union should understand what actions it may take if the contract is breached, or services are not performed as expected.

- Financial review. Management should review the financial statements and audit report (preferably an audit prepared by a licences CPA) of third parties to determine their financial soundness. Poorly capitalized companies or those exhibiting weak earnings may not have the financial strength to continue as a going concern. Failure of the third party to remit funds due the credit union could result in disruptions in member service, uncollected payments on loans and leases, and potential losses.

- Return on investment. Management should scrutinize profit projections generated by prospective third parties and should fully understand all underlying assumptions. Management should project expected revenue, expenses, and net income on its investment under various economic conditions. For example, expected losses, collection costs, or the volume of activity could fluctuate depending on the economy or the members' employment stability.

- Insurance requirements. Third-party relationships can result in increased liabilities. They necessitate a thorough review of the credit union's insurance coverage, including the fidelity bond and policies covering items such as errors and omissions, property and casualty losses, and fraud and dishonesty.

Controls

Once the credit union enters into a third-party arrangement, management must establish controls to ensure the relationship meets its expectations and the third party meets its responsibilities. As part of

these controls, a credit union should develop and implement monitoring and reporting practices, including:

- Policies and procedures. The credit union should develop detailed policy guidance that sets forth responsibilities, authorities, and reporting requirements. Management should establish risk parameters including growth control. For example, a credit union may limit the number of leases initially granted so it can assess performance or identify problems before the leasing volume increases significantly.

- Monitoring. Management must monitor the performance of the program. For example, they should compare actual results to projections and review the third party's performance to determine compliance with expectations and contracts.

- Reporting. Reports submitted to management and the officials should include:

    - Significant findings, especially in areas of noncompliance;
    - Targets met or exceeded;
    - Limits breached; and
    - Other appropriate information the officials need to make informed decisions and take timely corrective action.

Partnering with a third party to expand products and services to members can lead to growth, improved profitability, and stronger member relationships. However, the credit union officials retain responsibility for establishing appropriate due diligence procedures and a system of controls to ensure the arrangement remains sound.

Political Contributions

The board of directors is responsible for authorizing any political activity by a credit union.

The Federal Election Commission (FEC) administers, interprets, and enforces the *Federal Election Campaign Act of 1971* (the Act) as amended (2 USC §431 et seq.) The FEC regulations, 11 CFR Part 100 et seq., contain implementing regulations that govern political

contributions of credit unions in connection with any election, whether federal, state, or local.

The FEC regulations generally prohibit a federal credit union from making political contributions and expending funds for political communications. However, an exception may apply when a federal credit union acts as a collecting agent for a separate segregated fund or political action committee. The FEC regulations, under 11 CFR §114, describe the rules and special restrictions for collecting agents. Federal credit unions that serve as collecting agents must also comply with reporting requirements imposed by the FEC under 11 CFR §102. Directors should consult legal counsel regarding questionable activities related to political contributions and loan expenditures on behalf of any political candidates or committees.

Besides the requirements of the Act and FEC regulations, state and local political activity laws may also govern credit unions engaged in such activity.

Examiners should report apparent violations and, when appropriate, forward them to their supervisor. NCUA may forward the referral to the FEC for enforcement action.

Credit unions may request an FEC advisory opinion from the:

Federal Election Commission
Office of the General Counsel
999 E Street, N.W.
Washington, D.C. 20463

Other Areas of Review

Examiners should include in the review of management:

- Management Official Interlocks. §711 and §741.209 of *NCUA Rules and Regulations* address management official interlocks. These sections generally prohibit a credit union management official from serving two nonaffiliated depository organizations in situations where the management interlock would likely have an anticompetitive effect.

- Indemnification Payments. A credit union may indemnify its directors, officers, and current and former employees (see §701.33(c)) for liabilities or legal expenses when the director, officer or employee is subject to an enforcement proceeding as a result of their official duties.

  A credit union that elects to provide indemnification must specify whether it will follow applicable state law or the relevant provisions of the *Model Business Corporation Act*. Indemnification and the method of indemnification may be provided for by charter or bylaw amendment (must be approved by NCUA), contract, or board resolution, whichever state law or the *Model Business Corporation Act* permits.

  The rule permits credit unions to buy commercial insurance on behalf of its officials and employees to cover liabilities and expenses resulting from performance of their official duties if applicable state law or the *Model Business Corporation Act* permits such insurance.

Internal Controls

The *FCU Act* gives the board responsibility for the general direction and control of the credit union. This responsibility includes the proper and profitable conduct of credit union operations, the safety of credit union assets, and the accuracy and adequacy of financial statements. Since the directors do not normally perform the work resulting from these responsibilities, the employees normally act for them. Thus, it is crucial that the board establish internal controls sufficient to ensure that management and staff carry out the organizational plans and operating procedures according to the board’s expectations.

Sound internal controls mitigate the credit union’s risks by enhancing the safeguards against system malfunctions, fraud, and errors in judgment. Although a credit union’s controls often receive careful review and evaluation, they remain an area of major concern. Without proper controls in place, management cannot identify and track its exposure to risk. Controls also enable management to ensure that staff operates within the parameters established by the board and senior management.

The following aspects of internal controls deserve special attention (see the Internal Controls chapter for additional information):

- Information systems. Credit unions need information systems that can quickly and efficiently sort and assemble information. Effective controls will ensure the integrity, security, and privacy of information contained on the credit union's computer systems. A tested contingency plan provides protection in the event of a failure of the credit union's information system.

- Segregation of duties. Ideally, credit unions have adequate segregation of duties and professional resources in every area of operation; however, the number of employees in smaller credit unions may limit this control.

- Audit program. Examiners should review the credit union's audit program to determine the credit union's compliance with board policy. A sound audit function and process requires independence, with the auditors reporting to the Supervisory Committee without conflict or interference from management. An effective annual audit plan ensures examination of all risk areas, with those of the greatest risk receiving priority. The auditors (both internal and external) normally issue their reports to management for comment and action, then forward the reports to the board with management's response. The auditors follow up on unresolved issues (e.g., examination exceptions) and cover these issues in subsequent reports. The Supervisory Committee's responsibilities also include performing a verification of members' accounts at least once every two years.

- Recordkeeping. Credit unions with assets of $10 million or greater must file their call reports in accordance with generally accepted accounting principles (GAAP), which means most will keep their books and records consistent with GAAP. The records and accounts should reflect the credit union's current financial condition and results of operations, and provide an audit trail containing sufficient documentation to follow a transaction from its inception through its completion. The credit union's subsidiary records should balance with the general ledger control accounts.

- Protection of physical assets. Safeguarding assets requires limiting access to those assets to authorized personnel. Credit unions can protect assets by developing and implementing operating policies and procedures for cash control, joint custody (dual control), teller operations, and physical security of equipment.

- Staff education and training programs. Credit unions should implement training programs for staff in specific daily operations, as well as in credit union industry philosophy. Credit union training programs should meet management's needs and cross-train staff.

- Succession planning. The ability to fill key management positions in the event of resignation or retirement could affect the credit union's ongoing success. A detailed succession plan that provides for trained management personnel to step in at a moment's notice enhances the credit union's long-term stability. A succession plan should address the CEO and other senior management positions.

Fidelity Bond and General Insurance

Credit unions must maintain adequate fidelity bond and directors' and officers' insurance coverage. Management is responsible for assessing the credit union's insurance and bonding needs; however, the board must formally approve the coverage, including any riders or endorsements. The board should evaluate the adequacy of the credit union's insurance coverage at least annually. In determining insurance and bond requirements, the board should consider items including the following:

- The size of the credit union's asset portfolio and share base;
- The effectiveness of the internal controls;
- The amount of cash, securities, and other property that the credit union normally holds;
- The number of employees, their experience level, levels of authority, and turnover rate;
- The reliability and security of the information system (IS); and
- The types of services offered.

If the credit union's office is located on the sponsor's property, the sponsor's insurance policies may cover risks related to property and liability. However, management should maintain written evidence of

current insurance coverage, including the types of insurance, the benefits provided, and the limits on coverage. The credit union may need to supplement existing insurance. If the credit union has relocated since the last contact, the examiner should determine that the credit union identified and properly insured any new risks.

Bond coverage provides protection against loss resulting from employee or director dishonesty or lack of faithful performance. Generally, a bond covers losses from burglary, robbery, larceny, theft, mysterious disappearance, forgery, counterfeit money, and other perils. Various optional endorsements to the bond include directors' and officer's liability, audit expenses, safe deposit box, consumer legislation, plastic cards, ATM, EFT, ACH, IRA, errors and omissions, and officer and staff coverage. (For additional surety bond information, refer to the Bond Coverage chapter in this Guide.) Safety and soundness concerns may arise if a credit union with minimal reserves or high exposure to risk lowers its bond coverage in efforts to reduce expenses.

Listed below are the most common types of insurance coverage (often included in the credit union's "package of protection") that a credit union might need:

- Property and Related - coverage protects against physical loss to buildings, business property, information processing equipment, mechanical equipment, etc.;

- Financial - coverage for financial records (destruction), real estate errors and omissions, single interest-financed property, chattel lien non-filing, etc.;

- Liability - coverage for bodily injury and property liability exposures of the credit union arising from the use of the premises, building, or business activities;

- Worker's Compensation - coverage, if required by state law, to indemnify employees who are injured or killed in the course of their employment;

- Group Accident - coverage for qualified employees and credit union officials, which pays a specific sum in case of death, dismemberment, or permanent disability;

- Insurance for Members - coverage includes various group or individual programs such as loan protection, life savings, credit disability, and accidental death and dismemberment;

- Employee Benefits - coverage provided for employees such as group life, health, and retirement. Appropriate fidelity bond coverage for pension and retirement programs administered by the credit union should exist; and

- Fiduciary Liability – coverage required if the credit union acts as a fiduciary in connection with an ERISA-covered plan when providing pension and deferred compensation plans for their compensated employees and officers (§701.19(b)).

The examiner should determine if management meets its responsibilities by reviewing the board minutes and insurance policies. Examiners should discuss any insurance inadequacies with the officials. The examiner should comment in the examination report on the absence of prudent risk management by the officials.

Examiners should inquire about any self-insurance programs that the credit union offers its employees or members. Generally, NCUA considers self-insurance programs impermissible, unsafe, and unsound. However, federal credit unions may enact partially self-funded employee benefit health plans if the plans meet certain conditions. The examiner should follow the provisions of NCUA Instruction No. 4062.1 (May 30, 1996) and, after obtaining regional concurrence, consult with NCUA’s Office of General Counsel for further guidance.

Credit unions frequently buy life insurance policies for the benefit of employees. Credit unions may also obtain key-person protection. If the beneficiary of the policy is the employee, the credit union will treat the cost of the coverage as compensation. The board should annually review and approve the policy for reasonableness.

NCUA has long prohibited federal credit unions from entering into the business of insurance on several grounds. First, the *FCU Act* does not grant federal credit unions express insurance powers. Second, insurance powers do not meet the test for a permissible federal credit union incidental authority. The Office of General Counsel has issued prior opinion letters restating NCUA's position on self-insurance (See OGC Opinion Letters #95-1148, #97-0632, and #99-0447).

FIRREA Requirements for New or Troubled Credit Unions

Any federally insured credit union chartered in the last two years or in a troubled condition (CAMEL 4 or 5) must give NCUA written notice of any addition, replacement, reassignment or change in the board of directors, committee members, or senior executive officers. The NCUA regional director must receive written notice at least 30 days before the effective date. NCUA may disapprove the addition, replacement, or employment of the individual within a 30-day period (may be extended an additional 30 days) if it finds that the competence, experience, character, or integrity of the individual would not serve well the members' or the public's interests. Federally insured, state-chartered credit unions will also file a copy of the notice with their state supervisory authority.

Credit unions need not give prior notice for new members elected to the board of directors or credit committee at a meeting of the members. However, credit unions must file a completed notice within 48 hours of the election. Federally insured state-chartered credit unions must also file a copy of the notices with their state supervisor.

The notice should contain, at a minimum, the following information for each individual:

- Identity;
- Personal history;
- Business background;
- Experience, including material business activities and affiliations during the past five years;
- Any pending legal or administrative proceeding in which the individual is a party; and
- Any criminal indictments or convictions of the individual by a state or federal court.

In addition, the individual on whose behalf the credit union files the notice must attest to the validity of the information filed and authorize performance of a credit check.

After receiving a complete package of information requested, the regional director has 30 days in which to issue a written notice of approval or disapproval to each individual and to the credit union. If the credit union and individual have submitted all requested information and the regional director has not issued a written decision within the applicable time period, the regulation specifies that the individual is approved (§701.14(d)(1).

Incompetent or Inefficient Management

The examiner should never recommend the termination of credit union management or personnel to the directors. Rather, the examiner should fairly and accurately present findings concerning management's effectiveness.

When the examiner believes that management's incompetence or inefficiency has or will have a material effect on the credit union's risk profile, the examiner should contact the supervisory examiner before discussing the issue with the credit union. To avoid misunderstandings, the examiner should consider having a second person present (the supervisory examiner or another examiner) when discussing sensitive issues with management.

The examiner should adhere to the following guidelines when discussing incompetent or ineffective management with a board of directors:

- The examiner should document in the file and furnish to the officials specific facts that support the conclusion of management's ineffectiveness. Examiners should ensure thorough documentation exists of conversations with officials regarding management.

- If material weaknesses in management exist, normally the examiner and officials jointly develop a plan (Document of Resolution) to correct these deficiencies. Such action could take the form of:

- Clearly communicating the board's expectations for the managing official;
- Conducting periodic performance appraisals;
- Hiring additional management personnel to bolster supervision in high risk areas;
- Providing outside remedial training for the manager or official; and
- Seeking remedial assistance from outside sources (e.g., leagues, accounting services, etc.)

However, if the corrective action takes the form of replacing management, this is solely the decision and responsibility of the board of directors.

- If the manager chooses to resign, the credit union should obtain a written resignation. The board of directors has sole responsible for deciding whether to accept it.

- If the board terminates the manager, the examiner should fully document this action, emphasizing that the decision to terminate was the board's and not the result of an order or recommendation of the examiner.

The officials should consider what effect termination of management (including the effect of an employment contract) may have on the credit union. The board of directors should not consent to "hold harmless" the manager in exchange for the manager's written resignation. Such an agreement might impair the credit union's ability to recover on a bond claim. The examiner should encourage the board of directors to consult with their attorney on these issues.

Criticism of management by the examiner does not relieve the credit union of its contractual and other legal obligations. If the credit union board does not take steps to deal with management ineffectiveness, the examiner should consider recommending administrative action (see the Administrative Actions chapter for additional information.)

Workpapers and References

- Workpapers
  - Management Review
  - Board Minutes
- References
  - *Federal Credit Union Act*
    §110 - Members' meetings
    §111 - Management; board of directors; credit committee; supervisory committee; compensation
    §112 - Executive officers; general manager
    §113 - Board of directors; meetings; powers and duties; executive committee; membership officers; membership applications
    §114 - Credit committee; meetings; powers and duties; loans and lines of credit; security
    §115 - Supervisory committee; powers and duties; suspension of members; passbook
    §206 - Termination of insured credit union status; cease-and-desist orders; removal or suspension from office; procedure

  - *Federal Credit Union Bylaws*
    Article IV - Meetings of Members
    Article V - Elections
    Article VI - Board of Directors
    Article VII - Board Officers, Management Officials and Executive Committee
    Article VIII - Credit Committee or Loan Officers
    Article IX - Supervisory Committee

  - *NCUA Rules and Regulations*
    §701.14 - Change in Official or Senior Executive Officer in Credit Unions that are Newly Chartered of are in Troubled Condition
    §701.21 - Loans to Members and Lines of Credit to Members
    §701.33 - Reimbursement, Insurance, and Indemnification of Officials and Employees
    §702 - Prompt Corrective Action
    §711 and §741.209 - Management Official Interlocks

§747 - Administrative Actions, Adjudicative Hearings, Rules of Practice and Procedure, and Investigations

Chapter 8

GENERAL LEDGER

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Chapter 8

GENERAL LEDGER

Examination Objectives

- Evaluate adequacy of policies, practices, procedures, and internal controls regarding financial transactions
- Determine that personnel operate in conformance with established guidelines
- Determine that the credit union properly recognizes and promptly records assets and liabilities
- Review compliance with the *FCU Act*, *NCUA Rules and Regulations*, and appropriate accounting practices
- Determine accuracy of the Financial and Statistical Reports (NCUA 5300)
- Assess promptness of corrective action initiated by management when deficiencies or violations in policies, practices, procedures, or internal controls regarding financial transactions arise

Associated Risks

- Strategic risk. The timely, accurate and consistent recording of financial transactions affects management's development and monitoring of the strategic plan. Deficiencies in financial statement presentation may lead to ineffective evaluation of new products and services, and failure to attain financial objectives.

- Transaction risk. Policies and procedures established by the board and implemented by management should ensure the accuracy and integrity of data and information. In conjunction with the review of internal controls, examiners should consider the following items when evaluating this type of risk:

  - The recording of financial transactions in accordance with appropriate accounting methods;
  - The volume and complexity of financial transactions; and
  - The expertise and willingness of management to implement corrections for improving financial reporting.

- Compliance risk. Credit unions must comply with applicable laws and regulations, including:

- The *FCU Act*;
- *NCUA Rules and Regulations*; and
- Regulatory accounting procedures, accounting bulletins, etc.

Additionally, they should be guided by

- The *Accounting Manual for Federal Credit Unions* (for credit unions that are less complex); and/or
- Generally accepted accounting principles (GAAP.)

- Reputation risk. Examiners should consider reputation risk when developing the Scope Workbook. When evaluating reputation risk, they should assess whether the credit union:

  - Provides current and accurate financial statements and NCUA 5300 reports;
  - Implements new accounting procedures and requirements within acceptable time frames;
  - Responds promptly to recordkeeping problems;
  - Provides accurate and timely member statements;
  - Responds promptly to members' concerns; and
  - Performs a thorough analysis of operational needs, staffing, risk management systems, compliance issues, and long-term benefits, prior to implementing new products and services.

Overview

Examiners should use their professional judgment to tailor the general ledger review to the complexity of the credit union operation and the risks present in and around this operation. The review of a credit union's general ledger and its related subsidiary ledgers should give the examiner a clear impression of the credit union's financial position and its relative financial stability.

During the scope development process, examiners should review the supervisory committee audit report and, if necessary, the workpapers. Reviewing the prior examination report will assist in determining the scope of the general ledger review. The scope of the general ledger review will vary depending upon the following:

- Reliability of the audit;
- Concerns noted in previous examination or audit reports;
- Interviews with management and staff;
- Extent and quality of management's due diligence regarding the credit union's products, services, and systems;
- Review of internal audit work, if applicable; and
- Review of the internal controls of the credit union.

§741.6(b) of *NCUA Rules and Regulations* requires credit unions with assets of $10 million or more to present their NCUA 5300 in accordance with GAAP. Credit unions with less than $10 million in assets may present their financial statements using regulatory accounting principles as set forth in the *Accounting Manual for Federal Credit Unions*.

Expanded Review Procedures

The depth of review necessary for each general ledger account will vary within a credit union and from one credit union to another. The most critical element for determining the degree of variance and the necessary depth of review is the examiner's professional judgment, experience, and risk perception. Examiners can implement the following additional procedures when warranted:

- Determine that the general ledger account balances with each respective subsidiary ledger total;
- Review the debits and credits and analyze any unusual activity; and
- Determine the propriety of the entries.

One effective method of reviewing or reconciling general ledger accounts is to trace entries to source documents or actual receipts. Except in unusual circumstances, the examiner should not audit or verify individual entries in either subsidiary ledgers or control accounts. If material inaccuracies exist in the general ledger accounts, examiners may support their analyses either by footnoting the credit union's financial statements or using the Statement of Financial Condition and Statement of Income. To avoid distortion of examination trends and ratios, the examiner prepares adjusting entries in the General Ledger Journal Adjustments when a material out-of-balance condition exists between a subsidiary ledger and its general ledger control account.

Red Flags

Some of the red flags in the accounting area that may require examiners to consider expanding their procedures include the following:

- Ongoing recordkeeping problems;
- Cash and bank reconciliations not complete, in arrears, or with (fluctuating) out of balance amounts;
- Excessive teller overages or shortages, either in number or amount;
- IOU's in teller or vault cash;
- Numerous erasures, corrections, whiteouts, line-outs;
- Numerous voided or third party checks;
- Numerous stale-dated outstanding checks;
- Numerous stale-dated reconciling items;
- Lump sum postings not conducive to good audit trail;
- Checks or transactions receipts missing or out of sequence;
- Timeliness of deposits not in accordance with Bylaw requirements, if adopted by the credit union;
- Bank account activity and/or bank account balances (or share draft clearings/total share draft balances) exceeding realistic needs;
- Excessive number of depository accounts providing potential for kiting; and
- Excessive cash/assets ratio (indicating poor cash management or possibly fraud.)

Out-of-Balance Conditions

The examiner normally does not attempt to balance or audit subsidiary ledgers to the control accounts. The examiner should discuss the concern with management and obtain agreement for corrective action. (When examiners suspect fraud or embezzlement, they should immediately contact their supervisory examiners for further guidance.)

Materiality

The credit union's size and its ability to absorb potential losses may significantly affect what examiners consider material. In assessing the materiality of a general ledger account, the examiner considers its effect on the credit union's profitability and net worth. In some instances, the account may have minimal effect on the balance sheet, while it may have a material effect on the income statement. For example, overstating accrued income may have little or no effect on

the balance sheet but could mean the difference between a negative and positive bottom line on the income statement.

Unusual Activity

Unusual activities include those the examiner deems improper or uncommon, or which might adversely affect the credit union. This review should consider the size and frequency of the transactions. These accounts may have numerous entries during an accounting period, but clear out by the end of the period (e.g., ATM, credit cards, travelers' checks, money orders, and share draft clearing accounts.) The examiner may review this activity on a test basis to ensure the appropriateness of the entries (this may include a sample review of source documents or receipts.) The review should also satisfy the examiner that the account entries do not temporarily camouflage other activities.

Examination Period Activity

Examiners should concentrate the scope of the general ledger review primarily on activity during the examination period. For example, if the credit union purchased its building in a prior examination period, and if examiners reviewed the account during the last examination, current examiners need not perform another complete analysis. Instead, they may determine the credit union's current fixed asset position and the ability of the earning assets to support the non-earning assets.

NCUA 5300

The examiner will review the accuracy of the Financial and Statistical Reports (NCUA 5300 Call Report) submitted since the last examination and the credit union's process for ensuring accuracy of the 5300s. The review of 5300s often takes place during supervision. If examiners discover material errors or omissions, they should inform the officials, provide appropriate instructions to ensure proper completion in the future, and make corrections according to regional policy.

Accounts Receivable

Accounts Receivable generally represent funds due the credit union from persons other than members. Receivables may include payroll deductions, insurance premiums, taxes, etc. If a credit union has material accounts receivable, the examiner may determine that (1) the

receivables exist, (2) the credit union receives payments on schedule, and (3) staff reconciles the subsidiary ledgers. Staff should promptly follow up on receivables that do not clear. Receivables that do not eventually clear will ultimately result in charges to an expense account and could affect the financial stability of the credit union.

CLF Stock/ NCUSIF Deposit

When a credit union is a direct member of the Central Liquidity Facility (CLF), the examiner may review the CLF stock subscription computation. If either an overpayment or an underpayment exists, the examiner should require the credit union to notify the CLF.

When reviewing the Share Insurance Capitalization Deposit, the examiner should compare and reconcile the credit union's recorded deposit to that reported by the periodic statements from the share insurance fund. Examiners should also review for accuracy uninsured shares reported on the 5300 Call Report as of December 31, since they affect the capitalization deposit.

Prepaid and Deferred Expenses

Prepaid and Deferred Expenses represent expenses that the credit union has paid for, and supplies or services that have remaining value to the credit union (i.e., not fully used up.) Common examples include office supplies, prepaid fidelity/bond insurance, and prepaid league dues. The credit union often pays for these items annually so that at any point before year-end, some value remains (i.e., an item paid on January 1 for the full year would have six months' value (and expense) remaining in June.) These prepaid expenses must have a future value for a coming period, and not cover a prior period. Unless materiality factors exist, the examiner usually limits the review to the reasonableness of the entries in these accounts.

Fixed Assets

The credit union may either own or lease (under a capital lease) its fixed assets. Fixed Assets include three major, and often material, categories:

- Land and buildings;
- Furniture and equipment; and
- Leasehold improvements.

Before making a major investment in fixed assets, the board of directors should instruct management to perform due diligence, including carefully analyzing the need for the asset, and its expected effect on the credit union's future earnings ability from the standpoint of both the additional depreciation expense and the lost opportunity costs of the income. (Credit unions may better serve their members by providing faster and more convenient services using advanced computer technology such as home banking than by brick and mortar expansion.) Income from the earning assets (loans and investments) should support the investment in fixed assets.

Management should also consider the credit union's reserve position and ratio of "non-cost" capital (the income retained by the credit union as Undivided Earnings or reserves, for which the credit union pays neither interest nor dividends) to non-earning assets. A relatively high capital level reduces the burden on earning assets.

The credit union may employ various capital budgeting techniques to determine the payback method, the accounting rate of return, or the internal rate of return.

Investments in fixed assets require board approval. Management should purchase fixed assets in compliance with established board policy. Credit unions should record the purchase price and set up depreciation schedules in accordance with acceptable accounting practices.

The examiner may determine that the credit union complies with §701.36 of the *NCUA Rules and Regulations* regarding the purchase of fixed assets. Credit unions eligible for Part 742, Regulatory Flexibility Program, may be exempt from §701.36(a), §701.36(b), and §701.36(c.) When reviewing the regulation, the examiner should understand that while GAAP affords capital leases and operating leases different accounting treatments, the regulation requires inclusion of both operating and capital leases in the definition of "investment in fixed assets."

Capital Leases

From the standpoint of the lessee, two major categories of leases exist: capital and operating. Generally, a capital lease transfers substantially

all of the benefits and risks of ownership of the asset, while operating leases more closely resemble rental payments.

Real Estate Sales

Transactions involving the sale of credit union-owned property often have complicated accounting treatments with various profit recognition and disclosure requirements. An examiner encountering sales of credit union owned real estate should determine the facts and circumstances of the sale and, if necessary, discuss the situation with the supervisory examiner.

Accrual Income

Accrued Income is income the credit union has earned but has not yet received. Common examples include accrued interest on loans and accrued income on investments. Loans and many investments earn income from the day the credit union establishes the asset. The credit union may not receive income from these assets for a month (with loans) or longer (with investments.)

When a credit union adopts accrual accounting between examinations, the examiner should determine that the accounts were properly established. Examiners may verify the accruals for accuracy. Depending on the complexity of the credit union's operations, the examiner should review and analyze the schedules used in calculating the accrued income on loans or investments.

If the information system (IS) generates estimated accruals, the examiner may verify their accuracy through sampling. For example, some automated accounting systems can generate a detailed list by account number for the accrued income on loans. The examiner should also determine that the credit union does not accrue interest on loans 90 days or more delinquent.

If the examiner's estimate differs substantially from the recorded accrual, the examiner should expand the analysis to determine proper formulation of, and adherence to, policies and practices for accrual of interest on delinquent loans. The examiner should also review how the credit union arrived at its figures. When assessing the materiality of inaccuracies identified in the accruals, examiners should consider the

effect on reported income. Either an under- or over-statement in the estimated accrual can materially affect profitability.

Other Assets

Other Assets can include deposits with public utilities, insufficient funds checks, the premium stabilization deposit, monetary control reserve deposits, escrow accounts on serviced real estate loans, and assets acquired in liquidation. In general, the examiner may determine the reasonableness of the balances and dates recorded. The credit union should charge off the portion of an account representing a nonrefundable or nonrecoverable amount.

The examiner may verify that the credit union books the value of assets acquired in liquidation in accordance with acceptable accounting practices.

Accounts Payable

Accounts Payable represent obligations of the credit union including payroll deductions that the credit union has not yet distributed to share accounts, remittances due for travelers' checks, insurance premiums due, etc. The examiner may (1) determine the date of origin, and (2) review material amounts to ensure the credit union reconciles subsidiary ledgers with control accounts and makes payments when due.

Notes Payable

Notes Payable are borrowings by the credit union, typically through the corporate credit union network or other financial institutions. Credit unions may borrow from any source in an aggregate up to 50 percent of its paid-in and unimpaired capital and surplus. The board is responsible for developing a use and repayment plan for borrowed funds.

Dividends Payable

Credit unions use this account only at the end of dividend periods to reflect the actual or estimated amount of dividends due and payable to the members. Dividends Payable, while set up at the end of each dividend period, should normally clear out shortly afterwards. If a balance remains in the account as of the examination date, the examiner should explore the reasons and may determine that the

amount ties to a dividend payable report or represents a reasonable estimation.

Interest Refunds Payable

Some credit unions use interest refunds as a method of returning part of the credit union's profits to the members. Members, who have paid interest on loans during the period, receive back a portion of the interest they have paid.

Taxes Payable

Taxes Payable depict accounts payable to governments, usually including Social Security, federal, and state withholding taxes. These accounts will normally clear out monthly or quarterly. If not, the examiner may determine whether the credit union uses proper accounting for these accounts. Although the amounts payable in taxes usually are immaterial, credit unions can incur substantial fines and penalties for nonpayment. Since NCUA does not enforce Internal Revenue Service or state tax regulations, examiners should direct their concern toward the credit union's prevention of tax problems.

Accrued Expenses

Accrued Expenses represent expenses that the credit union has incurred and which it owes in the current period but will pay in a future period. These may include compensation, employee benefits (e.g., vacation and sick leave pay), and office operations. An accrued expense is an expense for the current or prior period. Credit unions may not prepay them. As is true of accruing income, accruing expenses more accurately presents the credit union's financial position.

Accrued expenses include accrued dividends payable. Credit unions that accrue dividend expenses more frequently than the actual dividend period should record the liability in Accrued Dividends Payable. Even credit unions that use the modified cash basis of accounting must accrue dividends contracted for or specified in advance, such as share certificates, to comply with the full and fair disclosure requirements of §702.402 of the Rules and Regulations. The examiner may determine the reasonableness of the recorded dividend accrual on share accounts where the credit union specifies or contracts for the dividend rate in advance.

Other Liabilities

Other Liabilities include liabilities under pension plans, collections on loans and other obligations serviced, obligations under capital leases, monetary control pass-through deposits, and undisbursed loan proceeds. Material balances should reconcile to the appropriate subsidiary ledgers or external statements.

Unapplied Data Processing Exceptions

The Unapplied Data Processing Exceptions account allows the credit union to reconcile the general ledger control accounts with the individual share and loan ledgers when the IS rejects entries in the latter. For example, if staff posted a share withdrawal to both the journal and cash record and to the individual share ledger but keyed in an incorrect account number, the share ledger will exceed the journal and cash record by the amount of the rejected withdrawal. If the credit union closes its books before making the correction, the general ledger will not balance with the individual share ledger. Correcting the exception requires debiting a general ledger suspense account, Unapplied Data Processing Exceptions, and crediting the general ledger shares account, thus balancing shares to the share ledger. The credit union will debit shares and credit the suspense account to correct the entry.

Complicated transactions can occur in this account when compounded by payroll deduction errors, input errors on refinanced loans with temporary disability insurance, corrections to prior period's dividends, etc.

An unreconciled suspense account can contribute to a severe record keeping problem with the potential for material adjustments and losses. Depending on materiality, the examiner may (1) determine that the balances reconcile to an appropriate subsidiary ledger, (2) ensure that reconciling items clear out on a timely basis, and (3) review frequent or consistent transactions through these accounts for appropriateness. Whether or not the suspense account has a balance as of the examination date, the examiner may review the activity in the account since the last examination.

Deferred Credits

Deferred Credits represent income received but not earned. Deferred Credits includes fees the credit union charges a member for entering

into an agreement to make a loan and direct loan origination costs. If the member exercises the commitment, the credit union transfers the net balance to the appropriate loan contra account for net commitment fees. The credit union may choose whether to follow GAAP or to amortize the fees over the life of the loan or ten years, whichever is shorter, as an adjustment of yield using the interest method. Credit unions on a modified cash basis, or if the amount is immaterial, should amortize the net fees over the shorter of the life of the loan or ten years, as an adjustment of yield using the interest method.

Contingent Liabilities

Examiners should discuss with management and, if necessary, fully analyze contingent (unrecorded) liabilities, or "off-balance sheet" items, to determine the financial effect on the credit union. Examples include long-term management contracts with employees, long-term contracts with information processing suppliers, long-term leases for fixed assets, claims that significantly exceed premiums on a select risk-rating insurance plan, employee pension plans, accrued sick leave and vacation, unused lines-of-credits and credit cards, unfunded construction loan commitments, and pending legal suits.

The reviews of board minutes and audit reports often provide clues to the existence of contingent liabilities. Asking questions of management about the degree of credit union involvement in these activities along with reviewing significant contracts, insurance policies, and pension plan information aid examiners in analyzing this area.

When examiners note significant contingent liabilities, they should determine that the credit union meets full and fair disclosure requirements. They can determine full and fair disclosure in several ways, such as the establishment of proper accrual accounts or footnotes to the financial statements. If the credit union's financial and statistical reports do not show material contingent liabilities as footnotes, examiners should reach agreements that management will provide the footnotes on future reports.

Individual Share and Loan Ledgers

Credit unions use many different accounting systems to track individual share and loan accounts: hand posted ledger books, ledger cards, in-house computers of various capacities, and outside service bureaus. Each system differs somewhat from the others. The examiner should take the time to become familiar with each system and understand what the data represents. Although the systems have differences, they share the common purpose of maintaining the subsidiary ledgers to general ledger control accounts.

Small credit unions often have two subsidiary ledgers, the individual share and loan ledgers, and two control accounts, the general ledger share and loan accounts. Larger or more sophisticated credit unions may have many subsidiaries for both shares and loans, including separate ledgers for real estate loans, student loans, consumer loans, regular shares, share drafts, etc. In all cases, subsidiary ledgers must balance with the control account and the total of subsidiary ledgers for both shares and loans with their respective general ledger accounts.

Ledgers Out Of Balance

If the trial balance totals of the individual share and loan ledgers do not agree with their respective control accounts in the general ledger, or if one or more subsidiary ledgers do not agree with their respective control accounts, the out-of-balance condition could represent varying degrees of seriousness. These could vary from an innocent error in extension of balances to an embezzlement of sizeable proportions. The examiner should verify the reason for material out-of-balance conditions. The examiner may guide the officials in resolving the situation.

Regardless of the mechanics required to correct the out-of-balance condition, the examiner should make it clear to both the treasurer and the board that the treasurer has responsibility for keeping accurate books and records current and in balance. Responsibility for locating and correcting existing errors, determining the reasons for the errors, correcting the causes, and preventing a recurrence ultimately falls to the board.

The examiner should not attempt to balance the records or spend considerable time searching for errors after pinpointing the type of error that occurred, unless evidence of dishonesty exists. If dishonesty

exists, the examiner should consult with the supervisory examiner before proceeding with additional test checks. The examiner should develop specific plans of action with the officials to find errors, balance the ledgers, and eliminate the causes.

Credit unions must resolve out-of-balance conditions. However, a difference, which could affect the financial condition of the credit union, requires more immediate correction than does a difference of a few dollars made in a recent dividend calculation.

Even though a substantial difference may exist, a stable difference presents a lesser problem than a difference that fluctuates from period to period. A stable difference usually occurs in an identifiable, specific period and does not usually represent a continuing problem with internal controls and record keeping. It may represent a one time occurrence.

Arbitrary Adjustments

When any of the credit union's records (General Ledger, Journal and Cash Record, Individual Share and Loan Ledgers, or material subsidiary ledgers) are in arrears and staff cannot bring them current during the examination, the examiner should consider delaying the completion of the examination until staff brings the records current. This should also hold true if the general ledger is out of balance. When examiners delay the examination, they should reach agreements with the officials to correct the problem. Examiners should discuss any delays in the examination with the supervisory examiner for concurrence with plans before reaching agreements with officials.

If, upon returning to the credit union, examiners find that the officials have failed to follow through on agreements reached, they should complete the examination using the most current meaningful data available. As appropriate, they will discuss the situation with the supervisory examiner and come to an agreement on how best to handle the situation, in accordance with regional policy.

Serious and persistent record keeping deficiencies may warrant administrative action. Persistent record keeping deficiencies may constitute serious recordkeeping problems that continue to exist past a usual and normal period of time. NCUA considers persistent

recordkeeping deficiencies serious if a reasonable doubt exists (1) that the credit union's financial statements accurately and fairly present the financial condition of the credit union, or (2) that management practices and procedures sufficiently safeguard the members' assets. In addition to administrative actions, NCUA can require the credit union to obtain an outside, independent audit by a certified public accountant. (See §715 of the *NCUA Rules and Regulations* and the Supervisory Committee section of this Guide.)

When the credit union cannot determine available earnings because it has not prepared an accurate financial statement, it may not declare dividends until the board of directors can determine if the credit union can pay a legal dividend.

If examiners do not consider differences material and the differences have not fluctuated during the previous three months, the examiner may ask the directors and the supervisory committee to authorize an arbitrary adjustment for the difference.

Pension Plans

The examiner's objective in reviewing pension plans should determine the following:

- Subsidiary records exist to document the existence of the pension plan;
- Proper methods account for the plan;
- The financial statements contain the appropriate pension plan disclosures; and
- The board of directors has recognized and approved the plan.

A pension plan is a contract between a credit union and its employees whereby the credit union agrees to pay benefits to employees upon their retirement. Pension benefits generally consist of monthly payments and may provide for additional payments when employees die or become disabled.

A pension plan may be formal or implied by credit union practice. A credit union, individually or collectively with other credit unions, may establish a plan. Due to their complexity, credit unions should only undertake participation in any pension plan with the advice of legal

counsel. If the pension plan involves the placement of pension funds in trust or custodial accounts in the credit union, the credit union must comply with the applicable *Federal Credit Union Bylaws* (if the credit union has so adopted), and Part 724 of the *NCUA Rules and Regulations*. A substantial difference can exist in a credit union's obligation between a defined benefit plan and a defined contribution plan. Additionally, credit unions should ensure and document compliance with IRS regulations, Pension Benefit Guaranty Corporation guidelines, and Department of Labor requirements.

Pension plans may be either funded or unfunded. Under a funded plan, the credit union makes regular periodic payments to an insurance company or trustee, which agrees to assume the responsibility of distributing retirement checks to recipients. In an unfunded plan, the credit union makes periodic payments directly to its retired workers. The plan may be contributory, where the employees bear part of the cost, or it may be noncontributory, where the credit union pays the entire cost.

Accounting for Pension Cost

When a credit union adopts a pension plan, actuarial tables determine the past service cost and the normal cost. Once the credit union ascertains the costs, it establishes a funding policy. Credit unions usually fund normal costs and expense those costs the same year they occur. The funding policy for past service costs also affects the amount of recorded expenses for any period. However, no requirement exists that the amount of pension expense related to service costs must equal the cash put into the fund to finance those costs during any one period. A particular credit union's funding and expense policies will result in one of the following:

- The amount of recorded pension expense equals the cash paid into the fund. This situation can only arise when the amortization period equals the funding period for past service costs. In this example, no requirement exists to establish an account in the general ledger for any over- or under-accrual of the liability for pension costs.

- The amount of recorded pension expense exceeds the amount paid into the fund, creating a pension liability. This arises when the

funding period for past (and changes in prior) service costs extends longer than the expense amortization period.

- The amount of recorded pension expense is less than the amount paid into the fund, creating a pension asset. This arises when the funding period for past (and changes in prior) service costs is shorter than the expense amortization period.

Due to the complex nature of accounting for pension plans, the credit union should obtain competent outside assistance, if needed, to fully comply with GAAP and disclosure requirements. As credit unions grow larger and employ more staff, credit union pension plans increase in importance within the expense structure of a credit union. Proper accounting and the need for full and fair disclosure become increasingly necessary.

Workpapers and References

- Workpapers
  - Statement of Financial Condition
  - Statement of Income
  - Journal Entries Summary
  - Financial History
- References
  - *NCUA Rules and Regulations*
    - 701.36 – FCU Ownership of Fixed Assets
    - 702.402 - Full and Fair Disclosure
    - 715 – Supervisory Committee
    - 724 – Trustees and Custodians of Pension Plans
    - 725 – Central Liquidity Facility
    - 741.6 – Financial and Statistical and Other Reports
  - *Accounting Manual for Federal Credit Unions*
  - *Federal Credit Union Bylaws*
  - *Federal Credit Union Act*

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Chapter 9

CASH ANALYSIS

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Chapter 9

CASH ANALYSIS

Examination Objectives

- Determine whether adequate accounting policies, practices, procedures, and internal controls exist for all phases of cash operations
- Determine whether the credit union has established guidelines addressing cash operations within which officials and employees operate
- Determine whether adequate security measures and surety bond coverage exist for cash operations including cash storage, replenishment, deposit activities, and transportation of cash and cash-like items

Associated Risks

Cash operations have various associated risks. Following are the primary risks associated with cash analysis:

- Liquidity risk - the credit union should have sufficient cash to meet member share and loan demand and pay operating expenses;
- Transaction risk - the board should adopt, and management should implement policies and procedures that ensure the accuracy and integrity of data and information regarding the credit union's cash accounts. In conjunction with the review of internal controls, examiners should consider (1) the proper recording of cash transactions, and (2) the volume of cash transactions when evaluating transaction risk;
- Compliance risk - examiners should ensure the credit union has an adequate program in place to properly report cash balances and cash transactions as required by current laws and regulations, including Regulation D, BSA and OFAC; and
- Reputation risk - when evaluating reputation risk, examiners should assess whether the credit union maintains the highest level of integrity and honesty over cash accounting and transactions.

Cash and Cash-Like Items

The following are cash and cash-like accounts established by the credit union's board of directors for specific purposes. The board authorizes the amount for each cash account (petty cash, teller change fund, vault change fund, ATM change fund and bank cash):

- Petty cash - used for making incidental payments and defraying other immaterial expense items;

- Teller change fund - used for processing member transactions; may vary in amount based on temporary, seasonal, and projected demands;

- Vault change fund - replenishes drains on teller change funds; may vary in amount based on temporary, seasonal, and projected demands;

- ATM change fund - provides cash for proprietary ATMs to process member ATM transactions; may vary in amount based on temporary, seasonal, and projected demands. Occasionally, credit unions assign ATMs "teller numbers" and include the funds in the teller change fund general ledger account. If so, each ATM on the system should have an identifying number to allow for an audit trail of cash differences by individual ATM;

- Bank cash - (1) includes cash in banks, savings banks, savings and loans, etc.; (2) usually replenishes vault, teller, and ATM change funds; (3) covers loan disbursements, expense disbursements, payroll, and share withdrawals; and (4) usually is a non-interest bearing account or one that earns only a nominal rate. Credit unions should maintain bank cash at reasonable levels or at minimum compensating balance requirements to limit fee assessments;

- Money orders, travelers checks, postage, theater/amusement park tickets - sold by credit unions as a service to the members; represent negotiable monetary instruments that can easily convert to cash; not normally recorded in the general ledger or reflected on the Statement of Financial Condition; and

- Other negotiable instruments - rarely encountered negotiable monetary instruments; warrant review when the examiner identifies them during the course of an examination.

Red Flags

Examiners should watch for the following "red flags", which can alert them to diversion or manipulation of cash by management or staff:

- Accounting/Reconciliations:
  - Ongoing recordkeeping problems;
  - Cash and bank reconciliations not completed, in arrears, or with fluctuating out of balance amounts;
  - Excessive teller overages or shortages, either in number or amount;
  - IOU's in teller or vault cash;
  - Numerous erasures, corrections, whiteouts, line-outs;
  - Numerous voided or third party checks;
  - Numerous stale dated outstanding checks;
  - Numerous stale dated reconciling items;
  - Lump sum postings not conducive to good audit trail;
  - Checks or transactions receipts missing or out of sequence;
  - Timeliness of deposits not in accordance with Bylaw requirements;
  - Bank account activity and/or bank account balances (or share draft clearings/total share draft balances) exceed realistic needs on any single day;
  - Excessive number of depository accounts providing potential for kiting; and
  - Excessive cash/assets ratio (indicates either poor cash management or possibly fraud.)

- Management:
  - Overly dominant manager;
  - Manager or key employee involvement in gambling;
  - Regular vacations not taken, always working late hours;
  - Nepotism;
  - Other forms of insider abuse or preferential treatment;
  - Limited personnel not conducive to segregation of duties;
  - Lack of adequate segregation of duties when the credit union has adequate staff;

- Failure to provide, or delays in providing, standard reports, records, and/or documents;
- Records maintained at home or in inappropriate location;
- Management or staff provide copies of documents rather than originals;
- Inactive supervisory committee;
- Lack of, unacceptable, or non-independent audit or verification;
- Inadequate internal controls and information systems (IS) controls;
- No internal review of override/non-financial reports;
- Bank account frequently overdrawn;
- High volume of excessive transactions;
- Use of borrowed funds in spite of large cash balances;
- Extravagant management or employee lifestyle relative to salary; and
- Lack of a fraud policy.

- Other:
  - Low return on assets or on various asset categories; and
  - Payment of above market dividends to attract deposits

Expanded Review Procedures

The depth of review necessary for each cash account will vary within a credit union and from one credit union to another. The most critical element for determining the degree of variance and the necessary depth of review is the examiner's professional judgment, experience and risk perception. Examiners can obtain assistance in assigning the level of risk by reviewing the appendix to the Risk-Focused Program chapter. The remainder of this chapter includes additional procedures that the examiner may implement when warranted.

Petty Cash Review

Although the petty cash fund authorization is generally immaterial, in cases where examiners note problems they may decide to review the fund to determine that:

- The balance of this fund does not exceed the authorized amount;
- Management has physically segregated it from other cash funds and provides accountability by limiting access;

- Valid receipts or signed cash vouchers evidence payments from the fund, and the sum of the fund, receipts, and vouchers total to the authorized amount;
- Management replenishes the fund in a timely manner and records the proper expense categories at least monthly;
- Management approves any changes in the fund's balance; and
- The supervisory committee or other independent party periodically verifies the fund.

Teller Change Fund Review

Depending on transaction volume and temporary, seasonal, and projected demands, teller change funds can represent a substantial portion of cash inventory. Examiners' scrutiny of teller fund operations may include a review of the following:

- Master Log maintained by the head teller or operations manager;

- At least two days of individual, signed, end-of-day, teller cash counts including related daily work transaction vouchers. If a teller is off work on the day of the verification, examiners must obtain the prior working day's end-of-day teller cash count and related transaction vouchers;

- At least two days of system-generated individual teller summary transaction activity reports that reflect the system's beginning and ending cash balances, check transactions, and cash transactions;

- Teller change fund general ledger detail; and

- Log of Bait Money, including denominations, and serial numbers assigned to each individual teller.

The entries on the Master Log should balance to the individual and aggregate, end-of-day, teller cash counts. The individual teller cash counts should balance to the ending cash balance on the system-generated teller summary reports. The total ending cash balances for all tellers should balance to the amount of the overall change fund appropriated to teller change funds in the general ledger.

Individual, end-of-day, teller cash counts should balance with the next day's beginning cash on the system-generated teller summary reports. Some data processing systems allow manual input of beginning cash balances. This weakness could disguise or postpone recognition of an out-of-balance condition or shortage. If the credit union cannot modify its computer system, management can mitigate concerns about this weakness by rotating teller drawers among tellers on a surprise basis.

Examiners and auditors routinely perform month-end examinations and audits; however, examiners do not perform cash counts. Management or supervisory committee personnel should periodically perform surprise cash counts.

Examiners should consider the following if they decide to review teller change funds:

- The amount set up in the teller change fund does not exceed the maximum established by the board of directors, the individual teller change funds do not exceed the amounts established by management, and the board has established reasonable total change funds;

- The credit union adheres to management's established maximum teller drawer limitations and maximum teller transaction limitations. Tellers sell their excess teller drawer cash to the vault change fund during days of high transaction activity;

- Supervisory committee, internal audit department, or other appropriate personnel perform periodic random audits of teller change funds;

- The credit union has procedures in place to immediately remove terminating tellers' access to cash operations and to audit, seal or close, vacationing tellers' drawers on their last work day;

- Management restricts tellers, both by policy and computer authority, from processing transactions on their own accounts, accounts of family members, or accounts of other relatives;

- Management restricts tellers' computer authority, in terms of access levels, and has controls in place to identify teller transactions by unique teller stamps, teller codes, or ID numbers;

- Management instructs employees to keep confidential their teller log-on IDs and passwords and periodically changes IDs and passwords;

- The computer has an activated time-out feature that requires tellers who are away from their stations for an extended period of time to sign-on again. If the credit union has not activated the time-out feature, tellers should sign-off when away from their stations for an extended period of time;

- Tellers lock their drawers when away from their stations and secure their funds in the vault overnight;

- Management restricts a teller's access to an individually assigned drawer and uses dual controls to prevent unauthorized access to teller drawers;

- The credit union clears any checks accepted in processing member transactions daily and prohibits tellers from holding cash items (checks, IOU's, drafts, etc.) as part of their change fund balance;

- Debit or credit memos signed by both parties evidence cash purchases from and cash sales to the vault change fund. Credit unions should prohibit cash purchases and sales between tellers;

- The credit union maintains a clear audit trail by promptly and accurately recording to the general ledger all cash activity, including teller differences. Supervisory personnel should regularly review the cash transactions records;

- The credit union provides transaction receipts to members for all transactions;

- The credit union does not have a "slush fund" built over time by overages that a staff member could use to conceal shortages;

- The credit union adequately segregates "bait money" to prevent teller usage;
- Management maintains dual control access to night depository funds and mail deposits, and requires the presence of both persons when removing, processing, and logging the contents;
- Teller change fund policies, practices, procedures, controls, and balancing procedures provide for adequate safeguards over teller operations and accountability; and
- Amounts in tellers' drawers do not exceed surety limits, if surety specifies limits.

If examiners encounter significant weaknesses as a result of the cash review, they may request a controlled random or total teller drawer count or perform a review of individual teller transaction reports.

Vault Change Fund Review

The vault change fund generally represents the largest portion of cash inventory and may fluctuate from time to time depending on anticipated transaction volume, temporary, seasonal, and projected demands. Because of the volume and fluctuation, the credit union should internally balance the vault change fund daily. If examiners review the vault change fund, they should consider that management has instituted the following:

- Master Log, listing end-of-day vault cash balances, maintained by head teller or operations manager;
- End-of-day vault change fund counts signed by head teller or operations manager;
- Vault change fund general ledger detail;
- Reasonableness of the amount maintained in the fund (including the teller change fund) for the needs of the credit union;

- Adherence to maximum vault change fund limitations established by the board of directors, which should correspond to limits established by the bylaws and any applicable surety limits;

- Periodic audits of the vault change fund by the supervisory committee, internal audit department, or appropriate personnel;

- Restricted access to the vault change fund for accountability, both by policy and vault combination or key distribution;

- Required dual control for opening and counting vault change fund replenishments, and signed bank debit memos evidencing the replenishments. Ideally, management should maintain a cash shipment log, and the timing of cash shipments should vary to reduce recognition of an identifiable pattern;

- Restriction of computer access levels for persons having access to the vault change fund. Examiners should review the employee transaction access limitation report to determine adequacy of the credit union's controls in this area;

- Maintenance of a clear audit trail by promptly and accurately recording to the general ledger all vault change fund activity, regardless of whether the fund is fixed or floating. Staff should record and promptly resolve any cash differences;

- Two-part debit or credit memos signed by both parties evidence cash purchases from and cash sales to the vault change fund. Examiners should trace a few transactions;

- Implementation of procedures to prevent an employee responsible for both vault cash and a teller cash drawer from commingling the funds; and

- Adequate safeguards and accountability over vault cash operations provided by vault change fund policies, practices, procedures, controls, and balancing procedures.

ATM Change Fund Review

The credit union must internally balance the ATM change fund daily, recognizing, however, that it cannot perform a true balancing until it replenishes the ATM and verifies the remaining cash, records deposits, and records withdrawals to machine output reports or audit tapes.

If examiners review the ATM change fund, they could ensure the ATM audit tape totals, adjusted for reconciling items, balance to the general ledger ATM change fund balance. Examiners can verify randomly selected individual reconciling items to source documentation, ATM detail tape, or general ledger detail.

During this review process, the examiner could also determine that:

- Management maintains dual control for opening, counting, replenishing, and balancing ATMs;
- Management maintains ATM deposits under dual control with both responsible employees present during opening, listing, and processing of machines and envelopes;
- Management prohibits personnel having custody of member access cards from having access to personal identification numbers;
- Management properly segregates duties involving the balancing of individual ATMs and balancing of system totals;
- Supervisory committee, internal audit department, or other appropriate personnel periodically audits the ATM change fund;
- Management assigns an employee having no duties nor authorizations in the teller or ATM areas of operation responsibility for captured ATM cards; and
- ATM change fund policies, practices, procedures, controls, and balancing procedures provide for adequate safeguards over ATM cash operations and accountability.

If the credit union owns several ATMs, these machines can hold a substantial amount of cash. Some credit unions (usually those maintaining large cash reserves) contract with outside parties, such as armored car services, to replenish and service their ATMs. The credit union should have agreements in place with bonded third parties. The supervisory committee, or other appropriate personnel, must periodically audit and verify these cash reserves, per specifications of surety.

Bank Account Review

Examiners may verify the most recent month-end bank reconcilement and review at least one other randomly selected month-end bank reconcilement. When credit unions use a corporate credit union for their primary banking purposes, examiners apply the same review procedures to the corporate account reconcilement. Examiners may verify and review at least the following:

- Bank reconcilements for (1) the most recent month-end, (2) the randomly selected month-end, (3) the reconciliation preceding the most recent month-end, and (4) the reconciliation preceding the randomly selected month-end. Examiners need these four bank reconcilements to verify outstanding items and adjustments for the two months' reviews selected;

- Original bank statements correspond with the reconcilements chosen for verification and review, and the current month's original bank statement, if available. If examiners do not have the current month's bank statement available and if they note unusual activity, they may decide to order a cut-off bank statement;

- Outstanding check registers and canceled checks correspond with the reconcilements chosen for verification and review. When the bank truncates the credit union's checks, examiners may substitute voucher copies for canceled checks. Examiners should trace a few checks to the general ledger and bank statement to ensure the checks agree with the amount on the reconcilement;

- Bank stamped original deposit receipts and original bank debit and credit memos correspond with the reconcilements chosen for verification and review;

- Original corporate account statements correspond with the reconcilements chosen for verification and review;

- List of authorized signers on the bank accounts (trace to board authorizations); and

- Bank accounts general ledger detail.

If examiners review bank account reconcilements and statements, they may include the following steps:

- Tracing the book balances to the general ledger and reconciliation of bank statement balances to the bank statements;

- Footing the credit union's bank reconcilements and corresponding outstanding check registers;

- Tracing all reconciling items to source documents, and to statement or general ledger details;

- Verifying that previous month's outstanding checks cleared on the month of review's bank statement for the amount shown on the previous month's outstanding check register;

- Reviewing aging of reconciling items, non-sufficient funds (NSF) items, and outstanding checks. Generally, credit unions should appropriately clear items older than 90 days unless staff is researching them or settling a dispute (i.e., staff should not clear such aged items to another suspense-type general ledger account rather than resolving the problem);

- Reviewing management aging report detailing suspense-type general ledger accounts to ensure proper monitoring and clearing;

- Verifying that the previous month's deposits-in-transit cleared the month of review's bank statement for the amount shown on the previous month's reconciliation. Tracing the most recent month's deposits-in-transit as shown on the reconciliation to bank stamped deposit receipts or current month's bank statement, if available. Credit unions should make deposits promptly as specified in the *FCU Bylaws*. If necessary, the deposit-in-transit review may include a random review of receipts to deposits. Staff should not clear deposits-in-transit to another receivable-type general ledger account;

- Reviewing the origin and destination of a random sample of wire transfers provided on the bank statements and verifying that the credit union posted these wire transfers to the general ledger or

carried them as reconciling items. While the destination of wire transfers is generally the corporate account, examiners should trace destinations to other than the corporate account to source documentation from the originator;

- Determining the credit union adequately controls non-FEDWIRE transfers. Sound controls require that the originating bank or institution confirm the transfer with appropriate personnel not responsible for initiating the transfer;

- Reviewing canceled and outstanding checks for unusual payees, unusual dollar amounts, or unauthorized signatures;

- Verifying that staff properly marks voided checks “VOID”, and crosses or cuts out the signature portion of the voided check or, more importantly, punches the MICR line;

- Determining the reasonableness of the volume of bank account activity and average bank account balance in relation to the credit union’s asset size, volume and amount of member transactions, and compensating balance requirements;

- Determining that the supervisory committee, internal audit department, or other appropriate personnel periodically audits bank account reconcilements; and

- Reviewing that bank account reconciliation policies, practices, procedures, and controls provide for timely reconcilements, adequate safeguards over the bank account, and accountability. Credit unions should complete reconcilements by the due date of the financial statements as specified in the bylaws.

If the bank or corporate account reconcilements are more than 60 days in arrears, examiners should reach agreement with the credit union to bring the reconcilements current, usually within 30 days. If the reconcilements are six or more months in arrears, the credit union is deemed to have serious and persistent recordkeeping problems (per §715.12 of the *NCUA Rules and Regulations*) requiring the credit union to hire an outside, independent auditor to perform an opinion audit. When reconcilements are seriously in arrears, the examiner may

perform a simplified bank reconciliation to determine how close the bank balance is to the book balance and verifying, to the extent possible, outstanding checks and deposits-in-transit.

When the credit union has not properly reconciled accounts or properly researched and corrected adjusting entries, examiners should follow-up to determine that the credit union makes the needed corrections. Examiners should discuss the necessary level of supervision with the supervisory examiner.

Credit Bank Account Balance

Examiners should not criticize credit unions for having a credit balance in the cash account when the credit union has not overdrawn the bank account. Likewise, examiners should not criticize credit unions for overdrawing the bank account infrequently, if the credit union has a written agreement with the bank indicating the bank's willingness to honor checks drawn by the credit union, even though the credit union may not yet have sufficient funds deposited. Examiners should review the costs credit unions must pay when they overdraw their bank account; the costs may be higher than if they had borrowed the funds.

Conversely, if the credit union regularly overdraws its bank account and has no written agreement, it should increase the account balance accordingly. Additionally, if the credit union frequently overdraws its account, with or without a written agreement, examiners should analyze the effect on liquidity and operating costs. Frequent overdraws could indicate liquidity risk, transaction risk, and reputation risk.

Sweep Accounts

Some banks offer a “sweep account” feature to their customers, which allows the bank to sweep some or all of the balance of the credit union’s bank account into some form of overnight marketable securities. Using this feature, the credit union can often improve earnings on its bank account. However, the credit union generally bears all of the market risk liability inherent in the sweep transaction.

If examiners identify sweep account arrangements that warrant review, they should determine that (1) a written agreement exists between the bank and credit union, (2) the agreement should coincide with the

credit union's investment policies and practices, (3) the credit union has an acceptable market risk liability, (4) the bank records the sweep transactions in the credit union's name, and (5) the bank sweeps the credit union's cash into investment securities permissible for credit unions.

Treasurer's Drafts

Treasurer's drafts are drafts that a credit union issues against itself and uses in the same way it would use a checking account at a bank. The credit union does not establish a share draft account for itself. It merely issues drafts that it promises to honor when properly presented. The treasurer's draft is an alternative to the bank checking account and allows the credit union to use the float to its advantage.

Credit unions establish treasurer's drafts by using a clearing account at the payable-through bank. The drafts, issued for loan disbursements, share withdrawals, and expense disbursements, clear in the same manner as the members' share drafts. As the payable-through bank receives the drafts, it pays them from the credit union's clearing account at the payable-through bank.

Official Check Programs

"Official check" programs (e.g., Travelers Express, American Express) often appeal to smaller credit unions that do not have their own checking account at a bank, although other credit unions may also use this service. Each day the credit union writes drafts payable through a bank. At the end of the day the credit union wires the total of the drafts written to the official check company.

The credit union earns income on the float and once a month the official check company sends the credit union a list of draft items not cleared (the outstanding check list for the month.) This program does not eliminate the cash reconcilement function. While NCUA does not prohibit this program, default by the official check company could negatively affect the credit union's financial condition and reputation.

On-Us Share Draft Accounts

Frequently, larger credit unions use in-house share draft accounts for processing loan disbursements, share withdrawals, expense disbursements, and even payroll. The process is similar to that of

Treasurer's drafts, but the credit union uses a share draft account rather than a treasurer's draft payable account. The on-us share draft accounts serve as an alternative to the bank checking account and allow the credit union to use the float to its advantage.

Examiners can identify these share draft accounts through (1) inquiries with management, (2) review of canceled and outstanding drafts, and (3) review of zero balance or overdrawn share draft reports. Account numbers of such accounts generally begin with "9's". These are actually liabilities and not share accounts. If a credit union uses on-us share draft accounts, it can inflate or deflate actual total share account amounts, which could affect the capitalization deposit.

At any given month-end, the balance remaining in these share draft accounts actually represents outstanding drafts. The examiner could determine that the credit union appropriately accounts for and controls such accounts, and that it closes any remaining balance in these share draft accounts to the related liability account before finalizing month-end financial statements.

Money Orders and Travelers Checks

If examiners review money orders and travelers checks, which are generally off-balance sheet consignment items, they could determine whether the following exists:

- The credit union has adequate policies, practices, and controls to safeguard these negotiable monetary instruments and provide for accountability over the reserve supply and working supply;
- The supervisory committee or other appropriate personnel periodically reconciles the money orders and travelers checks;
- Management maintains the inventory of money orders and travelers checks at reasonable levels as governed by membership demand. If the agreement also requires surety limits, the examiners should review compliance with those limits;
- The credit union opens, counts, and records the shipments of money orders and traveler's checks under dual control;

- The credit union maintains records of serial numbers of money orders and traveler's checks held in the reserve supply and teller working supply;
- The credit union stores the reserve inventory and working supply inventory in the vault during non business hours;
- The credit union posts sales fees to the appropriate income accounts daily;
- The credit union sends sales remittances to the issuer promptly; and
- The credit union destroys money orders and travelers checks, if necessary, under dual control and appropriately logs this activity on a destruction log signed by both parties.

If the review of money orders or travelers checks discloses significant procedural deficiencies, or if staff has not completed current reconcilements, the examiner should observe staff performing an inventory during the examination. As part of this inventory procedure, the examiner should ask the credit union to request from the issuer a listing of money orders and travelers checks issued, but not yet paid. The examiner's inventory should balance with issuer's inventory. The examiner must reach agreement with the credit union to resolve any discrepancies between the two inventories.

Other Negotiable Items

Other negotiable items include, but may not be limited to, postage stamps and theater and amusement park tickets.

Credit unions frequently sell postage stamps, theater tickets, and amusement park tickets. If examiners review postage stamps, theater tickets, and amusement park tickets, they should ensure that the credit union performs inventories at least quarterly and has adequate internal control procedures.

Excessive Transactions

Examiners may incorporate reviews of specialized information systems reports, such as the "Excessive Transaction Report", into their

evaluation of cash operations in automated credit unions. The credit union can change the parameters on the Excessive Transactions Report, but usually sets them to display transactions over $10,000. While the $10,000 parameter is actually for Bank Secrecy Act (BSA) compliance purposes, review of this report may reveal unusual or excessively high transaction volume, which would necessitate further investigation. Refer to the Bank Secrecy Act chapter.

Federal Reserve's Payment System Risk Program

With any payment system, a sending institution may not be able to settle its obligations within a specified time. All FEDWIRE transfers are final and irrevocable when the Federal Reserve Bank (FRB) sends notice of the payment to the receiving institution. Therefore, the receiving institution can pass collected funds immediately to its customer and will bear no risk if the sending institution fails. If the sending institution has insufficient funds in its reserve account at the time the payment order occurs, it incurs a "daylight overdraft." If the sending institution fails that day, before bringing its reserve account into balance, the FRB absorbs the loss.

Systemic risk means the risk that a system participant's failure to settle its net debit position will affect others. The major objective of the FRB's policy statement is to reduce the risk of a settlement failure. The policy statement seeks to achieve this goal by reducing the level of daylight overdrafts and by encouraging institutions to exercise better control over the remaining credit exposure through voluntary adoption of a "cross-system sender debit cap". This cap represents the maximum net debit a depository institution may incur at any one time on all of the large dollar wire transfer systems. It further limits the amount by which an institution's outgoing wire transfers may exceed the value of the transfers received across all systems.

Under the policy statement, the FRB encourages depository institutions to establish their net debit cap based on a self-assessment of three criteria:

(1) Creditworthiness;
(2) Operational controls, policies, and procedures; and
(3) Credit policies and procedures.

Based on the depository institution's evaluation of its strength in these three areas, the FRB determines an overall assessment of the institution. When a depository institution establishes its sender net debit cap, the FRB expects the institution to maintain supporting documentation, a back-up file of its self-assessment, and evidence of its board of directors' review and approval of the cap selected. Appendix 9A, Wire Transfers, provides additional information.

Fraud Detection

If examiners discover fraud or a shortage, they should document the fraud or shortage as completely as possible and notify the supervisory examiner. With supervisory examiner concurrence, the examiner should notify the board of directors and the supervisory committee and request completion of the Suspicious Activity Report (SAR). The examiner will encourage the officials to, at a minimum, (1) suspend the personnel involved with pay, (2) control the access of personnel involved to the credit union, (3) fill the operational void caused by the suspension, (4) contract to perform a fraud audit, (4) notify surety, and (5) file a bond claim after all facts are known.

Ultimately, NCUA must decide the likelihood of pursuing prohibition actions against dishonest individuals. The examiner should seek input for this decision from the supervisory examiner, regional office, and, if necessary, the Office of General Counsel. Should conviction of a crime result for an individual, NCUA usually can obtain a prohibition more easily.

Alternative Examination Procedures for Small Credit Unions

Internal control limitations, primarily the lack of segregation of duties due to limited staff, can exist for many smaller credit unions. When examining non-complex smaller credit unions, examiners may substitute the following review procedures, which may adequately address their internal control concerns in the cash area:

- Observe staff count all cash in the presence of a credit union official or manager, and determine that the count balances to the corresponding general ledger accounts;

- Determine that the reconcilements balance for two month-ends since the previous examination, and documentation exists for

reconciling items (e.g., deposit slips for outstanding deposits.) Examiners may randomly select one month and confirm clearing of reconciling items within reasonable time frames, but the second month should be the most recent month-end bank reconcilement. Review "stale" outstanding checks and outstanding adjustments over 30 days old;

- "Flip" checks. Select a representative month, look at canceled checks for unusual activity (e.g., payee and check signer are the same person, unusual endorsements, etc.);

- Perform receipts and disbursements test for two months since the previous examination. Examiners may randomly select one month, but the second should be the month prior to the current examination. The testing includes reconciling total debits and credits of the general ledger with the total of debits and credits shown on the bank statements. If the receipts and disbursements test results in differences that need further review, the reconciliation of receipts with deposits may pinpoint the differences; and

- Verify that the credit union makes deposits intact and within timeframes consistent with the FCU Bylaws.

If examiners perform this type review, they should document their review.

Receipt and Disbursement Test

The purpose of the receipts and disbursements test is to quickly determine whether or not cash receipts and disbursements posted to the credit union's books tie out to the actual receipts and disbursements on the bank statement. This test will help identify falsified deposits and checks, month-end lapped deposits, and several other areas of cash manipulation; however, examiner's judgment is needed to determine the cause of the problem.

Receipts Test

1) Place the total of the receipts from the general ledger in a cell on the computer or in the memory of a calculator;
2) Total the deposits on the current bank statement;

3) Subtract the outstanding deposits from the previous month as shown on the bank statement, since this represents activity from the previous month. Also, verify that the prior month's deposits appear intact on the current bank statement;
4) Add the outstanding deposits for the current month;
5) Subtract the total of the current month's outstanding deposits (Step 4) from the stored total of general ledger receipts (Step 1):

   - If the answer is zero (i.e., the receipts equal the deposits), no apparent problems exist;
   - If they are not equal, determine the source of the difference. Small differences often represent re-deposited, non-sufficient funds (NSF) checks. Examiners should look for credit and debit memos and determine how they affect the statement. Larger differences may require the examiner to check the deposits back individually to determine if an error occurred (see reconciliation of receipts with deposits).

Disbursements Test

The procedures are similar to those for the receipts test, except they involve checks written and cleared instead of deposits. Again, if the test does not zero out, determine the reason for the difference. Reasons may include NSF checks, service charges, check printing fees, or other reconciling items. Examiners may find it necessary to prove out the daily totals by running tapes of each day's checks when they cannot readily determine the differences or when they suspect fraud.

Examiners should be able to perform these tests quickly to uncover posting or other problems. They may develop spreadsheets to speed the work and allow the computer to do the calculating.

Reconciliation of Receipts with Deposits

Examiners may choose the test check of tracing or reconciliation of receipts, as recorded in the credit union's books (or tellers' cash received summaries, if not posted), with deposits recorded by the bank. Examiners may use this test check in situations where the receipts and disbursements test indicates problems that require further research. This test also supports and ties in the cash count and the bank reconcilement.

The reconciliation of receipts with deposits documents that the credit union makes bank deposits intact (i.e., the deposits include the exact amount of one or more day's receipts) and deposits them in the bank within the time limitations set forth in the bylaws. Additionally, this test determines that the credit union does not summarize receipts of more than one day on the same cash received summary. (The credit union should prepare a cash received summary each day and attach it to that day's individual teller cash received summaries.)

Examiners could trace funds received from entries on the credit union's books (or tellers' cash received summaries, if not posted) to evidence of deposits in the bank. The suggested minimum period starts with the beginning of the month prior to the month in which the examination takes place and runs through the day of the cash count. The purpose of this test check is to furnish the examiner with a reasonable appraisal of the credit union's practices with respect to depositing of funds received.

Workpapers and References

- Workpapers
  - Red Flag Questionnaire
  - Cash Internal Control Questionnaire
  - Money Order and Travelers Checks Questionnaire
  - ATM Questionnaire
- References
  - *NCUA Rules and Regulations* – 715.12
  - *FCU Bylaws* – 12/87 – XV,1.
  - *FCU Bylaws* – 10/99 – XIII, 1.

WIRE TRANSFERS - APPENDIX 9 A

Overview

An electronic funds transfer (EFT) is any transfer of funds initiated through an electronic terminal, telephonic instrument, computer, or magnetic tape for the purpose of ordering, instructing, or authorizing a financial institution to debit or credit an account. Credit unions primarily use wire transfers to transfer their own funds (e.g., for investments or payment of expenses) from one institution to another. However, credit unions also transfer members' funds upon request.

The majority of credit unions wire funds by calling their corporate credit union (or correspondent bank) and instructing the corporate to (1) access the credit union's settlement account at the corporate to fund a wire transfer, (2) forward the funds and the wire instructions to the Federal Reserve, and (3) post the transaction to the credit union's settlement account at the corporate.

Credit unions that have an Internet-based request system may also submit requests for wire transfers to the corporate credit union or correspondent bank electronically. Many larger natural person credit unions directly access the FEDLINE system (or telephone the Federal Reserve directly) and conduct their own transfers. (FEDLINE, the personal computer-based electronic delivery system by which credit unions access the Federal Reserve System's on-line services and information, provides settlement services, cash services, and a means to transfer funds and securities between institutions.)

In any case, all credit unions offering wire transfers must abide by written security policies and procedures that consistently promote safe and accurate transactions. Credit unions can limit their liability and risk of loss by using recommended security procedures, referred in UCC Article 4A as "commercially reasonable security procedures" (e.g., recorded telephone lines, codes, passwords, personal identification numbers (PINs), encryption, etc.) These procedures help assure the authenticity and correctness of payment orders, and apply to telephone, personal computer, or other electronic transmission of the orders to the credit union.

Transaction Security

Credit union officials must write and adhere to transaction security policies. Examiners should review the written policies and determine their appropriateness for the credit union's size and number of employees. Examiners should also request the list of employees authorized to initiate wire transfers and review it to ensure the credit union keeps it current.

Proper controls depend on accountability (including accurate recordkeeping and sufficient documentation) and adequate separation of duties, which small credit unions having few employees can find a particular challenge. Nonetheless, all credit unions involved in wire transfers should carefully develop and strictly adhere to good internal controls.

Most corporates, correspondent banks, Federal Reserve or FEDLINE terminals mandate that credit union employees authorized to send funds by wire identify themselves by passwords, PINs, or test keys.

The credit union should require frequent changing of passwords, depending on the volume of wire activity (e.g., credit unions should change FEDLINE passwords every 30 days and members' passwords at least semiannually.) Credit unions that require regular changing of passwords reduce the risk of an unauthorized user gaining access to a member's account.

The examiner should determine that the credit union properly controls the system of assigning and communicating passwords, and that it promptly acts on suspected compromises of this security by canceling the password and assigning a new one. Examiners should walk through the wire transfer procedure with the credit union staff. Following are examples of controls that credit unions should enact:

- Assign a unique password to each user. Sharing passwords increases the potential to compromise control and accountability;

- Discourage users from selecting easily remembered passwords (e.g., initials, family member's name), or ones that rotate in a pattern, by using PINs or test keys;

- Ensure confidential and secure communication of newly-selected passwords, PINs, or test keys between the credit union and employees authorized to perform wire transfers;
- Instruct employees to close files, turn computer screens from the view of other employees, and refrain from discussing confidential information, including passwords; and
- Control access to the system, passwords, and any backup software when storing passwords on a shared electronic system such as a local area network (LAN.)

Requests for Wire Transfers

To positively identify members, credit unions should require members requesting a wire transfer of any amount to complete and sign a standard authorization form. However, many members make requests for emergencies when the member cannot come to the credit union. In these cases, the credit union should attempt to identify the member over the phone and establish a limit for the amount it will wire under these conditions. Requesting account numbers, social security numbers, or birth dates does not meet minimum security standards for wire transfers. Information not easily accessible to someone other than the member requesting the wire is acceptable (e.g., mother's maiden name, password, etc.) Written procedures should establish a maximum limit (i.e., an amount the credit union has determined it could lose in an unauthorized wire - usually $2,000-$3,000) for wires requested by telephone.

For members regularly requesting telephone wire transfers, the credit union should establish passwords or PINs which it changes routinely. In addition, regular users should sign formal wire transfer agreements that fix responsibility between the parties. The credit union should maintain the agreements on file.

The credit union needs to document wire requests. It must understand that a FAX does not comprise a legal document. Phone calls, unless made on recorded lines, are also difficult to prove; therefore, the credit union should consider installing a telephone recording system on phone lines used for wire transfer calls. At a minimum, the credit union should call back the member to verify authorization of the wire

transfer and record on the wire form the date, time, and initials of the person receiving the request and the person performing the callbacks.

Various credit union departments making wire requests for investments or payment of expenses should record those requests on standard request forms after obtaining approval from individuals authorized to make investments or pay expenses.

Methods of Sending Wire Transfers

Most credit unions wiring through their corporate or a correspondent bank call the institution and request the transfer or submit the request for transfer using a product such as U.S. Central Credit Union's Open Door system or another institution's browser-based transaction program. Authorized users state or enter their passwords or PINs and make or enter the request.

Corporate staff should read back a telephone request order to the requesting credit union for accuracy and may confirm the request by a telephone callback. For Internet based programs, the corporate will probably employ automated checks for accuracy; but may confirm the request through a telephone callback.

Corporate staff should ensure the caller has authority to make the request, and that the requested amount falls within the caller's authority. Most often the credit union's responsibility includes assigning authority to request wires to specific employees and assigning a maximum dollar limit on each employee's authority. The corporate then verifies the caller's authorities to a listing provided by the credit union.

Passwords and callbacks have different purposes and should not substitute for each other. Passwords allow a user into the system, while callbacks confirm the order's source and authenticity. Credit union management may not always recognize this distinction.

Less common (and inappropriate) methods of requesting wire transfers include telegram, telex, and FAX. The ease of compromising the security of these transactions provides each with a great potential for fraud. The examiner should take exception to a credit union's use of any of these methods.

Assuming the credit union has adequate security and proper controls, examiners should not take exception to other forms of electronic transfer, such as Western Union wire terminals, or alternative software such as U.S. Central Credit Union's Open Door product or other browser-based wire request programs.

Pre-Authorized (Card) Wires

Credit unions establish many repetitive wire transfers (e.g., regular or periodic transfers of credit union funds to an investment account at another institution.) For these repetitive wire transfers, the wiring instructions remain the same except for the dollar amount.

The receiving institution (usually the corporate or Federal Reserve) often establishes pre-authorized (card) transfers by creating a template screen in the FEDLINE terminal or within the browser-based transaction program. Then, when the credit union calls in or submits a wire request via the Internet, the caller or person entering the request only gives or enters a password or PIN number and states the need for, or enters, a wire for a certain dollar amount in the credit union's account at "ABC Bank." The caller does not have to give an account number or the bank's ABA number, which results in a more efficient transaction.

The examiner should review the security procedures for establishing, changing, or deleting the credit union's template screen on the FEDLINE terminal or within any browser-based wire request programs. Adequate accountability and control requires a written and confirmed request to establish, change, or delete a pre-authorized template. Additionally, someone other than the operators performing the "initiation" and "verification" functions on the terminal should establish or edit the template screens.

FEDLINE Terminal

A credit union having its own FEDLINE terminal must institute additional controls and security measures beyond those required for accessing the FEDLINE through a corporate or correspondent bank.

Funds transfer messages sent over the FEDLINE terminal must go through two processes before transmission. Initiation involves entering the message into the terminal, while verification requires re-entry into

Sample FEDLINE User Access Report

Local Administration MM/DD/YYYY 14:09:03L 2/C19

MC-F6

User-ID:______________________ Name:________________________

Password:_____________________ Verify password:_______________

Current states: A Password last changed on:_______ re-try cnt:_____

An 'X' designates what function category a user is allowed to access with an application. No 'X's imply non-restricted functions only.

	Application Code	Function categories					
		Inq.	E/U	V/T	A. Supv.	Supv.	Mngr.
1							
2							
3							
4							
5							
7							
8							
9							

Sample Miscellaneous Security Settings Report

Misc. Security Settings Local Administration MM/DD/YYYY 9:37:58L 6.38

LOCAL ADMINISTRATION ACCESS OPTIONS

User's ID will be suspended after	3	consecutive bad password attempts
User must change password every	45	days
Verification rule	N	(use < F6 > Key)
Override & Release rule	N	(use < F6 > Key)
User-ID will be signed-off after	15	minutes of inactivity

Illustration 9A-1

the terminal of all or part of the message. The security options on the system allow the credit union to decide exactly which data fields within the message it will re-enter. After staff completes the verification process, the FEDLINE terminal automatically transmits the message and transfers the funds.

The examiner should determine that the credit union requires two different employees to perform the initiation and verification processes on the terminal. Both the credit union's written policies and its established control parameters on the system should require this separation of duties. Examiners should ask the local administrator to screen print the "Miscellaneous Security Settings" for purposes of reviewing the controls. (Illustration 9A-1 contains examples of the FEDLINE User Access Report and Miscellaneous Security Settings screen print.)

Miscellaneous Security Settings

The examiner should have the local administrator screen print the Miscellaneous Securities Settings during the examination. The screen print will show:

- Settings for the Verification Rule;
- The Override and Release Rule;
- The number of bad password attempts allowable before the system suspends a user ID;
- The number of minutes the system allows the FEDLINE terminal to remain unattended before it automatically logs off;
- Whether the system suppresses the keyboard eavesdropping message each time a user enters the FEDLINE; and
- Whether the system prints a full or summary account of deleted transactions during the cycle-date rollover.

Verification Rule

The Miscellaneous Security Settings screen displays the setting of the "verification rule" to N, U, or E. The "N" designator allows the same FEDLINE operator to perform initiation, editing (if needed), and verification functions on the same message. In other words, this designator allows one FEDLINE operator to transmit funds. The "U" designator restricts the FEDLINE operator who last initiated or edited a message from verifying that message. Thus, this designator requires

at least two FEDLINE operators to transmit funds. The "E" designator is the most restrictive. It requires that a FEDLINE operator other than the initiator or the editor perform the verification function.

The "N" designator for the verification rule does not require adequate separation of duties; therefore, it is unacceptable for credit unions. Larger credit unions should set this designator at "E" thus requiring the highest level of separation of duties. However, the examiner may accept a setting of "U" for the verification rule, especially if the credit union has limited staff, and if, in the examiner's judgment, it has other adequate controls.

FEDLINE Functions and Access Levels

A two-character code identifies each application in FEDLINE. The following codes assign access authority to an operator:

**	All Applications
AH	Automated Clearing House
AS	Accounting Services
BA	Book-Entry Securities
CS	Cash Services
CH	Check Services
FT	Funds Transfer
HC	Host Communication
HD	Help Desk
LA	Local Administration
MS	Miscellaneous Support
RA	Local Reserve Account
RR	Reporting and Reserves
SB	Savings Bond
SS	Startup/Shutdown Control
ST	Securities Transfer
TA	Treasury Auction
TT	Treasury Tax and Loan

The following six access levels exist within each application:

- Inquiry
- Entry/Update
- Verify/Transmit

- Assistant Supervisory
- Supervisory
- Managerial

The credit union can assign an employee one or more access levels within an application; they need not be the same for each application. For example, the credit union may give an employee inquiry capability for the Securities Transfer (ST) Application, and managerial capability for the Funds Transfer (FT) Application. Also, the credit union need not assign all six levels of access within each application.

The credit union may choose to customize some local options in accordance with the institution's specific operating environment. These rules apply to the entire FEDLINE system installed on the computer, not to a specific application.

The local access options are:

- Number of invalid password attempts;
- Password expiration interval;
- Key verification requirements;
- Override and release rule;
- Automatic sign-off and time-out intervals;
- Suppression of possible keyboard eavesdropping; and
- Cycle-date rollover print delete option.

Local Administrator

The credit union will designate one or more employees as a local administrator for the FEDLINE terminal. The local administrator may add or delete authorized users and authorized functions of established users. (For example, funds transfer is only one of several functions. Others include securities transfers, ACH transactions, etc.) The local administrator can also select, add, delete, or change an individual's security options.

The local administrator should be an employee who works outside the operational area responsible for the terminal and who the credit union (1) would challenge for trying to gain terminal access routinely, and (2) will not assign any other duties on the FEDLINE terminal. The

examiner may have to make certain allowances for the limited staff in a smaller credit union.

User Profile Report

During the examination, the examiner should identify and ask the local administrator to print out FEDLINE's User Profile Report in the examiner's presence.

The User Profile Report shows all authorized users, the functions each may perform, and the authority level within each authorized function. The examiner should identify all users on this report and determine that the credit union has broad enough authorization levels to allow staff to efficiently carry out their duties and responsibilities, yet sufficiently restricts these authorization levels to ensure sound internal controls.

The examiner should pay particular attention to the following function codes:

- ** (Double asterisk) - Allows the user to perform any function
- LA - Local administrator function
- FT - Funds transfer function
- ST - Securities transfer function

Anyone with the "**" function code can perform any function. The examiner should determine the appropriateness of giving such widespread authority. Two different employees should always perform the initiation and verification functions. However, when possible, NCUA strongly encourages greater separation of duties.

As mentioned earlier, the personnel authorized to perform the LA function should not have authorization to perform any other function. Under certain circumstances, a local administrator could unilaterally set himself up to perform other functions at any time. However, the additional time required to set up the new authorization and the attention that would result from the local administrator being at the terminal, as well as constant internal auditing and monitoring of FEDLINE activity, should deter any unauthorized actions by the local administrator. Internal auditing and monitoring of the FEDLINE

system should include review of user access by someone not involved in the funds transfer process, other than the local administrator.

The FT code designates those employees who may perform funds transfer functions. The examiner should determine that the credit union has assigned this code to the minimum number of employees necessary for efficient operation. No employee outside the funds transfer department should have authorization to perform the FT function at any level higher than "inquiry."

The ST code designates those employees who may perform securities transfers on the FEDLINE terminal. Examiners review the use of this code in conjunction with the examination of the credit union's securities safekeeping program.

User Access Report

The examiner should ask the local administrator to print the User Access Report.

FEDLINE Security Features

- Number of password tries. Every user on the FEDLINE terminal has a personal password that the system requires before an individual can perform any function. The system requires periodic change of personal passwords. The local administrator can set the number of times a user may enter an erroneous password before the system locks out that user's ID. The miscellaneous security settings screen shows this setting.

  The examiner should determine the appropriateness of the number of password-attempts setting. Normally, the credit union setting should allow no more than three bad attempts.

- Override and Release Rule. This setting, which restricts the overriding and releasing of messages, has available the same three options as the verification rule.

- Automatic log-off of unattended FEDLINE terminal. The miscellaneous security settings screen also states the number of minutes that the FEDLINE terminal will stay active before automatically logging off. The local administrator can set this

parameter at any number from 0 to 999. If the local administrator sets this number at other than zero, the terminal will automatically log off after being left unattended for the pre-set number of minutes. If the local administrator sets the number at zero, the terminal will not log off automatically.

If the local administrator sets the time parameter too long, chances increase that one operator may gain access to the terminal while it is still logged on under another operator's user ID, resulting in a loss of accountability.

The examiner should review the unattended FEDLINE terminal setting and determine its appropriateness. Normally, the credit union should set the parameter between one and five minutes.

- Suppress Possible Keyboard Eavesdropping. This setting permits the administrator to turn off the "possible keyboard eavesdropping" message noted each time a user enters FEDLINE.

  The examiner should determine that the administrator has not suppressed the message. The credit union should enact and monitor a control preventing a Terminate and Stay Resident (TSR) program on the terminal to ensure that no one copies various keystrokes.

- Cycle Date Rollover. Before beginning each day's work, a credit union employee must perform a function on the FEDLINE terminal known as the "cycle date rollover," which resets the date on the terminal. The FEDLINE system requires the operator to clear or cancel messages still pending (i.e., initiated but not verified or transmitted) before performing this function. The policies should require canceling and reporting to management any pending messages.

  The security administrator can set the system to print either a full or a summary account of deleted transactions during the cycle-date rollover process. Either report documents pending message problems. While the detailed report contains all the information about the transaction, the summary report shows only limited information about the transaction.

- Update Message Application Attributes. This function allows staff persons with managerial access to customize several control related aspects of outgoing message processing including: verification thresholds, a duplicate reference number edit, and an accountable message transmission limit. Management can establish these verification requirements for the message processing functions at the application level for Funds Transfer, Securities Transfer, Checks, or Treasury Tax and Loan (TT&L) messages. Examiners can determine whether the credit union has set any of these customized features by asking that the staff person with managerial access to the applications screen print the settings on the update message application attributes' screens.

  The credit union can set verification thresholds for accountable and non-accountable messages for which it will impose the verification requirement. If the credit union sets the dollar amount at 0.00, it will verify all messages; whereas, if the credit union sets the dollar amount at 99,999,999,999.99, it will verify no messages. For other settings, it will verify any amount over the amount set. NCUA recommends that the dollar amounts be set at 0.00 to verify all messages.

  The credit union can automatically check for duplicate reference numbers when creating or updating information depending on the numbering of source documents. Good internal controls require activation of this edit check to prevent duplication of numbers. Examiners should determine that the credit union uses a different number on each source document.

  Credit unions can prevent transmission of accountable messages (including those with a verified status) until an authorized operator using the message status override function releases the messages. Credit unions with larger staffs usually activate this additional control; however, credit unions with smaller staffs often set the control at "N" indicating that the system will automatically que verified messages for transmission. Examiner's judgment will determine the adequacy of the setting.

Reconciliation of the FRB Account and Funds Transfers

The credit union should reconcile the number and dollar amounts of funds transferred to the Federal Reserve account balance throughout the day. Periodic reconciliation discourages fraud. Smaller credit unions may reconcile only two or three times during the day; larger credit unions more often. In addition, staff must perform a detailed reconciliation of the Federal Reserve account daily. The individual responsible for reconciling should not otherwise perform funds transfer duties.

Audit Copy of FEDLINE Messages

A FEDLINE printer records messages on the FEDLINE terminal. There are three categories of messages:

- Outgoing transactions;
- Incoming transactions; and
- Miscellaneous messages.

The credit union can have all messages going to the same printer, or direct different categories of messages to different printers. The FEDLINE system assigns a sequence number to each message. Each category has a separate sequential numbering.

In order to establish an audit trail, the credit union should use multiple-part paper on the FEDLINE printer. The credit union should maintain one copy of the messages in continuous form for the entire day, from log-on to log-off. If staff must perforate the paper (e.g., when the box of paper runs out), a supervisor other than a FEDLINE terminal operator should inspect the old and new continuous forms to account for all messages and should initial the beginning and end of each form where the gap occurs. Supervisory review of the entire audit trail for unauthorized attempts to access the system, unauthorized messages, etc., should occur daily. The supervisor should initial the audit trail indicating the review. The credit union must retain daily audit trails through both the next audit and examination periods.

Functions, Applications, and Security Parameters in Browser-Based Systems

Corporate credit unions or other third-parties, including correspondent banks, provide a number of browser-based programs used by credit unions to submit wire transfer requests. Each program has its own defined functions, applications, and security parameters. While each program has differences, the functions, applications, and security parameters should essentially mirror the control features available using Fedline.

A wire transfer made through a corporate credit union or correspondent bank using browser-based software rather than FEDLINE does not change the need for involving two credit union employees in performing the initiation and verification processes. System parameters similar to FEDLINE controls should require this separation of duties. Examiners should ask the browser-based program local administrators to print out a screen similar to the FEDLINE "Miscellaneous Security Settings" screen, showing the availability and activation of a dual control feature. Browser-based programs also generally provide for maximum dollar limits for each user. Usually, examiners can verify the presence of dollar limits by accessing the system's User Authority Reports.

Physical Security

Following are important aspects of physical security:

- Location of the FEDLINE terminal. Ideally, the credit union should locate the FEDLINE terminal in a secured room dedicated solely to wire transfer activities, with only authorized terminal operators and their supervisors having access. However, smaller credit unions having limited space often cannot place the terminal in a secured room. In that case, the credit union should place the terminal in a low traffic area, but within sight of the workstations of all the terminal operators or the operators' supervisor. This reduces the likelihood of unauthorized personnel gaining access to the terminal.

- Number of staff present. The credit union's written wire transfer policies and procedures should require the presence of at least one employee who understands and can operate the FEDLINE terminal and a supervisor whenever the FEDLINE terminal is operational.

- Security of telephone lines. The examiner should determine the security from eavesdropping of the credit union's telephone lines. A breach of security could occur from outside or inside the building. The telephone company bears responsibility for security outside the building; security inside the building rests with the credit union.

  Examiners should evaluate the security of the room containing the credit union's telephone switching panel (i.e., locked with management maintaining the key) and determine that the telephone system does not allow one extension to listen in on another system. An unauthorized person could listen in on a telephone line at this switching panel with the aid of relatively simple equipment. If a repairman needs access to the panel, management should verify the repairman's identification and take necessary precautions to avoid breaches of security any time the panel is unsecured.

- Security of encryption key diskette. The Federal Reserve provides all authorized, licensed users with a diskette containing the encryption key for the FEDLINE terminal. The terminal has a security feature that requires the reload of the encryption key if the credit union moves the terminal. FEDLINE licensing agreements allow maintaining only two copies of the diskette; one copy at the credit union and the other offsite for use during disaster recovery. The credit union should keep both diskettes in secure areas with controlled access, such as a safe or safe deposit box.

Policies, Procedures, and Guidelines

The AIRES Wire Transfers Questionnaire inquires about internal control practices pertaining to the wire transfer operation and, more specifically, whether the written policies and procedures address certain practices. Examiners should determine that employees follow written procedures.

Written internal control procedures help ensure consistent application, enforcement, and accountability, even when a change of staff or management occurs. Appropriate procedures should include:

- Written funds transfer agreements. The credit union should have a written funds transfer agreement with each applicable institution,

outlining the duties and responsibilities of each party to protect the interests of both institutions. The agreement should specify the responsibilities of the institutions regarding security features such as passwords, PIN numbers, test keys, and telephone callback.

The institutions should also have written documentation that authorizes certain employees or officials to request or send funds transfers. If this is the only documentation, the examiner should take exception and require the development of a formal funds transfer agreement.

Credit unions that send members' wires should also have written agreements with their members notifying them of their duties and responsibilities, assigning liability in the event of a loss, and documenting the security procedures to be used.

- Personnel policies for wire transfer operation. To enhance the funds transfer operation internal controls, written personnel policies should incorporate items that may help improve the credit union's chances of collection if someone files a bond claim against an employee who violates the policy. These should include restricting or limiting the hiring of relatives for key areas, filling vacancies internally, and eliminating access on termination or resignation.

- Contingency planning for wire transfer operation. The examiner should determine that the credit union has an adequate disaster recovery plan for its wire transfer operation, and that management has sufficiently familiarized all wire unit employees with the plan. Some credit unions, particularly those whose disaster recovery plans include relocating to a "hot site," may have the capability of remaining online with the Federal Reserve during a disaster. For those, procedures and controls should remain much the same as during normal operations. However, many credit unions plan for their funds transfer operations to go offline in case of a disaster. Either way, the credit union must maintain proper security over the operation during execution of the disaster plan and must periodically test the plan and document the test results.

- Audit or review of wire transfer operation. The sensitive nature of wire or securities transfers requires an audit or review at least annually. The credit union's internal audit department or external auditors may perform the review. If the credit union has its own wire or securities transfer system, it should hire auditors who have independent training in the credit union's wire transfer communication system, and who participate in planning for changes in equipment, systems, and operating procedures. The auditors should establish a formal audit program covering all aspects of the wire or securities transfer operation.

Record-keeping Requirements

The Federal Financial Institutions Examination Council (FFIEC) encourages credit unions to support law enforcement's efforts to identify and prosecute money laundering activities involving large-value funds transfer systems. This support includes maintaining, to the extent practical, complete originator and beneficiary information when sending payment orders over any funds transfer system.

Additionally, the Bank Secrecy Act (BSA)[1] requires certain recordkeeping requirements for credit unions engaged in wire transfer operations on behalf of their members (applies only to transmittals of $3,000 or more).

- The credit union must retain records (originals, copies, electronically, or on microfilm) for five years; and
- When the credit union is the originator's financial institution, it must retain the following records:

  - Name and address of the originator;
  - Amount of the payment order;
  - Execution date of the payment order;
  - Payment instructions received from the originator with the payment order; and
  - Name, address, account number and any other specific identifier of the beneficiary, if these are received with the payment order.

[1] NCUA Letter to Credit Unions No. 173, July 1995, contains additional information about the BSA revision.

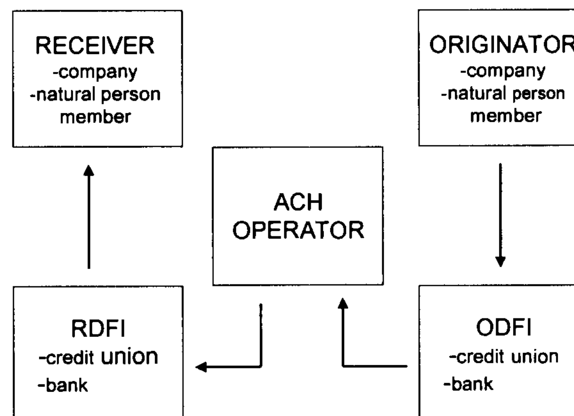
AUTOMATED CLEARING HOUSE NETWORK - APPENDIX 9B

Overview

The Automated Clearing House (ACH) network electronically exchanges funds and related information among individuals, businesses, financial institutions, and government entities. The ACH Operator provides a central distribution and settlement point for transmitting funds electronically between an originating depository financial institution (ODFI) and a receiving depository financial institution (RDFI.)

The following illustration depicts the ACH Network and their interrelationships:

How the ACH System Works



- Originator. The originator directs a transfer of funds to or from a receiver's account by providing the ODFI with payment instructions. The originator agrees to initiate ACH entries into the payment system according to an agreement with a receiver. A company usually acts as the originator (but an individual member can also originate ACH transactions) directing a transfer of funds to or from a consumer's or another company's account. The term "company" refers to the originator of electronic ACH entries and does not imply exclusion of other types of organizations.

- Originating Depository Financial Institution (ODFI.) The ODFI receives the payment instruction from the originator and forwards the instructions to the ACH operator. A depository financial institution (DFI) may participate in the ACH Network as a RDFI without being an ODFI; however, if a DFI chooses to originate ACH entries as an ODFI, it must also agree to act as an RDFI.

- ACH Operator. The ACH operator is a central processing facility operated by the Federal Reserve Bank or a private sector organization that (1) receives entries from ODFIs, (2) distributes entries to appropriate RDFIs, and (3) performs settlement functions for the affected financial institutions.

- Receiving Depository Financial Institution (RDFI.) The RDFI receives ACH entries from the ACH operator and posts them to the accounts of its depositors (receivers.)

- Receiver. The receiver is a natural person or organization whose account is either debited or credited in payment or collection. The receiver must authorize an originator to initiate an ACH entry to the receiver's account with the RDFI.

- Third-Party Processor. Third-party processors are data processing service bureaus, financial institutions, or other organizations that provide ACH processing services for financial institutions. A third-party processor may serve as an agent for an ODFI or RDFI; however, the ODFI or RDFI remains responsible for compliance with ACH rules.

Small credit unions and large credit unions approach ACH transactions differently.

- Small credit unions usually perform transactions through a third-party processor. The parties either courier or fax detailed information back and forth or communicate using modem communications.

- Large credit unions usually perform transactions directly on a FEDLINE terminal that communicates with a Federal Reserve

Bank (ACH operator) or uses alternative software to communicate with a processor.

Data Flow versus Fund Flow

Unlike the wire transfer and check systems, the ACH is both a credit and a debit payment system. ACH credit transactions transfer or distribute funds from the originator to the receiver, resulting in a deposit to the receiver's account. Conversely, ACH debit transactions transfer or collect funds from the receiver to the originator resulting in a withdrawal from a receiver's account.

Regardless of the funds flow, ACH data flows in the same direction, from originator to receiver as follows:

1) The originator initiates a debit or credit 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 ACH operator transmits the entries to the RDFI.
5) The RDFI receives, processes, and posts the ACH data to the receiver account on settlement day.

ACH Applications Codes and 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 initiating entries into the system codes the entries as either a debit or credit, which affects either a consumer or a corporate account at the RDFI. Listed below are SEC Codes and the different products each code supports.

Consumer Applications

- Prearranged Payment and Deposit Entries (PPD) include both Direct Deposits and Direct Payments.

  - 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.

- Direct Payment (Preauthorized 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 standing or single entry written authorizations, the consumer grants the company authority to initiate periodic charges to their account as bills become due. Examples of recurring bills paid by ACH include insurance premiums, mortgage payments, and installment loan payments. Utility payments represent a non-recurring bill (i.e., the amount varies) paid by ACH.

- Point of Purchase Entries/Shared Network Transactions (POP/SHR). Two SEC Codes that the consumer most often initiates via a plastic access card, representing point of sale debit applications in either a shared or non-shared environment. POP transactions also include conversion of checks to an ACH debit application at the point of sale.

- Machine Transfer Entries (MTE). The Network supports the clearing of transactions from automated teller machines (ATMs.)

- Customer Initiated Entries (CIE). Credit applications where the consumer initiates the transfer of funds to a company for payment of funds owed to that company, typically through some type of home banking product.

- Telephone Entries (TEL). A single entry debit application initiated by an originator pursuant to an oral authorization obtained over the telephone to effect a transfer of funds from an account of the receiver. This type of entry applies <u>only</u> to a single entry where no standing authorization exists and originator and receiver have an existing relationship or, absent the existing relationship, the receiver initiates the call.

- Web Entries (WEB). Debit applications initiated by an originator pursuant to an authorization from the receiver via the Internet to effect a transfer of funds from an account of the receiver.

Corporate Applications

- Cash Concentration or Disbursement (CCD). A credit or debit transaction where corporate entities either disburse or collect funds between themselves. This application can serve as a stand-alone funds transfer (CCD) or it can support a limited amount of payment-related data with the funds transfer (CCD+).

- Corporate Trade Payments (CTP). These allow corporations to transfer funds (debit or credit) within a trading partner relationship.

- Corporate Trade Exchanges (CTX). These support the transfer of funds (debit or credit) within a trading partner relationship in which a corporation sends full ANSI ASC X12 message or payment-related UN/EDIFACT information with the funds transfer.

Other Applications

- Automated Accounting Advice (ADV). An optional service provided by ACH operators that identifies automated accounting advises of ACH accounting information in machine readable format to facilitate the automation of accounting information for participating DFIs.

- Automated Notification of Change or Refused Notification of Change (COR). An RDFI or ODFI uses this when originating a notification of change or refusing notification of change in automated format. Also, the ACH operator uses it when converting paper notifications of change to automated format.

- Death Notification Entries (DNE). Agencies of the federal government use these to notify a DFI that the recipient of government benefits has died.

- Returned Entries (RET). ACH operators that convert paper returns to automated format use these. ODFIs that originate dishonored returns also use them when the dishonored return carries the SECC RET.

- Truncated Entries (TRC/TRX). These identify batches of truncated checks.

- Destroyed Check Entries (XCK). An institution can use these for collecting certain checks that were destroyed.

Regulations That Apply to ACHs

ACH Rules. National Automated Clearing House Association (NACHA), the governing body for the ACH network, publishes the rules annually. The rules incorporate those items approved by the NACHA members.

User compliance with the ACH rules enables the ACH Network to operate efficiently. These rules provide warranties and indemnification addressing origination, receipt, and prompt return of the entries. Primary responsibility rests with ODFIs for most of the warranties and indemnifications. However, if the parties enact an agreement stipulating different responsibilities, many of the ODFI's responsibilities can pass through the ODFI to the originator. These warranties and indemnifications reside with ODFIs and originators because they have primary control over the initiation of entries.

- ODFIs must:

  - Ensure proper authorization of the entries;
  - Submit timely entries into the ACH system;
  - Terminate the origination of entries when appropriate;
  - Meet the requirements for data security and personal identification numbers in certain applications, when appropriate;
  - Ensure that the entries contain the appropriate information;
  - Assure an agreement is in place with originators and sending points; and
  - Comply with the 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. While 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 and to comply with the requirements of the rules concerning RDFIs and participating DFIs.

- RDFIs must perform the following in a timely manner:

    - Receive and validate all ACH entries;
    - Post to receiver's accounts;
    - Validate pre-notifications;
    - Return entries that do not post within proper timeframes;
    - Handle remittance data as receiver requires;
    - Make funds available to the receiver within proper timeframes; and
    - Fulfill responsibilities when using a receiving point.

To limit their risk exposure, credit unions must acquire information and knowledge of ACH rules. They must also comply with the following applicable regulations:

- Electronic Funds Transfer Act (EFTA). Provides for rights and duties of consumers and financial institutions regarding electronic funds transfer. EFTA covers transfers initiated by both the private sector and the government;

- Regulation E. Issued by the Federal Reserve Board of Governors implementing EFTA to ensure consumers a minimum level of protection in disputes arising from electronic funds transfers;

- UCC-4A. Developed in part for wire transfers, but also applies to wholesale (institution-to-institution) ACH credit transactions and certain ACH credit transactions that are not subject to the EFTA. UCC-4A does not apply to ACH debit or to ACH credit transactions subject to EFTA; and

- Green Book. Published by the Financial Management Services agency of the Treasury Department. The Green Book specifies procedures for ACH transactions originated for the Federal Government.

Risks to the Credit Union

The amount of risk associated with processing ACH payments varies based on whether the item is an ACH debit or an ACH credit, and whether the credit union receives or originates the item. Similar risks exist in the ACH system as those within the wire transfer and check payment systems.

Credit unions must understand payment processing risks (i.e., credit or exposure, operational, fraud, systemic, and third-party processing) and implement detailed written policies and procedures in place to control them.

Credit (Exposure) Risk

The risk that a party to a transaction will not have sufficient funds for settlement is called credit (exposure) risk. This risk often arises when one company that is a party to the transaction fails or is bankrupt before settlement occurs. The examiner must determine that the credit union limits the risk through necessary controls.

- ODFI Credit Risks

    - ACH Credits. An ODFI incurs temporary exposure to credit risk for the period of time between the initiation of an ACH credit file (from one of its originating companies) and the time when the company funds the account (normally on the settlement day, which is one to two business days after initiation.) ACH rules do not allow the ODFI to reverse ACH credits for failure of the originator to fund its account at the ODFI. Therefore, the ODFI is financially responsible for one to two days or until it receives funding from the originator. During this period of time the ODFI has, in effect, granted an unsecured short-term loan. Losses could occur if the company went bankrupt or failed to fund the account between the date of origination and the date of settlement.

      The amount of risk an ODFI assumes is the total amount of the file not the individual transactions. Therefore, ODFIs must establish risk control parameters and limits based on the file totals as well as transaction amounts.

If a credit union is an ODFI, it must establish credit monitoring and control procedures over its members for whom it originates ACHs (similar to business lending requirements.) Credit union ODFIs must assign members' ratings and exposure limits and must continuously monitor them throughout the various departments of the credit union.

Requiring pre-funding of the accounts also enables credit unions to protect themselves. When credit unions take this step, they are only at risk if the originating company filed for bankruptcy between the origination date and the settlement date. In this instance, the funds may become property of the trustee of the bankruptcy court. Usually, this would merely delay the credit union's obtaining final funds. To further protect themselves, credit unions could require that the originating party deposit pre-funded amounts on the origination date into an escrow account in the credit union's name. This would reduce the likelihood of a dispute between the bankruptcy court and the credit union. Examiners should note that ACH rules do not require pre-funding and credit unions that require pre-funding could put themselves at a competitive disadvantage.

- ACH Debits. The ODFI incurs temporary risk from the day the originating company has the funds available until the RDFI or the receiver can no longer return the individual ACH debit entries. An ACH return is an ACH debit or credit that the ACH operator, receiver, or the RDFI returns to the ODFI. Reasons for returning ACH debits include insufficient funds, closed accounts, unauthorized transactions, stop payments, etc.

  Return time for ACH debits falls within two general categories: (1) RDFIs may return non-authorized or revoked authorization consumer debits up to 60 calendar days after the original settlement date, and (2) all other returns, which the RDFI's operator must receive by its deposit deadline in order to make the return entry available to the ODFI no later than the opening of business on the second banking day following the settlement date of the original entry.

Normally, the ODFI charges back a returned ACH debit item to the account of the originating company. However, when bankruptcy or other legal actions leaves the originator's account closed, frozen or with insufficient funds, the ODFI may suffer a loss for the amount of the returned ACH debit item. Controlling this risk presents difficulty because an institution cannot judge whether or not the RDFI and receiver will have the funds necessary for the transaction to occur.

The amount of risk from originating an ACH debit application is generally for the amount of returned individual items and not for the amount of the entire file. Typically, this risk is low, particularly for consumer ACH debit applications such as preauthorized debits and point of purchase (POP) transactions. These consumer transactions generally have small dollar amounts. However, the consumer's right of recision under the ACH rules and Regulation E can cause greater temporary risk. Examiners should be aware of one exception: the ODFI can have risk for the entire amount of the originated file for cash concentration debits.

Credit unions can control the risk of ACH debit returns by placing holds on a portion of the originator's account for a reasonable period of time until the receiver most likely will not return the items. Additionally, they can require the originator to place collateral in an account in the credit union's name. Ensuring against return of all originated volume would require holds for up to sixty business days, a rarely encountered practice. Generally, hold amounts equal a percentage of the total files and reflect historic return rates for each originator and application. Credit unions can also control debit return risk by lowering the exposure limits for the originating company.

- RDFI Credit Risks

  - ACH Credits. The risk to the RDFI in receiving an ACH credit corresponds directly to the finality granted by its ACH operator and can vary. If the Federal Reserve serves as the ACH operator, ACH credits received by an RDFI are final (the point in time where the Federal Reserve cannot reverse the entry

from the RDFI's reserve account) after the close of business on settlement day. The Federal Reserve interprets finality for ACH credits as when the credit union posts the transactions to its reserve account, which can be as late as just prior to the opening of business on the day following settlement.

If the ODFI fails before or during the day of settlement, the Federal Reserve may reverse ACH credit transactions originated by the ODFI and settling on that day. Usually, when the RDFI receives credits, the Federal Reserve credits the receiver's account on the settlement day leaving the credit union open to risk if the ODFI fails and the Federal Reserve reverses the entries. The RDFI's exposure extends only to the amount of funds it made available before settlement is final. If it reverses the transaction, the RDFI will debit the member's account that it previously had credited. The RDFI runs the risk that the receiver's bankruptcy or failure will prevent it from recovering these funds.

RDFIs face operational risks related to ACH credits. Most liability centers on promptly posting the credits. RDFIs may expose themselves to legal costs and civil penalties when they fail to comply with these posting deadlines. Therefore, credit unions acting as RDFIs must comply with the rules governing ACH transactions.

- ACH Debits. The RDFI's operational risk in processing ACH debits lies in deciding whether or not to return an ACH debit by its ACH operator's deposit deadline, so the ODFI has the return entry available no later than the opening of business on the second banking day following the settlement date of the original entry. However, deadlines for unauthorized debits, and instances where authorization has been revoked, allow up to sixty days for a return. RDFIs that fail to meet these return timeframes may experience a loss if the ODFI dishonors the return as untimely.

  Credit unions can control this risk by automatically returning ACH transactions for insufficient funds. However, some credit unions may choose to assume some credit risk in processing

ACH debits by allowing an ACH debit to post, even if it overdraws the receiver's account. While some credit unions may allow this as a common practice (similar to allowing members to overdraw their checking accounts), the examiner should determine whether or not the credit union has implemented adequate controls and monitoring procedures.

Operational Risk

Operational risk, which varies with the type of processing, is the danger that an unintentional error will alter or delay a transaction. Examiners should determine that the credit union has implemented necessary controls to limit this risk. Following are examples of operational risks and the necessary controls that credit unions must have in place to protect against them:

- Hardware failure. Management reduces this risk through reliable equipment, regular maintenance, responsive service personnel, and adequate backup (including addressing hardware substitution or replacement in the credit union's disaster recovery plan.)

- Software failure. Management limits this risk by adequately testing the vendor's or service provider's software before relying on it for processing. Credit unions 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.)

- Data loss. Management can reduce this risk by implementing the following controls:

  - Storing data securely. Management must protect electronic files against unauthorized or inadvertent change by using file security techniques and must keep hard copy records in locked storage;
  - Limiting access to data to authorized personnel;
  - Duplicating, backing up, and storing data offsite to protect against data loss or destruction;
  - Establishing and maintaining audit trails of all transactions and changes;

  - Accounting for all files to ensure that staff (1) only processes current files, and (2) does not inadvertently duplicate or omit a file from processing; and
  - Balancing file totals during processing to ensure that staff does not drop, change, or duplicate transactions.

- Telecommunications failure. Management can limit this risk by (1) maintaining telecommunications equipment (lines, modems, authentication or encryption devices, etc.) in working order; (2) physically protecting the equipment; and (3) developing diagnostic tools and backup modes of transmission in the event of a problem.

- Power failure. Management can reduce this risk by obtaining an uninterruptible power supply system to remove spikes and transients from public power and provide auxiliary power during a blackout. Additionally, management should arrange for a generator to handle longer-term power failures.

- Human error. Management can reduce this risk through (1) good supervision, (2) detailed operating procedures, (3) effective training, (4) periodic internal and external audits, (5) monitoring file and dollar controls, and (6) adequate audit trails.

- Staffing problems. Management can reduce the risk of problems resulting from absences, turnover, work stoppages, etc., which vary with the size of the credit union, by emphasizing cross training and good supervision. Staffing problems in small credit unions often result from only one or two people knowing the process. In very large credit unions, the specialized nature of each activity enables few people to know the overall process.

- Natural disasters. Management cannot control this broad category of operational risk, which includes disasters such as earthquake, flood, and fire. However, management must develop and test disaster recovery plans to identify alternate modes of operations and alternate operating sites and to ensure that operations will continue should a disaster occur.

Fraud Risk

Fraud risk is the danger that an employee or interlopers who gain unauthorized access to the system will initiate or alter a payment transaction in an attempt to misdirect or misappropriate funds.

Examiners should review for adequacy the credit union's controls, which should include the following:

- Personnel practices. Management must write personnel policies that enhance internal controls within the ACH operation.

- Physical security. Management must (1) limit access to computer and communications equipment sites to authorized personnel, (2) protect sensitive equipment within the secured area using access controls or device locks, and (3) secure and limit access to all data on portable media (tapes, disks, hard copies, microfiche, etc.)

- Data security and integrity. Management should (1) purchase commercially available software products to access production data files; (2) limit access to specified programs or user IDs by setting up each file for read-only or read-and-write access; and (3) employ encryption, authentication, and dial back data protection techniques when accessing data-in-transit from one participant to another.

  Both the 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 authorized personnel enters into a security program or system. The assignment, distribution, and control of encryption or authentication keys represent important data security controls.

- Software and data changes controls. Management must maintain detailed written development and change policies.

- Access restriction. Management must restrict access on software products using (1) operator passwords to prohibit entry by unauthorized personnel; (2) automatic features to control the number of unsuccessful password attempts, password expiration, or designated periods of inactivity; (3) multilevel 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 (4) system administration level procedures that require secondary approval to assign, initiate, and maintain passwords.

- Processing dollar and file limit controls. Management must require use and enforcement of exposure limits (1) at the time of entry, batch, or file creation; (2) at the time of transmission; or (3) both (1) and (2.)

- Operational controls. Management must require procedures to implement the following operational controls:

  - 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;

  - Dollar controls to (1) confirm dollar totals at each step in ACH processing, and (2) help ensure in-balance ACH files, accurately posted accounts, and properly settled ACHs;

  - Date controls (file creation date, effective entry date, and settlement date) to monitor that staff processes the files within the time frames established by the various regulations;

  - 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;

  - 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;

  - Reconciliation of the actual entries on the Federal Reserve Statement of Account or similar statement from a correspondent financial institution to verify that the ACH work settled as anticipated. Proper segregation of duties requires that

the staff member responsible for reconciling ACH transactions should not be otherwise involved in the ACH processing; and

- Internal audits of the ACH process. NACHA rules require each financial institution to complete an internal audit of its ACH operations at least once every year (a copy of which the credit union must retain 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 is the danger that the inability of one funds transfer system participant to settle its commitments prevents other participants from settling their commitments. Systemic risk is closely related to credit risk. While a fraudulent or erroneous transaction could constitute a source of systemic risk, a participant's failure would more likely trigger a major settlement failure.

The likelihood of systemic risk varies greatly among payment systems. A connection exists 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.

A small threat of systemic risk relates to ACH transactions, because a far less average dollar value exists for ACH transactions than for FEDWIRE or CHIPS. Rarely does a financial institution's position with respect to gross ACH settlement approach its capital level. A financial institution's position on the FEDWIRE or CHIPS network will more likely exceed its capital.

Third-Party Risk

Third-party processors include data processing service bureaus, financial institutions, or other organizations that provide ACH processing services for credit unions. Examiners should understand the risks and concerns present when a credit union uses a third-party processor and should determine that the credit union has current, detailed agreements in place that fix responsibility and accountability between the parties. Third-party risks are as follows:

- Allowing a corporate member to send files directly to the ACH operator. A credit union, acting as an ODFI, that allows a corporate member (originator) direct access to its ACH operator exposes itself to credit, fraud, and operational risk. The credit union warrants the validity of the transactions sight unseen and bears ultimate responsibility for the transactions. If the corporation fails or transmits fraudulent or erroneous entries, the credit union bears responsibility for the corporation's actions.

- Using a correspondent DFI for processing and/or settlement. A correspondent bank or corporate credit union provides processing and/or settlement services to the credit union acting as an ODFI. This situation exposes the credit union to credit, operational, and fraud risk because the correspondent could make a mistake or fail to process or settle its transactions.

- Using a correspondent DFI or data processing organization for ACH processing only (not settlement.) A credit union acting as an ODFI is exposed only to the risk that the third party will make a mistake or error. In this situation, the credit union faces only fraud and operational risk with respect to the third-party processor.

ACH Risk Management Handbook and Self-Audit Survival Guide

NACHA publishes a comprehensive guide called the *ACH Risk Management Handbook*, which further details the ACH risk issues and control procedures discussed in this appendix. Additionally, NACHA publishes a self-audit survival guide for financial institutions that anticipate conducting or have conducted audits of its compliance with the ACH operating rules. These required annual audits assist the credit union in assessing its risk regarding its wire transfer activities and compliance responsibilities. The examiner should ask the credit union if it has completed this audit and if it has obtained the results of each third-party processor's annual ACH self-audit. The credit union can obtain both publications by writing or calling NACHA at National Automated Clearing House Association, 607 Herndon Parkway, Suite 200, Herndon, Virginia 22070, telephone: (703) 742-9190.

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ITEM PROCESSING - APPENDIX 9C

Overview

Item processing is the internal processing of share drafts or checks by the credit union. The three basic types of item processing are in-clearings, transit items, and inter-clearing arrangements, defined below. Item processing results in settlement (payment or collection) through the Federal Reserve Bank (FRB) or a correspondent bank and posting of transactions to the member's account. Many larger credit unions are developing in-house item processing to reduce the costs of external check processing. Services are also available in corporate credit unions, credit union service organizations (CUSOs), banks, and national or regional check-processing service centers.

Third-Party Item Processing

Many third-party institutions have a contractual arrangement with the credit union whereby the credit union pre-funds processing activities by placing and maintaining a deposit at the institution. The required deposit relates to the credit union's average daily processing activity and, though it varies from institution to institution, may represent a substantial portion of the credit union's assets. When the deposit exceeds the insured limit (if applicable), the credit union is at risk for this excess in the event that the third-party institution fails.

Credit unions using third-party institutions for item processing must institute policies and procedures to minimize the potential risk of loss. Additionally, credit unions must exercise due diligence, both before entering into a contract with a third-party institution and periodically thereafter. At a minimum, credit unions should:

- Contact several processors. By reviewing the financial statements, the most recent audit report, and other pertinent reports or correspondence, the credit union can assess the financial condition of each institution before entering into a contract.

- Review contract terms and conditions. The credit union and its legal counsel should carefully review the terms and conditions of each institution's contract.

- Assess periodically the financial condition of the institution. On an ongoing basis, credit unions should review the institution's financial statements, peer group ratios and rankings, and audit reports at least annually, paying particular attention to capital and profitability ratios.

- Change processors, if necessary. If the financial stability of the institution becomes questionable, the credit union should consider changing to another institution. The credit union must consider issues such as the cost of changing processors and the terms of the contract. Credit unions can considerably reduce the cost of changing processors if they use their own routing and transit number on share drafts (payable-at method) rather than using the routing and transit number of the payable-through bank (payable-through method.) Credit unions using their own routing and transit number need not reissue new share drafts if they change processors. Before selecting the payable-at method, officials should discuss this option with individual processors. The terms, conditions, and level of credit union responsibility for a routing and transit program vary from processor to processor.

Share Draft In-Clearings

Some credit unions process their own checks. After a member writes a share draft to pay a bill, the merchant or vendor deposits the share draft in the local bank. The bank encodes (with the bank's routing and transit number on the drafts) the deposit and sends the share draft to the FRB. The FRB processes the draft, credits the local bank's account, and charges the credit union's account. The FRB then sends the share drafts to the credit union by courier.

The credit union sorts and microfilms the drafts and posts the in-clearings to the members' draft accounts. The next morning, a share draft exception report identifies accounts with insufficient funds. The credit union pulls returns and sends them to the FRB for return to the local bank. The bank charges the vendor's account.

Deposit Processing

Some credit unions process in-house check deposits for credit to members' accounts. The credit union takes the day's deposits, encodes the checks with the credit union's routing and transit number,

processes them, and sends them to the FRB for credit to the credit union's account.

Local Clearing House Arrangements

A group of banks or other financial institutions in a defined geographical area may form a local clearing association to directly process their checks.

A member writes a share draft and the payee deposits it at the local bank. After processing, the local bank sends the checks and a cash letter by courier directly to the credit union. The credit union processes the checks, confirms the payment amounts on the cash letter, and posts the amounts to the members' share draft accounts. The credit union then pays the local bank (usually by FEDLINE wire).

The credit union then sorts the members' local checks deposited at the credit union according to bank, and sends each participating bank a cash letter and a bundle of checks issued by that bank with a demand for payment. The bank processes the checks and wires settlement to the credit union.

Examination Concerns

Item processing involves substantial risk. Deficiencies in the internal controls, such as failure to process items promptly or correctly, could result in significant losses.

When examining credit unions involved in item processing, the examiner should (1) evaluate management control of operations, (2) determine the risks to the credit union, and (3) ensure that the credit union has instituted policies and procedures to minimize the potential risk of loss. Individual item processing operations will vary; however, all operations require necessary management and internal controls.

The examiner should develop an understanding of the credit union's item processing operation. At a minimum, the examiner should review policies and procedures and understand the flow of items through the entire system. This understanding comes through discussions with management and system demonstrations. The examiner should also determine that the credit union accurately and promptly posts all

general ledger accounts used in the process and promptly clears exceptions.

If deficiencies exist, the examiner should expand the scope of the review (after obtaining the supervisory examiner's concurrence), which may require additional examiner staff with item processing expertise.

Business Plan, Budget, Cost Analysis, and Profitability

Before establishing an item processing operation, credit union management must develop a business plan, including a budget that identifies the item processing services offered, and the resources needed to support the service. After developing and analyzing the business plan, the credit union may find that it cannot afford to maintain an item processing operation. The business plan requires periodic revision once the item processing department is operational. The business plan should document:

- The costs and revenue projections associated with an item processing department and the accounting system used;
- The overall effect of the processing operation on the credit union's financial performance;
- Identified risks and internal controls necessary to manage those risks;
- Department structure including staffing and management needs;
- System configurations including hardware and software needs;
- Training, both initial and on-going, for management and staff; and
- Disaster recovery, including testing.

Equipment and Software Requirements

An item processing operation requires a significant investment in hardware and software. A sorter performs sorting, microfilming or imaging, return pulling, data accumulation, and data transmission functions.

A credit union that processes its own checks transmits applicable data to its own information processing system for posting to its members' accounts. A credit union that processes for other credit unions establishes systems to electronically transmit the data to the other credit unions' computer systems for posting.

Other equipment needed includes reject/reentry stations, encoding stations, correspondence desks (positions for resolving and researching differences), check storage areas onsite and offsite, microfilming duplicating services, microfilm machines, and computer terminals.

The credit union must maintain adequate physical access controls and segregation for the item processing equipment, computer controller, storage areas, and different work areas. Climatic controls, fire control equipment, and security controls are examples of other hardware needed.

Staffing Requirements

An item processing operation requires staff with specific experience and training in item processing. Often credit unions recruit staff from the larger banks, corporate credit unions, and service centers. Sufficient internal controls, adequate separation of duties, and corresponding authority on the computer are important for operations of all sizes.

Microfilming and Data Backup

Item processing operations rely heavily on microfilm or electronic imaging. Cash letter differences, other adjustments, and disputes (from members, banks, or FRB) require the evidence that microfilming or imaging provides. The credit union must have controls in place to safeguard the microfilm or image files and ensure readability. The credit union must backup processing data from the sorter and controller daily and must maintain adequate generations both onsite and offsite. (Credit unions must maintain at least two full copies of the microfilm or image files offsite.)

Policies and Procedures

Sound policies control item processing risks, operations, and management. Management must review operations to ensure compliance with policy.

Management must also develop detailed procedures for all item processing positions. These procedures should document required functions, deadlines, internal control steps, and policy requirements.

The board should establish a write-off policy. Management can authorize staff to write off small differences (e.g., those under $1.) Larger write offs should require documentation supporting the write off and management authorization.

Internal Control and Review of Operations

Management must establish internal controls for item processing that include adequate separation of duties, active account reconciliation, and prompt clearing of differences.

The following duties must be separated: reject reentry, return processing, correspondent services (research and clearing of adjustments and differences), Federal Reserve account reconcilements, cash balance management, and review of documentation supporting reconciliation and clearing differences. Cash letter totals must reconcile to transmission totals, and staff must identify and promptly clear any differences.

An independent staff member should review documentation for adjustments of uncleared items. Management should closely control and separate return processing and reject reentry functions from the check processing function. Additionally, staff must reconcile both transmission totals (electronic posting to member accounts) and reconcilement of processing and transmission totals to the FRB account daily.

The item processing operation could involve three computer systems: (1) check processor, (2) general ledger and share and loan trial balance system, and (3) the computer that interfaces the check processor with the general ledger and share and loan trial balance system. The internal control plan must correspond to the plan for appropriate segregation of duties.

Internal Control Review of Accounting

The review of accounting should begin after the examiner obtains a basic understanding of how the system processes, posts, and settles transactions. After performing a test of the FRB account reconciliation and all clearing and suspense accounts, the examiner should then trace all reconciling items for the period tested through to clearing on the statement or to independent source documents.

Legal Agreements

The examiner should review the legal agreements established by the credit union in the following areas:

- Line-of-credit agreements for credit unions that process checks and deposits for other credit unions, transmit posting data to other credit unions, and receive debits or credits at their FRB (or correspondent bank) on their routing and transit number. Settlement lines of credit cover check clearing settlement if the other credit union's account balance is insufficient to cover clearings;
- A disaster recovery plan that includes agreements for alternate site processing and equipment use;
- Vendor agreements outlining responsibility for software and hardware maintenance and support;
- Agreements with the FRB (or other correspondent bank) and hardware and communication vendors for funds settlement and electronic transmission activity; and
- Any other material agreements needed to support the item processing operation.

Disaster Recovery Plan

The examiner should review management's disaster recovery plan to ensure that it enables the credit union to recover from difficulties that could interrupt the item processing operation. Recovery systems should include:

- Staff knowledge about the disaster recovery plan;
- An alternate processing location;
- Offsite maintenance of a copy of the disaster recovery plan;
- Duplicate equipment, either purchased or rented, sufficient to operate the item processing center; and
- A regular review process of the disaster recovery plan to ensure the plan is current and viable.

The credit union should perform full periodic testing of the disaster recovery plan as it relates to the item processing operation originating from alternate site equipment and different system configurations.

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Chapter 10

LOANS

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Chapter 10 – Part 1

LOANS – GENERAL LOAN REVIEW

Examination Objectives

- Evaluate management's ability to identify and manage risk
- Evaluate the quality of the loan portfolio and the extent of related risks in lending activities
- Evaluate whether management has established adequate lending standards and maintains proper controls over the program
- Determine whether management adequately plans for all lending programs, committing the necessary resources in terms of technology and skilled personnel
- Assess whether the credit union has the financial capacity to conduct lending safely, without undue concentration of credit and without overextending capital resources
- Analyze the loan portfolio's performance, including profitability, delinquency, and losses
- Consider management's response to adverse performance trends, such as higher than expected delinquencies, charge-offs, and expenses
- Determine if the credit union's compliance program effectively manages the fair lending and consumer protection compliance risks
- Determine whether management has implemented an effective internal loan grading system (if applicable) to identify credit risk

Associated Risks

- Credit risk. Credit risk, which involves the ability of the member to repay the obligation, affects all types of loans. Loans with a guarantee (student, VA, SBA, FHA, NCUA purchase) contain a lesser degree of credit risk.

- Compliance risk. Each loan type has various degrees of compliance risk. Various NCUA regulations, state laws, and federal consumer compliance laws apply to both consumer loans and real estate loans. Failure to comply with these laws and regulations exposes the credit union to fines, civil money penalties, and diminished reputation.

- Interest rate risk. Interest rate risk increases as the terms of the loans extend. Monitoring this risk involves a large segment of a credit union's asset-liability management (ALM) program. Credit unions engaging in real estate lending should recognize that changes in interest rates affect the fair value of their balance sheet. Variable-rate loans also can experience interest rate risk since they may contain lifetime and periodic "caps" that limit the credit union's ability to increase (reprice) loan rates.

- Strategic risk. Strategic risk appears in the diversification of loans offered to members. Management's due diligence in the planning effort before implementing new loan programs will greatly affect the amount of this risk. A well-established program should have less risk than a proposed or newly instituted program.

- Transaction risk. Numerous transaction risks accompany lending. The strength of the credit union's internal controls will determine the extent of the risk. Management may demonstrate their control of transaction risk through reviewing internal reports such as Paid Ahead Loans, Non-Amortizing Loans, File Maintenance, Supervisory Override, Accrued Interest Greater than Payment, etc. Appendix 4B to the Internal Controls chapter of this Guide discusses other specific loan-related reports.

- Liquidity risk. The success of any lending program determines the level and type of liquidity risk involved. Credit unions engaging in real estate lending should evaluate and understand the variability of mortgage cash flows and the corresponding effect on its balance sheet. When interest rates fall, mortgage cash flows increase; conversely, when interest rates rise, mortgage cash flows decrease. This could result in a credit union having either too much or too little liquidity. To control liquidity risk, management must understand the interrelationships of interest rates, mortgage cash flows, prepayment risk, extension risk, and the effect on the fair value of its assets.

- Reputation risk. Lending and the types of loan programs offered greatly affect reputation risk. Collection efforts, or lack of them, influence the members' perception of the credit union, as do lending personnel and how they deal with the public. If the credit

union has an indirect dealer loan program, the reputation of the dealer can affect the reputation of the credit union and the program.

Overview

A credit union usually derives its primary source of income, as well as a major source of risk to its solvency, from its loan portfolio. Therefore, credit unions support this major asset account with sound business planning, policies, and internal controls.

Examination Guidelines

Examiners should try to obtain either an AIRES loan download or an ASCII formatted download file. Examiners should use their best judgment in considering whether, and to what extent, to review a particular portfolio. When examiners identify material concerns during the scope process, they should expand procedures to identify the cause of the problems, determine the severity of the noted problems, and devise plans for corrective action.

If examiners determine the analysis of the risk areas noted in the Scope Workbook warrants a loan review, they can use the AIRES Loan Review or a self-designed workpaper to document their review. The loan review may include any or all of the following, based on the examiner's judgment:

- Charged off loans. Examiners should scan the charged off list for unusual activity and review basic internal controls (board approval, proper accounting, assignment to a collection agency, etc.) They may expand their scope to review individual loans charged off to determine the extent of the problem and to develop plans for resolution. Examiners should encourage the credit union to perform an ongoing analysis of charged off loans to determine common characteristics, or loss trends by loan type for ALLL analysis.

- Delinquent loans. Examiners should scan the delinquent loan list for unusual activity and review basic internal controls (consistent and timely collection efforts and charge off.) Reviewing larger and more recently granted loans may prove beneficial in correlating underlying problems of the delinquent loans with those of the current loan portfolio. Examiners should consider reviewing loans

that were seriously delinquent at the previous examination to assess their disposition.

- Current loans. Examiners should select a random sample of current loans to review for adherence to policies and regulations, as well as documentation, and underwriting quality.

- Insider loans. Examiners may select a sample of loans made since the last examination to officials, credit union employees, and their immediate family members.

- Large loans and concentrations of credit. Examiners should select samples of large loans and concentrations of credit. In a credit union with numerous routine mortgage loans, examiners may review a sample of non-routine large loans.

- Member business loans and construction loans. Examiners should select samples of member business and construction loans. Examiners should document the status of the member business loan portfolio if the member business loans exceed the regulatory limits of §723.16 of the *NCUA Rules and Regulations*, the credit union has received an exception from these regulatory limits (§723.17), or the credit union has received a waiver for a category of loans (§723.10.)

- Other loan categories. Examiners may select a sample of loans from the following categories, if they exist:

New programs	Line of credit
Real estate	Home equity
Insured-Guaranteed	Credit card
Participation	Agricultural
Floor plan	Paid-ahead
Open end	SBA
Risk-based	Lease
Non-amortizing loans	Repossessions
Foreclosures	Paperless loan systems
Indirect dealer financing program	

With an AIRES download, examiners can use standard or customized loan queries to pull specific loans meeting defined characteristics.

Part 2 of this chapter discusses delinquent loan control. Appendix 10A discusses the various loan types. Appendix 10B contains a glossary of loan terms and Appendix 10C contains specific financial ratios to analyze member business loans. Appendix 10D contains sample Indirect Dealer Financing Program (IDFP) agreements. Appendix 10E contains a documentation checklist for real estate loans.

Loan Documents

Credit unions must require adequate loan documentation for all loans. Weak documentation practices could adversely affect the ability to successfully collect the loans in a litigation action, and could lower the value of loans in merging or liquidating credit unions.

Adequate loan documentation includes the following:

- A completed loan application along with documented approval;
- Documented creditworthiness analysis including:
  - Verification of income;
  - Credit reports; and,
  - Debt ratio or disposable income analysis;
- Evidence of collateral value (e.g., purchase invoice, appraisals);
- Loan officer worksheets and notes;
- A completed note or security agreement; and
- A perfected collateral lien and adequate insurance.

Loan Exceptions

Through a review of the individual loan files, the examiner identifies as loan exceptions (1) documentation deficiencies, (2) loan processing exceptions, (3) violations of the *FCU Act* or *NCUA Rules and Regulations,* (4) violations of the credit union's lending policies, (5) violations of consumer compliance regulations, and (6) deficient credit practices. Examiners may use AIRES Loan Exceptions, or a self-designed workpaper, to detail their exception comments on the loan review.

When loans are missing from the files, and staff cannot locate the documents, examiners should provide the supervisory committee with a list of missing loans. Examiners should obtain an agreement that the supervisory committee will promptly contact the borrowers to confirm the loan's authenticity.

Examiners should treat chronic loan documentation and loan quality problems (e.g., the lack of establishing the creditworthiness of borrowers, recording titles, liens, UCC filings, obtaining real estate appraisals, verifying income, etc.) as a major area of concern.

Impermissible Loans

Loans made in violation of the *FCU Act* or *NCUA Rules and Regulations* are impermissible. Examiners should document these violations as loan exceptions, provide guidance to the officials regarding their responsibilities in connection with the violations, and make appropriate recommendations for corrective action. When examiners review only a portion of the loans, they should instruct the officials to review all similar loans for possible violations.

If the credit union made intentional or material impermissible loan disbursements, the board of directors must notify surety and request assurance that bond coverage will continue. The credit union must call the impermissible loan disbursement, unless the credit union made the loan to a "good faith" borrower. Since credit unions cannot legally compel good faith borrowers to return the money in terms other than those found in the original loan agreement, the credit union must honor the terms of the loan. If the credit union does not renegotiate or correct the loan and a loss occurs, the credit union should file a bond claim with surety for the balance of the impermissible disbursement.

The supervisory committee should determine the board has taken appropriate action to address impermissible loans and to file a claim or protect the right to file a claim with the surety company. The examiner should make certain the committee members, as well as directors and appropriate employees, familiarize themselves with their exact duties regarding impermissible loans.

Loan Programs and Policies

Section 701.21(c)(2) of the *NCUA Rules and Regulations* and sound business practices require that credit unions develop written loan policies. The following financial considerations apply:

- Member needs. Each credit union serves a different field of membership with somewhat differing needs. Credit unions should consider this when developing their loan policies;

- Availability of funds. Credit unions should consider sources for their funding of loans;

- Competition. A credit union should price its loans competitively by remaining aware of the rates national and local lenders offer their members and customers;

- Cash flow. Credit unions must tie their loan policies into their overall funds management program and must provide for cash flow, as well as, profitable return. As such, they should carefully weigh single payment loans and balloon notes in terms of the likelihood of repayment and the negative effect on liquidity. Credit unions should also exercise care in establishing a real estate loan program in which repayment terms of 15 years or more can affect cash flow and income, particularly if real estate loans make up a large portion of the loan portfolio; and

- Pricing. Credit unions should establish and continuously monitor their loan rates to ensure an adequate spread for the cost of funds, operating expenses, reserve requirements, and profitability goals. Other pricing considerations include market competition, loan demand, and asset liability management strategies.

The following credit evaluation considerations apply:

- Adequate borrower information. Credit unions should obtain complete credit information on borrowers. A complete and accurate application enables the credit committee or loan officer to assess the applicant's willingness and ability to repay. This information also helps the collection staff, if needed.

- Completed loan application. The loan application should document the applicants' income source and stability, as well as their current obligations. Staff can better determine the applicant's "capacity to repay" by verifying the monthly obligations through credit reports, and reported income using one of the following:

    - A copy of a recent pay stub. This will verify employment, as well as income. The loan processor should review hourly

wages, salary, or year-to-date income, as stated on the pay stub. They should also alert themselves to any wage garnishments;

- A documented phone contact or written verification to the employer or credit union sponsor (the sponsor may have income information or pay scale based on position and length of service);

- A complete copy of the most recent signed tax return or independently prepared and audited financial statement, for self-employed borrowers. By obtaining two years' tax returns, the credit union can develop a trend analysis to better analyze self-employed borrowers' cash flows and income levels over time; and

- A copy of the lease or rental agreement, tax return, or pay stub, when the applicant lists "other income" (e.g., rental, investment, or second job.)

Many credit unions with stable fields of membership and one primary sponsor may know their borrowers' relative income levels and past payment histories. Examiners should consider such factors in conjunction with loan loss and delinquency levels when evaluating the issue of income verification. Many competing lenders do not verify income. Competition and member service could override documentation considerations in credit unions with good lending performance.

- Terms of repayment. Credit unions should base loan repayment terms on the purpose of the loan, the collateral, and policy constraints. The terms also must coincide with the provisions of the *FCU Act* and *NCUA Rules and Regulations*.

- Collateral. The principles regarding collateral and the actions required by the officials when accepting collateral for various types of loans include:

  - Sufficient equity in the collateral to diminish the applicants' willingness to lose their investment;

  - Repayment schedules that reduce the loan balance as the collateral depreciates;
  - Collateral that can readily convert to cash; and
  - Collateral that has a known value. For some types of collateral, such as vehicles, the credit union can determine the value from publications designed for that purpose. Other types of collateral, such as boats and real property, should have a written assessment or appraisal to document value.

- Extension agreements and refinanced loans. The principles of credit also apply to extension agreements and refinanced loans. Credit unions should not use them as devices to cover up delinquency problems. Generally, once a member with a previously unsatisfactory repayment history has demonstrated the ability to make three to six consecutive monthly scheduled payments without added collection work, the credit union may consider extending or refinancing that member's delinquent loan. The credit union should have a written extension policy and the ability to identify or track the performance of delinquent loans it extends or refinances.

- Chattel lien instruments. Management decides whether a credit union files chattel lien instruments or purchases chattel lien non-filing insurance. It is management's responsibility to protect the credit union and comply with the provisions of state and local laws.

Lending Practices

Examiners may evaluate lending practices by reviewing policies, board minutes, credit committee/loan officer minutes, and the loan files. When assessing practices, the examiner determines the following:

- The board establishes reasonable written policies to manage delinquency and loan losses;
- The credit committee or loan officers act within their written authority;
- The board establishes realistic loan limits and pricing, to the extent of available funds;
- The board establishes reasonable collateral requirements that provide adequate protection to the credit union; and

- The board establishes written policies implementing an internal loan review and grading system (if applicable) to identify credit risk in the loan portfolio.

Credit Report Analysis

Most credit unions use credit reports when evaluating a borrower's creditworthiness. Occasionally, small credit unions use oral credit reports but these can result in misinterpretation. Credit unions must keep documentation of the oral credit report in the borrower's loan file.

Credit reports help determine the applicant's "character" and verify outstanding debts. Credit unions should place a strong reliance on the credit report and the member's payment history. A poor repayment history and adverse credit report provide strong indications of whether the member will repay the credit union. In general, credit unions should pull a new credit report if the most recent credit report is more than twelve months old.

When reviewing credit reports, loan officers should determine that:

- Borrowers have listed all their debts on the application. Reconciling the credit report to the application can identify debts not listed. Credit reports do not include debts to institutions that do not report to the credit bureau (e.g., some small credit unions, sub-prime lenders.) To determine the member's "capacity to repay," staff should consider all the obligations including the new loan.

- The credit ratings indicate a good, slow, or poor past payment history. Some credit reporting agencies (Experian, Equifax, and Trans Union) quantify payment histories into risk scores. The risk scores indicate the probability of loan default and the member's probability of filing for bankruptcy in the future. If credit unions use a risk score rating system as part of their loan underwriting process, they should understand the system well enough to explain it.

- Excessive numbers of inquiries over the past year (which may indicate financial problems or excessive pending new credit) are explained.

The credit union should not automatically deny a loan because of a member's adverse credit history. A member having experienced a layoff or serious medical condition could have a poor prior record. If the credit union approves a loan to a member with an adverse credit history, the credit union should adequately document the reasons for the approval and show the member has resolved the reasons for the adverse ratings.

Members can have problems "below the surface" even if all ratings show positive. Many revolving lines of credit at or near the maximum limits can signal potential over extension or "pyramiding." Reviews of bankruptcies indicate many members were current prior to filing bankruptcy. Comparing past credit reports to present credit reports can identify pyramiding debt. Characteristics of pyramiding debt include:

- Using new credit to pay old debt, especially the use of unsecured credit to consolidate credit card debt;
- Escalating debt outpaces income; and
- Increasing numbers of recent credit report inquiries, which can indicate either lender denials or unreported new debt, as some lenders report inquiries but do not report new loans.

Capacity to Repay

A major consideration in granting loans is the analysis of the member's capacity to repay. Calculation of a debt ratio (monthly obligations to income) remains a standard method of analyzing the ability to repay.

Credit unions must also consider the member's level of income when making loan decisions. For example, members with higher levels of income can often handle higher debt ratios. This type of review, referred to as a Net Disposable Income Analysis, can help determine the members' capacity to repay. All loans granted to members with limited capacity to repay should have an overriding reason noted in the file.

Credit Scoring

Credit scoring systems attempt to statistically predict the likelihood of a member defaulting on a loan. Regulation B requires statistically derived and empirically sound credit scoring. Fair, Isaac and Company,

Incorporated, a financial service organization, pioneered credit scoring and provides many of today's credit scoring tools. Other sources of credit scoring include a credit union's custom model or a score obtained from one of several credit reporting agencies. Credit reporting agencies also offer preapproval screenings based on "canned" prescreens or individually developed queries. In general, credit unions outsource the development of a credit-scoring model to minimize costs, while taking advantage of the marketplace expertise.

Advantages of credit scoring include (1) quick loan turnaround, (2) consistency in lending, and (3) basis for risk pricing. Many credit unions use credit-scoring models to market loan products, such as pre-approved auto and credit card loans. Credit scoring allows these credit unions to send out pre-approved mass mailings to targeted groups. Credit unions use credit scoring as the basis either for loan decisions or as a loan officer's tool in a judgmental loan decision. Credit unions manage the volume of loans and level of risk assumed by setting credit score ranges loans must meet.

When a credit union uses credit scoring, loan policies and procedures must outline how the credit union will do the following:

- Apply them consistently;
- Validate them. At a minimum, the credit union should test and validate the credit scoring model at least every two years; and
- Track their results. For example, if unexpected delinquency results from credit scoring, the credit union should consider modifying the underlying parameters of the scoring model.

Some credit unions contract with third parties to perform credit scoring. The contract must set forth the responsibilities of the parties, including who assumes responsibility for ensuring that the credit scoring meets applicable regulations. The credit union should ensure that:

- Staff receive adequate training and understand the credit-scoring model. Loan officers should understand the system, its components, and its limitations;

- Management obtained a written legal opinion that states the credit union has met all applicable regulations and has adequately protected itself;
- Management tracks credit scored loans and recalibrates the credit scoring model when necessary; and
- Indirect lenders can only authorize approval for loans to members. The third party contract must exclude loans to non-members.

Paperless Lending

Credit unions constantly search for ways to deliver services more efficiently to members. Credit unions have systems to take loan applications via audio response systems, fax, and the Internet. Often, credit unions using these paperless systems order credit reports and compare the application information entered by the member with that on the credit report. Simple logic programs analyze the member's debt ratio, credit history, disposable income, etc., and either approve the loan request, or refer it to the staff for further action. Some systems may even complete and disburse the loan electronically.

Examiner Guidance

When reviewing a paperless loan system, the examiner should determine the credit union addressed the following areas:

- Data integrity. Credit unions must secure application information collected by the system, protect it from access by unauthorized parties, and provide it in a form that users can readily access;

- Regulatory compliance. The application should comply with applicable consumer regulations (e.g., give the member the opportunity to apply for the loan individually or jointly, properly address community property issues, and meet *Equal Credit Opportunity Act* (ECOA) criteria.) Further, the credit union should have an attorney's opinion stating that the paperless application constitutes a legal loan application;

- Collectibility. If the system completes and disburses the loan, the credit union should retain an attorney's opinion stating that the loan represents an enforceable debt or security interest and addresses the ECOA issues as to enforceability against co-applicants, co-makers, or guarantors;

- Internal Controls. The credit union must maintain a record of all loans approved or referred by the system. Loan officers (or the credit committee) must properly act upon system-approved and referred loans. The internal control manager, assigned staff person, or outside auditor, who has no involvement in lending, should review this record and management's documented inspection to affirm the credit union makes no unauthorized loans; and,

- Documentation. Examiners should review the adequacy of the documentation and disclosures the paperless loan system generates for the credit union and the member. Some systems may only generate an information summary showing the data entered by the member. Credit unions may compensate by taking a master application before allowing a member to use the "paperless loan" system, in order to meet application disclosure requirements.

Risk-Based Lending

NCUA Letter to Credit Unions 99-CU-5 and 174 address risk-based lending. Risk-based lending involves setting a tiered-pricing structure that assigns loan rates based on an individual's credit risk. Profitable risk-based lending requires the surcharge rates charged by the credit union cover the loan loss rates and overhead costs related to underwriting, servicing, and collecting these loans. Credit unions that cannot justify and support pricing differences based on risk will face heightened compliance and reputation risks if pricing decisions appear to result in disparate treatment under consumer protection regulations (e.g., ECOA.)

Credit unions that engage in risk-based lending should have in place:

- Strategic and business plans that acknowledge the additional inherent risks and provide for the necessary resources, including specialized management and staff expertise, to manage the risks;

- Policies and procedures approved by the board that define the parameters of the risks assumed and internal controls necessary to ensure acceptable portfolio quality;

- Information systems capable of providing monitoring information sufficient to analyze the results of underwriting, operations, and pricing decisions;

- Quality control systems that provide feedback on the adequacy of and adherence to underwriting, operating, pricing, and accounting guidelines;

- Compliance management programs that identify, monitor, and control consumer protection problems associated with risk-based lending; and,

- The level of net worth needed to support the additional risks incurred. Examiners may review the credit union's documentation of its method used to determine the amount of capital necessary, and may evaluate the overall capital adequacy on a case-by-case basis.

Large Loans and Concentrations

Examiners can often evaluate concentration risk by measuring concentrations as a percentage of total loans or total equity. (Smaller credit unions may find this more appropriate than larger credit unions.) Examiners may also find the pre-built queries in AIRES beneficial for identifying large loans and concentrations of credit. In both large and small credit unions, examiners may benefit from developing continuing workpapers for tracking large loans and concentrations of credit from one examination to the next.

AIRES

The AIRES Questionnaire workbook contains various loan questionnaires. These checklists further document the examiner's review of various loan types. Use of the questionnaires can also assist the examiner in reviewing unfamiliar loan types. Depending on the credit union's services offered, optional questionnaires may address controls in the following lending areas:

- Real Estate
- Line of Credit
- Leasing
- Indirect Lending

- Home Equity
- Credit Cards
- Construction
- Collections
- Adjustable Rate Mortgages
- Agricultural
- Member Business Loans

Workpapers and References

- AIRES Workpapers, Documents and Questionnaires
  - Review Considerations
    - Loan Analysis
    - Loan Exceptions Document
    - Loan Review
    - Key Ratios
    - Critical Loan Input
    - Real Estate Lending Controls
    - Adjustable Rate Mortgage Lending Controls
    - Construction Lending Controls
    - Business Lending Controls
    - Agricultural Lending Controls
    - Line of Credit Lending Controls
    - Credit Card Lending Controls
    - Automated Teller Machine Controls
    - Regulation M - Consumer Leasing
    - Regulation Z – Truth in Lending
    - Regulation Z – Variable Rate Loans
    - Allowance for Loan and Lease Losses Module
    - Manual Loan Classification

- References
  - *Federal Credit Union Act*
    - 107(5) – Authority to Make Loans
    - 107(11) – Statutory Liens
    - 107(13) – Purchase of Eligible Obligations
    - 114 – Credit Committee
  - *Federal Credit Union Bylaws*
    - Article IX – Credit Committee
    - Article XII – Loans to Members and Lines of Credit

- *NCUA Rules and Regulations*
  - 701.21 – Loans to Members and Lines of Credit to Members
  - 701.22 – Loan Participation
  - 701.23 – Purchase, Sale, and Pledge of Eligible Obligations
  - 702.402 – Full and Fair Disclosure Required
  - 722 – Appraisals
  - 723 – Member Business Loans
- *Accounting Manual for Federal Credit Unions*
- IRPS 83-3 – Financing Leases
- *Chartering and Field of Membership Manual*
- NCUA Letter No.119
- NCUA Letter No. 174
- NCUA Letter No.99-CU-5

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Chapter 10 – Part 2

LOANS – CREDIT RISK, DELINQUENCY, & CHARGE OFFS

Examination Objectives

- Determine the credit risk within the loan portfolio
- Determine if the credit union reports delinquency accurately and in a timely manner
- Determine if the credit union has appropriate and adequate collection policies and procedures
- Determine if the credit union makes appropriate and adequate collection efforts
- Determine if the credit union has implemented reasonable extension and refinancing policies and procedures
- Determine reasonableness of the charge-off policy

Associated Risks

- Credit risk occurs when the borrower cannot repay according to the terms of the loan;
- Liquidity risk occurs when the failure to collect problem loans affects available funding sources;
- Transaction risk occurs when delinquent loans are not properly aged; and
- Reputation risk occurs when delinquency or collection efforts (or lack thereof) affect the credit union's image.

Overview

Management's responsibility includes identifying and monitoring credit risk, delinquency, and charged-off loans on an ongoing basis.

Evaluating Credit Risk

There are two purposes for reviewing the loan portfolio:

- Assessing the level and direction of credit risk, and
- Determining the potential risk to the NCUSIF.

Adequate funding of the ALLL and/or low delinquency and loan loss ratios do not necessarily mean the credit union properly mitigates its credit risk. Credit unions should also have a quality control process by which they review the loan portfolio or components of the loan

portfolio to determine if risk factors exist that, if left unattended, could adversely affect the overall quality of the loan portfolio.

Examiners may review the credit union's quality control process. The goal is to ensure management can assess the risk in its portfolio and monitor potential future exposure. The credit union may prepare lists to monitor and assess delinquent loans, other problem credits, and special mention loans. The preparation and maintenance of these reports vary among credit unions and largely depend on the credit union's resources and sophistication. Tracking the information on these lists enables management to assess the performance of the loan portfolio and act to mitigate risk therein through changes in policies and/or procedures. If the credit union has an adequate process for evaluating credit risk, examiners need not perform a detailed review of the loan portfolio.

Other problem credits usually include past due loans, leases, and accounts receivable; however, they may also include non-delinquent loans of members experiencing a recent layoff, loans especially affected by a downturn in economic conditions, and loans that circumstances indicate may become delinquent in the near future.

Special mention loans usually include loans that require special monitoring by the credit union. These may include loans in new loan programs, loans the credit union officials chose to grant that fall outside the credit union's loan policy, loans for which the credit union has no prior experience, loans previously classified as problem credits, and any other loan that requires additional attention.

If the credit union does not have an adequate quality control review process, the examiner should review a sample of loans to assess the level and direction of credit risk. This may involve creating a list of loans that exhibit specific risk characteristics, to review from one examination to the next. The Query Report Loan Watch List in AIRES provides a tool that may assist examiners in tracking loans containing significant existing or potential risk. In addition, the examiner may review and track loans meeting certain criteria such as the following:

- Loans having weaknesses that jeopardize full collection of the debt, including the distinct possibility the credit union will sustain some loss if it does not correct the deficiencies;
- Loans where, even if collected, the credit union would incur collection costs, which could be substantial;
- Loans, both open-end and closed-end, past due 90 days from the contractual due date;
- Loans where it appears the credit union will not collect a substantial portion, even though the borrower makes partial or irregular payments;
- Loans with inadequate documentation;
- Loans that are current but represent potential losses to the credit union due to questionable security;
- Loans, that are current according to their terms, but represent potential losses because of the payment terms or past practices. This category might include single payment loans and "balloon" loans that the credit union has repeatedly refinanced or extended;
- Workout loans in which the credit union permanently amended the original terms of the note to lower payments or reduce interest rates. Workout loans generally allow the borrower to continue a reasonable payment stream thus avoiding default; and
- Any other loan as warranted.

Based on this review, the examiner may make recommendations to management that would enhance the quality of their loan portfolio. Examiners should direct their review toward determining the level and direction of credit risk and the potential risk to the NCUSIF.

Delinquency Control

Examiners should verify the credit union accurately reports delinquency each month for all loan types. Credit unions must report the total delinquent amount when reporting delinquency statistics,

including loans handled by a third party (e.g., bankruptcy loans, participation loans, student loans, credit card loans, and first mortgage real estate loans.) An accurate list of delinquent loans enables the examiner to evaluate collection policies and practices, and identify delinquent loans for possible charge off.

Examiners may test a sufficient number of loans to determine the reasonableness of the delinquent loan schedule. Examiners can perform manual calculations and testing using a calculator, or they can test electronically using AIRES or other computer programs (e.g., Excel.) If the loan sample tested reveals loans improperly categorized or omitted from the delinquent loan schedule, the examiner should design a workpaper to reflect the correct categories for these loans.

If no current, complete, or accurate delinquent loan schedule exists, the examiner should establish appropriate plans with officials to develop one. Examiners may retain a schedule of the delinquent loans in the field file for reference.

NCUA does not require a credit union to use a particular loan delinquency calculation method. Examiners may use one of the traditional methods (in AIRES) as a simple measure for comparison with a credit union's calculated delinquency estimate. However, examiners must understand the intent of these methods is to provide a "reasonableness test." Generally, credit unions must calculate loan delinquency consistent with loan contract terms, which can vary widely.

The delinquent loan schedule can serve as the basis for a loan review sample. For example, a review of recently granted delinquent loans might provide insight as to reasons for increasing delinquencies. The Loan Exceptions workpaper can aid officials in revising policies and practices to reverse an increasing delinquent loan trend.

During the delinquent loan review, the examiner may:

- Determine whether staff follows the collection policies and procedures;
- Identify weaknesses within the collection policy or process;

- Identify underwriting trends and weaknesses, and determine what changes in procedures could have prevented the delinquency;
- Determine if the credit union develops and properly monitors a watch list of loans that require special attention; and
- Review repossession, bankruptcy and foreclosure logs to evaluate credit union control.

Based on a review of the Scope Workbook, the credit union's 5300 risk parameters, and loan queries, examiners should determine the level of risk posed by delinquency. An initial review of loans may suggest understated delinquency and deserve a closer look.

Collection Procedures

Examiners should review the loan loss ratio and the delinquent loan ratio when evaluating collection procedures. These ratios show the credit union's past loss experience and its current potential loss position. The adequacy of the collection program and the credit union's level of compliance with it provide an indication of the future direction of delinquency. The composition of delinquency can also indicate whether problems are recent or older.

Each credit union should develop a collection program appropriate for its size, complexity, field of membership, and area. The program should have definite, measurable goals (e.g., follow up on missed promise to pay within 24 hours.) Collection programs usually share the following common characteristics:

- Prompt action. Early collection effort enhances the success rate of collecting delinquent loans (e.g., within a few days of the first missed payment, long before the loan appears on the monthly delinquent loan list);

- Repeated contacts. A collection effort should consist of a series of payment requests, beginning with a gentle reminder and ending with a firm demand for repayment. Collection staff should record all collection contacts, and the results of those contacts, on a collection card or computer system collection-working file;

- Varied action. A collection program that combines letters and personal telephone calls can prove quite effective. Collection staff

should determine the "intent" of the delinquent member as early as possible. If delinquent members cannot make full loan payments, they should reach agreement with the credit union to make regular, partial payments. As a minimum, the borrower should initiate and maintain regular contacts with the credit union. If the borrower does not establish "good faith" or "good intent," the credit union should take stronger collection action;

- Prompt follow up on failed promises. If borrowers do not follow through with their promise to pay, the credit union should follow up within a maximum of 48 hours;

- Follow through. If the credit union does not follow through with its threatened action, delinquent borrowers may believe they can ignore the credit union; and

- Proper paperwork. Although not considered part of a collection program, staff must properly complete paperwork to reduce the likelihood of legal action against the credit union.

Examiners should discuss deficiencies in the collection program, policies, or practices with the appropriate officials. When encountering weak collection procedures, examiners may document their review by completing the Collection Program questionnaire in AIRES.

Examiners may also review previously charged-off loans. Often, credit unions assign these loans to outside collectors. These outside collectors should issue periodic status reports to the credit union. If these reports indicate a lack of follow up, officials must take appropriate action.

An "inverted" delinquency (more delinquent loans in the 6 to 12 and 12 months and over range than in the 2 to 6 months range) may indicate a problem in the collection program. The examiner should review the reasons for the inversions and, if necessary, reach agreements with the board to improve the collection practices. Inversion can also indicate the credit union does not charge off loans in a timely manner.

In a "normal" delinquency condition, more loans exist in the 2 to 6 months range than in the 6 to 12 months and 12 months and over ranges. Examiners may analyze the loans 1 to 2 months past due to determine if a weakness in the collection program is beginning to surface.

Erratic trends in delinquency, such as increasing delinquency followed by a sudden decrease that does not relate to loan charge-offs, can indicate potential abuse (e.g., due date bumping or fictitious loans.) Examiners may expand the review if they note unusual trends.

Extension and Refinancing

Examiners may review extension and refinancing policies and procedures for reasonableness. At times, credit unions can effectively use extension agreements or refinancing of delinquent loans as collection tools; however, excessive extension agreements or refinancing can mask delinquency. Credit unions should use extension agreements or refinancing of delinquent loans only to help borrowers overcome temporary difficulties, and after the borrower demonstrates renewed willingness and ability to repay the loan.

Generally, credit unions grant extension agreements to delinquent borrowers who have demonstrated their commitment to repay their obligations by making substantial payments for at least three months prior to approval. (Examiners should note that delayed disability insurance payments for illness or circumstances such as recalls after a layoff may justify extension agreements without the member demonstrating three months of good faith payments.) The collection department can prepare extension agreements; however, a loan officer or credit committee must approve the transaction to assure segregation of duties and avoid a conflict of interest.

Credit unions should refinance delinquent loans only after the borrower has demonstrated a consistent effort and ability to repay. Refinancing of delinquent borrowers that do not make consistent payments could warn examiners of hidden delinquency.

As a general rule, credit unions should not extend or refinance a loan more than once within a twelve-month period, or two times within a five-year period. If the credit union has a history of frequently

extending or refinancing loans, the examiner should carefully review the underlying reasons.

Credit Card Collection Program

The examiner may need to review the credit union's in-house procedures for delinquent credit card loans to ensure proper aging and limited losses. Some processors only report delinquency up to 210 days, in which case the credit union must calculate and report the past due months over 210 days.

Examiners should consider the following items when analyzing the credit union's credit card collection program:

- Procedures for listing delinquent, over limit, lost, or stolen cards in a warning bulletin;
- Procedures for blocking cards;
- Procedures for reviewing over limit cards; and
- Adequacy of bond coverage and deductible for fraud losses.

Bankruptcy

Examiners should familiarize themselves with the basic terms and concepts of federal bankruptcy law (Title 11, U.S. Code) in order to make informed judgments concerning the likelihood of collection from bankrupt members or member businesses (called "debtors" under the bankruptcy law.) The following paragraphs present only an overview of bankruptcy.

Complex situations may arise where examiners need more in-depth consideration of the bankruptcy provisions that warrant consultation with the credit union's counsel, regional office, or Office of General Counsel. For the most part, however, knowledge of the following information, when coupled with review of credit file data and discussion with credit union management, should enable examiners to reach sound conclusions regarding the eventual repayment of the credit union's loans.

Forms of Bankruptcy Relief

Liquidation and reorganization comprise the two basic types of bankruptcy proceedings. Liquidation, pursued under Chapter 7 of the law, involves the bankruptcy trustee collecting all of the debtor's non-

exempt property, converting it into cash and distributing the proceeds among the debtor's creditors according to a priority prescribed by statute. In return, the debtor obtains a discharge of all debts outstanding at the filing of the petition, thus releasing the debtor from all liability for those pre-bankruptcy debts.

Chapter 11 or Chapter 13 of the law addresses reorganization and, in essence, provides satisfaction of the creditor's claims from the debtor's future earnings, rather than through liquidation of the debtor's assets. That is, debtors may retain their assets, but the court restructures their obligations and implements a plan to pay the creditors.

All debtors (whether individuals, corporations, or partnerships), may use Chapter 11 bankruptcy, regardless of the amount of their debts. On the other hand, only individuals with regular incomes and unsecured debts under $269,500 and secured debts less than $807,750 may use Chapter 13.

The Chapter 13 reorganization plan represents essentially a contract between the debtor and the creditors. Before confirming the plan, the bankruptcy court must find that it was proposed in good faith and that creditors will receive an amount at least equal to what they would have received in Chapter 7 liquidation.

In Chapter 11 reorganization, all creditors may vote on whether or not to accept the repayment plan. In Chapter 13 proceedings, creditors may object to the proposed repayment plan only on the following grounds: (1) they will not receive an amount at least equal to what they would have received in a straight liquidation (the "best interest of creditors" test); (2) the debtor is not required to pay all disposable income (i.e., income after payment of reasonable, current expenses) into the plan for at least three years (the "best efforts" test); or (3) the plan is not proposed in good faith (the "good faith" test.) The debtor may choose to convert a Chapter 13 bankruptcy to a Chapter 7 bankruptcy.

Most cases in bankruptcy courts involve Chapter 7 proceedings. From the creditor's point of view, Chapter 11 or 13 filings generally result in greater debt recovery than do liquidation situations under Chapter 7. The courts tailor reorganization plans to the facts and circumstances applicable to each debtor's situation, which mean they vary

considerably, and the amount that the creditor recovers may similarly fluctuate from nominal to virtually complete recovery.

Automatic Stay

Filing of the bankruptcy petition requires (with limited exceptions) creditors to cease or "stay" further action to collect their claims or enforce their liens or judgments (12 U.S.C. §362.) Once filed, the petition prohibits actions to accelerate, set-off, enforce a statutory lien (*NCUA Rules and Regulations* §701.39), or otherwise collect the debt. The petition also prohibits post-bankruptcy contacts with the debtor (i.e., "dunning" letters.) The stay remains in effect until the bankruptcy court releases the debtor's property from the estate, dismisses the bankruptcy case, approves a creditor's request for termination of the stay, or the debtor obtains or is denied a discharge. Two of the more important grounds applicable to secured creditors for seeking relief from the automatic "stay" follow:

- The debtor has no equity in the encumbered property and the property is not necessary to an effective reorganization plan; or

- The court is not adequately protecting the creditor's interest in the secured property.

In the latter case, the law provides three methods by which to adequately protect the creditor's interests: (1) the creditor may receive periodic payments equal to the decrease in value of the creditor's interest in the collateral; or (2) the creditor may obtain an additional or substitute lien on other property; or (3) the court arranges some other protection (e.g., a guarantee by a third party) to adequately safeguard the creditor's interests. If these alternatives result in adequate protection for the secured creditor, relief from the automatic stay will not be warranted. If the creditor obtains relief from the stay, creditors may resume pressing their claims upon the debtor's property free from interference by the debtor or the bankruptcy court.

Discharge – Objections and Exceptions

The discharge protects the debtor from further liability on the debts discharged. In some instances, however, bankruptcy does not discharge debtors at all (i.e., the creditor successfully obtains an "objection to discharge"), or discharges them only as regards a specific

creditor and a specific debt (an action known as "exception to discharge.") In general, most unsecured debt is dischargeable, while most secured debt survives bankruptcy as a charge on the property to which it attaches. The debtor obviously remains liable for all obligations not discharged, and creditors may use customary collection procedures to collect these obligations.

"Objections to Discharge." The grounds justifying an "objection to discharge" include any of the following actions of the bankrupt debtor (this list is not all-inclusive) occurring within twelve months preceding filing of the bankruptcy petition: (1) transfer, removal, destruction, mutilation, or concealment of property of the debtor or the estate, with intent to hinder, delay, or defraud; (2) concealment, destruction, mutilation, falsification, or unjustifiable failure to preserve records of debtor's financial condition and business transactions; (3) making a false oath or account, or presentation of a false claim to the bankruptcy estate; (4) withholding of books or records from the trustee; (5) failure to satisfactorily explain any loss or deficiency of assets; and (6) refusal to obey a lawful court order or to testify when legally required to do so. In addition, the debtor's receipt of a discharge in bankruptcy within six years preceding filing of the present bankruptcy petition is a valid ground for objection (11 U.S.C. §727(a)).

"Exceptions to Discharge." The grounds justifying an "exception to discharge" include: (1) pre-bankruptcy income taxes; (2) money, property, or services obtained through fraud, false pretenses, or false representation; (3) debts not scheduled on the bankruptcy petition and for which the creditor had no notice; (4) alimony or child support payments (only the debtor's spouse or children may assert this exception, property settlements are dischargeable); and (5) submission of false or incomplete financial statements.

If a credit union attempts to seek an exception on the basis of false financial information, it must prove (1) the written financial statement was materially false, (2) it reasonably relied on the statement, and (3) the debtor intended to deceive the credit union. The credit union may find these assertions difficult to prove. Corporations and partnerships cannot avail themselves of discharges; therefore, bankruptcy often causes corporations and partnerships to dissolve or become defunct.

Reaffirmation

Despite a bankruptcy discharge, debtors may sometimes promise their creditors they will repay a discharged debt. A common example involves an unsecured loan with the credit union that the borrower wants to reaffirm after discharge. This process of reaffirmation is voluntary, but judicially enforceable agreement (11 U.S.C. §524(c); Fed. R. Bankr. 4008.) The principal requirements for a reaffirmation agreement are:

- The agreement between the debtor and the creditor must be made (i.e., executed and dated) before the discharge is granted;
- The agreement must inform the debtor that there is no legal requirement to reaffirm (i.e., that reaffirmation is voluntary);
- The court must reiterate that reaffirmation is voluntary and explain the obligations imposed by the agreement and the legal consequences if the debtor defaults; and
- The agreement must give notice of the debtor's right to rescind the reaffirmation agreement at any time before the discharge is granted, or within 60 days after the agreement is filed in court, whichever is later.

Transfers Not Promptly Perfected or Recorded

Under most circumstances, a credit union that fails to promptly perfect its security interest runs great risk of losing its security. This is a complex area of the law, but prudence clearly dictates that the credit union properly obtain liens and promptly file them to eliminate the possibility of losing the protection provided by collateral.

Statutory Lien

Federal credit unions can take advantage of a statutory lien authorized by the *Federal Credit Union Act* §107(11) and interpreted by IRPS 82-5. Under this authority a federal credit union may (1) impress a lien when granting a loan, by noting the existence of the lien in its records at the same time it grants the loan, by stating in the loan documents that borrowers pledge their shares and dividends to satisfy the lien or to secure the loan, or by adopting a bylaw or board policy to the same effect; and (2) enforce the lien by applying the shares and dividends directly to the amount due on the loan (including the unpaid loan balance together with interest, fees, and other charges) without obtaining a court judgment, even if the credit union has allowed the

member to make withdrawals and even if state law requires a court judgment before enforcing a statutory lien.

Three exceptions apply:

1. Regulation Z generally prohibits a federal credit union from offsetting a borrower's indebtedness arising from a consumer credit transaction under a credit card plan against funds that the credit union holds (12 C.F.R. §226.12(d));

2. As concerns individual retirement accounts (IRAs), the Internal Revenue Code (26 U.S.C. §408(a)(4)) requires that the "interest of an individual in the balance in his account is nonforfeitable." NCUA takes the position that federal credit unions should not impress a statutory lien against an IRA without first obtaining advice of either a tax advisor or counsel; and

3. The automatic stay of a bankruptcy court can stay the use of the statutory lien, which, if impressed within the preference transfer reversion period, could be an illegal preference and thus voided.

Examiners should also note two caveats regarding the statutory lien:

1. The credit union may only impress the statutory lien against the debtor-member's accounts (e.g., in a tenancy-in-common account, deemed to be a 50-50 split in the absence of other evidence, a federal credit union could not place the lien against more than the debtor's 50 percent interest; it cannot impress the lien against a parent's account for debts of an emancipated minor); and

2. The statutory lien only applies in the loan context; a federal credit union must adopt a nonstandard bylaw amendment or bylaw resolution in order to debit a member's account for losses resulting from another account (e.g., unpaid fees or service charges or returned checks.)

Loan Loss Ratio (Net Charge-Offs To Average Loans)

The Financial Performance Report (FPR) computes an annual loss ratio termed net charge-offs to average loans, and provides a peer-group comparison (the amount of loss is shown per $1,000 of loans

outstanding.) It also provides a historical trend of the net charge-off ratio. The Key Ratios workpaper displays the loan loss ratio for prior periods and the current ratio. The examiner should use this information for both comparisons between credit unions and to supplement the trend analysis. However, this ratio can be misleading.

For example, a low loss ratio could result from a board's reluctance to recognize losses, which would be evidenced by a high delinquent loan ratio. The examiner should compare the loss ratios over the periods to detect trends. A high but declining ratio might indicate that the credit union is correcting past problems. On the other hand, a credit union might have a low but rapidly increasing loss ratio, which might indicate an emerging problem.

The examiner should determine whether the credit union has a reasonable and timely method of charging off loans. Moreover, the examiner must verify the accuracy of the information on the NCUA 5300 report.

Charge Off of Problem Credits

Credit unions should establish a policy for the regular charge off of uncollectible loans to avoid an intentional or unintentional misstatement of their net worth position. The Query Report Charge Offs in AIRES provides a tool that may assist examiners in identifying charge off loans, when necessary.

The board may adopt a policy that delegates to the manager the authority to charge off loans. The board should approve the extent of the delegation (i.e., the dollar amount and loan type), reflect the approval in board minutes, and note the parameters in the written collection policy or, more appropriately, written loan charge-off policy. The manager refers loans that do not meet the established criteria to the board. The policy should specifically prohibit the manager from charging off loans when such charge off may constitute a conflict of interest, such as loans to family members.

Management reports loans charged off under the delegated authority to the board of directors at the next regularly scheduled meeting. NCUA recommends that the board ratify all delegated charge offs.

The board of directors must periodically review compliance with the charge-off policy. This policy may require the manager to comply with IRS rules to report certain discharges of indebtedness.

When the credit union deems the loan a loss, it must charge off the loan to the ALLL account. Loans that exhibit the following characteristics present a high degree of credit risk, and the credit union should consider them for charge off:

- A non-performing loan more than six months past due without a payment of at least 75 percent of a regular monthly installment within the last 90 days. Transfers from shares and proceeds from the sale of collateral do not constitute "payments";

- A delinquent loan in the hands of an attorney or collection agency, unless there are extenuating circumstances to indicate the credit union will collect the loan;

- A "skip," where the credit union has had no contact for 90 days;

- An estimated loan loss, where the credit union has the repossessed, but not yet sold, collateral on hand;

- An account in bankruptcy, where the credit union has received notification of filing from the bankruptcy court (e.g., loans discharged in Chapter 7 bankruptcy within 60 days of receipt of notification of filing from the bankruptcy court);

- A loan under the protection of Chapters 11, 12, or 13 bankruptcy, where the credit union has received no payments for six consecutive months;

- A fraudulent loan, when the loss is determinable;

- A loan of a deceased person, when the loss is determinable;

- A loan, where the remaining balance is a deficiency balance after the sale of repossessed collateral and where the credit union has received no payment and has no apparent course of action; and

- A loan deemed uncollectible, where additional collection efforts are non-productive regardless of the number of months delinquent.

Note: In Chapter 11 and 13 bankruptcy proceedings, if the court lowers the amount that the borrower must pay, the credit union should immediately charge-off that portion of the debt, which the court has discharged. Examiners should note that the court frequently revises the amount and terms of the debtor's obligations. If the court changes the terms of the debtor's obligation, the credit union must also change the terms of the obligation on the records (e.g., if the court changes the interest rate from 12 percent to 9 percent, the credit union must lower the rate to 9 percent as determined by the court.)

If the credit union does not maintain the ALLL account balance at a sufficient level to permit the necessary charge offs, the credit union must re-evaluate its ALLL funding methodology. Determining the adequacy of the ALLL is not a by-product of the loan portfolio review. Please see the ALLL chapter for a detailed discussion.

Collateral in Process of Liquidation

When a credit union possesses loan collateral that is in the process of being sold, the examiner may evaluate the collateral for recoverable value. The examiner may document the evaluation on an examiner-designed workpaper or on the list of collection problem loans. Misuse of collateral in the process of liquidation can occur in credit unions. The supervisory committee, in carrying out its auditing function, should review this account and the collateral.

Other Real Estate Owned (OREO)

OREO (other real estate owned) consists of foreclosed property where ownership has passed to the credit union. A credit union often acquires OREO through loan foreclosure. Generally, the credit union intends to sell the real estate to partially or totally satisfy the loan obligation.

The following definitions refer to OREO:

- **Cost** - fair value at the date of foreclosure plus cash payments for capital additions and improvements to the asset and, if applicable, related capitalized interest subsequent to the date of foreclosure.

- **Fair value** - the amount that the creditor could reasonably expect to receive in a current sale between a willing buyer and a willing seller, that is, other than in a forced or liquidation sale. Market value (if an active market exists) determines the fair value of assets. If no active market exists for the assets transferred but exists for similar assets, the credit union may use the selling prices in that market in estimating the fair value of the assets transferred. If the credit union has no market price available, a forecast of expected cash flows, discounted at a rate commensurate with the risk involved, may aid in estimating the fair value of assets.

Accounting for OREO

Credit unions should account for and value foreclosed assets acquired by the credit union as OREO as follows:

- Presume OREO is "held-for-sale". The credit union should obtain appraisals or broker price opinions and onsite inspections as warranted to support the value of the property in question. (Note: generally, federal credit unions cannot hold OREO for the production of income. Therefore, this discussion of the accounting rules for OREO is limited to OREO-held-for-sale.)

- Record OREO at foreclosure at fair value less estimated cost to sell. After foreclosure, the credit union should account for OREO held-for-sale at the lower of fair value minus estimated costs to sell, or at cost. Credit unions should periodically evaluate the property for impairment and write down its carrying value if warranted. Often foreclosures need substantial refurbishments, such as new paint and carpeting, to make them marketable. Credit unions should factor estimated refurbishment costs into the carrying value.

- Report as a liability the principal amount of any debt to which the OREO is subject, and not deduct it from the carrying amount of the asset (e.g., tax lien, mechanic's lien.)

Workpapers and References

- AIRES Workpapers, Documents and Questionnaires
  - Supplementary Facts
  - Review Considerations
  - Loan Analysis
  - Loan Exceptions Document
  - Loan Review

  - Key Ratios
  - Critical Allowance for Loan and Lease Losses Input
  - Critical Loan Input
  - Collection Controls Questionnaire
  - Allowance for Loan and Lease Losses Module
  - Manual Loan Classification
- References
  - *Federal Credit Union Act*

    107(5) – Authority to Make Loans

    107(11) – Statutory Liens

    107(13) – Purchase of Eligible Obligations

    114 – Credit Committee
  - *Federal Credit Union Bylaws*

    Article VIII – Credit Committee

    Article XI – Loans to Members and Lines of Credit
  - *NCUA Rules and Regulations*

    701.21 – Loans to Members and Lines of Credit to Members

    701.22 – Loan Participation

    701.23 – Purchase, Sale, and Pledge of Eligible Obligations

    702.402 – Full and Fair Disclosure

    722 – Appraisals

    723 – Member Business Loans
  - *Accounting Manual for Federal Credit Unions*
  - IRPS 83-3 – Financing Leases
  - *Chartering and Field of Membership Manual*
  - NCUA Letter No. 119
  - NCUA Letter No. 174
  - NCUA Letter No. 99-CU-5

LOAN TYPES - APPENDIX 10A

The *FCU Act* and *NCUA Rules and Regulations* permit credit unions to grant many types of loans. This appendix details the various types of loans offered by credit unions.

Loans to Insiders

Insiders include officers, directors, committee members, employees, and members of their immediate families. Loans to insiders must comply with §107(5) of the *FCU Act*, §701.21 of the *NCUA Rules and Regulations*, the *FCU Bylaws*, and sound principles of internal control.

Review procedures for insider loans could include the following steps:

- Tracing loans to officials back to the approval in the board minutes;
- Ensuring insider loans comply with §701.21(d) regarding preferential treatment; and,
- Reviewing statements for:
    - Negative balance activity;
    - Consistent application of fees and charges (e.g., officials' fees should mirror those of the other members); and
    - Numerous or unusual transactions.

Co-makers and Co-signers

The terms co-maker, co-borrower, co-signer, guarantor, and joint applicant sometimes create a degree of confusion. In general, these terms refer to one of two possible parties, either a co-maker or a co-signer.

A co-maker shares equal responsibility with the borrower for payment of the loan and receives an equal benefit in the loan proceeds, or access to future advances in an open-end loan. Regulation B (202.7(d)(1)) identifies a co-maker as a joint applicant and the resulting loan as joint credit.

A co-signer takes on liability for the obligation of another person without receiving goods, services, or money in return or, in an open-

end credit obligation, without receiving the contractual right to obtain extensions of credit under the obligation. Credit unions request a co-signer's signature as a condition for granting a member credit or as a condition for forbearance on collection of a member's obligation in default. A spouse who must sign a credit obligation to perfect a security interest pursuant to state law may not serve as a co-signer (refer to §706.1(h) of *NCUA Rules and Regulations.*) §706.3(a)(2) requires that co-signers receive specific written disclosures before obligating themselves on a debt. Guarantor and endorser are terms that also identify a co-signer.

The *FCU Act* §107(5) requires that co-makers be credit union members (see legal opinion dated February 20, 1992.) The co-maker shares in the loan proceeds and bears joint liability for repayment. Thus, a credit union cannot make a loan to a nonmember co-maker. However, a credit union may permit a nonmember to sign a loan, provided the nonmember does so in the capacity of a guarantor (co-signer), rather than a loan recipient (co-maker.)

Policies and Procedures

Anyone of legal age (according to state law) to enter into a contract can assume the responsibility of a co-signer. The credit union's policy or practice cannot require the co-signer be a member of the credit union or a family member of the primary borrower (e.g., spouse or parent.)

The same credit principles used to determine an applicant's ability to repay also apply to co-signers and co-makers. For example, credit unions should obtain a co-signer's credit report and perform a debt ratio analysis that includes the new payment. Credit unions may not change loan terms or the security pledged without the co-signer's consent.

Effective collection programs include notification to both co-signers and co-makers upon initial default of the obligation. If the member cannot or will not pay, the credit union should pursue repayment from the co-signer or co-maker, just as if they had received the proceeds of the original loan.

Bankruptcy cases require different procedures. If the primary debtor files under Chapter 13, the credit union must cease all collection

efforts against both co-signers and co-makers. If the primary debtor filed Chapter 7, the credit union should continue collection efforts against both co-signers and co-makers.

Credit unions should remain aware of groups of members who co-sign each other's loans. This practice, called "round-robin" co-signing can quickly result in an unsafe and unsound situation. Some data processing systems track co-signer obligations, but many cannot. Credit unions should institute a tickler system to track the member's co-signer obligations.

Lines of Credit

A line of credit is a preapproved fixed amount a member may draw on and replenish by repayment of amounts previously drawn. The agreement specifies the amount the borrower may access and the conditions of the agreement. Cancellation may occur upon notice by either party.

Some ways to access a line of credit include:

- Check or cash disbursements. Many credit unions accept telephone or mail requests. The check used with these transactions should bear a restrictive endorsement similar to the following:

  > Endorsement of this check by member acknowledges receipt of proceeds resulting from the transaction and agreements set forth on the detachable portion of this check and constitutes acceptance of the conditions of the agreements, which are hereby incorporated by reference.

- Automated Teller Machines (ATM.) The ATM verifies the card and requests an advance amount. The machine processes the request and provides the funds, a receipt, and a record of the transaction.

- Share draft overdraft loans. The line of credit agreement is separate from the share draft agreement. The share draft agreement must specify the authorized amount and include authorization for the credit union to transfer the amount of loan advance to the share draft account.

- Loan drafts. The drafts are similar to a bank check. Encoding allows the draft to travel through the check clearing system to the credit union's bank for payment.

- Credit cards. A credit union either issues credit cards itself or enters into an agreement with a credit card processor to issue credit cards, such as "VISA" or "MasterCard" to its members for processing against the members' lines of credit.

Internal Controls for Plastic Cards

Failure to protect plastic card programs represents a significant safety and soundness concern. A credit union should assess the adequacy of the loss prevention measures in its plastic card programs. Loss prevention measures, such as the following, reduce or prevent fraud losses:

- Card Activation. Processors should send new plastic cards to legitimate cardholders in an inactive mode. Before using the card, legitimate cardholders activate the card by going through customer verification procedures. Card activation programs can significantly reduce the loss of plastic cards in the mail.

- CVV/CVC (Card Verification Value/Card Validation Code.) VISA's Card Verification Value (CVV) and MasterCard's Card Validation Code (CVC) combat counterfeit fraud by using numbers encoded on the magnetic stripe of credit and debit cards. When the merchant passes the card through the point of sale reader, the transaction will be rejected and not receive authorization if the special code on the card does not exist or does not match the code maintained by the processor. However, for CVV/CVC to work, a credit union must have its authorization mode set to decline the authorization. Credit unions should confirm:

  - Their processor implemented CVV/CVC coding;
  - The CVV/CVC is fully operational and being read on all cards; and
  - The settings on its authorization response codes will decline the authorization for all credit and debit transactions.

- Neural Network. Neural networks track spending patterns of both cardholders and typical fraud type transactions. Effective systems monitor transactions 24 hours a day, seven days a week.

Monitoring Lines of Credit

The credit union should periodically obtain information concerning the borrowers' current income and their repayment records on other debts. Industry norms require updated credit reports for lines of credit every two years. This review of a borrower's financial condition could help management determine whether to increase, decrease, or terminate a borrower's credit line.

Open-End Loans

An open-end loan is similar to a line of credit plan. The primary difference is that a line of credit plan has preapproved advances, whereas, each open-end loan advance must receive loan officer or credit committee approval.

A member applying for an open-end loan completes a personal and credit information sheet, similar to a loan application except it usually does not ask for an amount or purpose. The applicant also completes an "open-end" note combined with the consumer credit disclosure.

Request vouchers document loan advances, which include an amount, purpose, and terms of repayment. If the applicant's signature does not appear on the request voucher, the check must contain a restrictive endorsement, acknowledging the advance under the open-end loan plan. The credit union may request updated financial information or credit reports every few years to ensure the member's creditworthiness has not deteriorated.

Variable Rate Loans

Variable rate loans have interest rates tied to an index and margin. These loans pass some of the interest rate risk to the borrower. Movement in the index causes a change in the interest rate, which in turn causes a change in the monthly payment, the loan maturity, or a combination of these. While indices fluctuate over time, the margin (e.g., 100 basis points) remains fixed over the life of the loan. The index plus the margin equals the rate charged on the loan.

Following are some of the more common indices:

- Treasury Indices:
  - One-Year Constant Maturity U.S. Treasury (CMT) Securities (most common of the Treasury-based ARM indices);
  - Six-Month U.S. Treasury Bills; and,
  - Three-Year CMT Securities.

- London Interbank Offered Rate (LIBOR) indices:
  - Six-Month LIBOR as published in The Wall Street Journal; and,
  - Six-Month LIBOR as posted by Fannie Mae.

- Cost of Funds indices:
  - 11th District Cost of Funds index (COFi);
  - Federal Home Loan Bank Board (FHLBB) Monthly COFi;
  - National Monthly Median COF Ratio; and,
  - National Contract Rate.

- Prime Rate as published in The Wall Street Journal (most common index for Home Equity Lines of Credit.)

Laws governing Home Equity Lines of Credit (HELOCs) prohibit use of an internal cost of funds. Regulation Z also requires credit unions to prepare disclosures for variable rate loans showing the following:

- Circumstances under which the rate may increase;
- Any limitation on the increase;
- The effect of an increase, which refers to an increase in the number or amounts of payments or an increase in the final payment; and,
- An example of the payment terms that would result from an increase.

Variable rate loan review procedures include these additional steps:

- Determine the adequacy of policies, procedures, and internal controls for ensuring accurate rate change adjustments;
- Verify the credit union determined the borrower's ability to make the higher payment if interest rates increase;

- Review the variable rate log book or the computer program to verify the credit union has made accurate changes;
- Review the rate change notification sent to the member to verify the notification conformed to the terms of the note;
- Determine whether internal or external auditors or other staff periodically test the loan servicing system for accuracy; and,
- Determine the accuracy of the rate change adjustments.

Guaranteed Student Loans

Credit unions may offer guaranteed student loans that are part of the Federal Family Education Loan Program (FFELP.) Credit unions must receive approval to participate in FFELP and have strict monitoring procedures in place to maintain the program. Under FFELP, administered by the Department of Education (DOE), private lenders provide the loan principal and the federal government guarantees through a state agency the loan's principal and interest up to 98 percent. If the student or parent borrower defaults on the loan, the government reimburses the lender.

Granting and processing student loans differs from most other types of loans. Student loans are normally granted to nonworking students who attend school at least half time. The borrower's current ability to repay does not serve as the basis for the granting of student loans. This type of loan requires less credit risk analysis.

Most credit unions offering student loans accept and process the application, disburse the funds, and portfolio the loan while the student is in school. When the student graduates, the credit union may sell the loan on the secondary market. Credit unions may receive interest from the guarantor while the student is in school, then they may transfer the time consuming and extensive due diligence process to another entity when the student graduates.

Due Diligence on Student Loans

The credit union must perform due diligence on outstanding student loans. On subsidized student loans, the credit union must complete and send a billing report to DOE quarterly to receive interest due. The credit union also must update the status of the student borrowers at least annually (normally through a mailing) to obtain current school information and addresses.

Maintaining federal insurance on student loans requires that credit unions comply with all due diligence requirements, especially during the repayment process. Credit unions must make specific minimum telephone and written contacts to meet DOE's due diligence regulations. Violations occur when a credit union misses a contact or does not comply with the regulations. Violations of the DOE's regulations can result in loss of the government guarantee. Numerous violations may result in loss of the guarantee on the entire portfolio. The DOE may also levy fines for noncompliance. In addition, each state involved in the student loan process has its own required regulations and procedures. Credit unions often sell the student loan servicing to avoid the extensive due diligence requirements.

If the credit union appears to have significant risks associated with the student loan portfolio, examiners should determine the credit union has the following:

- Documented, comprehensive policies and procedures that adequately address the requirements of DOE, the secondary market, the guarantor, and the servicer;
- Adequate tracking methods for student loans;
- Delinquent loan list that includes delinquent student loans (even though they are guaranteed);
- Timely interest claims;
- Adequate training for management and employees that includes familiarity with DOE regulations;
- Well-documented and complete loan files;
- Adherence to the 50-50 rule (i.e., the credit union cannot have more than 50 percent of total loans in student loans); and,
- Additions to the collection policy that address specific requirements of DOE.

Real Estate Loans

NCUA Rules and Regulations §701.21 addresses real estate lending. Well-planned and well-executed mortgage lending can offer advantages to the credit union including member loyalty, opportunity for cross-selling, good return and dependable cash flow. Credit unions should underwrite loans to ensure their eligibility for sale in the secondary market, unless they fit a specific exception created in the credit union's real estate policies.

Review procedures for these loans could determine the existence of the following potential higher risk loans:

- Loans over $50,000 which meet the requirements of §723.1 are considered member business loans; and,
- Loans made to a “blind trust” (a trust whose beneficiaries’ identities are hidden) are high risk and can cause significant losses when members use these trusts to avoid restrictions on concentrations of loans.

Real estate loan review procedures could include these additional steps:

- Assess interest rate and liquidity risks associated with the terms and rates offered;
- Determine if policies and procedures address credit and collateral risk;
- Determine sufficiency of controls to ensure compliance with internal policies and minimum documentation requirements;
- Ensure the mortgage program is part of a well-planned and well-executed strategic plan;
- Evaluate reputation risk involving service to members and dealings with outside vendors; and,
- Ascertain compliance with the *NCUA Rules and Regulations*, individual state statutes, and other applicable consumer compliance laws and regulations.

The Secondary Market

After originating mortgages in the primary market, buying and selling of mortgages take place in the secondary market. The two biggest purchasers of mortgages are the Federal National Mortgage Association (FNMA or "Fannie Mae") and the Federal Home Loan Mortgage Corporation (FHLMC or "Freddie Mac.") Using their experience in the mortgage market, FNMA and FHLMC have determined an appropriate level of credit risk and established standards to control this risk.

NCUA Letter to Credit Unions Nos. 124 (June 1991) and 99-CU-12 (August 1999) provided credit unions with real estate lending guidelines. Credit unions should originate their loans in conformity

with secondary market standards; however, not all of a credit union's loans must necessarily meet this standard. Credit unions should also account for real estate loans, especially first mortgages, based on industry standards of 30-day month/360-day year, with a 15-day grace period and explicitly defined penalties. Departure from industry standards incurs additional risk.

Appraisals

Lenders use appraisals to determine the value of the collateral. Part 722 of the *NCUA Rules and Regulations* specifies the following:

- Identifies which real estate-related financial transactions require the services of an appraiser;
- Prescribes which categories of federally related transactions a state-certified appraiser shall appraise and which a state-licensed appraiser shall appraise; and,
- Prescribes minimum standards for the performance of real estate appraisals.

Appraisers normally use various valuation approaches. The valuation section of the appraisal provides the appraiser's support for the market value based on the cost approach, the sales comparison approach (market data approach), and the income approach. The appraiser usually places more weight on the sales comparison approach in the case of owner-occupied homes. The appraiser must report a minimum of three comparable sales as part of this approach.

FNMA and FHLMC have established guidelines for net and gross percentage adjustments. Generally, the dollar amount of net adjustments for each comparable sale should not exceed 15 percent of the comparable's sales price. The dollar amount of the gross adjustments, without regard to the positive and negative signs, for each comparable should not exceed 25 percent of the comparable's sales price. The appraiser should also use comparable sales settled or closed within the last 12 months. When the adjustments fall outside the 15/25 guidelines, comparable sales are more than six months old, or comparables are not in close proximity to the subject property, the appraiser should provide a written explanation. Ultimately, credit unions must accept sole accountability for the appraisal's accuracy.

Loans meeting the following criteria may not require a full appraisal:

- The loan is under $250,000;
- The loan is for less than 50 percent of the property's value;
- The loan was planned to fit a specific exception created in the credit union's real estate policies; therefore, the credit union does not plan to sell the loan in the secondary market; and,
- The loan does not meet the requirements for an appraisal in Part 722 of the *NCUA Rules and Regulations*.

In these restricted circumstances, §722.3(d) requires the credit union to obtain a written estimate of market value, "performed by an individual having no direct or indirect interest in the property, and qualified to perform such estimates of value for the type and amount of credit being considered."

Evaluating Appraisers

When selecting an appraiser, credit unions must follow the specific requirements and restrictions outlined in Part 722 of the *NCUA Rules and Regulations.* In addition, the credit union should consider the following standards for selecting an appraiser:

- A minimum of two years of appraisal practice;
- A license or certification from the appropriate state; and,
- Insurance for errors and omissions.

Holding versus Selling Loans

Theoretically, lenders can sell any loan or portion of a loan. However, poorly documented or poorly underwritten loans may sell at reduced prices. Once a borrower has established a payment history (i.e., the loan is "seasoned"), buyers may relax documentation and underwriting requirements. Sometimes the credit union may find it advantageous to hold loans and sell them later as "seasoned" loans.

Credit unions may sell loans with or without recourse. The credit union must repurchase loans sold with recourse if the borrower defaults, even if it meets standard representations and warranties.

Servicing Mortgage Loans

Servicing constitutes all actions necessary to ensure proper handling of mortgage loans from the time of disbursement until finalization, by payoff, or charge-off. Servicing mortgages carries a significant amount of transaction risk. Credit unions must have all related practices in writing and follow them carefully. The required procedures include the following:

- Escrow accounts for the payment of taxes and insurance;
- Calculation of changes in payment for adjustable rate loans; and,
- Collection efforts regarding delinquent loans.

Servicing Rights: Sell or Keep

When a credit union sells a loan, it has three servicing options: (1) perform servicing itself, (2) sell its servicing rights to a second party, or (3) contract for servicing activities from a second party while maintaining control and ownership of those rights. Credit unions that sell or contract their servicing duties must ensure they deal with a reputable servicer.

Loan servicing can generate profit. Annual income may range up to one-half of one percent of the outstanding balance of the payments collected. At the same time, credit unions considering servicing loans must understand the labor-intensive nature of this activity and the importance of economies of scale. Credit unions that do not generate a large volume of loans may find it expensive. Generally, a servicing portfolio requires $50 million or more to breakeven.

Selling of Servicing Rights

If the credit union sells the servicing rights, it must ensure the servicer can meet the standards for servicing required by the secondary market. The following list, while not all inclusive, addresses the most important items:

- The purchaser/servicer is reputable. The credit union should investigate the financial soundness and business history of the servicer.

- The credit union has a contract with the purchaser/servicer that addresses the following:

- Timeframes for remittance of payments. The member sends the required monthly payment to the servicer. The contract should determine when and under what conditions the servicer remits the principal and interest portion to the credit union;

- Information system. The servicer must have adequate information system processing capability to maintain accurate accounting and mortgage payment records. The credit union should maintain the right, by contract, to examine the records pertaining to the mortgages the servicer handles;

- Delinquency control. The servicer must perform collection activities mandated by the secondary market, including counseling procedures used with the borrower when trying to avoid or cure delinquency;

- Collection needs. The servicer should have established collection policies and procedures. Policies should address:

    i. Actions taken by the servicer if the property requires repairs and the owner either cannot, or will not, pay for them;

    ii. Procedures to control and monitor bankruptcy proceedings; and

    iii. Guidelines addressing when to use an attorney and who will pay attorney's fees and associated costs;

- Foreclosure responsibilities. Servicer must familiarize themselves with the local and state requirements for all loans in its possession. In addition, some secondary market investors and insurers have specific foreclosure requirements;

- Filing of IRS forms. An important servicer responsibility involves timely filing of all IRS forms;

- Submission of periodic financial information. Credit union officials should periodically review the servicer's financial condition to ensure it operates safely and soundly;

- Servicer's insurance and bond protection requirements. Insurance policies must indemnify the servicer against losses resulting from dishonesty or fraudulent acts committed by the servicer's personnel and employees of outside firms that provide information systems and technology services for the servicer. Servicers must also have an errors and omissions policy to protect them against negligence, errors, and omissions in meeting the legal paperwork requirements;

- Accounting Records. Accounting records must identify the application of payments received on all loans. The servicer should provide the loan owner a monthly breakdown of the payment applications, based on the distribution of funds received;

- Onsite inspection requirements. The need and frequency of onsite inspections vary with the loan type, the payment history of the borrower, and the requirements of secondary market purchasers;

- ARM adjustment calculation. The agreement should provide a description of conditions governing when the servicer will calculate and notify the borrower of adjustments to the loan and payments per the contractual agreements of the note;

- Repurchase of rights. Written documentation should exist describing the terms and conditions with which the credit union can cancel or buy back the servicing rights;

- Resale of rights to a third party. If the credit union sells loans to a secondary market investor, the contract will contain a provision of approval for the sale of servicing rights to a third party. This protects the credit union's interest in the loan from involvement by inadequate servicers; and

- Penalty provisions for noncompliance. Noncompliance with any of the above provisions should trigger penalties outlined in the servicing agreement.

Escrow Accounts

Escrow accounts accumulate funds to pay taxes, assessments, insurance premiums, and other charges that could affect the credit union's first lien position. The servicer's responsibility involves maintaining escrow accounts and adequate records to document (1) each account, its activity and current balance, (2) the prompt payment of bills, and (3) required reporting to appropriate government and non-government agencies. Regulation Z contains specific guidelines for escrow accounts.

Foreclosures

Once the credit union determines the member either cannot or will not bring the loan current and make the required payments, it should consider foreclosure. Servicers' policies should comply with secondary market requirements. Policies and procedures should consider provisions of the mortgage, applicable state or local laws, requirements of a loan insurer, and the best interests of the credit union.

Policies and procedures should address the following:

- Onsite inspections. Property location, crime rate in the area, occupancy status, and loan owner requirements determine the frequency and extent of onsite inspections;

- Property maintenance. The policies and procedures should ensure the property physically remains in salable condition. This can include lawn mowing, trash removal, snow removal, winterizing, etc.;

- Acceptable timeframes for foreclosure action. Legal counsel should address this issue. Generally, servicers should start foreclosure promptly after three full payments are past due on a first mortgage and after two full payments are past due on a second mortgage. They should immediately start foreclosure of abandoned or empty property;

- Insurance. Filing of needed claims with a mortgage insurer, if appropriate (e.g., PMI) and ensuring the credit union obtains insurance on foreclosed property; and,

- Pursuing deficiency judgments. The credit union must consider local laws restricting such action, the costs involved, potential delay in foreclosure procedures, collectibility of judgment, and the requirements of the secondary market.

A credit union foreclosing on secured contaminated property should determine if a liability exists under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA.) CERCLA facilitates the cleanup of hazardous waste sites. The mere threat of a hazardous substance release can invoke liability under CERCLA, which covers environmental hazards in the air, water, and soil. Legal guidance should help them determine the appropriate course of action.

Once the credit union completes foreclosure, it should account for the property as other real estate owned (OREOs) in accordance with generally accepted accounting principles (GAAP.)

Internal Controls, Segregation of Duties

A major purpose of internal controls is to avoid fraud and embezzlement. Separation of duties in the three phases of the mortgage lending process (taking the application, processing, and underwriting) decreases the risk of fraud. If the credit union cannot provide for adequate segregation of duties using its own staff, it should consider contracting out enough of the activities so that proper separation of duties occurs. A contractor can perform any or all of the three phases.

Independent Quality Control

A quality control program uses a sample of loans selected randomly by the quality control department. The quality control department audits the sample to determine proper collateralization according to the policies and procedures of the credit union and the regulatory authorities. Servicers must correct deficiencies uncovered during these reviews. Credit unions that sell loans to the secondary market must ensure their quality control program meets secondary market requirements.

Asset/Liability Management

The asset/liability management (ALM) program must address liquidity and ALM to maximize the gross spread and control interest rate risk

(IRR.) The Asset/Liability Management chapter provides additional information.

Adjustable Rate Real Estate Loans

Credit unions can reduce interest rate risk associated with mortgage lending by offering adjustable rate loans. However, adjustable rate loans carry their own problems, including:

- Lower yields, caused by market rates materially lower than those of fixed rate mortgages;
- Low "teaser" rates to attract borrowers (caution: the secondary market will not accept rates discounted more than 300 basis points below market);
- Index adjustments too far apart. The longer the adjustment period, the greater the lag;
- Adjustment caps too low. A low cap may keep the rate too low for the market, and too low to cover the credit union's costs;
- No floor rate. The credit union should establish a floor rate that will cover their costs;
- Use of an inappropriate index. Nonstandard indices affect salability and may result in poorer performance;
- Default among borrowers when rates adjust upward. Inability of borrowers to afford the higher payments may lead to more defaults; and,
- Penalties. Mistakes in calculating adjustments to rates may result in penalties.

Subordinate (Second) Mortgages

Subordinate, often second, mortgages allow borrowers to use a portion of the equity in their homes to secure borrowed funds. The *NCUA Rules and Regulations* do not prohibit third or fourth mortgages, but credit unions must carefully evaluate these for increased risk.

Tax laws allow borrowers to deduct interest on loans secured by their homes under certain conditions, so obtaining a mortgage loan often offers a tax advantage over a consumer loan.

Second mortgages, also marketed as "Home Equity Loans," include the following types:

- Open-end/closed-end. An open-end loan is either a line of credit (in which the credit union pre-approves advances at the time of application) or a loan where each additional advance requires reapplication and approval. Closed-end refers to the common type of standard second mortgage with set principal and term.

- Fixed rate/adjustable rate. Either open-end or closed-end second mortgages can have a fixed or an adjustable interest rate. Adjustable rate second mortgage loans can have all the features of an adjustable rate first mortgage: index, premium above index (e.g., "index plus two percentage points"), annual and lifetime caps, floors, etc.

A well-established market for second mortgages exists, so credit unions should use the standard documentation and practices in setting their own requirements.

Home Equity Lines of Credit

A Home Equity Line of Credit (HELOC) is a mortgage that does not require reapplication and approval for each advance. A HELOC carries an adjustable interest rate, usually adjustable monthly (with Prime Rate changes) or quarterly (per contract terms.)

In general, credit unions process and underwrite HELOCs in the same way as second or subordinate mortgages, with the following differences:

- Note and mortgage. Credit unions use special note and mortgage instruments for HELOCs. Standard secondary market documents for applicable parts of a HELOC loan file (e.g., mortgage, deed, title opinions) are recommended.

- Consumer regulations. The credit union must comply with all applicable consumer regulations. See the Consumer Compliance chapter for further information.

- Legal considerations. Legal opinions specifying the documents used to comply with applicable state and federal regulations should remain on file in the credit union.

- Creditworthiness. Credit union staff must analyze the borrower's creditworthiness periodically throughout the life of the loan.

- Loan-to-value (LTV) ratio limits. Credit unions should establish LTV limits. For conventional loans, the maximum LTV permissible should not exceed 80 percent of the lower of the appraised value or sales price unless the borrower obtained private mortgage insurance (PMI.) Credit unions should require borrowers to obtain the PMI from a company acceptable to the credit union and to established secondary markets. The LTV for government insured loans may not exceed the applicable FHA or VA guidelines. In declining real estate value markets, credit unions may require periodic appraisals for some properties. Ideally, credit unions should have the ability to trace property value statistics. Falling market values may require a reassessment of loan limits and the invoking of "Escape Clauses" allowed by the Federal Reserve Board to reduce the line of credit.

- Title insurance. As with other second mortgages, if the borrower can demonstrate title insurance outstanding, the credit union may choose to waive title insurance. However, without evidence of first mortgage title insurance, credit unions should require title insurance on home equity loans (assuming a sufficient loan amount.) The home equity loan should have a higher priority lien than an existing line of credit.

- Cash advances. The credit union's internal control programs should include tests of abuses of the equity line of credit. Equity lines of credit should not pay other in-house obligations. Establishing cash advance minimums discourages borrowers from using the line of credit for daily living expenses.

- Interest rate index. Credit unions must use publicly disclosed indices to establish the borrowing rate, not an internal cost of funds index. The index should be specific, such as the Prime Rate as published in the Wall Street Journal on a specific day.

Loans Secured by Mobile Homes and Real Estate

Mobile home loans secured by property may qualify as a real estate or consumer loan, according to each state's laws. Credit unions should familiarize themselves with their applicable state laws. In many cases, title insurance companies will not include the value of the mobile home in their policy unless the borrower removes the wheels and tongue and places it on a permanent foundation. Also, some states require the same to qualify for homeowner's insurance.

Insured - Guaranteed Loans

§701.21(e) of the *NCUA Rules and Regulations* permits credit unions to grant loans secured by the insurance or guarantee of, or with an advance commitment to purchase the loan by, the federal government, a state government, or any agency of either. The law, regulations, or program under which the insurance, guarantee, or commitment is provided specifies the maturity, the terms, and conditions, including rate of interest, for making these loans.

Loans insured by the Federal Housing Administration (FHA) and loans guaranteed by the Veterans Administration (VA) are the most common types of loans that credit unions grant under this authority. Both types of loans help reduce the credit risk.

Only credit unions designated as "FHA-approved mortgagors" may originate loans under an FHA insurance program, and those functioning as "supervised lenders" may originate VA loans. Most credit unions should qualify.

These programs usually allow a borrower to purchase a home with little or no down payment. While the insurance or guarantee does not prevent a loss to the credit union, it usually provides the same protection that a large down payment from the borrower provides.

FHA/VA loans are more liquid than conventional mortgages, since both real estate and the government insurance or guarantee contract secure the loans. Additionally, credit unions may pool FHA and VA loans into Government National Mortgage Association (GNMA) pass-through securities. This pooling ability helps lower potential liquidity risk.

Auto-Equity Loans

Changes in the tax laws severely restricted the deductibility of consumer loan interest paid by taxpayers. Lenders responded to these changes by creating "auto-equity" loans. Credit unions offering these consumer-purpose loans (generally for automobile purchases) take title to the automobile and place a lien on the member's real property. This action may make the loan interest tax deductible for the member (credit unions should provide members with a notice to consult a tax professional regarding deductibility of interest paid on the loan.)

Most credit unions underwrite these loans using consumer loan guidelines, rates, and terms. Credit unions take the real property lien purely as an abundance of caution and to possibly make the interest paid on the loan tax deductible for the members. The credit unions must comply with the applicable disclosure requirements for real estate loans, including recision requirements.

Construction Loans

Construction loans are high-risk loans that require sophisticated underwriting and administration. Construction loan policies should establish limits compatible with the credit union's size. The limits should integrate construction lending into the overall ALM plan. Credit unions should hire or contract with loan processors and underwriters trained and experienced in construction lending. NCUA Letter to Credit Unions No. 124 (June 1991) provides credit unions with real estate lending guidelines, which included information on residential construction loans. Generally, there are four types of construction loans:

- Loans to a developer to complete a commercial building such as a shopping center, office building, hotel, or apartment building;
- Loans to a developer to finance residential construction made on a speculative or "spec" basis (i.e., homes built to sell later in the general market);
- Loans to a general contractor to finance single homes to persons who may or may not have obtained prearranged permanent financing; and,
- Loans to an owner for financing the construction of the owner's primary residence (whether or not the owner acts as the general contractor.)

The first three loan types are member business loans if they exceed $50,000. When owners act as general contractor, the credit unions must have tight controls to ensure construction progresses as planned. The major concerns involved in construction lending are:

- Failure of the builder to produce the anticipated product as contracted;
- Threat of prior or intervening liens placed on the mortgaged property;
- Unreliable market analysis resulting in either an unmarketable or difficult-to-market project; and,
- Inadequate funding for completing construction.

The following are possible unsafe and unsound operating practices:

- Disbursing funds in advance of construction progress. This could result in the credit union not having sufficient undisbursed funds to ensure project completion;

- Approving loan agreements, which do not include precautionary measures, to avoid the filing of mechanics' liens or stop notices. Mechanics' liens precede mortgage liens and stop notices can cause costly delays in construction;

- Approving loans for speculative or investment projects without (1) evaluating and approving feasibility studies, or (2) obtaining an independent appraisal of land value;

- Approving loans to investment borrowers without considering (1) their past performance records on similar projects, and (2) the proposed marketing program for the planned project;

- Approving loan agreements that do not include provisions for inspecting the construction's progress. Credit unions should disburse funds for labor and material according to progress of the project;

- Approving construction loans without prior review of builder's cost estimates to determine the accuracy and reasonableness of the estimates;

- Disbursing construction funds without supporting inspection reports;
- Approving loan agreements that do not require prior approval for changes in plans and specifications;
- Failing to segregate construction loan appraisal, inspection, and disbursement functions; and
- Granting loans to builders or developers with insufficient equity in the project. §723.3(b) of the *NCUA Rules and Regulations* requires 35 percent equity.

Land Loans

Loans collateralized by either raw acreage or improved property (having sewers, utilities, curbs, etc.) often contain high risk because of volatile land values and limited marketability compared to other real estate. Land loans usually require the following additional documents:

- Appraisal, Survey, and Zoning Requirements. When determining the soundness of the loan, the appraisal should consider the size of the property, the zoning requirements, the stated highest and best use of the land, access to highways, etc. A credit union should limit the LTV to no more than 60 - 70 percent of the appraised value of the land. Some experts limit the LTV to 50 percent. This will depend on the quality of the land, planned use of the land, and how soon owners plan to develop it;
- Agreement that parties require credit union approval before making any improvements to the property; and,
- Title search and insurance. Credit unions should periodically inspect unimproved property to ensure the borrower does not make changes without the credit union's knowledge.

Member Business Loans

A member business loan includes any loan, line of credit, or letter of credit (including any unfunded commitments) where the borrower uses the proceeds for a commercial, corporate, other business investment

property or venture, or agricultural purpose. *NCUA Rules and Regulations* §723.1(b) lists the exceptions to this general rule.

Credit unions must separately identify member business loans in their records and in the aggregate on their financial reports and 5300 Call Report. Many credit unions do not properly identify their member business loans. A review of the loan collateral and purpose codes can help identify potential member business loans. Reviewing reports on amortization, new funds advanced, extensions and loans granted in excess of $50,000 may also assist in identifying these loans.

Policies and Procedures

Member business lending requires special skills in underwriting, servicing, and collecting. Credit unions engaged in member business lending must use the services of an individual with at least two years experience in business lending. Credit unions must have the expertise to monitor the financial condition of member-borrowers through periodic receipt and analysis of financial data, when appropriate and necessary (e.g., open-end member business loans.)

Member business lending programs often affect liquidity and interest rate risk. Credit unions involved in this type of lending must have adequate ALM policies and procedures before the credit union starts making these loans. The commitment to the borrower may involve a long-term business relationship, even though the actual loan term is short. For example, an agricultural operating loan generally involves a long-term commitment to fund the annual operations, while the individual loan may mature in one year or less.

To adequately address transaction and compliance risks, credit unions must document internal controls, policies, practices, and procedures. This documentation should include the types of loans granted, copies of forms used, and any other pertinent information.

Underwriting

The underwriting process should include an evaluation of the character and integrity of the borrower, including the borrower's ability to manage the business, repay debt, and accumulate capital in the business. The credit union should also assess the condition of the

industry in which the borrower operates, particularly as it affects the ability to repay.

The emphasis in underwriting member business loans shifts from the individual to the financial soundness of both the business and the member requesting the loan. To support their analysis of businesses, credit unions can use (1) commercial credit reports (e.g., Dun and Bradstreet), (2) individual credit reports, (3) balance sheet and income and expense statements, (4) cash flow statements, and (5) ratio analysis. Whenever a credit union requires a personal guarantee on a loan, it must evaluate the guarantor's financial strength. Some tools for the analysis include:

- Cash flow analysis. A credit union should only make the loan if the borrower has cash flow projections based on actual cash flow data. Many small businesses have trouble obtaining adequate and reliable cash flow information. Credit unions should not accept cash flow assumptions without data to show they are realistic. Borrowers must provide evidence they have sufficient funds available to service the debt.

  The credit union should obtain tax returns and financial schedules of both the member and the business to properly analyze the cash flow statement. A quick test for cash flow is to add back to the profit-and-loss data of the business (net income) any non-cash expenditures (such as depreciation, adjustments to accounts receivable, etc.) and relate a positive resulting figure to the member's ability to cover loan payments.

- Net worth analysis. In addition to reviewing cash flow, the credit union should evaluate the strength of the business. One method of measuring profitability is to divide net profit by net worth, which results in the owner's return on investment.

  Net worth is the equity or retained earnings of the business and represents the borrower's cushion before bankruptcy or insolvency occurs. Borrowers can distort net worth by overstating assets or understating liabilities. While borrowers often overvalue their assets, they can also understate liabilities both on their personal

and business financial statements. A borrower must supply supportable financial data to the credit union.

- Collateral analysis. The underwriting process must include a determination of the value, liquidity, and lien status of the collateral. Prudent lending requires the borrower to have equity in the assets securing the loan. The credit union's member business loan policy must establish guidelines for the maximum LTV the credit union permits for various types of collateral, while meeting the minimum regulatory requirements. When establishing these values, the credit union must keep in mind the forced sale of collateral generally brings a minimal return in relation to the value of the assets of a viable business.

  Considering the high percentage of new businesses that fail, the credit union must carefully analyze collateral and cash flow. If the borrower uses inventory as collateral, all the procedures discussed later in this chapter concerning floor plan loans apply. However, the forced sale value of inventory in process may cover only a fraction of the value of the finished product.

- Financial analysis ratios. Credit unions should analyze at least three years worth of data from financial statements before granting a loan. They should perform ongoing analysis after granting the loan. Forward, as well as historical projections are critical to sound financial analysis. Examples of basic capital and liquidity ratios can be found in Appendix 10C - Member Business Loan Financial Ratios. Credit unions should use these ratios and, if necessary, establish additional ratios to analyze loans.

  Credit unions may use published ratios relating to various industries as a standard for comparison (e.g., the Robert Morris ratios.) The credit union should maintain copies of the particular industry's standard ratios.

Documentation

Documentation for a member business loan also must include proper signatures from the parties to the transaction (those individuals permitted to borrow under the *FCU Act*, *FCU Bylaws*, and the *NCUA Rules and Regulations.*) §723.7 of the Regulations require the credit

union not grant member business loans without the personal liability and guarantee of the principals, except where the borrower is a not-for-profit organization, as defined by the IRS (26 U.S.C. 501.)

Lien filings often require the use of UCC documents. The credit union must file the necessary documents with appropriate local or state agencies, perform and document their search for prior liens, and keep their liens current, as required by their local or state agencies. Business assets also require proper insurance with appropriate loss payable clauses to the credit union.

Loan covenants documenting specific conditions of the loan are part of the member business loan note. Examples of loan covenants include (1) frequency of providing financial reports, (2) insurance renewal periods, (3) working capital requirements, (4) limits on owner draws, (5) permission for periodic onsite business inspections, and (6) call options, if the financial performance of the business deteriorates. An attorney experienced in loan covenants should prepare the loan agreement. Credit unions willing to take the risk of making a member business loan must recognize they need to pay for the expertise needed to document the loan agreements.

The credit union should know that too many covenants can expose the credit union to possible "lender liability", if the borrower defaults. Lender liability can also occur when a borrower becomes dependent on a lender for a constant supply of funds.

Environmental Protection Agency (EPA) Concerns

A credit union foreclosing on secured contaminated property should determine if a liability exists under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA.) CERCLA facilitates the cleanup of hazardous waste sites. The mere threat of a hazardous substance release can invoke liability under CERCLA, which covers environmental hazards in the air, water, and soil.

Technically, when the credit union forecloses on the collateral, it becomes the "owner" of the property and the EPA can hold lenders liable for hazardous waste cleanup. However, CERCLA can exempt parties that hold ownership primarily to protect their security interest,

even when foreclosure leads to actual ownership. Legal guidance should help them determine the appropriate course of action.

Types of Member Business Loans

Examples of member business loans include investment property loans, working capital advances, term business loans, agricultural credit, and loans to individuals for business purposes. Some credit unions also grant letters of credit, which examiners may find particularly difficult to identify since they are an off-balance sheet contingent liability.

Rental Property Loans

The most common type of business loan is for rental property where the member obtains a credit union loan secured by an apartment building or a house, which the member then rents out. While real estate securing a member business loan may meet the requirements for exclusion from Part 723 of the *NCUA Rules and Regulations*, the examiner should treat the loan as a member business loan for review purposes.

When credit unions use rental income to qualify a borrower for a loan, the credit union should include the gross rental income as part of the borrower's gross income (after factoring in a reasonable vacancy rate), and the borrower's debt should include expenses related to the property.

Credit unions should support credit-granting decisions for rental property by determining the property's cash flow. For example, adding back depreciation to net rental income provides a good estimate of cash flow from rental property. Loan officers making rental property loans should have sufficient expertise in the rental property area, including a full understanding of Schedule E of the member's tax return.

Working Capital Loans

Working capital is the difference between current assets and current liabilities. This type of loan provides temporary capital in excess of normal needs. Working capital loans provide short-term funds that borrowers repay at the end of the cycle by converting inventory and accounts receivable into cash. Businesses engaged in manufacturing,

distribution, retailing, and service-oriented operations use short-term working capital loans.

Regulatory requirements and sound business practices govern the collateral securing this type of loan. Usually, the credit union takes the borrower's accounts receivable or inventory as collateral. If the credit union takes inventory as collateral, the lien should include the phrase "and proceeds thereof" since inventory converts to cash or accounts receivable, as it is sold.

Since this type of loan is high-risk, a credit union must set financing limits. For example, since accounts receivable collateral will rarely bring 100 cents on the dollar in a forced sale, the credit union should limit the loan to an amount less than the book value (e.g., 50 percent.) In addition, credit unions should review the accounts receivable discount terms and aging records to determine collection activity of the business.

If the credit union takes accounts receivable as security, the loan covenants should require the borrower to regularly check the credit rating of the major debtors on the receivable list. The credit union should receive a monthly aging of the accounts receivable past due and make periodic onsite inspections to determine the accuracy of the borrower's aging and reporting records. The credit union should also determine if the borrower has pledged inventory against another loan (e.g., a UCC filing search.)

When taking inventory as collateral, the credit union must perform periodic onsite inspections to ensure the borrower maintains a reliable inventory control system. The credit union should perform test checks on the inventory control system to ensure the accuracy of the total amount of reported inventory.

In all cases, credit unions should obtain quarterly profit and loss statements (including past statements, preferably for two or more years) from the borrower to evaluate the continued viability of the business.

Term Business Loans

Normally, members use term business loans to acquire capital assets such as plant and equipment. Regulatory requirements govern the collateral securing this type of loan. Due to the extended loan period, term loans contain more interest rate risk than do short-term advances. Because of the greater risk, credit unions should require amortization payments. Loan agreements will also contain restrictive covenants (conditions agreed to by the borrower) for the life of the loan.

Agricultural Loans

Agricultural loans range from mortgages on real estate to equipment, livestock, growing crops, operating loans, or personal loans. A credit union making farm real estate loans must take into account various factors that may not occur in other real estate loans. For example, credit unions making farm loans should (1) value not only acreage, but the productivity of those acres; (2) consider erosion and wastage along with fertility, since repayment may occur over an extended amount of time; and (3) look to the farm's productivity over a series of years as the source of repayment. Changes in price levels affect net worth.

To ensure repayment of the loan, credit unions should determine the agricultural operation earns sufficient income to pay taxes, personal living expenses (if applicable), operating expenses (including crop and herd insurance, if required), and reasonable allowances to maintain the productivity of the land and income flows. A farmer or rancher must demonstrate managerial efficiency by maintaining operating costs consistent with the productive unit type the borrower offers as security. Some owners, or farm or ranch managers, operate farms or ranches inefficiently because they economize too much in the use of labor-saving machinery, while others invest in more mechanization than the farm income can support.

If the amount of agriculture loans represents a significant risk to the credit union examiners can use the following questions as guidelines when evaluating internal controls for agriculture loans:

- Livestock loans:
  - Does the credit union require inspections at the time it makes livestock loans? Does the credit union require the borrower to provide proof of ownership at that time?

- Does the credit union require inspectors to properly date and sign the inspection report?
- Does the inspection report note the condition of the animals?
- Does the credit union require periodic inspections when appropriate for the type of livestock loan?
- Has the credit union made proper notification to and reviewed with appropriate brand inspection or recording offices to ensure the borrower has proper title to the livestock?
- Is the brand registered with the appropriate local or state agencies?
- Is the brand registered in the borrower's name?
- Has the credit union established a tickler file to ensure the borrower reregisters the brand every nth year as required by local or state agencies?
- Does the credit union file security agreements with appropriate local and state authorities?
- Does the credit union require assignment of milk check agreements on dairy loans?

- Crop loans:

  - Does the credit union require inspections of growing crops before it advances funds?
  - Does the credit union require borrowers to obtain crop insurance, where appropriate?
  - Does the credit union closely monitor disbursements to ensure the borrower channels loan proceeds into the farm operation and uses the proceeds as intended?
  - Are disbursement checks made out jointly to the borrower and vendor?

Letters of Credit

A letter of credit substitutes the creditworthiness of the credit union for that of the individual or corporation. Credit unions may earn a fee for issuing a letter of credit. Most credit unions do not offer them.

Credit unions disclose letters of credit, which are off-balance sheet contingent liabilities, using footnotes to the financial statements. When credit unions fail to disclose letters of credit, examiners may detect them through fee income spikes occurring in a single month.

Although the credit union disburses no funds when it approves a letter of credit, sound internal controls for member business loans require lenders to treat a letter of credit like a funded loan (i.e., if the member cannot service the debt, the collateral must be liquid.)

Two types of letters of credit are (1) the commercial letter of credit, and (2) the standby letter of credit. Often, a commercial letter of credit finances the sale of goods between a buyer and seller. The seller ships the goods to the buyer and submits an invoice. To avoid risk of nonpayment for the goods, the seller may require the buyer to obtain a letter of credit. Commercial letters of credit, secured by cash deposits, pose little risk to an institution as long as the credit union receives proper documentation from the beneficiary (seller.)

A standby letter of credit represents an irrevocable commitment to pay if the member defaults on an obligation. When issuing standby letters of credit, credit unions should determine that adequate collateral secures these letters of credit. Application forms should automatically convert to collateralized notes when members draw upon their letters of credit. Standby letters of credit have many uses. A request for a demand for payment of a standby letter usually signals something is wrong. Nonperformance or default that triggers payment of a standby letter of credit signals financial weakness, whereas payment under a commercial letter of credit suggests a normal business transaction.

Floor Plan Loans

Floor plan lending, a form of wholesale or inventory financing, finances items for dealers, including automobiles, mobile homes, boats, large home appliances, furniture, television, and stereo equipment. Under a written contract between the credit union and the dealer, a specific piece of equipment collateralizes each loan advanced. As the dealer sells a piece of collateral, the contract requires the dealer to repay those funds advanced for that collateral sold. A common policy requires dealers to invest 10 to 20 percent of their own funds.

Credit unions rarely engage in floor plan lending, which is specialized lending with above-normal risks. Loan officers working in the area of floor plan lending require special expertise.

This type of financing usually involves the use of a trust receipt. The written contract between the credit union and the dealer specifies the credit union will release to the dealer title to a specific piece of collateral sold with the stipulation the credit union will hold title to such collateral in trust until time of sale. The contract usually gives the dealer the right to sell the inventory, but normally at not less than the "release price." The credit union should request the dealer to authorize the credit union to periodically inspect the inventory, examine the dealer's records, and upon any default by the dealer to declare a forfeiture of the dealer's interest in the inventory. The credit union can verify inventory for reasonableness against tax forms.

To reduce the risk involved in this type of financing, the credit union should ensure prompt repayment by frequently inspecting the dealer's inventory (to determine exactly which units the dealer has sold), record inspection dates, the name of the inspector, and an itemized list of collateral.

Floor plan financing contracts should also provide for partial repayments on unsold inventory. For example, contracts frequently require the dealer to pay down the invoice price by 10 percent after 90 days and then make a 5 percent partial payment each month thereafter. Under such a plan, the credit union would require the dealer pay in full the note financing any units not sold after one year. This plan encourages inventory turnover and helps the credit union avoid financing out-of-date inventory.

Credit unions should require periodic financial statements from the dealers, monitor the dealers' financial position, and address any over-leveraging that may occur. Problems result when a dealer floor plans inventory with several lenders and uses the proceeds from the sale of the inventory for purposes other than to repay the floor plan loan.

Examination Guidance

The review of the member business loan portfolio could document the credit unions compliance with:

- Member business loan requirements of Part 723; and,
- Loan maturity limits of §701.21(c)(4).

Examiners may complete the Business Loan questionnaire, which documents (1) whether the credit union complies with the *NCUA Rules and Regulations*, and (2) whether safety and soundness concerns exist in the credit union's member business lending practices. Examiners may also benefit from developing continuing workpapers for tracking member business loans from one examination to the next.

Examiners should report on the status of member business lending in credit unions whose member business loans exceed regulatory limits specified in §723.16 (the aggregate of member business loans plus unfunded commitments equal the lesser of 1.75 times the credit union's net worth or 12.25 percent of the credit union's total assets.)

SBA Loans

The Small Business Administration (SBA), an independent agency of the federal government, guarantees up to 90 percent of the principal and interest on loans made by credit unions to small businesses meeting prescribed eligibility standards. In determining the $50,000 member business loan threshold, credit unions should consider only the amount of the loan not guaranteed by SBA.

Participation Loans

Federal credit unions may participate with others in loans to credit union members, subject to the provisions of §701.22 of the *NCUA Rules and Regulations*. Participation loans may provide additional security to an investor, since the credit union would share in a portion of any loss.

The contract between the investor and the credit union may require the credit union to assume the majority of the risks in the event of a default. Such a contract may affect the adequacy of the Allowance for Loan and Lease Losses account. Sometimes credit unions enter into such transactions to avoid booking losses on a sale. If a third party with whom the credit union participates receives a higher rate of return on its investment than the credit union, examiners should carefully review the transaction to determine the credit union properly accounts for the transaction.

Following are possible unsafe and unsound operating policies and practices in loan participations:

- Purchase of loans without investigation of borrowers' credit positions, the condition of security properties, and the adequacy of appraisal reports;

- Purchase of unacceptably high risk loans to obtain purchase discounts or net yields above current market averages;

- Sales of high-yield loans and replacement of these loans with lower-yield loans;

- Sales of loans at a time when no current or projected demand for loanable funds exists; and,

- Participation sales only for creating income from a yield differential, a particularly risky practice under the condition described immediately above.

Purchase, Sale and Pledge of Eligible Obligations

Credit unions may purchase, sell, or pledge, in whole or in part, eligible obligations and loans in accordance with §701.23 of the *NCUA Rules and Regulations*.

Review procedures could include these additional steps:

- Conformance with all applicable parts and established limits of §701.23;
- Conformance of accounting procedures with GAAP, as applicable;
- Adequacy of reporting and collection practices and procedures;
- Existence and proper endorsement of notes and collateral documents; and
- Soundness of the loans' value.

Stock Secured Loans

Credit unions sometimes offer loans collateralized by stock, often in conjunction with a sponsor company, to facilitate sponsor-employee stock programs. Securities listed on the New York Stock Exchange (NYSE), American Stock Exchange (AMEX), or NASDAQ usually have a ready market. In most instances, credit unions should not make loans secured by stocks not listed on a national exchange, since these

loans can substantially increase credit, transactional, liquidity, and reputation risk.

The Federal Reserve Board's Regulation U (12 C.F.R. §221.2) provides an in-depth definition of a margin stock. In general, a margin stock is an equity security. Credit unions must adhere to both the margin and reporting requirements set by Regulation U. Credit unions that make loans to purchase securities (purpose loans) or make loans secured by securities must familiarize themselves with the requirements of Regulation U. Credit unions must also advise members about Regulation X, which requires borrowers in securities transactions to comply with margin regulations. These regulations help curb excessive credit in the securities market.

Regulation U stipulates, in part, that if a credit union extends credit of $200,000 or more during a quarter (or has total credit outstanding at any time during the quarter of $500,000 or more), secured by collateral that includes any margin security (regardless of the purpose of such loans), it must register by filing Federal Reserve Form FR G-1 with the district federal reserve bank. Regulation U also requires all registrants file an annual summary recap, FR G-4. The Federal Reserve forms are located at the FRB website:

www.federalreserve.gov/boarddocs/reportforms/

A currently registered credit union that has not extended any credit secured by margin securities during any six month period and that does not have more than $200,000 of such credit outstanding during that period is eligible for deregistration (using form FR G-2, Deregistration Request.)

Loan Policy and Procedure

Credit unions should cover the following areas in their stock secured loan policy:

- Types of acceptable stocks the credit union will accept for collateral (e.g., stock in the sponsoring company only, or stock listed on one or all of the major exchanges);

- Evaluation of the stock price, at the date of the loan disbursement, as well as periodic evaluations of the stock value;

- Loan to value limitations (margin.) Since stock values can fluctuate, credit unions should allow some margin in case of a reduction in stock value (e.g., 60 percent of current value); and,

- Stop loss provisions. The credit union should adopt procedures to liquidate the stock to satisfy the loan in the event the value of the underlying stock declines below an established loan-to-value ratio.

Required Documents

Credit unions making stock secured loans should have the following documentation:

- Note and security agreement. Consumer loan documents generally do not suffice for perfecting stock security interest. Credit unions often use a special note and security agreement designed for stock secured loans. If applicable, the co-owner of the stock must sign a third-party pledge agreement when the pledge is not part of the security agreement;

- Stock assignment forms. A stock assignment form giving the credit union the right to sell the stock, if necessary, must identify the name as it appears on the stock certificate and the stock certificate number. A credit union employee must witness the assignment. Sound internal controls require that stocks and assignments remain under dual control;

- Purpose statement, Form FR G-3. Credit unions must execute this form on all loans secured by margin securities extended after the credit union becomes subject to the registration requirements. The form, which the borrower and credit union must sign, prevents borrowers from using a false purpose statement to obtain funds for purchasing margin securities. The credit union must retain the form for at least three years after the borrower pays off the loan;

- Collateral tracking. The credit union must document and verify the number of shares and, as applicable, certificate numbers for stock received. Credit unions must implement an audit procedure to

periodically audit stock loans, their current balance, and the adequacy of the collateral's value as follows:

- Safekeeping receipts. Credit unions should issue a safekeeping receipt to the member to document receipt of the actual stock certificates. If the stock is in two names, the credit union should issue only one receipt to prevent one party from claiming the certificate without the knowledge of the other;

- Book-entry stock registration. In some cases, the member may not physically possess the stock, but a trustee may hold the stock in book-entry electronic format. Procedures must state what documentation the trustee must maintain to identify the stocks pledged as collateral for a loan; and

- Stock ownership. The credit union must assure the physical stock certificates exist in the member's name, not some other or street name. However, book entry stock registrations are held in street name;

- Default sale. Credit unions must adopt procedures to specify the conditions that would result in liquidation of stock collateral (e.g., default for past due payments or when the stock value declines.) When the value of stock falls below an established loan to value, the credit union must contact the member in writing and inform the member of the options available to address the collateral deficiency (e.g., paying down the loan or providing more collateral.)

NCUA Guaranteed Loans

Some credit unions purchase loans from liquidating credit unions under the terms of a contract with the NCUA Board on behalf of the National Credit Union Share Insurance Fund (NCUSIF.) Some contracts state the share insurance fund will repurchase a specified amount of loans within a specified time if the credit union cannot recover from the borrowers. The examiner should review the terms of the contract to determine the credit union complies with those terms, giving special attention to the credit union's accounting for payments received on the loans since contract provisions often differ.

The examiner also may need to evaluate the loans for the feasibility of an early settlement of the loan guaranty when both NCUA and the credit union would benefit from an early settlement (e.g., in cases of poor performing loans where the credit union needs more flexibility to develop a specific workout strategy.)

Indirect Dealer Financing Programs

Indirect Dealer Financing Programs (IDFPs) allow borrowers to make a purchase and obtain financing at the same location. IDFPs often apply to new and late model automobile loans; however, the concepts discussed apply to all types of indirect financing or point of sale lending.

A credit union should evaluate the stability of the dealership before entering into an IDFP business relationship. A credit union should investigate dealerships by (1) obtaining a Dun and Bradstreet report on the dealership, (2) contacting the applicable department of motor vehicles and the Better Business Bureau, and (3) analyzing the dealership's audited financial statements. Even after establishing the program, the credit union should cautiously select dealers and continue to review dealer selection.

In an IDFP, the automobile dealership realizes additional profit by charging a flat fee for referring loans to the credit union, or by charging the buyer-borrower an interest rate higher than the credit union's lobby rate (rate differential.) Rate differentials in excess of three percent indicate the dealership may be taking advantage of the credit union's members.

While the dealer initially determines the existence of credit union membership or eligibility for membership for a prospective borrower, responsibility for membership eligibility is the credit union's first consideration before beginning the loan approval process.

Before initiating an IDFP, the credit union should have in place:

- A written business plan that incorporates the aspects of the IDFP into appropriate areas of the credit union's operation;
- A sound overall lending program;

- Documentation of management's due diligence, including a formal cost/benefit analysis, for the proposed IDFP;

- An asset-liability management strategy that includes specific provisions for the IDFP;

- Detailed IDFP lending policies and procedures;

- Experienced IDFP lending management and staff;

- A comprehensive "dealership agreement" that delineates the rights, duties, and obligations of both the dealer and the credit union;

- A legal opinion on file that addresses the IDFP in general and specifically (1) the legality of the dealership agreement and loan documentation, and (2) applicable state and federal consumer compliance laws (Truth in Lending Act, Credit Practices Rule, Fair Credit Reporting Act, etc.);

- A strong internal control program that safeguards against contracts that may take advantage of members. The rapid growth and competitive pace of IDFPs may result in dealers using undue pressure tactics; and,

- A strong collection department with expertise in repossessing and disposing of vehicles.

Policies and Procedures

Formal IDFP policies and procedures should, at a minimum, address:

- Membership eligibility;

- Definition of terms;

- Lending requirements, including:

  - Obtaining legal opinions on loan documents and applicable consumer laws;
  - Qualifications for the lending staff; and
  - Limitations on aggregate amounts loaned through the IDFP;

- Dependable line of credit to avoid discontinuing the program during times of tight liquidity;
- Qualifications of dealerships (e.g., financial, experience, longevity, and ongoing analysis of dealer profitability);
- Limitations on dealers and dealerships;
- Internal controls;
- Monitoring procedures, to review by dealer:
  - Number of applications processed;
  - Number and amount of loans approved, conditioned, and rejected;
  - Number and amount of loans booked; and
  - Delinquency, repossessions, and charge offs;
- Method of determining rate differential or flat fee (credit unions should amortize rate differentials over the life of the loan or when the loan is paid off, whichever is sooner);
- Dealer contracts, including a legal opinion on such contracts;
- Auditing procedures for the dealer's reserve accounts and payouts; and,
- Marketing strategies aimed at maintaining a good relationship with the dealers.

Potential Problems

The following are a few of the problems credit unions may encounter in an IDFP:

- Unless the credit union has a competitive rate differential (or flat fee) structure, dealers may only forward high-risk loans, thereby increasing credit and transaction risk;
- Without adequate preparation and control, the increased loan volume could overrun the loan department resulting in unsound

underwriting decisions, again increasing credit risk and possibly liquidity risk;

- The increase in automobile loans could overtax the collection department with increased delinquencies and repossessions, thus increasing transaction and credit risks;

- The dealer's involvement may increase the credit union's potential for making a loan to a non-member or ineligible member, thus increasing reputation risk;

- The Holder-in-Due-Course provision, which creates a contingent liability to the credit union, applies due to the business relationship between the credit union and dealership. Since the degree of risk to the credit union depends on the financial stability and business reputation of the dealers involved, the credit union should ensure that the dealership agreement includes a recourse (or indemnification) agreement, which limits the credit union's losses in the event of a claim under the Holder-in-Due-Course provision;

- The dealer's buy rate or the flat fee paid to the dealer diminishes the credit union's profit margin. Constant monitoring of the cost/benefit relationship provides the board with important information for determining the IDFP's viability;

- Credit unions may lose fee income when the dealer sells loan protection, disability, and other types of insurance to members. The cost/benefit analysis should include the effect of lost opportunity fees;

- Credit unions with IDFPs that take members or business away from other area credit unions may experience strained relations with those credit unions, affecting reputation risk;

- Some members may become disgruntled to learn they are paying higher interest rates or insurance prices through an IDFP than other members pay who deal directly with the credit union. The credit union's marketing program should keep the membership informed of current lobby rates; and,

- The endeavor could result in a loss to the credit union if a substantial number of IDFPs fail; however, the credit union can minimize the risk of loss or failure if it takes appropriate initial steps before getting involved in an IDFP.

Warning Signs

The following items may evidence the credit union's lack of control over the program:

- The credit union approves more than 75 percent of the loans processed;
- The credit union places full reliance on the dealer to obtain credit checks and credit reports;
- The dealer, not the credit union, accepts the borrower's loan payments;
- The dealer makes payments on behalf of the borrower, a practice that could potentially disguise past due accounts;
- The member-borrower may apply for the title, which could result in an improperly recorded lien;
- The dealer finances the down payment (through dealer incentive, inflated or fraudulent trade-in, or purchase price, etc.) resulting in the member having no equity in the collateral;
- The credit union initiates or permits continuous overdrafts in the dealer reserve or holdback accounts;
- The IDFP operates outside of the credit union's normal trade area; or,
- The credit union does a majority of their business with one dealership or one finance and insurance (F&I) person.

Regulatory Issues

Federal credit unions may participate in IDFPs under both the authority to make loans to members (see §107(5) of the *FCU Act* and §701.21 of

the *NCUA Rules and Regulations*) and the authority to purchase eligible obligations of members (see §107(13) of the *FCU Act* and §701.23 of *NCUA Rules and Regulations.*) Participation under the loan authority requires the following:

- The federal credit union must make the final underwriting decision. That is, before the dealer and member sign the sales contract, the credit union must actually review the application and other documents and determine that the transaction conforms to its lending policies (federal credit unions may not delegate their lending authority to a third party); and

- The dealer must assign the sales contract to the federal credit union very soon after the member and dealer sign it. An indirect loan is a loan to a member (within the meaning of §107(5) of the *FCU Act* and §701.21 of the *NCUA Rules and Regulations*) only if the formation of a sales contract, the assignment of the loan to the credit union, the transmittal of funds to the dealer, and the establishment of a debtor-creditor relationship between the credit union and the member occur in a very short time frame.

When dealers do not assign contracts within a short time frame or when the credit union does not review the application and other documents prior to agreeing to fund them, NCUA considers them to be purchases of eligible obligations and, as such, limits them to five percent of the credit union's unimpaired capital and surplus.

Direct versus Indirect Point of Sale Programs

Many credit unions, through arrangements with local retailers (auto dealerships, appliances and electronic equipment stores, etc.), have direct dealer financing programs (DDFP.) While the majority of the items pertaining to IDFPs can apply to DDFPs, the major differences between the two programs are as follows:

- In most cases, DDFPs do not involve signing up new members (i.e., borrowers must already belong to the credit union);

- Credit unions write loans with the same rates and terms for all members, leaving no room for the dealer to negotiate terms;

- Credit unions do not process non-member loans when dealers mistakenly submit them;
- Credit unions have the right of first refusal of their members' loans (i.e., the dealer does not shop the sales contract until the credit union rejects the loan); and
- Credit unions issue the "adverse action notice" if they do not grant the loan.

Leasing

Part 714 of the *NCUA Rules and Regulations* addresses permissible leasing activities for credit unions. Credit unions may engage in:

- Direct leasing, whereby the credit union purchases the property and leases it back to the member;
- Indirect leasing, whereby the member has a lease and the credit union purchases the lease from a third party (subject to §714.3);
- Open-end leasing, where the member assumes the risk for any difference in the estimated residual value and actual value at lease end; and
- Closed-end leasing, where the credit union assumes the risk for any difference in the estimated residual value and actual value at lease end.

Part 714 further specifies:

- Credit unions can only finance leases to their members;
- Credit unions may only offer a net, full payout lease. In a net lease, the member assumes all the burdens of ownership (maintenance, repair, licensing, registration, taxes, and insurance.) In a full payout lease, the credit union expects to recoup its entire investment in the leased property (amount financed), plus the cost of financing;

- The amount of the estimated residual value cannot exceed 25 percent of the original cost of the leased property (unless the excess is guaranteed);

- Credit unions must retain salvage powers over the leased property. The credit union must retain the power to take action to protect the value of the property if there is a change in conditions that threatens their financial position (such as failing to maintain insurance); and

- Credit unions must maintain a contingent liability insurance policy with an endorsement for leasing (or be named a co-insurer for indirect leasing) from an insurance company rated B+ or better.

Residual Value Insurance

Most automobile lease arrangements use residual value insurance coverage. Industry experts publish price guides showing residual values (e.g., Automobile Leasing Guide or Black Book.) Residual value insurance protects the credit union from errors in value estimation.

The credit union must determine the financial strength and reputation of the insurance company before purchasing residual value insurance coverage. The insurance company will only pay a claim for losses due to excessive devaluation of a vehicle at the end of the lease term. If, for any reason, the lease terminates early, this insurance does not apply.

Auto Insurance

Every member must carry normal liability and property insurance on the leased property. The member must name the credit union as an additional insured on the liability insurance policy and as the loss payee on the property insurance policy.

Regulation "M"

Regulation M implements the consumer leasing portions of the Truth in Lending Act to assure member-lessees receive accurate disclosures that allow members to compare various lease terms. The regulation also places limits on the size of balloon payments and specifies some advertising requirements. The credit union need not disclose "interest"

rates to the member, and usury laws do not apply. Lease contracts refer to fees rather than interest.

The regulation applies to leases that have the following characteristics:

- Term longer than four months;
- Leased property valued at no more than $25,000;
- Purchases personal property for personal, family, or household use; and
- Natural person lessee.

Following are the required disclosures for Regulation M:

- Description of the leased property;
- Amount due at lease signing;
- Payment schedule and total amount of periodic payments;
- Other charges (i.e., the amount of any liability the lease imposes upon the lessee at the end of the lease term);
- Total of payments;
- Payment calculation:
  - Gross capitalized cost;
  - Capitalized cost reduction;
  - Adjusted capitalized cost;
  - Residual value;
  - Depreciation and any amortized amounts;
  - Rent charges;
  - Total of base periodic payments;
  - Lease term;
  - Base periodic payment;
  - Itemization of other charges; and
  - Total periodic payment;
- Early termination:
  - Conditions and disclosure of charges; and
  - Early-termination notice;
- Maintenance responsibilities:
  - Statement of responsibilities;
  - Wear and use standard; and
  - Notice of wear and use standard;
- Purchase option:
  - End of lease term; and

  - During lease term;
- Statement referencing nonsegregated disclosures;
- Liability between residual and realized values;
- Right of appraisal;
- Liability at end of lease term:
  - Rent and other charges;,
  - Excess liability; and
  - Mutually agreeable final adjustment;
- Fees and taxes;
- Insurance:
  - Through the lessor; or
  - Through a third party;
- Warranties or guarantees;
- Penalties and other charges for delinquency;
- Security interest; and
- Limitations on rate information.

Failure to comply with the Consumer Leasing Act increases compliance risk and may result in criminal and civil penalties. Lessors must retain evidence (paper copies are not required) documenting their compliance with the Consumer Leasing Act regarding actions they performed and the required disclosures they made. The lessor must retain, for at least two years, enough information to reconstruct the required disclosures or other records. The Compliance chapter discusses Regulation M in more detail.

Income on Leases

Lease contracts refer to income on leases as "fee income" rather than "interest income". Therefore, lease contracts do not disclose an "interest rate" to the member. The credit union must know the costs of the lease and their overhead costs in order to determine the lease program's profitability. A well-managed lease program should identify the profit margin on leases.

Because a portion of each lease payment contains some principal return to the credit union, the credit union should use an effective interest method of recording income consistent with GAAP. This "interest rate" must be consistent with the "fees" disclosed in the lease agreement, but the credit union need not disclose the rate itself to the member, although some credit unions voluntarily disclose this rate.

Leasing Program Problems

The credit union should implement internal controls to mitigate the following problems posed by a leasing program:

- The credit union bears responsibility for credit risk. Residual value insurance does not benefit the credit union if a lease becomes delinquent. The member does not own the vehicle, usually makes no down payment on it, and therefore, does not have a vested interest in the vehicle. If the member defaults on payments and if the credit union repossesses the vehicle, the credit union would have to dispose of it and bear the depreciation expense. Credit unions must not view all of the insurance policies associated with auto lease programs as a substitute for quality underwriting procedures. Credit unions should take prompt action to limit losses on leases.

- Intense competition in the leasing area may tempt credit unions to offer lower lease payments by increasing the residual values. Manipulating and inflating residual values can result in significant losses to the credit union.

- Vehicles depreciate rapidly when they are new and gap insurance may not cover losses due to theft of the vehicle. Members will not continue paying on a wrecked or stolen vehicle, and the insurance company probably will not give the credit union book value (per the credit union's books) for the vehicle.

- If the credit union is the owner of the vehicle, a contingent liability may exist relative to the operation of the automobile.

- Although the member must properly maintain the vehicle, the incentive to maintain it lessens if the member intends to turn it in at the conclusion of the contract term. Poor or no maintenance may decrease the value of the vehicle at the conclusion of the lease. The credit union can penalize the member for a breach of the contract and impose a fee. However, the credit union may have difficulty collecting those fees the member feels are unwarranted.

- In closed-end leasing, losses resulting from depreciation and the credit union's inability to sell the vehicle for the loan balance at the end of the lease contract are the sole liability of the credit union,

unless it obtains appropriate insurance coverage. Closed-end leasing contains a level of risk that the credit union should understand and carefully evaluate.

- Using an outside party presents some risks. The benefits of using the services of a CUSO or leasing company include minimizing the credit union's administrative burdens and liability. However, if a credit union invests in or lends to a CUSO, and the CUSO fails, it can lose its investment in the CUSO, its loan to the CUSO, and the services that the leasing company CUSO provide. Since the credit union relies on the services of the CUSO, it should monitor the CUSO's financial condition and operations. Further, if the CUSO or leasing company files bankruptcy, the credit union may encounter difficulty obtaining title to the vehicles if the titles are in the name of the CUSO or leasing company at the time of bankruptcy. A participating credit union must monitor the financial condition of CUSOs or leasing companies.

- The credit union should have on file an attorney's opinion acknowledging that, in the event of bankruptcy, the leased vehicles are the credit union's assets, not assets of the CUSO or leasing company.

- Additional burdens could fall on the credit union if, at the end of the lease term, members return the vehicles to the credit union. The credit union must have written agreements for vehicle disposition at the time of lease termination to reduce the possibility of its becoming a used auto sales company. It should enter into written automobile disposal agreements with the residual value insurance company or local used auto dealers or auctions to reduce the potential of incurring a loss on the value of the vehicle. If a credit union uses a CUSO for leasing, this normally becomes the CUSO's responsibility.

- The potential for fraud exists in any program. Credit unions should check with their surety company and determine whether they need special bond coverage for lease financing.

- Interest rate risk exists with auto leasing as with any "loan" portfolio. When analyzing the profitability of a leasing portfolio,

the credit union must consider several factors, including the cost of CUSO service, the cost of insurance (usually included in the fee to the CUSO), the cost of credit risk, and the opportunity cost of the money invested.

- The credit union must consider service to members. Longer-term leases usually generate more profit to the credit union than short-term leases. Short-term leases may generate less profit than conventional loans. Some leases have marginal income spreads. If so, examiners should ensure that the credit union understands this condition and determine the profitability of the overall portfolio.

Balloon Notes

Balloon loans are loans with large final payments. The following inherent risks exist:

- The credit union may not contact the borrower frequently enough to learn of new financial problems of the borrower;

- The contracted balloon payment may exceed the borrower's ability to pay (borrower's expectations failed to materialize);

- The borrower may be unable to make final payment or obtain affordable financing elsewhere, when the contracted balloon payment comes due. When collateral depreciates faster than the loan balance amortizes, the collateral may no longer adequately secure the loan; and,

- The credit union may have liquidity problems due to a lack of cash flow.

Balloon notes present significant problems to management in establishing a sound asset-liability management (ALM) program. The credit union's ALM policies must clearly address how the credit union manages the risks inherent in balloon loans. Ideally, credit unions should match balloon note assets with equal maturity liabilities.

Boat Loans

Boats come in multiple shapes and sizes with costs ranging from less than $500 to over $1 million. There are two recognized categories of

boats based on displacement size, each with different requirements for perfection of liens.

- Boats with net displacement under five tons. This category contains mostly mass-manufactured recreational boats. While displacement differs for various hull types and shapes, generally boats under 32 feet fall into this category. Credit unions can determine the value of boats in this category from NADA (see nada.com) and Blue Book publications; similar to the way they determine the value of automobiles. Lenders can request independent appraisals if they cannot determine the value of a specific craft or its condition. In general, well-maintained boats hold their values much longer than automobiles or other recreational equipment.

  Requirements for perfecting lien interests in small boats vary from one state to another. Most states title boats the same way they title automobiles. In some states, lien perfection requires filing a UCC-1. The credit union should familiarize itself with the requirements of the applicable states.

- Boats with net displacements over five tons. The U.S. Coast Guard regulates boats in this category, which generally operate in the open ocean, Great Lakes, and other large bodies of water (often as commercial fishing vessels.) Thus, loans for this type of boat may require business loan documentation. Credit unions should use caution when granting loans where the payments depend on income from a commercial fishing venture, since the cash flow is often seasonal (e.g., the limited Alaskan halibut season.) With the limited number of prospective buyers, high deficiency balances can result from defaults.

  Many boats in this category have a mass manufactured hull, but the remainder of the boat is often custom built for an individual buyer. Equipment and quality of fit and finish vary widely. Before extending credit on boats in this category, credit unions should obtain a marine survey and an appraisal, especially important when the credit union grants a loan on a used vessel. A marine survey is a detailed report on the boat, its equipment, condition, seaworthiness, and compliance with Coast Guard fire and safety

regulations. Appraisers often require the completed survey before providing a firm value.

Perfection of a lien on a boat in this category requires a preferred marine mortgage filed with the U.S. Coast Guard.

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GLOSSARY OF LOAN TERMS - APPENDIX 10B

Glossary of Auto Leasing Terms

Capitalized Cost: the amount financed or the final capitalized cost (cap cost) to the lessee.

Closed-End Lease: most consumer leases are closed-end leases. In a closed-end lease, the credit union assumes responsibility for any deficit between the agreed upon residual value and the vehicle's actual value at the end of the lease. This type of lease is often referred to as a "walk-away" lease.

Direct Lease: a lease where the credit union becomes the owner of the property at the request of the member and leases the property to the member.

Excess Mileage: the residual value is based on the leased vehicle having an exact number of contracted miles over the term of the lease. This mileage criteria is a major consideration in establishing the residual value. If the lessee anticipates additional miles at the beginning of the lease, the residual value can be lowered to account for the usage. If the mileage at lease end exceeds the amount contracted for, the excess mileage is billed at a predetermined cost per mile.

GAP Insurance: at any time during a loan's life, a payoff can be requested to determine the balance if paid in full before the scheduled end of the loan. This is often referred to as the net payoff. When a vehicle is stolen or considered a total collision loss, the insurance company negotiates a final settlement for the insured. In many cases, the settlement amount is less than the net payoff leaving a deficiency for which the borrower is still liable. GAP insurance pays the difference between the net payoff and the insurance settlement less the insurance deductible, thus eliminating the loss or deficiency.

Indirect Lease: a lease where the credit union purchases the lease and the leased property (or is assigned the lease and has a lien on the leased property) after the lease has been executed between a leasing company and the member.

IRPS 83-3: the NCUA's Interpretive Ruling and Policy Statement (IRPS) 83-3 authorizes federal credit unions to become involved in either direct or indirect, and in either open-end or closed-end financing of leased property. The personal property financed must secure the loan. All requirements and limitations established in the Federal Credit Union Act, the NCUA Rules and Regulations (particularly Sections 701.21 and 701.23), Regulations B and M, and local state laws must be followed.

Lessee: the party who actually uses the vehicle. The credit union member is the lessee.

Lessor: the party that enters into the lease with the credit union member. This may be the credit union, leasing company, or CUSO.

Open-End Lease: in an open-end lease agreement, the credit union member would take responsibility for any deficit between the agreed upon residual value of the property and its actual value at the end of the lease. This type of lease would be rare because the residual value would have to be less than 25 percent of the price of the vehicle and the member would have to accept this depreciation risk. These factors would make a lease agreement very unattractive to the member.

Residual Value: the projected future value of the leased vehicle. The value will vary based on the term of the lease, type of vehicle, and contracted mileage. Residual value is usually expressed as a percentage of the vehicle's MSRP (manufacturer's suggested retail price).

Glossary of Indirect Dealer Finance Paper (IDFP) Terms

Buy Down Rate: a lower rate than the dealer's "buy rate." The dealer will pay the credit union the difference in the amount of the finance charges between the dealer's buy rate and buy down rate. This provides a lower rate to the dealer's customer (lower payments) allowing the dealer to complete the sale.

Conditional Sales Contract: agreement between the dealer and purchaser describing the merchandise with add-ons, agreed upon price, etc.

Captive Financiers: General Motors Acceptance Corporation, Toyota Motor Credit, Ford Motor Credit, etc.

Dealer's Buy Rate: the loan rate charged the dealer by the credit union. The rate offered to the dealer is usually between 0.25 and 1.00 percent less than the rate offered to members (lobby rate).

Dealer's Invoice: factory invoice describing the vehicle and the amount the dealer paid for the vehicle.

Dealer's Reserve: general ledger account balance owed to the dealer. It may represent an amount that must be retained in the dealer's reserve under the control of the credit union to assist in refunding interest on prepaid contracts, and to offset losses on contracts for which the dealer is obligated but has not performed.

F&I: an automobile dealership's Finance and Insurance Department.

Hold-Back Reserve: similar to dealer's reserve account, but usually represents a stipulated portion of the rate differential on a contract that the credit union believes represents a greater risk than normally accepted from the dealer.

Holder-in-Due Course: a liability situation created for the lender when the lender establishes a business relationship (e.g., IDFP) with the seller of a product (dealer). This area should be addressed in the Dealership Agreement to limit the loss exposure to the credit union.

Indirect Dealer Financing: financing arrangement whereby the dealer facilitates loans made by the credit union to members. The credit union is responsible for making the underwriting decision and the loan is assigned to the credit union immediately after being made.

Lobby Rate: rate charged members for direct financing with the credit union.

Post Purchase Audit: a detailed review of the paper submitted by the dealer to ensure the faxed application and sales contract agrees with the final paperwork submitted by the dealer, and the merchandise, add-ons, and insurances are appropriately priced. Usually performed for all new dealerships and periodically through the business relationship.

Quality Rating System: any number of loan rating methods designed to determine the risk assigned to a particular loan. (If the credit union is using some type of quality rating system, the amount and maturity of the hold back reserve should be adjusted in relation to the risk involved.)

Rate Differential: difference between the dealer's buy rate and the rate charged the customer. The higher the rate the customer will pay the more the dealer's profit on the financing.

Recourse Agreements: affects the lender's ultimate collectibility should the loan become delinquent. There are three types of recourse: 1) under "full recourse" the dealer must purchase the loan at the credit union's demand; 2) "limited recourse" would require the dealer to buy back the loan or repossess the goods if the credit union fulfills certain obligations; and 3) with "no recourse" (the most common), the dealer has no obligation on the loan unless fraud or misrepresentation was involved.

Retail Verification: also referred to as "after-purchase survey," this process serves as an internal control and quality control function (and, incidentally, presents an opportunity for the credit union to cross sell other loans and services.) An individual, other than the loan officer, calls the borrower after the loan is processed to ensure the dealer did not misrepresent the deal to the credit union or the member (APR, trade-in, out of pocket down-payment, accessories, insurance, etc.) This process should be completed for all new dealerships and F&I persons for the first 25 deals and then randomly thereafter (20 percent to eventually 10 percent of deals) as the relationship matures. The credit union considers a newly hired F&I person a new relationship.

Glossary of Real Estate Lending Terms

Actual/Actual Remittance Type: a method of sending monthly mortgage payments to the loan owner that requires the lender (servicer) to remit only the interest and principal payment it actually receives from mortgagors.

Adjustable-Rate Mortgage Loan (ARM): a mortgage that allows the lender to adjust the interest rate periodically based on the movement of a specified index.

ALTA - American Land Title Association: a national association of title insurance companies, abstractors, and attorneys specializing in real property law. The association establishes standard procedures and title policy forms.

Amenity: an aspect of a property that enhances its value, e.g., off-street parking, availability of good public transportation, tennis courts, or a swimming pool.

Amortization: gradual reduction of the debt through periodic payments scheduled over the mortgage (debt) term. A loan payment schedule characterized by equal periodic payments calculated to meet current interest payments and retire the principal at the end of a fixed period.

Appraisal: a written report by a qualified person that sets forth an estimate or opinion of value. The term also refers to the process by which this estimate is obtained.

Arms-Length Transaction: a transaction between a willing buyer and a willing seller with no undue influence imposed on either party, and where there is no relationship between the parties except that of the specific transaction.

Assumption: a method of selling real estate wherein the property purchaser agrees to take over the primary liability for payment of an existing mortgage.

Balloon Mortgage: a mortgage that has level monthly payments that would fully amortize it over a stated term, but which provides for a balloon payment to be due at the end of an earlier specified time, e.g., 30-year amortization, with balloon payment due in five years.

Balloon Payment: the remaining balance of a mortgage that must be paid in a lump sum at the end of the mortgage term. The amount represents more than a monthly payment and is generally substantial, e.g., the balloon payment on a $50,000 mortgage with a five-year term and 30-year amortization at 8.75 percent is scheduled to be $47,800.

Bankruptcy: a proceeding in a federal court in which debtors who owe more than their assets can relieve the debts by transferring their assets to a trustee. This affects the borrower's personal liability for a mortgage debt but not the lien of the mortgage.

Basis Point: 1/100 of one percent.

Biweekly Mortgage: a mortgage that requires payments to reduce the debt every two weeks.

Blanket Lien: a lien on more than one parcel or unit of land, frequently incurred by subdividers or developers who have purchased a single tract of land for the purpose of dividing it into smaller parcels for sale or development.

Bridge Loan: a temporary loan generally made to borrowers who need financing between the purchase of a new home and the sale of an old home. Also called a "swing loan."

Cash-out Refinance: a refinance transaction in which the amount of money received from the new loan exceeds the total of the money needed to repay the existing first mortgage, closing costs, points, and the amount required to satisfy any outstanding subordinate mortgage liens.

Closing: the completion of a real estate transaction that transfers rights of ownership to the buyer. Also called "settlement."

Closing Costs: money paid by the borrower to enact the closing of a mortgage loan. This normally includes an origination fee, title insurance, survey, attorney's fees, and such prepaid items as taxes and insurance escrow payments.

Common Areas: those portions of a building, land and amenities owned by a Planned Unit Development (PUD) or condominium project's owners' association (or a cooperative project's cooperative corporation) that are used by all of the unit owners. Common areas could include swimming pools, tennis courts, and other recreational facilities, as well as common corridors of buildings, parking areas, etc.

Common Area Assessments: levies against individual unit owners in a condominium or PUD project for additional capital to defray the owner's association's costs and expenses to repair, replace, maintain, improve or operate the common areas of the project.

Comparables: in appraising, properties of reasonably the same size and location with similar amenities as the subject property. These are properties that have been sold recently, thereby indicating the approximate fair market value of the subject property.

Completion Bond: an insurance policy taken out for the lender that assures completion of the construction project if the builder or contractor cannot complete it.

Condominium: a real estate project where each unit owner has title to a unit, an undivided interest in the common areas of the project, and sometimes the exclusive use of certain limited common areas. Fannie Mae does not purchase condominium projects, but does purchase mortgages on individual units in the project.

Conforming Loan: a loan, the amount of which is less than or equal to the FNMA or FHLMC maximum loan limit (with the exception of loans securing property in Alaska or Hawaii which have higher limits).

Conventional Mortgage: a mortgage that is not insured or guaranteed by the federal government.

Cooperative Mortgages: mortgages related to a cooperative project. They may be multi-family mortgages covering the entire project or single-family mortgages covering individual units (share loans).

Cooperative Project: a multi-family residential building that has multiple ownership wherein a corporation holds title to the property and conveys units to individuals by issuing shares of stock and occupancy agreements.

Cost Approach to Value: a method of measuring the value of a property based on the cost of producing a substitute residence that has the same use and features as the property being appraised.

Covenant: refers to the various conditions (both positive and negative) associated with business loan and condominium promissory notes that the borrower or lender must meet during the life of the contract.

Credit Report: a report from an independent agency that verifies (last reported/known) a loan applicant's current employment and income, and provides information on previous debts and liabilities.

Credit Risk: the risk that a borrower will default (often associated with mortgage loans in view of their long-term nature.)

Credit Union Conforming Mortgage: a FNMA product that allows simplified documentation (credit reporting, income and employment verification, and application requirements) to facilitate FNMA's purchase of credit union-originated loans.

Deed in Lieu: a deed given by a borrower to a lender to satisfy a debt and avoid foreclosure.

Deed of Trust: in some states the document used in place of a mortgage; a type of security instrument conveying title in trust to a third party covering a particular piece of property; used to secure the payment of a note; a conveyance of the title land to a

trustee as collateral security for the payment of a debt with the condition that the trustee shall re-convey the title upon the payment of the debt, and with power of the trustee to sell the land and pay the debt in the event of a default on the part of the debtor.

Default: the failure of a borrower to make a mortgage payment when due. A delinquent loan is said to be in default.

Delinquency Advance: the deposit of a servicer's corporate funds into its custodial account to assure that the full monthly remittance due the secondary market will be available on the remittance due date, even though the servicer has not collected the actual funds from a delinquent borrower. A servicer may reimburse himself for delinquency advances from subsequent collections.

Discount: the amount by which the face value of a mortgage exceeds its selling price.

Discount Point: A percentage (usually one percent) of the loan amount (not the purchase price) of the property. Discount points paid by the borrower or seller when a loan is originated in order to increase the lender's actual yield.

Documentation: the use of FNMA/FHLMC Uniform Instruments ensures that the documentation associated with mortgage loans is complete and consistent with secondary market standards.

Due-on-sale Provision: a covenant in a conventional mortgage that allows the lender to call the mortgage due and payable if ownership of the mortgaged property is transferred without their permission.

Endorsement: additional coverage added to title insurance.

Errors and Omissions Coverage: a type of indirect loss insurance used to cover losses that occur because of error or neglect on the part of an employee to whom a specific responsibility has been assigned.

Escrow Account: the account holding that portion of the mortgagor's monthly payment, held by the lender, used for the payment of taxes, hazard insurance, mortgage insurance, and any other specified items as they become due.

Federal National Mortgage Association (Fannie Mae or FNMA): a major purchaser of mortgage loans on the secondary market. A privately owned corporation created by Congress to support the mortgage industry. It purchases and sells residential mortgages insured by FHA or guaranteed by VA as well as conventional home mortgages.

Federal Housing Administration (FHA): part of HUD whose main activity is to insure residential mortgage loans made by private lenders. It sets standards for construction and underwriting, but does not lend money or plan construction directly.

Federal Home Loan Mortgage Corporation (Freddie Mac or FHLMC): a private corporation authorized by Congress to provide secondary mortgage market support for conventional mortgages.

Fee Simple: the basic form of ownership, which conveys the largest bundle of ownership rights, including air rights above and mineral rights below the property.

Fee Simple Estate: an unconditional, unlimited estate of inheritance that represents the greatest estate and most extensive interest in land that can be enjoyed. It is of perpetual duration. In a condominium, the owner owns only his/her unit in fee simple and is an owner in common with respect to the land and other common portions of the property.

FHA Mortgage: a mortgage insured by the Federal Housing Administration; may be referred to as a "government" mortgage.

First Mortgage: a real estate loan that is the first lien against a property. First refers to the order in time that the lien is filed.

First Right of Refusal: lien that allows a prospective buyer the chance to buy the property before it goes on the market.

Fixed-rate Mortgage: a mortgage that provides for only one interest rate for the entire term of the mortgage. If the interest rate changes because of enforcement of the due-on-sale provision, the mortgage is still considered a fixed-rate mortgage.

Foreclosure: the legal process by which a borrower in default under a mortgage is deprived of his or her interest in the mortgaged property. This usually involves a forced sale of the property at public auction with the proceeds of the sale applied to the mortgage debt.

Ginnie Mae (GNMA), Government National Mortgage Association: a government-owned corporation within the US Department of Housing and Urban Development (HUD) that issues mortgage-backed securities in exchange for FHA/VA mortgages.

Hazard Insurance: insurance coverage that compensates for physical damage to the property (e.g., by fire, wind, or other natural disasters).

Home-Equity-Line-of-Credit (HELOC) Loan: a mortgage loan, usually in a junior lien position, that allows the borrower to obtain multiple advances of the loan proceeds at his or her discretion, up to a stated amount that represents a specified percentage of the borrower's equity in a property.

Home Mortgage: a residential mortgage on a one-to-four-family property.

HUD, Department of Housing and Urban Development: department responsible for the implementation and administration of government housing and urban development programs, including community planning and development, housing production and mortgage credit, and equal opportunity in housing.

Improvements: those additions to raw land that normally increase its value, e.g., buildings, streets, and sewers. Off-site improvements are improvements outside the boundaries of a property, e.g., sidewalks, curbs and gutters. On-site improvements include construction of buildings or other improvements within the property's boundaries.

Income Approach-to-Value: a method of measuring the value of a property, which is based on market rent or income that the property can be expected to earn.

Index Rate: a number that determines interest rate changes on adjustable-rate mortgages, e.g., LIBOR, 11 COFI.

Installment Debt: borrowed money that is repaid in several successive payments, usually at regular intervals, for a specific amount and term, e.g., automobile or furniture loan.

Insured Closing: settlement performed at the title company, not the credit union.

Interest Rate Risk: the risk that interest rates could increase or decrease significantly from the rates on loans held in a loan portfolio.

Junior Lien: any lien that is filed after the claims of the holder of a prior (senior) lien.

Lease: a written agreement between the property owner and tenant that stipulates the conditions under which the tenant may possess the real estate for a specified period of time and rent.

Leasehold Estate: a way of holding title to a property wherein the mortgagor does not actually own the property but rather has recorded a long-term lease on it.

Letter of Credit: a letter addressed by a financial institution, on behalf of a borrower, to a third party, authorizing the third party to draw drafts up to a stipulated amount under specified terms.

Lien: a legal hold or claim of one person on the property of another as security for a debt or charge.

Liquidity Risk: the risk of having inadequate cash on hand to meet member needs. A credit union in this position would be forced to borrow money or sell assets on what may be unfavorable terms to raise cash.

Loan-to-Value (LTV) Ratio: the relationship between the unpaid principal balance of the mortgage and the property's appraised value (or the sales price, whichever is lower).

Market Conditions: lending in any area requires a thorough knowledge of the local market, laws, customs and pricing.

Margin: a fixed-rate added to an index for determining the overall interest rate that will be charged on adjustable-rate loans. The margin is usually stated in terms of basis points, such as 100 BP, or as an interest rate, such as one percent.

Monthly Fixed Installment: that portion of the total monthly payment that is applied toward principal and interest.

Mortgage: conveyance of an interest in real property given as security for the payment of a debt. The deed by which such a transaction is effected. Collectively, the security instrument, the note, the title evidence, and all other documents and papers that evidence a lien on property as security for payment of a debt.

Mortgagee: a person or company to whom property is mortgaged.

Mortgagor (also Mortgager): a person who mortgages property (borrower, homeowner).

Negative Amortization: a gradual increase in the mortgage debt that occurs when the monthly installment is insufficient to cover interest. The interest shortage is added to the unpaid principal balance to create negative amortization - an increase in the principal amount owed.

Net Worth: the value of all assets, including cash, less total liabilities; often used to indicate creditworthiness and financial strength.

No Cash-Out Refinance: a refinance transaction in which the mortgage amount is limited to the sum of the unpaid principal balance of the existing first mortgage, closing costs (including prepaid items), points, the amount required to satisfy any liens that are more than one-year old (if the borrower chooses to satisfy them), and cash to the borrower of up to one percent of the loan amount.

Non-assumption Agreement: a provision whereby if the loan is sold the buyer cannot assume the debt.

Nonconforming Loan: a loan that FNMA or FHLMC will not buy because it exceeds their maximum loan limits (with the exception of loans securing property in Alaska or Hawaii which have higher limits.)

Nonstandard Loan: either a conforming or nonconforming loan supported by nonstandard documentation, e.g., a TRW credit report rather than a Residential Mortgage Credit Report.

Notice of Default: rider attached to title insurance for credit unions in a second lien position. Requires the first lienholder to notify the second lienholder before foreclosure.

Occupancy Status: Fannie Mae uses three definitions of ownership to determine conventional mortgage eligibility:

- Principal Residence - the borrower's primary residence. At least one borrower must occupy and take title to the property and execute the note and mortgage.
- Second Home - a single family property that the borrower occupies in addition to the principal residence (a two- to four-family residence is not eligible for second home status). When the property is classified as a second home, rental income may not be used to qualify the borrower.
- Investment Property - a property that the borrower does not occupy. This definition is used whether or not the property produces revenue.

Origination Fees: the fees charged by a lender to prepare loan documents, make credit checks, inspect, and sometimes to appraise a property. The fees usually are computed as a percentage of the face value of the loan.

Operating Loan: a current liability. It funds the operations of the business/farm for the cycle or period is due and payable within the operating cycle. Generally, used for the acquisition and financing of inputs for the production cycle.

P & I (Principal and Interest): that portion of a homebuyer's monthly payments to the lender that composes the debt service on the mortgage.

Power of Attorney: transfer right (interest) in property to another person to act in owner's behalf.

Private Mortgage Insurance (PMI): insurance written by a private company, protecting the lender against loss resulting from a mortgage default.

Promissory Note: borrower's promise to repay a loan; used in all types of borrowing. Contains the terms and conditions of the loan, including covenants necessary in commercial lending. All promissory notes contain the amount borrowed and the agreed upon interest rate - either fixed or variable.

Planned Unit Development (PUD): a real estate project in which each unit owner has title to a residential lot and building and a nonexclusive easement on the common areas of the project. The owner may have an exclusive easement over some parts of the common areas (e.g., a parking space). Fannie Mae does not purchase PUD projects but does purchase individual units in such projects.

Purchase-Money Transaction: the borrower obtains the mortgage to purchase the property.

Quality Control: development of regular loan monitoring that addresses the credit, collateral, and interest rate risk within a real estate loan portfolio. A system of safeguards and checkpoints to ensure that all loans are originated, processed, underwritten, closed, and serviced according to the lender's and/or secondary market's requirements.

Quit Claim Deed: transfers a portion or all interest to another.

Reconveyance: to transfer lien back to previous position or owner

Recourse: a financial institution's acceptance, assumption, or retention of some or all risk of loss generally associated with ownership of an asset, whether or not the institution owns or has ever owned the asset.

Red Lining: making home mortgage loans only in specified areas of towns or municipalities.

Refinance Transaction: the repayment of a debt from the proceeds of a new loan using the same property as security. Fannie Mae also considers the current owner's placement of financing on a property not financed as a refinance transaction.

RMCR, Residential Mortgage Credit Report: a detailed account of the credit, employment, and residential history (as well as public records information) of a borrower.

Sales Comparison Approach-to-Value: a method of measuring the value of a property based on an analysis of comparable sales, contract offerings, and listings of properties that are the most comparable to the property being appraised. (Also called "market data approach".)

Scheduled/Actual Remittance Type: a method of sending monthly mortgage payments which requires the lender to remit the scheduled interest due (whether or not it is collected from mortgagors) and the actual principal payments that it collects from mortgagors.

Scheduled/Scheduled Remittance Type: a method of sending monthly mortgage payments that requires the lender to remit the scheduled interest due and the scheduled principal due (whether or not payments are collected from mortgagors.)

Second Mortgage: a mortgage that has a lien position subordinate to the first mortgage because it was recorded later.

Secondary Market Lending Standards: participation in the secondary market requires strict adherence to established industry mortgage lending standards.

Secondary Mortgage Market: the market in which existing mortgages and mortgage-backed securities are bought and sold.

Servicing: the tasks performed to protect the mortgage investment including collecting the monthly payments, managing the escrow accounts, monitoring and dealing with delinquencies, and overseeing foreclosures and payoffs.

Servicing Compensation: the income that a servicer receives for the collection of payments and management of operational procedures related to a mortgage, e.g., base servicing fee, plus late fees charged for special services, yield differential adjustments or excess yield, and, sometimes, a share in prepayment charges.

Servicing Released: sale of a mortgage loan along with the rights to service that loan when the loan is sold in the secondary market.

Servicing Retained: retention of the rights to service a loan when the loan is sold in the secondary market.

Subordinate Financing: any mortgage or other lien that has priority lower than that of the first mortgage.

Subservicer: party under contract to the original lender to perform the on-going servicing activities for the mortgage or pool. A qualified party acceptable to the purchaser must service loans sold on the secondary market.

Subservicing Arrangement: an arrangement wherein the contractually responsible servicer of a mortgage or pool of mortgages hires another servicer to perform its servicing functions.

T & I (Taxes and Insurance): that portion of a home buyer's monthly payments to the lender transferred into an escrow fund to pay property taxes, the homeowner's insurance premiums, and mortgage insurance, if applicable.

Title Insurance: insures against defects in title that were not listed in the title report or abstract.

Trade Area: the area, as defined by the credit union's policies, where a stated type of loan will be considered. The area must be such that the credit union will be able to perform adequate monitoring of market conditions and of loans granted.

UCC, (Uniform Commercial Code): a comprehensive codification and modernization of commercial law (excluding law dealing with real property). Each state has adopted its own provisions to this codification.

VA Mortgage: a mortgage that is guaranteed by the Department of Veterans Affairs; may be referred to as "government" mortgage.

Warranty Deed: contains a covenant of warranty whereby the coventor will defend against the claims of all persons.

Wraparound Mortgage: a mortgage that includes the remaining balance on an existing first mortgage plus an additional amount requested by the mortgagor. Full payment of both mortgages is made to the wraparound mortgagee, who then forwards the payments on the first mortgage to the first mortgagee.

Glossary of Student Loan Terms

Deferment: time interval of postponement of principal payments on a Stafford Loan during which the federal government makes the interest payments (excluding unsubsidized). Lender/servicer determines the deferments, which are authorized for borrowers who meet the following criteria:

- Study at least half-time at an eligible school;
- Study in an eligible graduate fellowship program;
- Are seeking but are unable to find full-time employment;
- Will suffer economic hardship from repayment (as determined by the lender using Department of Education regulations);
- Serve in an eligible internship program

Federal Family Education Loan Program (FFELP): formerly called the Guaranteed Student Loan (GSL) program. Loans granted under this program are insured. Qualified students and parents can borrow money for education. This program includes Federal Stafford Loans (subsidized and unsubsidized), Federal Parent Loans for Students (PLUS), and Federal Consolidation loans.

Federal PLUS Loans: unsubsidized loans to parents who are assisting their dependent student. The parent is responsible for the loan repayment. Interest accrues from the date of origination and is the responsibility of the parent borrower. The loans have no grace period and repayment begins while the student is still in school.

Grace Period: the period of time between when a student ceases to attend school at least halftime and when the loan repayment must begin (usually 6 months).

Guarantee Agencies: agencies designated by the US Department of Education to guarantee loans made under the FFELP. The guarantee agency will reimburse the lender for an eligible loan in case of default, borrower's death, bankruptcy, or total and permanent disability. Each state has its own guarantee agency.

Insurance Premium: a fee, usually a percentage of the loan amount (up to 3 percent), deducted from the loan proceeds by the lender and transferred to the guarantor agency. The guarantee agency establishes the premium amount.

Interest Benefits: payments made by the Department of Education to lenders. The lender receives the full amount of the actual interest as long as the borrower remains eligible.

Secondary Market: purchases student loans from lenders and is the holder of the loan after purchase. Includes institutions such as SLMA (Sallie Mae - Student Loan Marketing Association) and CHELA/USA (California Higher Education Loan Authority).

Servicers: companies (e.g., EduServe and Academic Financial Services Association) that provide day-to-day management of student loans. The level of service can be negotiated with the individual companies (e.g., payment processing and collections).

Special Allowance: payments made by the Department of Education to the lender allowing lenders to offer FFELP loans at a reduced interest rate. Based on a mathematical formula established by the Department of Education, the special allowance depends on the average 91-day T-Bill rate, interest rate on the student loan, and a "special allowance factor" set by law. The special allowance compensates the lenders for what they could be earning if the funds were in consumer loans rather than student loans.

Subsidized Federal Stafford Loans: loans to undergraduate, graduate, vocational, or professional students who meet specific financial need and income criteria. These loans require no repayment when borrower is in school at least half time and during grace and deferment periods, at which times the government subsidizes these loans by paying interest to the lender. Monthly payments begin 6 months after the student graduates, drops below half-time status, or withdraws from school. The maximum payback period is 10 years from the date of the first payment.

Unsubsidized Federal Stafford Loans: loans to undergraduate, graduate, vocational, or professional students who do not meet specific financial need and income criteria. Interest payments begin immediately after the loan is disbursed. The interest can either be paid by the borrower or capitalized and added to the principal. The government does not subsidize these loans and therefore does not pay interest. Monthly payments begin 6 months after the student graduates, drops below half-time status, or withdraws from school.

MEMBER BUSINESS LOAN FINANCIAL RATIOS - APPENDIX 10C

Member Business Loan Ratios

Credit unions should establish specific ratios to analyze their member business loans. The following are intended to aid examiners in understanding the information presented during the loan review.

- **Acid Test Ratio (or Quick Assets):**

$$\frac{\text{Cash + Cash Equivalents + Accounts Receivable}}{\text{Current Liabilities}}$$

Tests the company's short-term debt paying abilities. Only the current assets that are readily converted into cash are used. Highlights potential liquidity problems attributable to an inadequate mix of current assets.

- **Current Ratio:**

$$\frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Most common indicator of a firm's short-run liquidity. Shows the relationship between current resources and short-term debt. Puts the dollar amount of the Working Capital calculation into ratio format for comparison purposes.

- **Days Sales in Accounts Receivable (Collection Period):**

$$\frac{\text{Accounts Receivable (Year-End)}}{\text{(Credit Sales / 360)}}$$

- **Earnings Per Share:**

$$\frac{\text{Net Income}}{\text{Average Common Stock Outstanding}}$$

Shows the amount of earnings attributable to each share of common stock held by the stockholders (owners).

- **Earnings Yield:**

$$\frac{\text{Earnings Per Share}}{\text{Market Price}}$$

- **Gross Margin Ratio:**

$$\frac{\text{Gross Profit}}{\text{Sales}}$$

- **Interest Burden:**

  $$\frac{\text{Interest Expense}}{\text{Total Assets}}$$

- **Inventory Turnover:**

  $$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Indicates the number of times the firm's inventory is turned over or sold during a period. Generally, the higher the inventory turnover, the more effective the firm is in its operations, the lesser the amount that must be tied up in inventories, and the shorter the operating cycle necessary to replenish cash. Too high a ratio may indicate lost sales as a result of insufficient inventory on hand.

- **Long-Term Debt to Equity Capital:**

  $$\frac{\text{Long-Term Liabilities}}{\text{Equity Capital}}$$

- **Net Income to Sales, or Profit Margin:**

  $$\frac{\text{Net Income}}{\text{Sales}}$$

The relationship of net income to sales can evaluate the company's efficiency in controlling costs and expenses in relation to sales. Does not, however, consider the owner's investment necessary to generate the sales and income. A return on investment ratio will overcome this.

- **Operating Margin:**

  $$\frac{\text{Operating Income - Depreciation}}{\text{Sales}}$$

- **Operating Profits to Sales:**

  $$\frac{\text{Operating Profit}}{\text{Sales}}$$

- **Pretax Income to Sales:**

  $$\frac{\text{Pretax Income}}{\text{Sales}}$$

- **Receivables Turnover:**

$$\frac{\text{Net Credit Sales}}{\text{Average Net Receivables}}$$

Indicates how many times receivables are turned over or collected each period. Shows the efficiency with which the firm collects its receivables and converts them to cash.

Generally, the higher the turnover, the better, as the firm will have fewer resources tied up in receivables, collects at a faster pace, and usually will have fewer uncollectible accounts. Receivable turnover is often divided into the number of days in the business year to show the average collection period in days. Comparing the company's average collection period to the days in its typical credit terms gives an indication of how aggressively the company's credit department collects overdue accounts.

- **Return on Equity Capital or Return on Stockholders' Equity:**

$$\frac{\text{Net Income}}{\text{Average Equity Capital}}$$

Reflects the residual return on the owners' equity.

- **Return on Total Assets:**

$$\frac{\text{Net Income + Interest Expense (Net of Tax)}}{\text{Average Total Assets}}$$

The amount of net income earned in relation to total assets; an indicator of a firm's efficiency in the use of its economic resources. The ratio can be mildly distorted depending on the age of the company and its assets. Average assets (beginning period assets plus ending period assets divided by 2) are used as net income is earned over the time period.

- **Sales to Cash:**

$$\frac{\text{Sales}}{\text{Cash}}$$

- **Sales to Accounts Receivable:**

$$\frac{\text{Sales}}{\text{Average Accounts Receivable}}$$

Accounts receivable turnover ratio.

- **Sales to Inventory:**

$$\frac{\text{Sales}}{\text{Inventory}}$$

- **Sales to Working Capital:**

$$\frac{\text{Sales}}{\text{Working Capital}}$$

- **Sales to Fixed Assets:**

$$\frac{\text{Sales}}{\text{Fixed Assets}}$$

- **Sales to Total Assets:**

$$\frac{\text{Sales}}{\text{Total Assets}}$$

The ability of the company to minimize the level of assets (current and fixed) to support its level of sales.

- **Times Interest Earned:**

$$\frac{\text{Operating Income Before Interest and Taxes}}{\text{Interest Expense}}$$

An indicator of the firm's ability to cover its interest obligation through its annual earnings. It is a measure of the safety of the creditors' (particularly long-term) investments in the firm.

- **Total Debt to Total Capital (Debt Ratio):**

$$\frac{\text{Current Liabilities and Long-Term Liabilities}}{\text{Equity Capital and Total Liabilities}}$$

or

$$\frac{\text{Total Liabilities}}{\text{Total Assets}}$$

Indicates the percentage of total assets contributed by creditors. Subtracting the ratio from 100 is the percentage of total assets (or equity ratio) contributed by stockholders (owners).

- **Working Capital Calculation:**

Current Assets - Current Liabilities

Shows the dollar amount by which current assets exceed current liabilities. Changes in the amount from one period to another is a useful indicator of the businesses' short-term debt-paying ability.

Simplified Cash Flow Analysis

Net Income		XX
Add: Depreciation		XX
Increase (decrease) deferred tax		XX
Increase (decrease) working capital (see below)	XX	
Cash from operations		
Increase (decrease) from investing activities (i.e., fixed asset purchase)		XX
Increase (decrease) from financing activities (i.e., notes payable, long-term debt)		XX
Net Increase (decrease) to cash		XX

* * * * * * * * * * * * * *

Increase (Decrease) to Working Capital

Add:

Increase (decrease) to receivables
Increase (decrease) to inventory
(Increase) decrease to accounts payable
(Increase) decrease to interest payable

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SAMPLE IDFP AGREEMENTS - APPENDIX 10D

Sample Dealer Purchase Agreement

This sample agreement is intended for use as a training aid for NCUA examiners and should not be considered an all inclusive legal document to be shared with, copied, or used by any other person or entity in whole or in part.

The XYZ Federal Credit Union ("Credit Union") agrees to purchase and the undersigned Dealer ("Dealer") agrees to sell, from time to time, loans entered into by Dealer and Dealer's customers ("Buyer"), pursuant to the terms of this agreement.

1. All loans offered by Dealer to Credit Union for purchase shall be secured by a first lien on the vehicles sold by Dealer to Buyer (hereafter the "Collateral").

2. All loans offered by Dealer to Credit Union for purchase shall be documented by standard form installment agreement, together with documentation necessary to perfect a first lien in the Collateral to secure the indebtedness (said documentation collectively to be known as "Dealer Paper").

3. Dealer may provide Credit Union with a copy of Buyer's loan application via facsimile transmission and obtain an approval of the loan and the terms that are acceptable to Credit Union, or a disapproval of the loan. In the event Dealer tenders Dealer Paper relating to a pre-approved application, Credit Union shall use all efforts to promptly review said Dealer Paper and verify it complies with the terms and conditions of the pre-approved application, before purchasing said Dealer Paper. Credit Union is under no obligation to purchase any Dealer Paper which does not comply with the terms of this Agreement as well as the terms provided by Credit Union when pre-approving a loan.

4. All Dealer Paper tendered by Dealer to Credit Union shall be completed by Dealer in a form acceptable to Credit Union and shall include, but not be limited to:

   a. Original Loan Application;
   b. Original Sales Contract;
   c. Original Dealer's Invoice;
   d. Note and Disclosure;
   e. Title Work;
   f. Insurance Verification; and
   g. Income Verification.

5. Dealer shall assign to Credit Union all Dealer Paper purchased by the Credit Union and shall notify the appropriate authorities (including, but not limited to, the Department of Transportation) of the assignment of the lien securing the indebtedness to the Credit Union.

6. Credit Union has the option but not the obligation of purchasing any loan tendered by Dealer, except Credit Union shall purchase any loan from Dealer that complies with the terms of a pre-approved application.

7. For each loan purchased from Dealer, Credit Union shall promptly pay Dealer (after receiving all required documentation) the amount of the loan (which may include the cost of life and/or disability insurance and/or extended warranties sold to Buyer), together with an incentive fee as set forth on a schedule provided to Dealer by Credit Union from time to time.

8. As to all loans purchased by Credit Union, Dealer warrants:

(a) Dealer is authorized to sell said Dealer Paper; and

(b) The Dealer Paper is genuine and legally enforceable according to its terms; and

(c) No buyer was a minor or incompetent when the Dealer Paper was executed; and

(d) All statements contained in the Dealer Paper are true; Dealer has no notice of any matters not disclosed to Credit Union which might impair the credit of buyers; the disclosed cash down payment and trade-in were actually received by Dealer; Dealer has not made and will not make any advance to Buyer; and Dealer has no agreement with Buyer to separately finance or impose finance charges on Buyer or defer payment of a portion of the down payment; and

(e) Within ten (10) days of delivery of the vehicle sold to Buyer, Dealer perfected or will perfect a first security interest in the vehicle, time being of the essence; and

(f) The Dealer Paper and the transactions out of which it arose comply with all applicable laws and regulation; and

(g) Dealer has performed or will perform all of its obligations to Buyer, and no Buyer has asserted any defense, set-off, or counterclaim to Buyer's liability under the Dealer Paper; and

(h) At the time of sale, Dealer had authority to sell the goods to Buyer free of any security interest or other encumbrance and the goods have been delivered to and accepted by the Buyer within ten (10) days of the date of the Dealer Paper.

9. Dealer shall provide Credit Union with at least one bank reference and authorizes Credit Union to investigate Dealer's financial position from time to time as determined in Credit Union's sole discretion. Upon request, Dealer agrees to provide Credit Union with sworn current financial statements.

10. Dealer agrees, with respect to any Dealer Paper sold to Credit Union, that:

(a) If Dealer places insurance on the Collateral or obtains credit life or credit disability insurance for the Buyer, Dealer shall promptly pay to Buyer any premium refunds or other amounts it receives regarding such insurance to which the Buyer is entitled; and

(b) Dealer shall indemnify, defend, and hold Credit Union harmless from any loss, liability, penalty, claim, damage, or expense claimed or incurred due to any act or omission or commission of Dealer with respect to the Dealer Paper or the Collateral (including, but not limited to, violation of any applicable Federal or State

law or the breach of any of the provisions of this Agreement) which indemnification shall include any costs and attorneys' fees of credit union.

11. Credit Union may, without notice and without impairing Credit Union's rights against Dealer, in the name of Dealer or otherwise, take all actions and legal proceedings deemed advisable by Credit Union with respect to the Dealer Paper or the Collateral including, without limitation, modifying, extending, or compromising any terms, discharging or releasing any person liable, or releasing any security; Credit Union has no duty to perfect any security interest in the Collateral, to enforce any rights of Dealer, or to preserve rights under this agreement against prior parties.

12. If any warranties or covenants of Dealer shall be false or breached with respect to certain Dealer Paper, Dealer shall, upon request, repurchase the Dealer Paper from Credit Union for the full amount unpaid thereon (less credit union's unearned interest) plus expenses incurred by Credit Union in endeavoring to collect or enforce the Dealer Paper. Upon repurchase of the Dealer Paper, Credit Union will assign it to Dealer without any recourse or warranties whatever.

13. Dealer covenants that it has performed and will continue to perform in a timely manner all of its obligations to the Buyer, including its obligations which arise by virtue of the contract and all agreements between the Buyer and Dealer and all obligations which may arise by operation of law or otherwise. Dealer will advise Credit Union in writing within ten (10) days if the Buyer notifies Dealer that Buyer intends to assert any claim or defense against the Credit Union which arises out of the relationship between Buyer and Dealer. In such case, Dealer shall within thirty (30) days of receiving notice from the Buyer use its best efforts to resolve the claim to the mutual satisfaction of the Credit Union and Dealer. If the Credit Union receives notice from the Buyer of a claim or defense to be asserted against it, the Dealer shall within thirty (30) days of receiving written notice of the claim from the Credit Union use its best efforts to resolve the claim to the mutual satisfaction of the Credit Union and Dealer. In the event Dealer cannot satisfactorily resolve the issue within the 30-day period, Credit Union may demand Dealer to repurchase the Dealer Paper for said loan, which Dealer shall purchase. The purchase price shall be the amount of principal remaining due on said loan, together with any unpaid accrued interest due as of the date of the sale by Credit Union to Dealer. Said sale shall be without recourse to Credit Union.

14. This agreement is to be interpreted under the laws of the State of _________.

15. Upon execution, this Agreement shall bind the parties and their successors and assigns. This Agreement shall continue to be in effect for one year unless terminated by either party upon at least 60 days prior written notice. Unless so terminated, this Agreement shall automatically renew itself on its anniversary date. Any termination of this Agreement shall not affect the rights and duties of the parties regarding any Dealer Paper sold to Credit Union by Dealer prior to the effective date of the termination of this Agreement.

Dated this ______________ day of ______________________, 19____________.

DEALER:	XYZ FEDERAL CREDIT UNION:
By:_____________________________	By:___________________________

Sample Dealer Reserve Agreement

This sample agreement is intended for use as a training aid for NCUA examiners and should not be considered an all inclusive legal document to be shared with, copied, or used by any other person or entity in whole or in part.

AGREEMENT between ABC Credit Union (credit union) and XYZ Rolls Royce Inc. (Dealer).

FOR CONSIDERATION, and intending to be legally bound, the Credit Union and Dealer Agree:

1. Definitions.

   (a) "Amount Financed" means the amount financed as stated in a Contract.

   (b) "Buy Rate" means the minimum annual interest rate which the Credit Union is willing to accept from time to time, as determined by the Credit Union in its sole discretion. The Credit Union shall quote its current Buy Rate to Dealer at any time upon request.

   (c) "Buyer" means a person who purchases a product from Dealer.

   (d) "Collateral" means a product sold by Dealer to a Buyer under a Contract.

   (e) "Contract" means an installment sale and security agreement evidencing the sale of Collateral from Dealer to Buyer.

   (f) "Contract Interest Rate" means the interest rate specified to apply under a Contract before default. The Contract Interest Rate shall not exceed maximum rates quoted by the Credit Union to Dealer from time to time. In no event shall the Contract Interest Rate exceed the rate allowed by applicable law.

   (g) "Paper" means one or more of Dealer's Contracts.

   (h) "Reserve" for each Contract means the excess of (i) the total interest payable in accordance with the terms of the Contract calculated at the Contract Interest Rate, over (ii) the total interest payable in accordance with the terms of the Contract calculated at the Buy Rate in effect at the time the Credit Union purchases the Contract.

2. Purchase. Dealer will from time to time offer to sell Paper to the Credit Union under the terms of this Agreement. The Credit Union may refuse to purchase any Paper offered by Dealer.

3. Purchase Price. The purchase price for a Contract shall be the Amount Financed stated in the Contract plus the Reserve for the Contract. If Contract is prepaid before scheduled full term, the Credit Union shall have the right to keep or be compensated for part of the Reserve, as provided in paragraph 5.

4. Reserve. At the time of each purchase of a Contract, the Credit Union shall compute the Reserve for the Contract and deposit the amount of the Reserve, together with the Amount Financed, into the Dealer's share draft account. Dealer agrees to make an initial minimum deposit into an interest bearing share savings account. Dealer may withdraw from the share savings account from time to time, but not below a minimum balance determined by the Credit Union taking into account the volume of the Credit Union's purchases of Paper from Dealer and the Credit Union's experience with that Paper. The initial minimum balance required is $500. Dealer grants the Credit Union a security interest and lien in any credit balance in that

account or in any other money or subsequently owed Dealer by the Credit Union. In addition to all other remedies, the Credit Union may at any time, without notice or demand, set off against any such credit balance or other money owed the Credit Union by Dealer. Upon full payment or other liquidation of all Paper purchased by the Credit Union from Dealer, and Dealer's full payment of all amounts owed the Credit Union, the Credit Union shall pay the balance of the account to Dealer.

5. The Credit Union's Right to Reserve. If a Buyer prepays a Contract, if Buyer defaults and collateral is repossessed, or if Dealer repurchases a Contract, Dealer shall pay Credit Union a fractional portion of the Reserve for the Contract. The numerator of the fraction shall be the excess of the scheduled term of the Contract in months over the time in months the Contract was held by the Credit Union. (In the case of repossession, the numerator shall be equal to the number of unpaid full monthly payments remaining to fulfill the contract's original term.) The denominator shall be the scheduled term of the Contract in months. In determining months for this purpose, partial months of 14 days or less shall be ignored, and partial months of 15 days or more shall be counted as one full month. For example, two months and ten days shall be counted as two months; and two months and fifteen days shall be counted as three months.

6. Term: Additional Terms. Upon the Credit Union's acceptance, this document shall constitute an agreement between parties which shall inure to and bind the parties, successors and assigns. It shall continue in effect until terminated by either party upon at least 60 days prior written notice to the other. In addition, the Credit Union may terminate this agreement immediately upon notice to Dealer if Dealer defaults or becomes the subject of bankruptcy or other insolvency proceedings. Termination shall not effect the respective rights and obligations of the parties as to Paper purchased prior to the effective date of termination. Waiver of any default shall not constitute a waiver of any other default. This agreement shall be construed according to the laws of the State of ________.

7. Notice. Any notices given in connection with this agreement shall be in writing and shall be either personally delivered or mailed in the first class United States mail, postage prepaid, addressed to the last known address of the recipient. Notice by mail shall be effective one day after such mailing.

Date________________________________, 19________

DEALER____________________________________

BY:____
(Authorized Signature and Title)

____
(Type of Organization, Corporation, Partnership or Proprietorship)

____
(Street Address)

____
(City, State, Zip Code)

Dealer's personnel authorized to sign Contracts and drafts in connection with this agreement are:

(Name and Title)	(Sample Signature)
(Name and Title)	(Sample Signature)
(Name and Title)	(Sample Signature)
(Name and Title)	(Sample Signature)

Accepted______________________, 19_____

ABC Credit Union
By__________________
(Authorized Signature)

REAL ESTATE DOCUMENTATION CHECKLIST - APPENDIX 10E

Real Estate Loans - General

- Loan Application
- Contract of Sale
- Verification of Employment
- Verification of Deposits
- Residential Mortgage Credit Report
- Uniform Residential Appraisals Report
  - Property Survey
  - Zoning Requirements
- Flood Insurance Statement/Coverage
- Debt Ratio Computation Page
- Title Insurance
- Title Binder/Title Policy
- FNMA/FHLMC Mortgage or Deed of Trust
- FNMA/FHLMC Note
- FNMA/FHLMC Deed
- Private Mortgage Insurance, if applicable
- RESPA Settlement Statement
- Current Hazard Insurance
- Notice of Recision, if nonpurchase mortgage on residence
- Termite Inspection, if applicable
- General Home Inspection, if applicable
- Radon Inspection, if applicable
- Adjustable Rate/Variable Rate Rider
- Loan to Value Ratio Computation
- Verification of the Balance of the First Trust Deed
- Other Documents, as necessary

Real Estate with Mobile Home

Add to General list:

- Deed to Real Estate with Title to Mobile Home
- Documentation Whether Wheels Have Been Removed
- Purchase Order or NADA Value
- Sewage Permits or System, as needed
- Water Availability
- UCC Lien for Tongue and Wheels

Construction Loans

Add to General list:

- Title Insurance Binder, with
  - Periodic Insurance
  - Adjustments/Notifications
- Take-Out Commitment
- Construction Loan Agreement
- Identification of Contractor
- Borrower's Risk Insurance on Builder
- Architect's Plans
- Builder's Cost Estimates and Line Item Budget
- Completion Bond, if required
- Periodic Inspection Reports Based on Phase Completions
- Photos of Inspection Phases and the Completed Project
- Schedule of Disbursements
- Building Permits
- Environmental Considerations
- Sewage Permits or System, as needed
- Feasibility Study
- Change Order Documentation

Unimproved Property

- Agreement that Improvements Cannot be Made to the Property without Credit Union Consent

Chapter 11

ALLOWANCE FOR LOAN AND LEASE LOSSES

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Chapter 11

ALLOWANCE FOR LOAN AND LEASE LOSSES

Examination Objectives

- Determine if management has a sound methodology, with supporting documentation, for estimating the amount of probable existing losses in its loan and lease portfolio
- Assess the overall adequacy of the Allowance for Loan and Lease Losses (ALLL)
- Ensure management understands the purpose of the ALLL

Associated Risks

- Compliance risk – Includes the risk that the credit union does not present ALLL in compliance with the laws and regulations.
- Transaction risk – Includes the risk that internal controls do not sufficiently deter or detect errors, omissions or material misstatements.
- Reputation risk – Includes the risk that management did not meet its fiduciary duty to properly reserve for probable existing losses, resulting in poor publicity or administrative action.

Overview

The boards of directors of federally-insured credit unions bear responsibility for ensuring their credit unions have controls in place to consistently maintain the ALLL in accordance with the credit union's stated policies and procedures, generally accepted accounting principles (GAAP), and ALLL supervisory guidance. They should instruct management to develop and maintain appropriate, systematic, and consistently applied procedures to determine the amounts of the ALLL and provisions for loan losses.

The ALLL provides an estimate of probable but unconfirmed losses in the loan portfolio as of the financial statement date; it is not a reserve for future anticipated losses. GAAP has as a primary objective for the ALLL to ensure a credit union recognizes and measures loan impairment in the period the impairment occurs and in the amount of that impairment. This applies to all credit unions, regardless of size.

If the credit union obtains a certified public accountant (CPA) opinion audit, examiners can place reliance on the CPA's review of the ALLL. The Supervisory Committee chapter contains additional guidance.

Definitions

Following are definitions used in this chapter:

- **ALLL**: A contra asset account established and maintained by periodic charges to operating expense to provide a credit union's best estimate of the probable amount of loans it will be unable to collect based on current information and events and the amount of the loss can be reasonably estimated.
- **Homogenous**: Of the same kind or nature; having similar parts or elements.
- **Impairment of loans**: A loan is impaired when it is probable that a creditor (credit union) will be unable to collect all amounts due, including principal and interest, according to the contractual terms and schedules of the loan agreement.
- **Layering**: The inappropriate practice of recording in the ALLL more than one amount for the same probable loan loss. Layering can happen when a credit union includes a loan in one segment, determines its best estimate of loss for that loan either individually or on a group basis (after taking into account all appropriate environmental factors, conditions, and events), and then includes the loan in another group, which receives an additional ALLL amount.
- **Loan Segmentation**: Presentation of information about certain parts of a loan portfolio, in contrast to information about the entire loan portfolio.
- **Migration Analysis**: A method to determine the adequacy of valuation allowances by tracking movements (or migration) of a classified asset to a worse classification in order to estimate a loss percentage likely to be incurred from different categories of assets within the current portfolio.
- **Probable**: Higher level of likelihood than "more likely than not."
- **Non-homogenous**: Not of the same kind or nature.

Documenting the ALLL

The examiner should ensure the credit union has appropriate documentation to support the ALLL process and reported amounts. The credit union should document the relationships between the results of the credit union's detailed review of the loan portfolio, the amount of the ALLL, and the provision for loan and lease losses reported in each period. Examiners should review the supporting documentation over the following decisions, strategies, and processes:

- Policies and procedures over the systems and controls that maintain an appropriate ALLL, and over the ALLL methodology;
- Loan grading system or process (if applicable);
- Summary or consolidation of the ALLL components;
- Validation of the ALLL methodology; and
- Periodic adjustments to the ALLL process.

Analysis of ALLL

The following sections of this chapter provide guidance on significant aspects of ALLL methodologies and documentation practices. Specifically, this chapter addresses:

- Application of GAAP,
- Policies and procedures,
- Methodology,
- Summarizing components and consolidating the loss estimates forming the amount required in the ALLL, and
- Validating the ALLL methodology.

Application of GAAP

GAAP-recorded ALLL quantifies a credit union's best estimate of the probable uncollectible amount of loans and leases based on current information and events. Estimating the amount of the ALLL involves management judgment and is inevitably imprecise.

Two GAAP rules primarily govern valuation of the ALLL. One covers large balance non-homogeneous loans (FAS 114), usually business and agriculture loans. The other rule deals with groups of homogeneous pools of loans (FAS 5) such as credit card, residential mortgage and consumer installment loans. The following further details those rules:

- Business and agricultural loans. GAAP provides guidance on the acceptable methods for measuring impairment for larger-balance loans individually evaluated. Specifically, GAAP states that if impairment of such a loan exists, a credit union should measure impairment based on the following:

    - The present value of expected future principal and interest cash flows discounted at the loan's effective interest rate;

- A loan's observable market price; or
- The fair value of collateral, if applicable.

When developing the estimate of expected future cash flows for a loan, a credit union should consider all available information reflecting past events and current conditions, including the effect of existing environmental factors.

- Credit Card, Residential Mortgage, and Consumer Installment Loans. Credit unions collectively evaluate large pools of smaller-balance homogeneous loans for impairment rather than evaluating these pools on an individual basis. The pools may include individually evaluated loans (business and agricultural above) that the credit union does not consider individually impaired.

According to GAAP, a credit union should increase the ALLL when it has incurred a probable loss and it can reasonably estimate the amount. A credit union may determine that the amount of loss falls within a range and may record its best estimate within the range of loan losses.

Examiners should ensure credit unions do not layer their loan loss allowances. Layering occurs when the credit union inappropriately records in the ALLL more than one amount for the same probable loan loss. It can happen when a credit union includes a loan in one segment, determines its best estimate of loss for that loan either individually or in a pool, and then includes the loan in another pool, which receives an additional ALLL amount.

Policies and Procedures

The ALLL process requires a wide range of policies, procedures, and control systems. Credit unions should tailor their policies to the size and complexity of the credit union and its loan portfolio.

The effectiveness of a credit union's ALLL methodology requires written policies and procedures that, at a minimum, should address the following:

- The roles and responsibilities of the credit union's departments and personnel (including the lending function, credit review, financial reporting, internal audit, senior management, board of directors,

and others, as applicable) who determine, or review the ALLL they will report in the financial statements;

- The credit union's accounting policies for loans and loan losses, including the policies for charge-offs, recoveries, and estimating the fair value of collateral (if any);

- The description of the credit union's methodology, which should maintain consistency with the credit union's accounting policies for determining its ALLL; and

- The system of internal controls used to ensure that the ALLL process adheres to GAAP and supervisory guidance.

An internal control system for the ALLL estimation process should:

- Include measures to ensure the reliability and integrity of information and compliance with laws, regulations, and internal policies and procedures;

- Reasonably ensure that the credit union's financial statements (including regulatory reports) follow GAAP and ALLL supervisory guidance;

- Include a well-defined loan review process containing:

  - An effective, consistently-applied loan grading system that accurately, and in a timely manner, identifies differing risk characteristics and loan quality problems, and prompts appropriate corrective actions;

  - Internal controls that ensure consideration of all relevant loan review information in estimating losses. This includes maintaining appropriate reports and details of reviews performed, and identifying personnel involved; and

  - Clear, formal communication and coordination between the board of directors, management, and others involved in the ALLL determination or review (e.g., written policies and

procedures, management reports, audit programs, and committee minutes.)

Methodology

An ALLL methodology is a system designed and implemented by the credit union to reasonably estimate loan and lease losses as of the financial statement date. ALLL methodologies should incorporate management's current judgment about the loan portfolio's credit quality through a disciplined and consistently applied process.

A credit union's size, organizational structure, business environment and strategy, management style, loan portfolio characteristics, loan procedures, field of membership, and management information systems influence its ALLL methodology. While credit unions may use different methods, certain common elements should exist in any ALLL methodology. Generally, a credit union's methodology should:

- Include a regularly performed analysis of the loan portfolio detailing delinquency, loan losses, extensions, etc., by loan type and/or category;
- Consider all loans (whether on an individual or pool basis);
- Identify loans for impairment evaluation on an individual basis under FAS 114 and segment the remainder of the portfolio into pools of loans with similar risk characteristics for evaluation and analysis under FAS 5 (discussion of FAS 114 and FAS 5 occurs later in this chapter);
- Consider all known relevant internal and external factors that may affect loan collectibility;
- Apply factors affecting collectibility consistently (but modify for new factors);
- Consider the particular risks inherent in different kinds of lending;
- Consider current collateral values (less costs to sell), where applicable;

- Require performance of analyses, estimates, reviews, and other ALLL methodology functions by well-trained personnel;

- Base methodology on current and reliable data;

- Require thorough documentation with clear explanations of the supporting analyses and rationale; and

- Include a systematic and logical method to summarize the balances determined under the various methodologies and ensure the credit union follows GAAP when recording the ALLL balance.

A properly designed and implemented methodology should provide a credit union's best estimate of the ALLL balance. Each dividend period, credit unions should make necessary adjustments to the ALLL account.

Documenting ALLL Methodology

A credit union's written policies and procedures should describe the primary elements of its ALLL methodology, including portfolio segmentation and impairment measurement. Effective policies and procedures should describe the methodology:

- For segmenting the portfolio:

  - The credit union's segmentation process (i.e., by loan type, industry, credit scoring, etc.),
  - The loan grading system used to segment the portfolio, if applicable, including:

    i. Definitions of each loan grade,
    ii. Reconciliation of the credit union's internal loan grades to examiners' concerns, and
    iii. Delineation of responsibilities for the loan grading system.

- For determining and measuring impairment for business and agriculture loans (FAS 114):

- The methods used to identify loans for individual analysis;
- The methods by which the credit union determines and measures the amount of impairment for individually reviewed impaired loans, including:

  i. Procedures describing available impairment measurement techniques, and
  ii. Steps performed to determine which technique most appropriately fits a given situation.

- The methods used to determine whether and how the credit union should pool business and agriculture loans deemed individually evaluated, but not individually impaired, with other loans that share common characteristics for impairment evaluation under pools (FAS 5.)

- For determining and measuring impairment for groups of consumer and mortgage loans (FAS 5):

  - Criteria for pooling loans with similar characteristics to evaluate them for collectibility (such as loan type, past-due status, and risk);
  - Criteria for determining loss rates (e.g., historical loss rates adjusted for environmental factors or migration analysis) and time frames to evaluate loss experience; and
  - Descriptions of qualitative factors (e.g., industry, geographical, economic and political factors) that may affect loss rates or other loss measurements.

The credit union may integrate supporting documents for the ALLL in its credit files, loan review reports or worksheets, board of directors and committee meeting minutes, computer reports, or other appropriate documents and files.

Management should consider all known relevant internal and external factors that affect loan collectibility as of the reporting date. Management's current judgments about the credit quality of the loan portfolio should determine the amounts of the ALLL and provisions for loan and lease losses and should include the following:

- The board should review and approve the ALLL and provision for loan and lease losses reported each period;
- The board should periodically validate and, when necessary, revise the methodology to ensure it remains appropriate for the credit union;
- The supervisory committee should oversee and monitor the internal controls over the ALLL determination process;
- The officials should adjust the allowance for loan and lease losses through current earnings in accordance with GAAP; and
- The officials should understand that they must meet the full and fair disclosure requirements in §702.402 of *NCUA Rules and Regulations* before distributing dividends.

Allowance for Individual Impairment of Large Balance, Non-Homogeneous Loans (FAS 114)

In applying its ALLL methodology for business and agriculture loans, the credit union begins with its normal loan review procedures to identify whether impairment of a loan exists. The credit union must document its method for identifying and analyzing impaired loans and must retain that documentation. The analysis must include the determination of which of the following measurement methods it used:

- Present value of expected future cash flows, including:
    - The amount and timing of cash flows,
    - The effective interest rate used to discount the cash flows, and
    - The basis for determining cash flows, including consideration of current environmental factors and other information reflecting past events and current conditions.

- Fair value of collateral less costs to sell, including:
    - Criteria for determining fair value, including the use of appraisals, valuation assumptions, and calculations,
    - Supporting rationale for any adjustments to appraised values,
    - Determination of costs to sell, if applicable, and
    - Appraisal quality, and the expertise and independence of the appraiser.

- Observable market price:
  - The amount, source, and date of the observable market price of the loan.

Examiners should understand that fully collateralized loans may require no ALLL.

Documenting an ALLL for Individually Impaired Large Balance Non-Homogeneous Loans (e.g., Business and Agricultural)

Comprehensive worksheet for the impairment measurement process

A small credit union uses a comprehensive worksheet for each loan being reviewed individually under FAS 114. Each worksheet includes a description of why the loan was selected for individual review, the impairment measurement technique used, the measurement calculation, a comparison to the current loan balance, and the amount of the ALLL for that loan. The rationale for the impairment measurement technique used (e.g., present value of expected future cash flows, observable market price of the loan, fair value of the collateral) is also described on the worksheet.

Illustration 11-A

Allowance for Small Balance Homogeneous Pools of Loans (FAS 5)

When evaluating loans on a pool basis under GAAP, management should segment the loan portfolio by identifying risk characteristics common to various pools of loans. Credit unions typically decide how to segment their loan portfolios based on many factors, which vary with their business strategies as well as their information system capabilities. Credit unions typically segment their portfolios as follows:

- Credit unions involved in less complex activities and offering a narrow range of loan products often segment the portfolio into broad loan categories.

- Credit unions offering a more diverse and complex mix of loan products may segment the portfolio into major loan types but typically maintain more detailed information. This allows them to further segregate the portfolio into product line segments based on the risk characteristics of each portfolio segment.

Changes in economic and other business conditions often require credit unions to modify their business strategies. This may result in

New

adjustments to the way in which they segment their loan portfolio for purposes of estimating loan losses.

Regardless of the segmentation method used, a credit union should maintain written documentation to support its conclusion that the loans in each segment have similar attributes or characteristics.

Credit unions use a variety of documents to support the segmentation of their portfolios, including:

- Loan trial balances by categories and types of loans;
- Management reports about the mix of loans in the portfolio;
- Delinquency and non-accrual reports; and
- A summary presentation of the results of an internal or external loan grading review.

Credit unions may find reports generated to assess the profitability of a loan product line useful in identifying areas in which to further segment the portfolio.

Documenting Segmentation Practices

Documenting a refinement in a segmentation method.

A credit union with a significant portfolio of consumer loans performed a review of its ALLL methodology. The credit union had determined its ALLL based upon historical loss rates in the overall consumer portfolio. The ALLL methodology was validated by comparing actual loss rates (charge offs) for the past two years to the estimated loss rates. During this process, the credit union decided to evaluate loss rates on an individual product basis (e.g., auto loans, unsecured loans, or home equity loans.) This analysis disclosed significant differences in the loss rates on different products. With this additional information, the methodology was amended in the current period to segment the portfolio by product, resulting in a better estimation of the loan losses associated with the portfolio. To support this change in segmentation practice, the credit review committee records contain the analysis that was used as a basis for the change and the written report describing the need for the change.

Illustration 11-B

Estimating Loss on Pools of Loans

After segmenting the portfolio and using a systematic and consistently applied approach to select the most appropriate loss measurement methods, a credit union should estimate the required ALLL for each segment (pool.) For those segments that require an ALLL, the credit

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union should estimate the loan and lease losses, each dividend period, based on its ongoing loan review process and loan performance analysis.

One method of estimating loan and lease losses for pools of loans is by applying loss rates to the pools' aggregate loan balances. Such loss rates typically reflect historical loan loss experience for each pool of loans, adjusted for relevant environmental factors (e.g., industry, geographical, economic, and political factors) over a defined period of time.

If a credit union does not have loss experience of its own, it may reference the loss experience of other credit unions. To do so, it must demonstrate similarity between the attributes of the loans in its portfolio to those of the loans included in the portfolio of the credit union providing the loss experience.

Documenting the Loss Measurement Method

Comprehensive loss analysis in a small credit union

A small credit union determines its loss rates based on loss rates over a three-year historical period. The analysis is conducted by type of loan and is further segmented by originating branch office. The analysis considers charge offs and recoveries in determining the loss rate. The credit union also considers the loss rates for each loan grade and compares them to historical losses on similarly rated loans in arriving at the historical loss factor. The credit union maintains supporting documentation for its loss factor analysis, including historical losses by type of loan, originating branch office, and loan grade for the three-year period.

Adjustment of loss rates for changes in local economic conditions

A credit union develops a factor to adjust loss rates for its assessment of the impact of changes in the local economy. For example, when analyzing the loss rate on business real estate loans, the assessment identifies changes in recent commercial building occupancy rates. The credit union generally finds the occupancy statistics to be a good indicator of probable losses on these types of loans. The credit union maintains documentation that summarizes the relationship between current occupancy rates and its loss experience.

Illustration 11-C

Credit unions should maintain supporting documentation for the technique used to develop their loss rates, including the period of time over which they incurred the losses. If credit unions use a range of

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loss, they should maintain documentation to support the identified range and the rationale used for determining the best estimate within the range of loan losses.

Before employing a loss measurement method, a credit union should evaluate and modify, as needed, the method's assumptions to ensure consistency of the resulting loss estimate with GAAP. Credit unions can demonstrate consistency with GAAP by documenting the evaluation, the conclusions regarding the appropriateness of the loss measurement method or other loss estimation tool, and the support for adjustments to the method or its results.

In developing loss measurements, credit unions should consider the impact of current environmental factors and document which factors they used in the analysis and how those factors affect the loss measurements. Credit unions should consider the following factors when developing loss measurements:

- Levels of and trends in delinquencies and impaired loans;
- Levels of and trends in charge-offs and recoveries;
- Trends in volume and terms of loans;
- Effects of any changes in risk selection and underwriting standards, and other changes in lending policies, procedures, and practices;
- Experience, ability, and depth of lending management and other relevant staff;
- National and local economic trends and conditions;
- Industry conditions; and
- Effects of changes in credit concentrations.

Adjustments of loss measurements for environmental factors require that the credit union maintain sufficient, objective evidence to support the amount of the adjustment. The documentation must relate the need for the adjustment to current information, events, circumstances, and conditions.

Summarizing Components and Consolidating the Amount of the ALLL

Management should prepare a summary document supporting the amount of ALLL it reports on the credit union's financial statements. This will verify that the ALLL is fairly presented in accordance with GAAP and is auditable. The credit union board should review and approve this summary. Common elements in such summaries include:

- An estimate of the probable loss or range of loss incurred for each category evaluated (e.g., individually evaluated impaired loans, homogeneous pools, and other pools of loans collectively evaluated for impairment);
- The aggregate probable loss estimated using the credit union's methodology;
- A summary of the current ALLL balance;
- The amount, if any, of the necessary ALLL adjustment; and
- Detailed sub-schedules of loss estimates that reconcile to the summary schedule, if so warranted by the level of detail supporting the ALLL analysis.

Generally, a credit union's review and approval process for the ALLL relies upon the data provided in these consolidated summaries. However, instances may exist whereby individuals or committees that review the ALLL methodology and allowance balance identify needed adjustments to provide a better estimate of loan losses. These changes may result from information not known at the time of the initial loss estimate.

Management should (1) document the nature of any adjustments and the underlying rationale for making the changes, (2) ensure these adjustments remain consistent with GAAP, and (3) make certain the adjustments receive the review and approval of appropriate personnel. They should provide this documentation to those making the final determination of the ALLL amount. The summary should give each subsequent reviewer an understanding of the support behind the adjustments.

Validating ALLL Methodology

A valid ALLL methodology accurately estimates the amount of loss contained in the portfolio. Thus, the credit union's methodology should include procedures that adjust loss estimation methods to

reduce differences between estimated losses and actual subsequent charge offs, as necessary.

To verify the validity of the ALLL methodology and its conformance with GAAP and necessary supervisory guidance, the board should establish internal control policies, appropriate for the size of the credit union and the type and complexity of its loan products. These policies should include procedures for a review, by a party independent of the ALLL estimation process, of the ALLL methodology and its application in order to confirm its effectiveness.

In practice, credit unions employ numerous procedures when validating the reasonableness of their ALLL methodology and determining whether deficiencies exist in their overall methodology or loan grading process. Validation procedures include the following:

- A review of trends in loan volume, delinquencies, restructurings, and concentrations;
- A review of previous charge-off and recovery history, including an evaluation of the timeliness of the entries to record both the charge-offs and the recoveries;
- A review, on a test basis by a party independent of the ALLL estimation process, of source documents and underlying assumptions to determine that the established methodology results in reasonable loss estimates; and
- An evaluation of the appraisal process of the underlying collateral, by periodically comparing the appraised value to the actual sales price on selected properties sold.

Supporting Documentation for the Validation Process

Usually, management supports the validation process with the working papers from the ALLL review function. Additional documentation often includes the summary findings of the independent reviewer. The credit union's board of directors, or its designee, reviews the findings and acknowledges its review in its meeting minutes. If the officials change the methodology based upon the findings of the validation process, they should maintain documentation that describes and supports the changes.

When a Document of Resolution is Required

If required, a Document of Resolution (DOR) should focus on the methodology (deficiencies noted, improvements needed) rather than a specific dollar amount of over- or under-statement in the ALLL. However, if the examiners detect a material misstatement, they should require an appropriate dollar amount of funding.

Workpapers and References

- Workpapers
  - ALLL
  - Loan Analysis
  - Query Report Loans Impaired
  - Allowance for Loan and Lease Losses Classification
  - Allowance Summary
- References
  - *NCUA Rules and Regulations*
    - § 702.402 -- Full and Fair Disclosure

ALLL FACTS, QUESTIONS, and ANSWERS - APPENDIX 11A

Measuring and Documenting Impairment Under FAS 114

Facts: Approximately one-third of Credit Union A's business loan portfolio consists of large balance, non-homogeneous loans. Due to their large individual balances, these loans meet the criteria under Credit Union A's policies and procedures for individual review for impairment under FAS 114. Upon review of the large balance loans, Credit Union A determines that certain of the loans are impaired as defined by FAS 114.

Question: For the business loans reviewed under FAS 114 that are individually impaired, how should Credit Union A measure and document the impairment on those loans? Can it use an impairment measurement method other than the methods allowed by FAS 114?

Interpretive Response: For those loans that are reviewed individually under FAS 114 and considered individually impaired, Credit Union A must use one of the methods for measuring impairment that is specified by FAS 114 (that is, the present value of expected future cash flows, the loan's observable market price, or the fair value of collateral). Accordingly, in the circumstances described above, for the loans considered individually impaired under FAS 114, it would not be appropriate for Credit Union A to choose a measurement method not prescribed by FAS 114. For example, it would not be appropriate to measure loan impairment by applying a loss rate to each loan based on the average historical loss percentage for all of its business loans for the past five years.

Credit Union A should maintain written documentation to support its measurement of loan impairment under FAS 114. If Credit Union A uses the present value of expected future cash flows to measure impairment of a loan, it should document the amount and timing of cash flows, the effective interest rate used to discount the cash flows, and the basis for the determination of cash flows, including consideration of current environmental factors and other information reflecting past events and current conditions. When Credit Union A uses the fair value of collateral to measure impairment,

Credit Union A should document how it determined the fair value, including the use of appraisals, valuation assumptions and calculations, the supporting rationale for adjustments to appraised values, if any, and the determination of costs to sell, if applicable, appraisal quality, and the expertise and independence of the appraiser. Similarly, Credit Union A should document the amount, source, and date of the observable market price of a loan, if that method of measuring loan impairment is used.

Measuring Impairment for a Collateral Dependent Loan Under FAS 114

Facts: Credit Union B has a $750,000 loan outstanding to Member X that is secured by real estate, which Credit Union B, according to their current policy, individually evaluates under FAS 114 due to the loan's size. Member X is delinquent under the terms of the loan agreement. Accordingly, Credit Union B determines that its loan to Member X is impaired, as defined by FAS 114. Because the loan is collateral dependent, Credit Union B measures impairment of the loan based on the fair value of the collateral. Credit Union B determines that the most recent valuation of the collateral was performed by an appraiser eighteen months ago and, at that time, the estimated value of the collateral (fair value less costs to sell) was $900,000.

Credit Union B believes that certain of the assumptions that were used to value the collateral eighteen months ago do not reflect current market conditions and, therefore, the appraiser's valuation does not approximate current fair value of the collateral. Several buildings, which are comparable to the real estate collateral, were recently completed in the area, increasing vacancy rates, decreasing lease rates, and attracting several tenants away from the borrower. Accordingly, personnel at Credit Union B adjust the valuation assumptions to better reflect the current market conditions as they relate to the loan's collateral. After adjusting the collateral valuation assumptions, the loan review department determines that the current estimated fair value of the collateral, less costs to sell, is $575,000. Considering the loan balance is $750,000, Credit Union B concludes that the loan is impaired by $175,000 and records an ALLL adjustment of $175,000.

Question: What type of documentation should Credit Union B maintain to support its ALLL adjustment of $175,000 for the loan to Member X?

Interpretive Response: Credit Union B should document that it measured impairment of the loan to Member X by using the fair value of the loan's collateral, less costs to sell, which it estimated to be $575,000. This documentation should include the credit union's rationale and basis for the $575,000 valuation, including the revised valuation assumptions it used, the valuation calculation, and the determination of costs to sell, if applicable. Because Credit Union B arrived at the valuation of $575,000 by modifying an earlier appraisal, it should document its rationale and basis for the changes it made to the valuation assumptions that resulted in the collateral value declining from $900,000 eighteen months ago to $575,000 in the current period.

Fully Collateralized Loans Under FAS 114

Facts: Credit Union C has $500,000 in business loans that are fully collateralized by purchased business equipment. The loan agreement for each of these loans requires the borrower to provide qualifying collateral sufficient to fully secure each loan. The member borrowers have physical control of the collateral. Credit Union C perfected its security interest in the collateral when the funds were originally distributed. On an annual basis, Credit Union C determines the market value of the collateral for each loan using two independent market quotes and compares the collateral value to the loan carrying value. Semiannually, or more frequently as needed, Credit Union C physically inspects the equipment. If there are any collateral deficiencies, Credit Union C notifies the borrower and requests that the borrower immediately remedy the deficiency. Due in part to its efficient operation, Credit Union C has historically not incurred any material losses on these loans. Credit Union C believes these loans are fully collateralized and therefore does not maintain any ALLL reserve for these loans.

Question: What documentation does Credit Union C maintain to adequately support its determination that no allowance is needed for this group of loans?

Interpretive Response: Credit Union C's management summary of the ALLL includes documentation indicating that, in accordance with the credit union's ALLL policy, the collateral protection on these loans has been verified by the credit union, no probable loss has been incurred, and no ALLL is necessary. Documentation in Credit Union C's loan files includes the two independent market quotes obtained annually for each loan's collateral amount, the documents evidencing the perfection of the security interest in the collateral, and other relevant supporting documents. Additionally, Credit Union C's ALLL policy includes a discussion of how to determine when a loan is considered "fully collateralized" and does not require an ALLL. Credit Union C's policy requires the following factors to be considered and the credit union's findings concerning these factors to be fully documented:

- Volatility of the market value of the collateral;
- Recency and reliability of the appraisal or other valuation;
- Recency of the credit union or other third party inspection of the collateral;
- Historical losses on similar loans;
- Confidence in the credit union's lien or security position including appropriate:
  - Type of security perfection (e.g., physical possession of collateral or secured filing);
  - Filing of security perfection (i.e., correct documents and with the appropriate officials), and
  - Relationship to other liens.
- Documentation indicating adequate and up to date insurance is in effect for the secured collateral.
- Other factors as appropriate for the loan type.

Adjusting Loss Rates Under FAS 5

Facts: Credit Union D's field of membership (lending area) includes a metropolitan area that is financially dependent upon the profitability of a number of sponsor manufacturing businesses. These businesses use highly specialized equipment and significant quantities of rare metals in the manufacturing process. Due to increased low-cost foreign competition, several of the parts suppliers servicing these sponsor manufacturing firms declared bankruptcy. The foreign suppliers have subsequently increased prices and the sponsor

manufacturing firms have suffered from increased equipment maintenance costs and smaller profit margins. Additionally, the cost of the rare metals used in the manufacturing process increased and has now stabilized at double last year's price. Due to these events, the sponsor manufacturing businesses are experiencing financial difficulties and have recently announced downsizing plans.

Although Credit Union D has yet to confirm an increase in its loss experience as a result of these events, management knows that the credit union lends to a significant number of member's for business and individual purposes whose repayment ability depends upon the long-term viability of the sponsor manufacturing businesses. Credit Union D's management has identified particular segments of its business and consumer member bases that include member borrowers highly dependent upon sales or salary from the sponsor manufacturing businesses. Credit Union D's management performs an analysis of the affected portfolio segments to adjust its loss rates used to determine the ALLL. In this particular case, Credit Union D has experienced similar business and lending conditions in the past that it can compare to current conditions.

Question: How should Credit Union D document its support for the loss rate adjustments that result from considering these manufacturing firms' financial downturns?

Interpretive Response: Credit Union D should document its identification of the particular segments of its business and consumer loan portfolio for which it is probable that the sponsor manufacturing business' financial downturn may result in loan losses. In addition, Credit Union D should support adjustments to the loss rates for the affected portfolio segments. As part of its documentation, Credit Union D maintains copies of the documents supporting the analysis, including relevant newspaper articles, economic reports, and economic data, and notes from discussions with individual member borrowers. Because in this case Credit Union D has had similar situations in the past, its supporting documentation should also include an analysis of how the current conditions compare to its previous loss experiences in similar circumstances. As part of its effective ALLL methodology, Credit Union D creates a summary of the amount and rationale for the adjustment factor, which

management presents to the supervisory committee and board for their review and approval prior to the issuance of the financial statements.

Estimating Losses under FAS 5 for Loans First Reviewed but Not Considered Impaired Under FAS 114

Facts: Credit Union E has outstanding loans of $875,000 to Member Y and $725,000 to Member Z, both of which are paying as agreed upon in the loan documents. The credit union's ALLL policy specifies that all loans greater than $700,000 must be individually reviewed for impairment under FAS 114. Member Y's financial statements reflect a strong net worth, good profits, and ongoing ability to meet debt service requirements. In contrast, recent information indicates Member Z's profitability is declining and its cash flow is tight. Accordingly, this loan is rated substandard under the credit union's loan grading system. Despite its concern, management believes Member Z will resolve its problems and determines that neither loan is individually impaired as defined by FAS 114.

Credit Union E segments its loan portfolio to estimate loan losses under FAS 5. Two of its loan portfolio segments are Segment 1 and Segment 2. The loan to Member Y has risk characteristics similar to the loans included in Segment 1 and the loan to Member Z has risk characteristics similar to the loans included in Segment 2.

In its determination of the ALLL under FAS 5, Credit Union E includes its loans to Member Y and Member Z in the groups of loans with similar characteristics (i.e., Segment 1 for Member Y's loan and Segment 2 for Member Z's loan). Management's analyses of Segment 1 and Segment 2 indicate that it is probable that each segment includes some losses, even though the losses cannot be identified to one or more specific loans. Management estimates that the use of its historical loss rates for these two segments, with adjustments for changes in environmental factors provides a reasonable estimate of the credit union's probable loan losses in these segments.

Question: How does Credit Union E adequately support and document an ALLL under FAS 5 for these loans that were individually reviewed for impairment but are not considered individually impaired?

Interpretive Response: As part of Credit Union E's effective ALLL methodology, it documents the decision to include its loans to Member Y and Member Z in its determination of its ALLL under FAS 5. It also documents the specific characteristics of the loans that were the basis for grouping these loans with other loans in Segment 1 and Segment 2, respectively. Credit Union E maintains documentation to support its method of estimating loan losses for Segment 1 and Segment 2, including the average loss rate used, the analysis of historical losses by loan type and by internal risk rating, and support for any adjustments to its historical loss rates. The credit union also maintains copies of the economic and other reports that provided source data.

Consolidating the Loss Estimates – Documenting the Reported ALLL

Facts: Credit Union F determines its ALLL using an established systematic process. At the end of each period, the accounting department prepares a summary schedule that includes the amount of each of the components of the ALLL, as well as the total ALLL amount, for review by senior management, the Credit Committee, and, ultimately, the board of directors. Members of senior management and the Credit Committee meet to discuss the ALLL. During these discussions, they identify changes to be made to certain of the ALLL estimates. As a result of the adjustments made by senior management, the total amount of the ALLL changes. However, senior management (or its designee) does not update the ALLL summary schedule to reflect the adjustments or reasons for the adjustments. When performing their audit of the financial statements, the independent accountants are provided with the original ALLL summary schedule that was reviewed by management and the Credit Committee, as well as a verbal explanation of the changes made by senior management and the Credit Committee when they met to discuss the loan loss allowance.

Question: Are Credit Union F's documentation practices related to its ALLL balance appropriate?

Interpretive Response: No. A credit union must maintain supporting documentation for the ALLL amount reported in its financial statements. As illustrated above, there may be instances in which ALLL reviewers identify adjustments that need to be made to the loan loss estimates. The nature of the adjustments, how they were measured or determined, and the underlying rationale for making the changes to the ALLL balance should be documented. Appropriate documentation of the adjustments should be provided to the board of directors (or its designee) for review of the final ALLL amount to be reported in the financial statements. For credit unions subject to external audit, this documentation should also be made available to the supervisory committee and its independent accountants. If changes frequently occur during management or committee reviews of the ALLL, management may find it appropriate to analyze the reasons for the frequent changes and to reassess the methodology the credit union uses.

Chapter 12

INVESTMENT ANALYSIS

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Chapter 12

INVESTMENT ANALYSIS

Examination Objectives

- Determine adequacy of the credit union's investment policy, procedures, and internal controls
- Assess legality of investments and compliance with related regulations, accounting procedures, and other guidelines
- Evaluate suitability of the investment portfolio in relation to the credit union's business plan, asset-liability management (ALM) strategies, liquidity, and net worth position
- Determine fair value of the investment portfolio and the effect of realized or potential losses from investment transactions on the credit union's earnings and capital position
- Review correction of investment-related problems by management

Associated Risks

The investment area affects all seven risks found in credit union operations – credit, interest rate, liquidity, transaction, compliance, strategic, and reputation. (The Risk-Focused Program chapter contains a description of the seven risks faced by credit unions.) This chapter specifically addresses credit, interest rate, liquidity, transaction, compliance, and other operational risks; however, if credit unions suffer significant losses due to investment decisions, the credit union could also face reputation risk. Examiner's judgment plays an important role in identifying both the type and extent of risks as well as deciding on appropriate examination procedures.

Overview

The investment portfolio serves as an important source of liquidity and can represent a substantial portion of a credit union's assets. Likewise, investment income can serve as an important source for meeting a credit union's operating expenses, dividend payments, and reserve requirements (if applicable.) Thus, the examiner's assessment of management's ability to invest prudently is an important part of the examination.

The extent of the examiners' investment reviews will depend on the following:

- The results of reviews of investment policies, procedures, practices, and internal controls;
- The adequacy of management's risk monitoring system for investments;
- The condition of investment records;
- The volume and materiality of investment transactions; and

- The degree of problems disclosed by previous audits or examinations.

Examiners record the extent of the investment analysis (if they perform such an analysis) in the Scope Workbook. They should also complete applicable investment questionnaires or reports.

Examiner Resources

The key investment references for this chapter are *NCUA Rules and Regulations* §703, IRPS 98-02, and related Guidance Papers. Other resources that may assist examiners in their analysis of complex investment portfolios include:

- Regional capital market specialists (RCMS) in each regional office provide technical assistance;
- Bloomberg terminal, an information vendor system available through each RCMS, provides investment characteristics and analysis;
- Office of Strategic Program Support and Planning (OSPSP) in the Central Office provides additional assistance (examiners should follow regional procedures);
- The NCUA Investment Hotline (1-800-755-5999) provides examiners and credit unions a resource to call and discuss investment questions.

Policies

The board of directors must (1) adopt a written investment policy consistent with the *Federal Credit Union Act*, *NCUA Rules and Regulations*, and other applicable laws; and (2) review and update the investment policy at least annually. A monitoring and reporting program helps ensure the credit union's investment process adheres to the written policy. If the investment review discloses exceptions to sound investment policies or procedures, the examiner will recommend appropriate changes to resolve the concerns.

The credit union's size and asset mix determine the scope of the investment policy. At a minimum, the policy must address the following:

- **Purpose and objectives.** The credit union must document its intentions (purpose) at the time it purchases investment securities, and must classify each security as one of the following: held-to-maturity, available-for-sale, or trading. SFAS 115 contains additional guidance.

  Investment objectives should reflect the relative importance of investments to the credit union's overall goals and objectives. Generally, credit unions attempt to balance the need for safety and liquidity against the need for yield, while maintaining enough flexibility to respond to rapid changes in market interest rates. Thus, investment

objectives should closely coincide with internal asset-liability goals and the short- and long-term business plan.

- **Characteristics of investments.** Investment characteristics describe the permissible investments and explain their pros and cons. The board of directors must specify in the investment policy the types and characteristics of investments permitted for the credit union. Characteristics may include the issuer, maturity, coupon rate, index, cap, floor, coupon formula, call provisions, average life, and interest rate risk (e.g., duration.) For example, a board policy specifying permissible interest rate risk (IRR) of an investment communicates to management the board's tolerance for risk at the instrument level. The policy should ensure management considers the effect of investment characteristics on the marketability and resale value of the investment and the credit union's ability to achieve established liquidity objectives.

- **IRR.** IRR is the potential for change in the value of a security as market interest rates change (also referred to as market risk.) Changes in interest rates can reduce the investment's value. Managing IRR on a total balance sheet basis, which includes monitoring the price sensitivity of the investment portfolio and long-term loans, is a sound business practice. A credit union may consider whether it should specify institution-wide IRR limits (generally for net economic value or earnings exposures) in light of its long-term investment and lending activities and its level of capital.

  Credit unions, especially those that do not establish institution-wide IRR limits, may choose to establish price sensitivity limits on their investment portfolio or individual investments. The officials must understand that, while many investments have good marketability, the selling price of an investment may be sensitive to changes in interest rates. For example, although Treasury securities usually have ready marketability, longer-term fixed-rate Treasury securities generally will experience greater price volatility than shorter-term fixed-rate Treasury securities.

  Management must prepare a risk report at least quarterly if the fair value of all securities with (1) embedded options, (2) maturities greater than three years, or (3) complex coupon formulas exceeding net capital. The risk report must document potential effects of interest rate shifts of plus and minus three percent (300 basis points) on each security's fair value and the cumulative effect of those shifts on capital (§703.90.)

- **Liquidity risk.** An investment's liquidity or marketability risk is the risk that inadequate market depth could impede the credit union's ability to promptly sell the investment at a reasonable or fair market price. Generally, Treasury securities have

greater liquidity than other securities. Wide bid-ask spreads characterize illiquid securities. Current examples of illiquid securities include Small Business Administration (SBA) loan participation certificates and smaller or older mortgage-backed securities (MBS.) Additionally, negotiable CD investments in financially weak depository institutions often are less liquid than investments in strong depository institutions.

A credit union must have sufficient liquid assets to meet immediate cash demands. The board should consider current and future liquidity needs based on its business plan (including budget) and asset-liability management strategy. The board should structure the investment portfolio to help meet normal liquidity needs, as well as any unexpected cash outflows.

Proper classification of held-to-maturity, available-for-sale, and trading securities can enable a credit union to meet its liquidity needs without an accounting reclassification. The examiner may question a credit union's assertion that it has the intent and ability to hold securities to maturity if the credit union has had to sell or transfer held-to-maturity securities to meet a liquidity need, especially in instances of a material sale or transfer.

- **Credit risk.** Credit risk is the possible loss that could occur if the issuer of an investment defaults or if the market value of an investment declines because the market perceives an increased probability of default. Credit risk appears most often in uninsured deposits with other (correspondent) financial institutions (e.g., Fed Funds sold.)

  Credit unions should address credit risk in their investment policies as follows:

  - List specific permissible institutions, issuers, and counter-parties <u>or</u> specify criteria for their selection, <u>and</u>
  - Specify limits on the dollar amounts the credit union may invest in each.

  Before making investments that exceed an insured limit, are not insured, or not fully guaranteed as to principal and interest by the U.S. Government or its agencies, enterprises, or corporations, management must perform and document a credit analysis of the investments. Management must update the analysis at least annually as long as the credit union holds the investment. Smaller credit unions that cannot perform a detailed credit analysis should invest funds in appropriate alternatives (e.g., corporate credit unions), albeit, they still must perform due diligence.

- **Concentration risk.** Concentration risk results when the credit union does not properly address diversification in the investment portfolio. Concentration risk can occur when the investments in a portfolio have similar characteristics, such as identical call dates and provisions, the same or related issuers, or the same geographic distribution. Concentrations in investments can increase a credit union's exposure to interest rate, credit, and liquidity risk. The investment policy should specify dollar limits for holdings of obligations with similar characteristics (e.g., fixed vs. variable, type of floating rate index, geographical distribution, etc.) Significant concentrations with individual broker-dealers or safekeepers present risk if management has not performed adequate due diligence. Losses can result when unscrupulous broker-dealers or safekeepers resort to fraud and deceit.

- **Delegation of authority to officials or employees.** The credit union board of directors may delegate the authority, but not the responsibility, for making investment decisions. The board must retain ultimate responsibility. The board may authorize an official of the credit union (normally the president or an investment officer) to invest or divest funds according to the investment policy on a continuing basis. For example, the policy may authorize the manager to transfer funds to an overnight investment account whenever the checking account cash balance exceeds a specified amount or average daily balance. Board policy must state explicitly the authority it has delegated to the manager; §703.30(g) requires professional qualifications by education or experience for individuals given investment authority.

  In other situations, the board may delegate only limited authority to a credit union employee (e.g., complete and sign the necessary papers related to investment transactions.) The board should sufficiently define the delegation of authority so the individual receiving the investment instructions cannot exercise discretionary powers. This individual should report all transactions to the board, investment committee, or executive committee at least monthly. Board policies and procedures should address how the credit union will comply with §703.120 (e.g., the prohibition on acceptance of cash bonuses, merchandise premiums, etc., from broker-dealers.)

- **Delegation of authority to a third-party.** §703.40(c) permits the board to delegate its authority for investing credit union funds to a third party. However, the credit union must ensure that the third party is an investment adviser registered with the Securities and Exchange Commission (SEC), and limit the aggregate amount of such delegations (e.g., dollar amount of investments) to 100 percent of net worth. This restriction does not apply to investments in mutual funds. Also, the 100 percent limitation does not apply to credit unions meeting the Reg Flex requirements of Part 742.

The board should exercise caution when delegating investment decision authority to SEC-registered investment advisers. The board should perform the following additional procedures:

- Investigate the integrity and financial condition of any investment adviser before delegating investment authority;
- Reduce the delegation of authority to writing and explicitly state in board policy the authority delegated to the investment adviser; and
- Understand that the board must set policy limits, approve procedures, understand the overall risks associated with the investments, and receive reports assessing whether the portfolio has remained within established limits.

- **Broker-dealer.** A federal credit union may use a third party (i.e., a broker-dealer) to purchase and sell investments if the broker-dealer holds a current registration as a broker-dealer with (1) the SEC or (2) a depository institution for which a federal regulatory agency regulates the broker-dealer activities. CUSOs that provide broker-dealer services to credit unions must meet the requirements of §703.50.

  A credit union making an investment in a certificate of deposit (CD) must either send funds directly to the issuing depository institution or use a broker-dealer. A federal credit union may use a third party (i.e., a CD finder) to locate institutions offering high CD rates, and may compensate the finder for that service, but it must send the funds directly to the depository institution offering the CD and not through the finder. (Refer to the section of this chapter on Broker-Dealer Analysis; Letter to Credit Unions No. 157, September 1994; and Letter to Credit Unions No. 00-CU-05, September 2000 for additional guidance.)

- **Safekeeping.** Either the SEC or a federal or state depository institution regulatory agency must regulate and supervise any safekeeping institution that a federal credit union uses for custody of purchased investments. Actual or opportunity losses can result from inappropriate safekeeping arrangements for investments. (Refer to the section of this chapter on Safekeeping for guidance.)

- **Surveillance and divestiture.** For investments that fail to meet the requirements of the *FCU Act*, *NCUA Rules and Regulations*, or board policy, the policy must address how the credit union will handle these investments. The policy should include provisions for monitoring and reporting of high-risk investments.

- **Trading account.** Federal credit unions engaging in investment trading must adopt expanded policies that address the trading issue, and sufficient resources, knowledge, systems, and procedures to manage the risks. The policy should address size limitations of the trading account, stop loss or sale provisions, and limits on the length of time the credit union may hold an investment in the trading account.

- **Operational risks.** In addition to the requirements above, credit unions' investment policies should address the various types of risks inherent in the investment process, including:

  - Management risk. Management risk is the loss potential resulting from lack of knowledge about various characteristics of the intended investment instrument. Before making any investment, management must thoroughly understand the intended security and ensure that the investment's risk characteristics are consistent with the credit union's overall investment objectives and business goals. Management's unfamiliarity with the pricing of an investment or terms of the investment transaction can result in losses if the price management paid exceeds the fair value. Therefore, management must understand how the investment instrument reacts to changes in market interest rates.

  - Transactional or operational risk. This risk arises from deficiencies in information systems or internal controls that can result in unexpected loss. Sources of operational risk include inadequate procedures, human error, system failure, and fraud. The first line of defense in controlling operating risks is effective internal controls, including separation of duties and supervision of persons executing investment transactions from those responsible for processing transactions and accounting for investments; and

  - Compliance or legal risk. Federal credit unions must ensure that investments comply with the *FCU Act*, *NCUA Rules and Regulations*, and other applicable laws. Legal risk includes the risk that contracts, such as custodial agreements and repurchase agreements, are not legally enforceable or properly documented. Federal credit unions should adequately evaluate agreements before entering into a contract to ensure (1) compliance with applicable laws, and (2) inclusion of all bargained for duties and provisions, such as the ordinary duty of care for a safekeeper, or the requirement for a perfected first priority security interest in repurchase collateral.

During the review of the board and the executive committee minutes, examiners should determine that the board fulfills its responsibilities and that any individual to whom the

board has delegated its authority submits the proper reports. Board minutes should clearly outline to whom the board has delegated authority and the extent of that authority. Examiners should review such delegations during each examination.

In summary, credit unions can reduce investment risks by:

- Fully evaluating each type of investment before purchase, including the creditworthiness and/or the financial condition of the issuer and the potential IRR of the proposed investment;
- Analyzing the financial condition and reputation of any intermediary to the transaction, such as a broker-dealer; and
- Diversifying the investment portfolio by type, maturity, geographical location, guarantor, etc.

Examination Guidance

Examiners should complete the "Investment Controls" questionnaire before determining the extent of investment risk. The examiner may decide to expand the review if (1) the credit union has changed its investment policies since the last examination, (2) the examiner or auditor noted investment internal control or other weaknesses, (3) the credit union changed substantially its investment mix, or (4) the credit union has material amounts of complex investments in its investment portfolio.

If the examiner and supervisory examiner determine the necessity of reviewing investments, the examiners should sample each investment type. For example, if the credit union has 100 CDs, the examiner may review a sample of five CDs. If problems exist, examiners should expand their analysis to the point of determining the severity of the problems and developing plans for correction.

Examiners may review broker/dealer activity, when applicable, to determine the existence and extent of any resulting problems. Examiners may also review a sample of investments made through a new broker/dealer.

Classification of Securities SFAS 115

Federal credit unions must report securities in accordance with generally accepted accounting principles (GAAP), which require categorizing a security in one of three classifications:

- **Trading securities** - debt and equity securities that the credit union bought and holds primarily for the purpose of selling in the near term (held for only a short period of

time.) The credit union reports trading securities at fair value through the income statement;

- **Held-To-Maturity securities** - debt securities that the credit union has the positive intent and ability to hold to maturity. The credit union reports held-to-maturity securities at amortized cost; and

- **Available-For-Sale securities** - debt and equity securities not classified as either trading or held-to-maturity securities. Credit unions report available-for-sale securities at fair value through a separate component of equity on the balance sheet, Accumulated Unrealized Gains/Losses on Available-for-Sale Securities.

Absent evidence to the contrary, examiners normally should accept the credit union's designations, especially if the examiner considers the external audit adequate and does not take exception. (Contradictory evidence could include a pattern of intermittent sales or transfers of held-to-maturity securities, suggesting that the securities are actually available-for-sale.) The examiner should focus on evaluating the risks in the securities holdings and activities and on the credit union's management of these risks, and should not micro manage the classification of securities under SFAS No. 115. (Refer to SFAS 115 for further information.)

Broker-Dealer Analysis

Following are recommended guidelines for credit unions to analyze and select a broker-dealer:

- **Use only established, well-capitalized, registered broker-dealers.** The board should use established, well-capitalized, and reputable national and regional firms, and should establish minimum capital standards for each broker-dealer. If available, the credit union should consider reports and credit ratings from one or more of the nationally recognized statistical rating organizations (e.g., Moody's, Standard & Poor's, or Fitch.)

  Management should ensure the broker-dealer is either (1) registered with the Securities and Exchange Commission under the Securities Exchange Act of 1934 or (2) is a depository institution whose broker-dealer activities are regulated by a federal regulatory agency. For unregulated firms, the examiner should determine that the credit union only obtains information from the unregulated firms (e.g., a CD finder), but does not send funds through such firms.

  Management should regularly review the financial strength of the broker using the

broker's latest audited financial statements, paying particular attention to the capital and leverage positions, such as notes payable and securities purchased on margin (see Letter to Credit Unions No. 157.)

- **Check references and complaints against the firm and broker.** Management should perform a background and reputation check on broker-dealers with whom the credit union does business (see Letter to Credit Unions, No. 157, dated September 1994.) A background check includes requesting and reviewing three to five references from the salesperson and the firm, and inquiring of other credit unions, chapters, and leagues about the broker-dealer and firm.

  For each firm with which the credit union does or plans to do business, the board should specifically request and obtain a written response confirming or denying if the SEC, the National Association of Securities Dealers (NASD), or a state securities regulator has sanctioned either the firm or its salespeople in the last five years. The board should perform the same due diligence on each salesperson and confirm the responses with the SEC or NASD (www.nasdr.com) and the applicable state securities regulator. The credit union should obtain a broker-dealer registration statement from NASD before doing business with any individual.

  NASD Regulation (NASDR) provides an online Public Disclosure Program. Using the NASDR's Central Registration Depository (CRD) the credit union can access broker-related background information. Each broker-dealer firm and registered representative has a unique CRD number, which it must provide upon request. Credit unions can use the CRD number to reference background information from NASDR.

- **Ascertain information about the knowledge, experience, and performance of the broker.** Management should inquire about the salesperson's knowledge and skills, obtain a resume, and determine what training the firm provides its salespeople. Most reputable firms have schools or require periodic training.

  On a continuing basis, management should analyze the overall performance of the broker (e.g., review the number of times the broker provided the lowest cost offer on securities purchased.) The credit union should not do business with salespeople who do not explain in depth the type of security they are offering for sale. Most reputable firms provide salespeople with research and analysis reports that explain the investment products.

- **Obtain competitive bids and offers**. Credit unions should obtain competitive bids and offers from more than one broker. Before purchasing or selling a security,

management must procure either (1) price quotations on the security from at least two broker-dealers or (2) a price quotation on the security from an industry-recognized information provider (e.g., Bloomberg, Reuters, etc.) This information is not required for new issues either purchased at par or at an original issue discount (e.g., a U.S. Treasury Note purchased at a discount at auction.) To ensure the credit union receives a fair market price, management should consider obtaining three independent quotations before purchasing or selling a security.

If management cannot procure multiple offers from different brokers to sell a security to the credit union, they should determine the liquidity of the investment (e.g., will other brokers provide a bid on the security) and whether the offer represents fair value before committing to purchase it. The lack of multiple bids from brokers to purchase a security from a credit union may indicate an illiquid security (e.g., often, only the originating dealer bids on a privately placed collateralized mortgage obligation (CMO)). The credit union should try to confirm that the sole bid represents fair value. For example, the credit union may request bids on comparable securities (those with substantially similar characteristics), retaining reasonable and appropriate documentation (e.g., dated telephone note with quote from broker or dated *Wall Street Journal* quote on specific comparable security.) Brokers generally do not provide written bids.

- **Prepare a board resolution and list of limitations.** The board must maintain an internal list of board-approved broker-dealers, including a list of limitations on the amount of funds and types of securities that management or staff may place or invest with each firm. In addition, the board should possess a written agreement with each broker-dealer that specifies the type of securities, transactions approved, and the approved amount for each firm and individual broker. The board should acquire and maintain a basic understanding of the business structure of the broker-dealer including the primary emphasis of the firm (e.g., government securities, agency securities, CMOs, retail, etc.)

- **Use a recorded phone line.** Examiners should encourage credit unions with active or very large investment portfolios to maintain a separate, recorded phone line to document trading instructions and retain a record of conversations with the broker-dealer. Before the officials record conversations with a broker-dealer, they should exercise due diligence by addressing relevant legal and contractual issues.

A credit union's reliance on Securities Investor Protection Corp. (SIPC) insurance does not substitute for a thorough review of the broker-dealer. If available, SIPC insurance covers only the first $500,000 of covered securities and cash. Many broker-dealers and

custodians obtain private insurance to cover losses in excess of the SIPC limit. However, record keeping problems, fraud, disputed amounts, or ineligible investments (e.g., repo agreements) may prevent collection in full from the SIPC or private insurer.

Letter to Credit Unions, No. 157, contains additional information on broker-dealer analysis. See also, §703.50 and the investment guidance paper.

Audit

Examiners should review the supervisory committee audit to determine whether the auditor verified investments and if material deficiencies were present in the investment area. The auditor bases the extent of the verification of investments on the audit scope and computed materiality level. Examiners should review the scope and computed materiality level for reasonableness. Verification of investments requires the auditor to either physically inspect the investments or send confirmation letters. If the auditor did not verify investments, the examiner should arrange to have the committee perform the verification within a reasonable period, usually 60 days. Examiners should not make a physical inspection or send verification letters unless they suspect a problem and need the inspection or the verification to support an examiner's finding. Examiners should consult with the supervisory examiner before sending out confirmations.

Safekeeping

Examiners should emphasize to the officials the importance of safekeeping investments with a reputable third party and enforcing necessary internal controls to minimize the possibility of loss. The credit union must maintain a board-approved list of safekeeping facilities. Management must review and document the background of each firm it uses for safekeeping investments. Credit unions must remain wary of broker-selected safekeeping facilities.

Federal credit unions must comply with Part 703; however, state-chartered credit unions should also ensure registration of the safekeeper with the Securities and Exchange Commission or regulation by a federal or state depository institution regulatory agency. Management should regularly review the safekeeper’s most recent audited financial statements to assess its financial strength.

The credit union must retain a written custodial agreement with third parties that act to safekeep the credit union’s investments (§703.60.) As custodians, these third-party institutions safekeep the credit union's securities and will deliver them only after receiving the credit union's instruction.

Under §703.60, the custodial agreement is a contract in which a third party agrees to

exercise ordinary care in protecting the securities held in safekeeping for its customers. Ordinary care, often called reasonable or due care, holds the custodians responsible for losses from their acts or omissions such as willful misconduct, bad faith, or negligence. A custodial agreement must not specify a duty of care less than ordinary (e.g., an agreement is insufficient if it holds the custodian responsible for losses only from gross negligence.) If the custodial agreement specifies no standard of care, credit unions may assume the default of due care under the model Uniform Commercial Code §§8-504-506.

The regulations require a custodial agreement for most securities. The credit union must obtain monthly statements from the custodian to verify its investments and repurchase collateral. The custodial agreement should not restrict or alter the negotiability of any investment. For example, the agreement should not restrict a negotiable CD to safekeeping with a single custodian.

There are two situations that do not require a custodial agreement: (1) investments that the credit union holds (possesses) in physical form (most issuers now issue securities in book-entry form only) and (2) book-entry investments recorded directly in the credit union's name through the Federal Reserve Book-Entry System. However, most credit unions use a custodian to hold their investments recorded in the custodian's name through the Federal Reserve Book-Entry System. Book-entry investments may include Treasury and Agency securities, as well as mortgage derivative products such as agency CMOs. Finally, as with other book-entry or physical securities, professional third-party control minimizes the possibility of loss.

Credit unions should ensure that at least two people approve the transfer of any of its investments. Both delivery versus payment (DVP) transactions and free deliveries (i.e., a transfer of a security without payment) require this dual control measure. Two common uses for free delivery include (1) transfer of securities from a primary custodian to a third-party custodian in a tri-party repurchase agreement and (2) transfer of securities from an old to a new custodian.

When a broker-dealer serves as safekeeper of the credit union's investments, the written custodial agreement should assure the credit union that the broker-dealer has segregated the credit union's securities from the broker-dealer's investments and that the broker-dealer maintains separate records for the credit union's investments. Officials should review the custodial agreement (sometimes part of the account agreement) to determine that it prohibits the broker-dealer from lending the credit union's securities in the marketplace (e.g., hypothecation.) The credit union should carefully review the reputation and financial stability of a broker-dealer serving as custodian.

Officials must verify these custodial provisions. Credit unions can sustain losses in securities held by broker-dealers. For example, a brokerage firm could use a credit union's securities as collateral on its own loans and later enter bankruptcy. A properly executed third-party custodial agreement could prevent losses resulting from a credit union forwarding funds to a broker but the broker failing to purchase the security.

A safekeeping receipt must evidence each investment held by a third-party custodian. The receipt generally contains the following information, as it applies to the type of investment:

- Name and CUSIP (Committee on Uniform Securities Identification Procedures) identification of the security,
- Par value,
- Date of issue,
- Date of maturity and call date (if applicable),
- Coupon or interest rate,
- Coupon or interest payment dates,
- Trade and settlement date, and
- Name of beneficial owner.

The credit union can determine evidence of safekeeping with a broker-dealer by reviewing the monthly broker statement. The last item on the statement, often referred to as “inventory” or “position”, generally lists the securities that the broker-dealer holds for the account.

Regardless of the methods the credit union uses to control its evidence of beneficial ownership of investments or physical investment documents, the credit union must have procedures in place to periodically inspect and reconcile the actual documents, statements, and safekeeping receipts to its records. When the credit union is the beneficial owner of securities held by a custodian, the credit union’s name does not appear on the book-entry system or on a physical security. Thus, the credit union must verify records received from the safekeeper with the credit union’s own records (§703.60.)

The credit union must require the selling broker to settle investment transactions delivery versus payment (DVP.) DVP (also termed “cash on delivery” and “delivery against cash”) provides for the simultaneous transfer of funds and securities, ensuring that the credit union (or its custodial agent) possesses either the securities or funds.

If the credit union requires the selling broker to settle investment transactions at a third-party custodial agent, it may eliminate some of the risk associated with settling and

safekeeping securities. Delivery to a third-party custodian may reduce problems with non-delivery of securities, delivery of the wrong securities, purchase of nonexistent securities, purchase of CDs based on inaccurate or partial disclosure of terms, and other problems.

Records

While all credit unions must maintain adequate investment records, the sophistication of these records will depend on the level of activity and the types of investments involved. For example, a credit union that invests only in a common trust fund account could maintain this account without a subsidiary ledger. However, credit unions that do substantial investment activity or have a substantial portion of their assets in investments should maintain adequate subsidiary ledgers.

The subsidiary ledger contains all transactions involving that security. The credit union should record the following information on each subsidiary investment record, as applicable:

- Name, type, and CUSIP identification;
- Par value and any premium/discounts (purchase price);
- Date of issue;
- Date of maturity and call dates;
- Date of purchase and sale;
- Book value;
- Interest or coupon rate, and floating-rate formula and index;
- Timing of interest rate adjustments;
- Interest rate caps and floors;
- Coupon or registered status;
- Interest payment dates;
- Current fair value (as of each month-end);
- Location or safekeeping custodian;
- Amortization of premiums or accretion of discount, if applicable;
- Current par value (CPV) of pass-through type investments;
- Name of broker, if used for purchase; and
- SFAS 115 classification.

The credit union should also retain and have available for verification the original investment confirmations. The examiner should determine that the credit union maintains current, in balance subsidiary ledgers that provide sufficient information for managing the investment portfolios.

Investment Valuation

Quotes on securities may show both a bid and an ask quote. To determine a security's fair value, examiners should apply the bid quote to the current par value or face value of the security. After determining the fair value, examiners use the book value to compute market appreciation or depreciation.

> **Example**: A credit union owns a U.S. Treasury Bond with a face value of $1,000,000 and a book value of $898,000. The bid is 91.125. Therefore, the fair value of the security is $911,250 ($1,000,000 x .91125.) The market appreciation or depreciation is: $911,250 fair value minus $898,000 book value equals $13,250 appreciation.

In determining the fair value of the investment portfolio, examiners may use data supplied by the institution, if available, as of the examination's effective date. The examiner should determine that the credit union uses the same pricing service consistently from period to period to prevent management from choosing the most favorable valuation at the end of each period. Examiners should refer to SFAS 115, and to the Mutual Funds, Common Trusts, Unit Trusts and Investment Trading sections, respectively, for specific guidance. Footnotes to the credit union's balance sheet should separately disclose differences between the total fair value and book value of the held-to-maturity and available-for-sale investments.

If examiners doubt the accuracy of the data, they should test it to determine the accuracy of the stated fair value and book value. This may include reviewing the broker-dealer's market valuation data, examining the business section of a newspaper, or seeking a third-party review (e.g., corporate credit union, Office of Strategic Program Support and Planning, RCMS, etc.) Material miscalculations or inaccurate disclosures of the fair value of the investment portfolio resulting from weak internal controls will require appropriate correction.

Examiners may complete the Amortizing Investments Review and Certificate Review workpapers in AIRES to assist in the valuation and trend analysis of investments. Examiners must consult their supervisory examiners before requesting the credit union to obtain a third-party review.

Bond Basics

A security called a bond represents a debt obligation of the issuer. The issuer will pay principal and interest to the investor according to the terms of the bond. A Treasury note is a U.S. Government debt obligation with an original maturity of 10 years or less. A Treasury bond has an original maturity greater than 10 years. Debt obligations of the issuer generally refer to note and bond obligations. Credit unions often use the terms "notes" and "bonds" interchangeably when discussing investments.

Principal

The issuer must pay to the investor the principal of a bond, also called the par or face amount. Bonds may have the following characteristics:

- Due at maturity or amortizing. A bullet bond has the entire amount of the principal due at maturity. An amortizing bond has periodically scheduled principal repayments.

- Straight or callable. The issuer of an option free bond (with respect to principal repayments) must pay the principal amount on the scheduled due dates. Conversely, the issuer of a callable bond has the right to accelerate repayment of principal. A callable bond typically refers to a bond callable in total; however, a mortgage-backed security (MBS) typically is callable in part (in addition to the scheduled amortization of principal.) The term "prepayments" refers to partial calls on an MBS.

MBS and CMO factors. Amortization or prepayments reduce the original principal amount of a mortgage-backed security or collateralized mortgage obligation over time. Computing the outstanding face or outstanding principal balance requires use of the portion of the original principal outstanding, shown as a factor in decimal form. For example, a $250,000 original face MBS with a factor of 0.80000000 has a $200,000 outstanding principal balance ($250,000 x 0.80000000.)

Coupon Rate

The borrower periodically pays the coupon rate or the stated rate of interest on a bond. The bond may have the following interest rate characteristics:

- Coupon or zero coupon. Zero coupon bonds, sold at a discount from the par amount due at maturity, do not pay interest periodically. The discount represents future interest earned over the term of the investment.

- Fixed or floating rate. A fixed-rate bond has a coupon determined by the interest rate at the time of issuance. A floating-rate bond has an interest rate index (to which a fixed margin typically is added) that will reset the interest rate periodically according to the terms of the bond. The formula for a floating rate bond should specify the interest rate index and any margin.

- Unrestricted or capped floating rate. An unrestricted floating rate note (bond) has no restriction on the upper limit in the resetting of the interest rate. However, a floating rate note may state a maximum rate of interest, termed a cap (also called a life cap or ceiling.)

Day Count Basis

Calculating a coupon payment amount from a coupon rate requires knowledge of the day count basis of a bond. The day count basis defines the method of counting the days in a month and in a year for the coupon period. The notation to express a day count basis is (days in month)/(days in year.) Following are the four fundamental day counts used for domestic investments:

- Actual/Actual. The number of days in a month (numerator) is the actual number. The number of days in the year (denominator) also is the actual number. Treasury notes use this basis;
- 30/360. The number of days in each month is counted as 30 days, therefore, each year has 360 days (12 x 30.) MBS, many CMOs, and some agency and municipal bonds use this method;
- Actual/360. This method counts the actual number of days in a month, but counts the basis for a year as 360 days. Money market securities, including Treasury bills, typically use this method; and
- Actual/365. This method counts the actual number of days in a month, and counts each year to have 365 days. The quoted rate on a CD may use this computation.

Accrued Interest

Accrued interest is the amount of interest that has accrued on a bond from the prior coupon payment date (or from issuance for most newly issued securities) to the accounting statement date or settlement date. Buyers must pay to sellers any accrued interest, or fraction of the amount payable on the security's next coupon payment date. The Securities Industry Association typically uses the following formula to compute accrued interest on periodic coupon paying investments:

Accrued Interest = Principal Amount **x** (Coupon Rate as a decimal/Number of Coupon Periods per Year) **x** (Number of Accrued Days according to the day count basis from beginning of period to settlement date/Number of Days in Interest or Coupon Period.)

Price Quotations

The secondary market (after issuance) typically quotes bonds on a dollar price basis. Quotes for Treasury securities typically reflect a yield basis at the auction.

- Dollar price per $100 par. Bond quotes typically reflect a dollar price per $100 of principal, without accrued interest. A "clean price" does not include accrued interest. For example, a $250,000 Agency note quoted at a price of 102 would cost $255,000

($250,000 x 102/100) plus accrued interest. However, a $250,000 original face MBS at a price of 102 with a factor of 0.80000000 would cost $204,000 ($250,000 x 0.80000000 = $200,000 remaining face; $200,000 x 102/100 = $204,000 cost) plus accrued interest. Coupon bearing securities typically do not use the dirty price quotes (equal to the clean price plus accrued interest.)

- Discount or premium**.** A bond quoted at a price of less than 100 reflects a discount to par, while a bond quoted at a price of greater than 100 reflects a premium.

- Quotations in fractions**.** Some publications and broker-dealers may quote the prices of fixed-income securities in whole dollars and in 32^{nds} of a dollar per $100 dollars par. For example, an offer price of 100-12 makes that security available for purchase at a price of $100 and 12/32 (that is, $100.375) per $100 dollars par, plus accrued interest to the settlement date. Occasionally, a quotation will include a "+" (plus), which is ½ of one 32nd, or $1/64^{th}$. The following table converts 32^{nds} to decimal form:

32nd	Decimal	32nd	Decimal	32nd	Decimal	32nd	Decimal
1	0.03125	9	0.28125	17	0.53125	25	0.78125
2	0.06250	10	0.31250	18	0.56250	26	0.81250
3	0.09375	11	0.34375	19	0.59375	27	0.84375
4	0.12500	12	0.37500	20	0.62500	28	0.87500
5	0.15625	13	0.40625	21	0.65625	29	0.90625
6	0.18750	14	0.43750	22	0.68750	30	0.93750
7	0.21875	15	0.46875	23	0.71875	31	0.96875
8	0.25000	16	0.50000	24	0.75000	32	1.00000

Yield Quotations

The yield on an investment is a function of the coupon rate, the purchase price, and the term to maturity. Users should take care to recognize the days basis used for the yield quotation. Common methods to quote yields include:

- Bond-equivalent yield (BEY.) The Securities Industry Association calls this semi-annual compounding yield the universally comparable yield. Quotes for the yield on a security with a term to maturity of greater than one year typically reflect a bond-equivalent basis. BEY is the industry standard for quoting yield.

- Annual percentage yield (APY.) Annual compounding forms the basis for computing APY. Credit unions must disclose this yield to members, but the institutional fixed-income investment market does not use it.

- Money market (or discount) yield**.** Calculating this simple interest return on an investment uses price as the basis (also used for investments with a maturity of less than one year.)

- Discount rate**.** Calculating this simple interest rate of return on an investment uses redemption value (e.g., the face amount of a Treasury bill due at maturity) as the basis (also used for investments with a maturity of less than one year.)

Investment Products

§107(7)(B) of the *FCU Act* authorizes a federal credit union to invest in the obligations of the United States of America, or in securities fully guaranteed as to principal and interest.

US Treasury Securities

U.S. Treasury securities, which are fully guaranteed obligations of the United States government, include bills, notes and bonds currently issued only as book-entry securities in the Federal Reserve book-entry system. Credit unions may purchase Treasury securities directly at Federal Reserve auctions through either a competitive or a noncompetitive bid. They may submit competitive bids on a yield basis for a specified amount of Treasury securities. Treasury accepts the bidders with the lowest yields (i.e., highest prices for the Treasury securities.) The Federal Reserve awards Treasury securities purchased by a noncompetitive bid, generally for up to $5 million face amount, at a price equal to the average of the competitive bids accepted by the Treasury.

Credit unions may also purchase Treasury securities in the secondary market from a securities dealer or financial institution. Purchasing Treasury securities does not require a primary dealer. Large volumes and narrow bid-ask spreads characterize the highly liquid Treasury securities' secondary market.

A safekeeping receipt typically evidences a credit union's Treasury securities. Alternatively, a statement of holdings from the Federal Reserve evidences ownership of Treasury securities held directly by the credit union in the book-entry system.

Treasury Bills

Treasury bills issued by Treasury consist of discount securities auctioned and quoted on a discount rate basis, with an original maturity of 91 days, 182 days, or 52 weeks. Occasionally, Treasury will issue special maturity Treasury bills in the form of cash management or tax anticipation bills. Treasury bills have a face value that reflects the return of a single cash flow (also called a redemption amount) to the investor at maturity. The dollar discount, calculated by multiplying the discount rate (as a decimal) times the face value times the number of days remaining to maturity divided by 360 days (the days

basis), represents the difference between the purchase price and the face value (i.e., the amount of interest the investor receives at maturity.) The dollar purchase price reflects the difference between the face value and the dollar discount.

Comparing the Treasury bill interest rate to a coupon security (e.g., a Treasury note) requires calculation of the Treasury bill's bond-equivalent yield (BEY), a universally comparable semi-annual yield (i.e., a nominal annual yield assuming semi-annual compounding.) Credit unions cannot compare in a meaningful way the discount rate to the BEY on a Treasury note or bond. The discount rate, based on the face value of the investment rather than the dollar purchase price, uses a 360-day, rather than a 365-day basis for its calculation. Alternatively, calculation of the money market yield facilitates comparison of the interest rate on a Treasury bill to another money market instrument.

Treasury Notes and Bonds

Treasury notes and bonds represent coupon-bearing securities. The U.S. Treasury auctions Treasury notes on a BEY basis and quotes them on a price basis in the secondary market. Treasury notes and bonds pay interest semi-annually and return the principal amount (face value) to the investor at maturity. The U.S. Treasury issues Treasury notes with an original maturity of 2, 5, or 10 years and Treasury bonds with an original maturity of 30 years. Occasionally, Treasury will reopen a previously issued security and auction additional amounts.

Treasury Zeros or STRIPS

§703.110(d) prohibits the purchase of a zero coupon investment with a maturity date more than 10 years from the settlement date, unless the credit union is exempt under the Reg Flex provisions of Part 742. Treasury prices a zero-coupon or "stripped" security at a discount to face value before maturity. A "corpus strip" reflects a claim to the principal portion of a Treasury security, as contrasted with a stripped coupon's claim to an interest payment.

STRIPS (Separate Trading of Registered Interest and Principal of Securities) is the U.S. Treasury program that permits separate trading and ownership of the interest and principal payments on 10-year and longer term original maturity Treasury notes and bonds maintained in the book-entry system operated by the Federal Reserve Banks. STRIPS reflect direct obligations of the U.S. Government.

For example, a 10-year, 6 percent coupon, $1,000,000 Treasury note may be separated into 20 different coupon STRIPS (one for each of 20 semi-annual payments of about $30,000 each) and one corpus STRIPS (the $1,000,000 principal due at maturity.) STRIPS also can be reconstituted into the original Treasury note or bond.

Other US Guaranteed Securities

In addition to Treasury securities, the U.S. Government fully guarantees the principal and interest of certain other securities, such as Government National Mortgage Association (GNMA or Ginnie Mae) securities and Government of Israel notes.

Federal Agency Securities

In the bond market, the term "federal agency securities" generally applies to two different types of securities: (1) a security issued by a Government corporation (wholly or partially owned by the Government), usually with an unconditional guarantee of the U.S. Government; and (2) a security issued by a government sponsored enterprise (GSE), often explicitly guaranteed only by the issuer.

Permissible investments for federal credit unions include the obligations, participations or other instruments issued by federal agencies as authorized in §107(7)(E) of the *FCU Act*, wholly-owned Government corporations designated in §101 of the Government Corporation Control Act (31 U.S.C. §9101(3)), and other securities as authorized in §107(7)(E) and §107(7)(F) of the *FCU Act*. Most wholly owned Government corporations no longer issue their own securities.

Government Corporations

The Federal Financing Corporation generally provides funds to Government corporations and borrows those funds from the Department of the Treasury that, in turn, issues Treasury securities. Recently issued securities of Government National Mortgage Association, Small Business Administration, and Tennessee Valley Authority commonly fall within this category.

Wholly owned Government corporations include:

- Government National Mortgage Association (GNMA or Ginnie Mae); and
- Tennessee Valley Authority (TVA.) The full faith and credit of the US government do not back these Tennessee Valley Authority securities.

Entities formed to assist with problems in the savings and loan industry include:

- Financing Corporation (FICO);
- Resolution Trust Corporation (RTC); and
- Resolution Finance Corporation (RefCorp.)

These mixed-ownership Government corporations have issued, directly or indirectly, certain securities in which federal credit unions may invest including certain mortgage-backed or mortgage-collateralized securities.

Government Sponsored Enterprises

Government Sponsored Enterprises (GSEs) are privately owned, Congressionally chartered corporations. The government establishes a GSE to provide funding to a sector of the economy otherwise underserved by purely private financial intermediaries. Because GSEs play an important role in sectors of the economy, GSEs are instrumentalities of the U.S. Government for specific purposes. SEC registration requirements exempt GSE debt obligations. However, GSEs do not carry an explicit guarantee of the U.S. Government.

GSEs that issue securities include:

- Federal National Mortgage Association (FNMA or Fannie Mae);
- Federal Home Loan Mortgage Corporation (FHLMC or Freddie Mac);
- Farm Credit System (including Federal Farm Credit Bank (FFCB) and Farm Credit System Financial Assistance Corporation (FACO));
- Federal Home Loan Bank System (FHLB);
- Federal Agricultural Mortgage Corporation (FAMC or Farmer Mac); and
- Student Loan Marketing Association (SLMA or Sallie Mae.) SLMA formed a holding company for the purpose of giving up its GSE status. Securities issued by SLMA with final maturities not to extend beyond September 30, 2008 remain permissible investments for federal credit unions. However, federal credit unions may not invest in securities issued by SLM Holding Corporation.

Permissible Investments for Federal Credit Unions

Issuer or Originator	Security Backed by US Government	Permissible for Federal Natural Person Credit Union - Provision of *FCU Act* (or other law)
FNMA (Fannie Mae)	NO	YES – 107(7)(E)
FHLMC (Freddie Mac)	NO	YES – 107(7)(E)
FFCB (Farm Credit)	NO	YES – 107(7)(E)
FACO	YES	YES – 107(7)(B)
FHLB	NO	YES – 107(7)(E)
FAMC (Farmer Mac)	NO	YES - 107(7)(E) (and 12 U.S.C. 2279aa-12(c))
SLMA (Sallie Mae)	NO	YES – 107(7)(E)
FICO	NO (principal backed by zero-coupon Treasuries)	YES - 107(7)(E) (and 12 U.S.C. 1441(e)(6))
RTC	NO	Certain trusts are permissible mortgage-related security investments
RefCorp	NO	YES - other agency 107(7)(E)

Obligations

Agency obligations include short-term notes, long-term debenture bonds, and structured notes, described as follows:

- Short-term notes - generally discount securities (similar to Treasury bills) with a single cash flow at maturity;
- Debenture bonds – also called consolidated bonds when issued by Farm Credit generally pay interest semi-annually
- Structured notes - typically contain call provisions or other embedded derivatives; credit unions that do not understand the risks of the embedded derivatives should not invest in these securities.

Participations

Participations differ from debenture bonds in that specific assets, typically mortgage loans, back participation bonds. Generally, the U.S. Government (for Ginnie Mae) or a GSE (for Fannie Mae and Freddie Mac) guarantee these securities.

One loan or a pool of loans may back participation certificates. To reduce prepayment risk on securities purchased at a premium, management should know the approximate number of loans in the participation pool and, if geographic diversification warrants, their

location. For the more recent issues, the Bloomberg screens, offering circulars, or other external means provide characteristics of the participation pools.

Management should thoroughly analyze the risk of uncertain cash flows associated with mortgage pass-through certificates. As market interest rates rise, prepayments generally slow down. As rates move up and the repricing of investment cash flow diminishes, members increase pressure for higher dividend rates. Likewise, prepayments generally increase as rates move downward. If rates decrease, the credit union must then reinvest excess dollars at lower rates, further reducing asset yields. As such, standard prepayment models (e.g., those available through Bloomberg) often help project cash flow for mortgage pass-through securities. (For further guidance on standard prepayment models, refer to the section on CMOs in the Investment Guidance Papers located in the NCUA E-Library.)

Participation certificates may also consist of variable- or fixed-rate loans. From an asset-liability standpoint, management should know the correlation between the variable rate formula (e.g., the index plus the margin) used to determine the loans' interest rate and the credit union's cost of funds.

Usually, the participation certificate holder receives monthly payments of principal and interest directly from the servicer of the loan who, in turn, received those payments from the borrower, resulting in a "pass-through" security. A "modified pass-through" means that the agency guaranteeing the security ensures the timely payment of principal and interest. Illustration 12-A, a secondary market flowchart for modified pass-through securities.

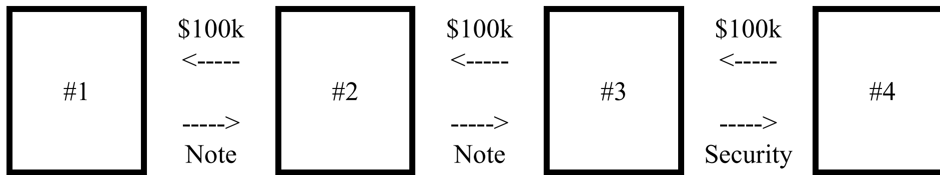
Basic securities are of two types:

- **Pass-Throughs.** Investors share in cash flow from the underlying mortgages on a "pro-rata" basis. Monthly payments and prepayments of principal and interest are divided among the investors according to the relative size of their investment.
- **CMO/REMIC.** Investors share in cash flows on a "prioritized" basis by purchasing into a "tranche" or class. The prospectus provides details of when the investor will receive interest, principal, and/or prepayments.

Secondary Participations

Secondary participations usually do not have a timely payment guarantee. Insured student loans (other than those primarily guaranteed by a state or private agency), Farmers Home Administration (FmHA) Business and Industrial Loans, and the guaranteed portion of loans guaranteed by the SBA fall into this category.

Secondary Market Flow Chart



#1 Individual wants $100,000 to purchase or refinance a principal residence and usually requests a long-term fixed rate (high level of IRR.)

#2 Credit union wants to loan money, charge points and fees, and "service" the debt. If the credit union does not wish to assume the reduced liquidity or increased IRR associated with mortgage lending, it structures the loan to qualify for the secondary market. The credit union then has the option of selling the loan immediately or at a later date, thus enabling it to make additional loans.

#3 Intermediary (e.g., GNMA, FHLMC, and FHA) established to provide a ready source of housing funds. These agencies set secondary market standards based on historical records to ensure high quality loan underwriting and documentation, which allow the agency to "guarantee" loan principal and interest payments. The intermediary issues to individual investors certificates or securities collateralized (in whole or in part) by the mortgages purchased from the credit union.

#4 Individual investors willing to buy a security collateralized by the mortgages. They receive a guarantee of monthly principal and interest payments and a higher yield than they would receive if they invested in a Treasury security with a similar maturity. The investors, in turn, assume interest rate and prepayment risks resulting from uncertainty as to the repayment period of the principal and interest from the collateralized mortgages in the pool. For example, if individual homeowners refinance or move, they pay off the entire loan early rather than over their original mortgage periods (usually 15 or 30 years.)

Illustration 12-A

Credit unions holding secondary participations should file all appropriate forms with the insuring agency and retain written assurance that the secondary participation loans meet all requirements in the event that the borrower defaults and the credit union must file a claim. Officials should understand the credit union's collection responsibilities under the insuring clauses that support the investments in question.

The credit union should ensure that participation certificates and other secondary participations meet the requirements of §107(7)(E) or §107(7)(F) of the *FCU Act*, and that no obstructions exist that might invalidate the federal guarantee.

GNMAs

A pool of mortgages insured or guaranteed by the Federal Housing Administration (FHA), the FmHA, or the Veterans Administration (VA) backs a GNMA. GNMA guarantees the timely payment of principal and interest to the security holders. The credit union normally receives payment on the fifteenth of each month for GNMA I, or on the

twentieth for GNMA II. This payment includes the scheduled principal payment, any prepayment of principal on the security, and coupon interest for the prior month.

Because GNMAs have the principal repayment feature, the credit union must know the pool factor to compute the principal outstanding. The Bond Market Association publishes a schedule for the factors (Prepayment Announcements.) For example, GNMA I factors are announced about the fifth business day of the month, and GNMA II factors a business day later.

The factor for a GNMA represents the amount of principal that remains outstanding as of the end of the previous month. When reconciling safekeeping statements, examiners should note that statements may show the factor for the current month, and report only the payment amounts for principal and interest from the previous month, not those scheduled for receipt in the current month.

Settlement on GNMA trades occurs once each month, according to a schedule published by The Bond Market Association. For example, most 30-year GNMA I securities have a settlement date of about the sixteenth business day of the month. To settle on the current month's settlement date, the credit union must make and report a transaction on or before the notice date, which is 48 hours before the settlement date.

A GNMA's principal balance as of the end of the previous month provides the basis for the settlement amount. Thus, while a transaction sets the dollar price per $100 of outstanding principal, the credit union cannot compute the actual dollar amount due at settlement until it knows the pool factor for computing the outstanding principal.

A credit union should accurately record principal repayments and interest payments. Staff should properly reflect the security's outstanding balance by reviewing the statements received from either the servicer of the GNMA pool or the credit union's broker.

GNMA issues GNMA securities in book-entry form in the electronic book entry system of the Mortgage-Backed Security Division of the Depository Trust Company (DTC.)[1]

Each month, credit unions registered as owners of GNMAs receive an Issuers Monthly Remittance Advice. This form usually accompanies the monthly payment and identifies

[1] Since December 11, 1990, investors holding older physical-form GNMA securities may convert them to book-entry form, with the exception of GNMA Serial Notes. Since December 1986, non-eligible securities and book-entry eligible securities that were not delivered according to good delivery guidelines remain in physical form.

the amount of principal repayment, interest income, and the outstanding balance of the security. The examiner may verify these figures with those on the credit union's books.

Most credit unions hold GNMA securities through a custodian that maintains a chain of custody through a participant in DTC. The credit union receives a statement from its custodian. Information contained on these statements may vary slightly from custodian to custodian. Examiners and credit union staff can verify the principal repayment, interest income, and the security's current par value from the custodian's statements against the figures in the credit union's books.

If a custodian's statement does not provide the current par value of the security, the examiner may compute the balance as follows:

- Obtain the original par value of the security from the trade sheet (if available) or from the subsidiary ledgers;
- Obtain the GNMA pool factor. (The pool factor represents the percentage of principal still outstanding.);
- Multiply the original par value by the factor to determine the current par value (remaining principal balance); and
- Verify the computed value against the figures in the credit union's records.

Example: A credit union purchased a GNMA modified pass-through security with an original par value of $1,007,008.33. The GNMA pool factor is .99703096.

Original par value	$1,007,008.33
GNMA pool factor	.99703096
Current par value (CPV)	$1,004,018.48

To determine reasonableness of the fair value of a recently issued GNMA, the examiner may look up the bid price for the stated interest rate and multiply the bid price by the outstanding principal balance of the investment to determine the fair value. A published bid price for a recently issued GNMA typically will not reflect fair value for a seasoned GNMA, that is, for a GNMA security with a shorter remaining maturity. (See the Mortgage Valuation workbook in AIRES for indication values for mortgage related securities.)

SBA Guaranteed Loans

Fixed-rate Small Business Association (SBA) guaranteed loans have appealed to some credit unions because of their relatively high yields. SBA also has a variable-rate participation loan, in which the loan rate generally adjusts quarterly and moves with the prime rate, thus reducing the IRR of the security.

However, the lack of an active secondary market for these loans limits their marketability, making them more suitable as a long-term investment than as a liquid asset. Generally, SBA single loans contain more risk than SBA loan pools. Likewise, SBA loan pools that have a small number of loans carry more risk than do pools with larger numbers of SBA loans. In other words, the larger the number of loans in the pool, the more predictable is the pool's performance and the better its marketability.

SBA loans, whether fixed or variable rate, do not have a consistent average life and SBA can call them for immediate repayment, which could result in a loss if the credit union purchased the SBA at a premium. In addition, the "thin market" (i.e., not an actively traded secondary market and a limited number of brokers making a primary market in SBAs) restricts marketability of these instruments.

> **Example**: A credit union purchased a $100,000, 10 percent, 5-year SBA loan at 105. After one year, the balance of the loan was $80,000 and the unamortized premium was $4,000. The borrower repaid the loan in full at this point. Since SBA guarantees repayment only at par, SBA would not reimburse the credit union for the remaining $4,000 unamortized premium and the credit union must absorb the loss during the current accounting period.

Credit unions should be aware of the dangers of purchasing SBA loans and other secondary participations at high premiums. However, the decision of whether or not to purchase SBAs remains with the officials.

Zero Coupon Bonds

As with Treasury securities, which can be stripped into zero coupon securities, agencies (e.g., TVA) and other financial institutions can offer zero coupon debt obligations.

The price of a zero coupon security exhibits more sensitivity to changes in interest rates than does the price of a similar maturity coupon bearing bond. In fact, prices of longer-term, zero coupon securities can react strongly to changes in interest rates. This price volatility can attract credit unions wishing to speculate in trading of zero coupon securities. As such, a credit union's investment in a zero coupon security may be legal, but not appropriate from an asset-liability standpoint.

A federal credit union may not purchase a zero coupon investment with a remaining maturity greater than 10 years from the settlement date. A credit union may "grandfather"

a zero coupon bond purchased before December 2, 1991, unless it poses a safety and soundness concern. If examiners determine that the investment poses a significant threat to the continued sound operation of the credit union, they should contact their supervisory examiner before further assessing the situation.

Examiners should determine that the credit union properly records the zero coupon securities. Management determines the present value of the single cash flow using the purchase interest rate, typically a bond-equivalent yield. Accounting for these securities requires accreting the discount using the interest method (also termed scientific or level yield.) Unlike the straight-line method, the interest method results in a lesser amount of income earned in early periods than in later periods.

Examiners should also ascertain whether the credit union purchased these securities for trading purposes. If the credit union trades these securities, the examiner should consult the supervisory examiner. The examiner should review the credit union's trading policies, operating procedures, and level of overall risk in the investment portfolio (also see the Investment Trading section.)

SMBS IOs and POs

Stripped mortgage backed securities (SMBS) or SPLITS, more commonly referred to as interest only securities (IOs) and principal only securities (POs), resemble zero coupon type instruments. However, they possess the additional characteristic of uncertain cash flow and the resulting uncertain returns. The issuer strips the principal and interest payments from the underlying mortgage-backed securities and SPLITS them into separate investments. Investors in a PO receive a pro rata portion of the principal payments on the underlying mortgages, while investors in an IO receive a pro rata portion of the interest payments on the underlying mortgages.

§703.110(c) prohibits the purchase of stripped mortgage backed securities (SMBS), residual interests in collateralized mortgage obligations (CMOs) and real estate mortgage investment conduits (REMICs), and mortgage servicing rights. Purchase of SMBS solely for reducing IRR is no longer permitted for new purchases.[2]

NCUA grandfathered investments in SMBS acquired before January 1, 1998, unless they posed a safety and soundness concern (see §703.130 for further guidance.) Credit unions holding grandfathered, stripped mortgage-backed securities to reduce IRR in accordance with NCUA's Rules and Regulations must report the security as a trading asset at fair

[2] Before January 1, 1998 but after December 1, 1991, NCUA's Rules and Regulations permitted credit unions to purchase SMBS solely for reducing IRR.

value through income or as an available-for-sale asset at fair value through equity until its disposition.

Credit unions that purchased SMBS before December 2, 1991, should:

- Carry them at amortized cost if the credit union has both the intent and the ability to hold the SMBS to maturity. Amortized cost is original cost (present value of future cash flows) systematically adjusted to the amount that the credit union expects to realize through the maturity date;
- Use the interest method of amortization or accretion to record interest income over the life of the investment unless the straight-line method results in a materially equivalent amount;
- Retain a copy of the prospectus; and
- Provide reports and analysis documenting the reduction in risk at the time of purchase (since credit unions may only hold SMBS to reduce IRR) and periodically thereafter.

As with all mortgage-backed securities, credit unions may need to periodically adjust the carrying value of the SMBS through current period income to reflect significant changes in the prepayment rates of the underlying pool of mortgages. Effective yield calculations reflect a security's purchase price relative to expected future periodic cash flows, anticipating estimated mortgage pay-down speeds over the life of the security.

As the underlying mortgages pay down significantly faster or slower than originally anticipated, the carrying value of the SMBS may require adjusting. This adjustment involves recalculating the effective yield used in the amortization to reflect an effective yield based on actual payments to date and anticipated future payments. As a result of the adjustment, the net investment in the loans reflects the amount that would have existed had application of the "revised" effective yield occurred since the acquisition of the loans. The adjustment to the new balance involves debiting or crediting the investment in loans with a corresponding charge or credit to interest income.

When reviewing SMBS, examiners should do the following:

- Determine that the officials understand the risk associated with SMBS (especially IOs) as outlined in the prospectus;
- Review for reasonableness the accounting treatment and its basis.

Collateralized Mortgage Obligation

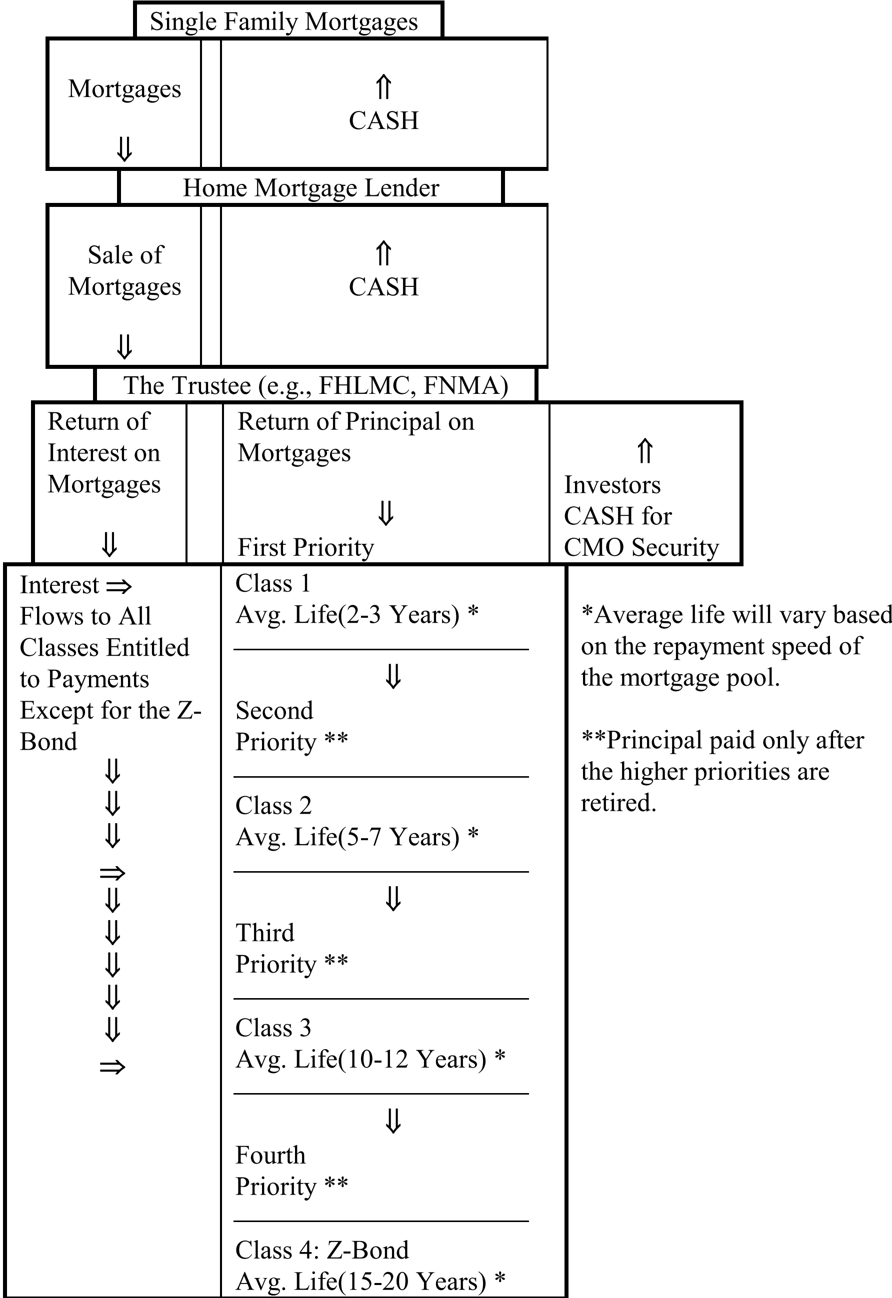


Illustration 12-B

CMOs

Collateralized mortgage obligations (CMOs) are multi-class pass-through bonds; either general obligations of the issuer backed by mortgage collateral or limited obligations where the bondholders rely on the pledged collateral for payment. Each bond class, or tranche, has a stated maturity date and a fixed coupon or variable rate. The cash flows generated by the collateral relate to the cash flows of the bonds. After making interest payments, all available cash goes to repay principal on the "fastest" pay tranches. Principal payments go to one or more classes at a time, based on an order of priority determined at the bond issue date. Illustration 12-B shows a CMO where principal payments go to one class at a time.

In a simple sequential pay structure, following retirement of the first class, the next tranche in the sequence becomes the exclusive recipient of principal payments until its retirement. In more complex structures, the first class may be some form of "support tranche," created to protect the planned amortization classes (PACs) and target amortization classes (TACs) of the total offering. The support tranche will absorb any unanticipated cash flows with a paydown in principal, and will extend their maturities when prepayment speeds diminish.

The potential for increased certainty of cash flow patterns, faster return of principal over the mortgage pass-through type securities, and attractive yields have made CMOs popular investments. If their structure sufficiently protects them from prepayment and extension risk, CMOs can appropriately enhance yield for a credit union that thoroughly understands the product. However, a credit union must closely analyze a CMOs’ characteristics before investing.

§107(7)(E) and §107(15) of the *FCU Act* authorize credit unions to invest in collateralized mortgage obligations (CMOs) issued by FHLMC, FNMA, and GNMA, and permissible private issuers. CMOs issued by FHLMC or FNMA carry little or no credit risk. Groups that offer privately issued CMOs include securities firms, savings and loans, mortgage bankers, home builders, and life insurance companies. Most privately issued CMOs are highly rated, however, a credit union that anticipates buying a privately issued CMO should ensure that the CMO’s rating falls within one of the two highest categories by at least one nationally-recognized statistical rating organization.

CMOs can contain significant liquidity and IRR including the following:

- Unanticipated principal prepayments on the collateral could result in the issuer retiring the bonds substantially earlier than their final maturity date;

- In a declining interest rate environment, credit unions that reinvest excess dollars at lower rates usually experience reduced yields;
- If the credit union purchased the instrument at a premium, the effective rate of return decreases as prepayments increase in a declining rate environment; and
- As interest rates move upward, cash flow could decrease significantly and reduce the amount of funds available to reprice at the higher rates.

Complex CMO investment instruments require that credit union investors understand the potential cash flows and related yields. For example, a CMO issue may include numerous tranches ranging from PACs (I, II, and III) to TACs to very accurately defined maturities (VADMs) to Z-Bonds to companion or other support classes. Furthermore, the average life and final maturity of a CMO depends upon the payment priority of the CMO within the issue's deal structure, and often creates interdependencies with other classes within the same CMO issue. Examples of typical classes within a CMO issue and related risks include:

- **Planned amortization class (PAC.)** Generally, the PAC class of a typical CMO contains less risk and has a well-defined tranche that receives priority over other classes within the issue. While PAC CMOs exhibit less uncertainty in cash flow pattern, the certainty of its cash flow depends on a "range" (or "band" or "collar") of prepayment speeds. However, cash flow patterns could significantly change if the speed of the issue moves outside the PAC range.

  A CMO issue may include one or more PACs, often referred to as PAC I, PAC II, or even PAC III. The first PAC may have a wider PAC band or level of protection than other PACs within the CMO issue, thus covering a wider range of prepayment speeds.

- **Very accurately defined maturity (VADM.)** The VADM class may contain the least risk of the various classes. VADMs tend to have relatively short stated final maturities, and typically have PAC bands covering upwards from "0" percent prepayment speed assumptions (PSA.) The higher the PSA, the shorter the time in which the credit union anticipates the return of its principal dollars. For example, a "0" PSA means no anticipated prepayments within the mortgage pool (an unlikely event.) A PSA of 100 means a repayment rate of 6 percent per year. A PSA of 200 means a repayment rate of 12 percent per year.

  When interest rates rise, members generally repay their mortgages at a slower rate causing PSA rates to fall. The reverse is true in a declining interest rate environment. From a cash flow standpoint, the VADM may have a relatively short repayment window. Thus, the wide "band" coverage of a VADM, combined with the short and

relatively stable stated maturities, makes this class a low risk category in contrast to others.

- **Targeted amortization class (TAC.)** The market typically refers to TACs as "half PACs". They are slightly more volatile than PACs or VADMs, but more stable than a Z-Bond or other support classes. TACs offer some protection against prepayment risk (falling interest rate environment), but not against extension risk (rising interest rate market.)

- **Companion or support class.** The companion or support classes, one of the more volatile classes within a CMO issue, receive principal payments only if other, higher priority classes (e.g., PACs, TAC, etc.) have received their scheduled payments. This may require the issuer to redirect cash flows within the pool to other higher priorities. As a result, the predictability of cash flow patterns often remains highly uncertain. A credit union investing in companion or support classes must fully understand the complexity of the CMO issue, the interrelationships within the CMO, and their likely effect on future cash flow projections.

- **Z-Bonds.** An accrual bond or Z-bond tranche does not receive any cash payments of principal or interest before retirement of all tranches preceding it. Many CMO issues include one or more accrual bond tranches. In effect, an accrual bond is a deferred interest obligation with a varying payment date, resembling a zero coupon bond before the retirement of the preceding tranches. With its long average life, the Z-Bond often has high price sensitivity to changes in interest rates. The Z-Bond tranche receives repayments last, which makes it one of the riskiest of the various classes.

REMIC

Generally, a real estate mortgage investment conduit (REMIC) is the tax-preferred method of issuing CMOs. To qualify as a REMIC, the interests in the REMIC fall within one or more classes of "regular" interests and a single class of "residual" interest. Regular interests are the classes of a CMO issue. The residual interest consists of the excess interest and reinvestment earnings that exist as a result of the differential between the income flow from the underlying mortgages and the income outflow to the regular interest holders.

IRPS 98-02

Examiners should ensure that credit union officials understand the sound principles and practices provided by IRPS-98-02, which recommends that credit unions having material positions in complex securities such as CMOs perform reasonable analysis both at time of purchase and periodically thereafter. After October 1, 1998, credit unions need not obtain

the FFIEC high-risk securities test (HRST) for CMOs and real estate mortgage investment conduits (REMICs) in natural person credit unions.

IRPS 98-02 recommends analyses similar to that which underlies the HRST for credit unions having material positions in complex securities. The following three tests serve as a benchmark for a federal credit union's analysis:

- The average life sensitivity test - tests the average life of the security, assuming an immediate shift in the yield curve of plus 300 basis points, and a decline on the downside (-300 basis points);

- The average life test - reviews the CMO's expected average life for base case exposure; and

- The price sensitivity test - tests the estimated change in the CMO's price due to an immediate and sustained parallel shift in the yield curve of plus or minus 300 basis points.

Assumptions for the analysis include market interest rates and prepayment speeds at the time of valuation, thus enabling the credit union to comply with the IRPS 98-02 requirement that it knows the value and price sensitivity of its investments. The credit union must maintain, and have available for examiner review, documentation supporting the analysis (§703.40.)

At a minimum, the credit union should obtain a prospectus (when available) and closely analyze the characteristics of the CMO issue using standard industry calculators (e.g., Bloomberg, etc.) before purchasing the security. Projecting future cash flows of CMOs under various interest rate conditions is a complex task; therefore, NCUA recommends using an acceptable standard prepayment model to analyze IRR under various prepayment assumptions. NCUA Letter No. 139 encourages credit unions to obtain prepayment forecasts from at least three different dealers before purchase.

An unreasonable PSA can produce inaccurate test results. A broker could manipulate the prepayment assumptions to make a CMO appear less risky (see example in the addendum.) Thus, the examiner should review the "source" of the prepayment assumptions for consistency. The industry uses a wide variety of "sources" for prepayment assumptions including Andrew Davidson, CMO Passport, First Boston, UBS, DLJ, Paine Weber, JP Morgan, Bear Stearns, and Median, which is an average of the dealer estimates.

The *Investment Guidance Paper* for March 1997, Section D, Exhibits 1 to 17, includes an example and description of the HRST and other important Bloomberg screens. Bloomberg continues to support this screen as it provides detailed analytics for CMO/REMIC securities. The "Assumption and Source" area for the test specifies the PSA used in the analysis.

Examiners should watch for credit unions that rely on a "CUSTOM" prepayment model source, a customized set of prepayment assumptions. Unless management can fully support the assumptions used in a "CUSTOM" prepayment model, examiners should request additional tests using industry standards. Examiners may readily accept some "CUSTOM" prepayment models. For example, a brokerage firm may offer a "CUSTOM" prepayment speed derived from the median, average, or most conservative estimate from all of the models available (Bloomberg, etc.)

Stress analysis outcomes, based on inconsistent prepayment assumptions, can vary from model to model. Credit unions can comply with the IRPS by analyzing material positions in a CMO or REMIC using a single model; however, a conservative approach would rely on at least three different models. The credit union should ensure that the analysis of securities is reasonably within its limits.

Occasionally a CMO or REMIC could acceptably withstand a 300 basis point change, but present higher risk at some lesser shift in the yield curve. The credit union should understand the risk for all yield curve shifts, up to and including a 300 basis point shift. Acceptable testing at 100, 200 and 300 basis point shifts should sufficiently address these concerns.

Management should also consider the potential for decline in fair values of the investment portfolio over a variety of interest rate cycles and the likely effect on net worth. The "price sensitivity" analysis tool projects the potential effect on a CMO's fair value in various interest rate cycles.

Officials should demonstrate the CMO’s suitability for the credit union from an ALM standpoint. While the CMO may be legal, its anticipated cash flow patterns or potential maturity in relationship to the share structure may render it unsuitable for the credit union. For example, a credit union investing a significant portion of its assets in CMO tranches with long average lives could raise safety and soundness concerns if its share base is short-term.

The credit union remains responsible for obtaining analysis information. However, the examiner may need to obtain an analysis through the Office of Strategic Program Support and Planning or the regional office under certain conditions:

- The examiner suspects the reasonableness of the broker's assumptions or other variables (e.g., PSA); or
- The credit union cannot get analysis information and the CMO could substantially affect the credit union's financial health.

Examiners should call the Investment Hotline (800-755-5999) or their RCMS to discuss CMO questions. Examiners may seek the orderly disposal of any CMO or REMIC if the investment poses a significant threat to the continued sound operation of the federal credit union under IRPS 98-02. Before requesting an onsite analysis or recommending divestiture, the examiner should discuss the credit union and its circumstances with the supervisory examiner and follow regional procedures.

Divestiture of Securities

Responsibility for assessing balance sheet risk lies with the credit union officials. If the examiner’s analysis determines the credit union has a significant position in high-risk securities (e.g., CMOs, REMICs, or other complex securities that have excessive risk) or inconsistency with the credit union’s investment, liquidity or asset-liability policies, the examiner may review management’s analysis and determine whether the credit union can manage the risk of holding the high-risk CMOs or complex securities.

Some of the factors for examiners to consider in evaluating whether a credit union may safely hold high-risk investments include:

- Ability of the officials to explain the instrument’s characteristics and risks to the examiner;
- Ability of the officials to obtain and adequately evaluate the instrument’s market pricing, cash flows and test modeling;
- Ability of the officials to define, explain and document how the high-risk investments fit into the credit union’s ALM strategy; and
- The effect that either holding or selling the high-risk bonds will have on earnings, liquidity and net worth in different interest rate environments.

After obtaining the concurrence of the supervisory examiner and regional office, examiners may seek divestiture if they believe continued ownership of high-risk securities represents an undue risk to the credit union. This risk can arise from the following:

- The size of a credit union's holdings of high-risk securities in relation to its capital and earnings;
- Management's inability to demonstrate an understanding of the nature of the risks inherent in the securities;
- The absence of internal monitoring systems and other internal controls to appropriately measure the market and IRR of these securities; or
- Management's inability to manage its overall IRR.

If the region considers the credit union's continued holding of the high-risk securities a safety and soundness concern, both the examiner and supervisory examiner will meet with the officials to reach agreement for divesting the securities or developing an acceptable plan to mitigate the risk. If they cannot reach an agreement with the officials, the examiner will prepare a preliminary warning letter or recommend other administrative action, following regional procedures. Examiners will document the agreements reached in the report. They also should follow-up with the credit union as necessary to ensure compliance with the agreements.

Federally insured state-chartered credit unions holding high risk CMOs or REMICs must record unrealized gains or losses under SFAS 115 (see §741.219); however, they need not establish a special reserve for non-conforming investments. Following regional working agreements with the SSA, examiners will discuss and coordinate divestiture of high risk CMOs that present safety and soundness concerns in state-chartered credit unions with the appropriate state regulator.

Residual Interests

A federal credit union may not purchase a residual interest in a CMO or REMIC. Management should provide reports and data to the examiner and the board on how it proposes to reduce IRR.

Fair Values

The credit union must determine the fair values of the securities at least monthly, in accordance with §703.90, unless the credit union is exempt under the RegFlex provisions of Part 742.

Investment in Mortgage Notes

§107(15)(A) of the *FCU Act* permits credit unions to purchase certain mortgage loans. A federal credit union may make these investments only if it has an ongoing program of making real estate-secured loans and needs comparable loans to complete the packaging of a pool of loans for sale or pledge on the secondary market (see §701.23.) Examiners may also refer to NCUA Letter to Credit Unions, No. 96, dated March 1988.

Mutual Funds, Common Trusts, Unit Trusts

Mutual funds. A mutual fund is an open-end investment company registered with the SEC to invest money from shareholders. A prospectus discloses the permissible investments and investment transactions for the fund. A money market mutual fund complies with SEC regulations limiting investments generally to short-term instruments.

The net asset value (NAV) represents the value of a share in a mutual fund. The financial sections of a number of local newspapers, the *Wall Street Journal*, or online services report NAVs for mutual fund shares. Money market funds typically maintain a stable NAV of $1 per share.

The value of a credit union's investment in a mutual fund equals the number of shares it holds (found on the monthly statements of account activity provided by the trustee) multiplied by the NAV. Credit unions may redeem mutual fund shares with the open-end investment company for the NAV.

Each dividend period, the credit union must adjust its investment in mutual funds and common trusts to fair value. Credit unions must classify mutual funds having readily determinable fair values as either trading (if purchased with the intent of sale in the near term) or available-for-sale (if other than trading.) They cannot classify mutual funds as held-to-maturity (amortized cost) and should not carry mutual funds at the lower of cost or market, but at fair value, adjusted through income (if trading) or through equity (if available-for-sale.)

Common trust fund. A common trust fund is a collective investment fund maintained by a national bank (12 CFR Part 9.) A common trust fund that complies with Office of the Comptroller of the Currency (OCC) regulations limiting investments generally to short-term instruments is called a short-term investment fund ("STIF.")

OCC regulations requires disclosure of the value of a credit union's pro-rata interest in a common trust fund at least once every three months if the fund's assets are readily marketable. However, investors may contract for more frequent valuations. OCC regulations allows for STIFs valuation on a cost basis.

Legality of Fund

Credit unions must implement adequate procedures for determining each fund's legality. The examiner should review the following:

- The credit union's procedures:
  - To ensure they meet the needs of the credit union;
  - To ascertain that staff reconciles the book balances with the statement of account each month; and
  - To determine that the records are in balance; and

- The prospectus for each mutual fund investment:
  - To determine the investment's permissibility (i.e., that the fund invests or is authorized to invest only in investments permitted by the *FCU Act* and *NCUA Rules and Regulations*), and
  - The investment meets other requirements.

A number of mutual funds sometimes use hedging strategies to increase yield. Federal credit unions may not, however, use common techniques such as writing call options and futures contracts. Fund managers' use of such techniques would make the fund illegal.

Characteristics and Risks

The examiner should determine that management understands the nature of the investment in mutual funds. While a mutual fund investment has the same maturity as the weighted average maturity of the underlying investments, the NCUA 5300 (call report) and AIRES permit classification based on the maximum weighted average life disclosed in the prospectus. If the prospectus does not disclose the weighted average life, the credit union may use the three to ten year column. Examiners should take exception if the credit union does not adhere to its investment policies and internal asset-liability strategy regarding these investments.

Yield enhancement often motivates investment in long-term instruments, particularly in times of falling short-term rates. Examiners should explain to the officials the unsoundness of this practice unless the maturities and other characteristics of the investments coincide with the credit union's asset-liability strategy and liquidity expectations.

Investments in mutual funds can lose principal; therefore, examiners should ensure that the officials understand the risks and adopt limits by investment type that consider both the credit union's capital structure and asset size. Significant variance of mutual funds' net asset values over a range of interest rate environments may necessitate establishment

of minimal stop-loss guidelines. An adequate monitoring system should minimize future investment losses.

Examiners should also determine that management considered the mutual fund’s suitability from an asset-liability standpoint. For example, several of the mutual fund net asset values may move inversely to market interest rate changes or may significantly lag the market. Credit unions with short-term and highly interest rate-sensitive share bases may find investments in mutual funds inappropriate.

Fees

Examiners should watch for marketing techniques that do not give a complete and accurate picture of a mutual fund. Even though the SEC requires certain disclosures, a credit union may incur significant costs to obtain, maintain, or divest an investment in a fund:

- Credit unions may incur front-end and back-end load fees, which are, in essence, sales commissions. The credit union must pay front-end load fees at the time of purchase. It pays back-end load fees if it redeems shares before holding periods specified in the prospectus.

- Credit unions may incur management and "12(b)-1" fees (back-end fees), which the mutual fund assesses shareholders for some of the promotional expenses. The mutual fund must specifically register the fee with the SEC and must disclose the levying of such charges. Such fees can reduce the actual return by 100 basis points or more.

Complex issues arise over the appropriateness and suitability of investments in mutual funds or other long-term investments. Management varies significantly in its understanding of these issues and in the sophistication of investment practices. Examiners should consult with their supervisory examiners if problems exist.

Unit Investment Trusts

A closed-end investment company called a Unit Investment Trust (UIT) repays principal and interest monthly as the underlying securities are repaid. At the trust’s maturity date, UIT managers sell underlying investments, and return funds to investors. The cash flow from a UIT investment often resembles both a direct purchase of a GNMA and a mutual fund.

The examiner should determine the credit union properly reduces its investment balance and records interest income in a manner similar to a direct GNMA purchase. However, the “units” represent ownership, not the Agency obligation. Therefore, the fair value

approach must account for the value of the investment. The UIT's market price determines its value; the closed-end investment company does not redeem UITs.

CUSOs

NCUA Rules and Regulations §712.2 specifies that a federal credit union may invest in shares, stocks or obligations of credit union service organizations (CUSOs) in amounts not exceeding, in the aggregate, one percent of the credit union's paid-in and unimpaired capital and surplus (total of all shares and undivided earnings plus net income or minus net losses to date) as of its last calendar year-end financial report. The same section authorizes credit unions to make loans to CUSOs in amounts not exceeding, in the aggregate, one percent of its paid-in and unimpaired capital and surplus as of its last year-end financial report.

Credit unions frequently establish CUSOs to provide additional services to members or to other credit unions. Poorly structured or poorly managed CUSOs can become expensive liabilities and harm the credit union's financial condition. Therefore, during the examination, examiners may review the credit union's investment in CUSOs. The CUSO chapter discusses examination procedures for CUSOs.

For purposes of measuring a credit union's investment in and loans to a CUSO in financial statements, credit unions must follow generally accepted accounting principles (GAAP.) GAAP requires one of three measurement options (cost method, equity method, or consolidated financial statements) depending on the degree of ownership a credit union has in a CUSO.

Federal Funds

Federal funds are the excess reserves one bank has available to lend to another bank enabling it to meet its cash reserve requirements. Federal funds usually have a maturity of only one business day, although credit unions may negotiate term federal funds for a longer period. The federal funds rate represents the rate that the lending banks charge the borrowing banks for the use of the funds.

Compared to other money market rates, the federal funds rate is volatile. Investors closely watch the funds rate as an indicator of the money market, monetary policy, and general economic conditions because the federal funds market operates at the center of the money market and the commercial bank system.

§703.100 authorizes the sale of federal funds to any financial institution defined in §107(8) of the *FCU Act* under the deposit authority contained in that section.

Credit Risk

Federal funds are not insured; therefore, the credit union must review the bank's financial condition and set appropriate policy limits. The policy must address how the credit union will manage the credit risk of federal funds sold. (See §703.30(e)).

Besides selling Federal funds to a bank, a credit union can purchase Federal funds from the bank. Purchasing of funds constitutes a borrowing transaction by the credit union subject to the borrowing limitations of §107(9) of the *FCU Act*.

The examiner should pay particular attention to the method the credit union uses to transfer funds and record funds' transfers, especially the related income or expense. The examiner should review internal control procedures for placing funds, recording transactions, and reconciling transactions to the confirmation or statement.

Corporate Credit Unions

§107(7)(G) of the *FCU Act* authorizes credit unions to invest in shares, deposits, and certificates in corporate credit unions. However, credit unions may not invest in a corporate credit union that does not operate in compliance with Part 704 of the *NCUA Rules and Regulations*.

As with its other investments, NCUA expects management to establish a process for evaluating the corporate's investments and operations, and to incorporate the amounts and maturities of all authorized investments in corporates into their written investment policies.

Corporate credit unions offer daily balance share accounts that earn dividends comparable to market rates offered by other financial institutions. Many credit unions use this account for short-term investing because of the daily dividend feature. Most corporates also offer accounts for clearing share drafts, ATM transactions, money orders, ACH items, and credit card activity.

Corporate credit unions may offer two capital accounts, which NCUSIF does not insure: membership capital (MC) and paid-in capital (PIC), both member and nonmember. Both accounts have a degree of permanence. MCs have a minimum withdrawal notice of three years. PICs are callable at the corporate's option and have an initial maturity of at least twenty years. Credit unions must accept the risk of these uninsured accounts; therefore, credit unions investing in these accounts must perform the same due diligence as they perform for other at risk investments. Examiners should review the due diligence procedures.

Credit unions have available more diverse investment products, including those offered by corporates. In addition to daily balance share accounts and certificates accounts, some corporates offer structured investment products that mimic CMOs and other complex investments. The examiner should determine that the credit union consistently adheres to its ALM structure when investing in corporate credit union investments, as well as other investments. Examiners should also assure themselves that the directors and management understand the risks of the investment instruments.

Most corporate credit unions issue monthly or even weekly statements. The voluminous activity in these clearing accounts may require the examiner to determine that the credit union fully reconciles all transaction accounts at least monthly, regardless of the month-end balance. Examiners should note the lack of prompt reconcilements or continually carrying over outstanding items from one month to the next as an area of concern. The credit union can lose control over these high activity accounts if it does not implement adequate reconcilement procedures.

Most corporates also offer high-yielding, short-term CDs (30 days.) Many credit unions continuously roll over these accounts or purchase new ones. Corporates have reduced the paperwork burden by using electronic transfers instead of paper certificates; however, credit unions must reconcile their CD activity.

Other Credit Unions

§107(7)(H) of the *FCU Act* authorizes credit unions to invest in shares, deposits and certificates of federally insured credit unions. As with other institutional accounts, the examiner may find it necessary to review the credit union's process for evaluating the credit risk associated with such investments.

Other Shares, Deposits, and Certificates

§§107(7)(D) and 107(8) of the *FCU Act* authorize credit unions to invest in shares, deposits, and certificates in financial institutions other than credit unions.

Thrift Shares and Bank Deposits

Credit unions may invest in passbooks, certificates, or book entry confirmation receipts issued by federally insured thrifts, building and loan associations, and banks (and non-federally insured banks located in the state in which the credit union does business.) Credit unions must retain documentation of these investments.

§703.30 gives the board responsibility for determining the amount and the specific institutions in which a credit union may invest. If the credit union invests over the insured limit, the board should specify limits on the amounts the credit union may invest with

each institution. Management often supports the limits with a credit evaluation that identifies specific financial criteria, such as capital requirements and earnings trends. Credit unions with large CD portfolios should obtain the institution's docket number (FDIC's equivalent to NCUA's charter number) to determine compliance with the credit union's exposure limit at each institution. FDIC's website (www.fdic.gov) can provide the docket number.

Credit unions, the officials, or employees sometimes receive cash bonuses or merchandise premiums from the institution for new investments or increases in investments. §703.120 prohibits credit union officials from accepting these bonuses or premiums on their own behalf. If examiners suspect the credit union earned a bonus dividend or premium but find no accounting for it, they should notify their supervisory examiner, send a positive confirmation letter to the institution concerned, and report the facts in the confidential section.

Time Certificates of Deposit

Credit unions may purchase certificates of deposit (CDs) either directly from the issuing institution or through a broker-dealer. If purchased from the issuing institution, all transactions take place directly with the issuer. The credit union opens an account directly with the issuer, transfers the funds, and receives documentation acknowledging the investment.

Credit unions may use the service of a CD finder or an electronic CD finder program that is not registered by the Securities and Exchange Commission (SEC) or regulated by a federal or state depository institution regulatory agency. However, in this situation, the credit union must transfer the funds directly to the issuing institution.

Generally, credit unions purchase non-negotiable CDs. If the credit union uses a broker-dealer for CD purchases, it must exercise due diligence to protect itself against potential loss. At a minimum, the credit union should:

- Deal with reputable broker-dealers;
- Evaluate the risk;
- Enter into a written contract; and
- Use a custodial agreement.

Brokered CDs. Brokered CDs are sometimes a portion of a master CD that the broker-dealer purchases from a federally insured institution. If so, a third-party custodian holds the investment and sends the credit union a depository receipt evidencing ownership. The insured issuing institution must document the fiduciary relationship with the broker-

dealer and evidence insurability for individual investors of the pool. The requirements for FDIC pass-through insurance are outlined in 12 CFR §330.

When a custodian is safekeeper of a CD, typically the books of the CD issuer will show the custodian "titled" (as owner) on the certificate as "nominee for others," while the books of the custodian show the investor (i.e., credit union) as "beneficial owner" of the CD. This process (or string) of ownership is called the "chain of custody." A chain of custody can involve many participants or just a few, as described in the example.

Credit unions rely on accurate record keeping by CD issuers, brokers, and custodians to perfect their beneficial ownership interest. Credit unions must receive adequate documentation to evidence their beneficial ownership interest. Documentation includes CD confirmations, safekeeping receipts, periodic statements, and other correspondence that reaffirm the chain of custody between the CD issuer, the safekeeper, and the credit union.

Due Diligence for Brokered Funds. Credit union management should perform due diligence by:

- Performing a background check on the brokerage firm, broker-dealer, and the safekeeper (custodian), documenting their financial standing;

- Ensuring the firm and broker-dealer are registered with the SEC, and that the safekeeper is registered with the SEC or regulated by a federal or state depository institution regulatory agency;

- Executing a written custodial agreement before performing any transaction. Management must understand the customer account agreement and disclosure statement (including the fine print) provided by the broker before completing the transaction. The agreement should specify the custodian will, at a minimum, exercise ordinary and reasonable due care to protect credit union assets under custody;

- Obtaining a written fee structure documenting broker and custodial services;

- Obtaining the name of the financial institution where the funds were deposited and ensuring that it is federally insured, which may require contacting FDIC (www.consumer@FDIC.gov) or NCUA (www.pacamail@ncua.gov).

- Obtaining a copy of the certificate showing the principal balance, rate, maturity, etc., or obtaining a copy of the monthly customer account statement to document the terms of the CD;

- Documenting the chain of custody to ensure proper listing of the credit union as a beneficial owner. This can be verified by requesting a copy of the exact title of the CD from the broker and/or safekeeper, as issued by the financial institution. For example, the title on the CD should read, "XYZ Safekeeper as Nominee for Others." Such language appearing on the account record of the issuer indicates the custodian is acting as an agent on behalf of the credit union and for other depositors;

- Ensuring proper recording of the credit union on the books of the safekeeper. This can be verified from safekeeping receipts, monthly statements, and other correspondence with the custodian; and

- Receiving confirmations and safekeeping receipts for CD transactions on a timely and consistent basis. Credit unions should ensure consistent information appears on confirmation and safekeeping receipts (e.g., investor name, principal balance, rate, maturity). Credit unions should obtain and reconcile monthly statements of CDs held in safekeeping.

Generally, CD purchase confirmations include the following information:

- Name of the beneficial owner;
- Name of the issuer, identification number of the CD, and docket number of the institution;
- Trade and settlement dates;
- Issue date;
- Maturity date;
- Coupon or interest rate and payment dates;
- Variable index, reset frequency, and payment dates;
- Call date or step-up dates, if applicable;
- Broker (safekeeping) fees or commissions; and
- Yield calculations using bond equivalent yield and annual percentage yield (not just simple interest).

Safekeeping receipts generally include the following information:

- Description of the investment;
- Name of issuing and selling broker-dealer;

- Face amount (par value);
- Price paid;
- Date of issue;
- Maturity date and call date, if any;
- Coupon or interest rate;
- Trade and settlement dates; and
- Name of the beneficial owner.

Credit unions must fully address and document insurability in pooling arrangements. They can not depend solely on the broker to analyze the soundness and insurability of issuing institutions, nor rely on the deposit insurance coverage as the only basis for the deposit.

Written investment policies must address criteria and the financial analysis necessary to ensure sound investment practices. If federal deposit insurance does not cover all, or a portion of a deposit, the credit union should analyze the credit quality of the institution before making the deposit. Management may contract with a rating service to assist with this analysis.

Negotiable CDs. Federal credit unions may sell negotiable CDs to third parties before maturity, subject to the appropriate regulations governing the issuing institution. Conversely, a credit union could purchase a CD of an eligible institution in the secondary market. If the credit union purchased the CD at a premium (e.g., the purchase price exceeded the original (or accredited) issuer price), federal deposit insurance does not cover the amount of the premium. Thus, any premium remaining on the credit union's books of an institution that failed before the CD's maturity date may require write off.

Loss of premium also could occur with longer-term investments (e.g., zero coupon CDs) that some credit unions purchased in the secondary market at a significant premium. The credit unions would also face reinvestment risks.

A credit union does not need to physically hold even a negotiable CD for safekeeping. However, a security dealer holding negotiable CDs or "bearer" securities poses risks:

- The security dealer can wrongfully transfer the instruments to a third party. A third party purchasing these instruments for value, in good faith, and without notice of any adverse claim, becomes a "bona fide purchaser" under the Uniform Commercial Code and can retain possession of the instruments.

- The security dealer could declare bankruptcy or insolvency. The credit union could "trace" and claim its securities or CDs by proving ownership of specific instruments. However, negotiable CDs registered in street name, rather than in the credit union's name, makes recourse more difficult, if not impossible. The key here is for the officials to (1) know their safekeeping custodian, (2) document the financial standing of the safekeeping custodian, and (3) ensure proper recordkeeping by reconciling monthly safekeeping reports.

- If the credit union experiences the loss of a negotiable CD or security due to a dealer's misappropriation or bankruptcy, surety will most likely not reimburse for the loss because surety does not consider the security dealer to be a credit union employee.

Credit unions should balance these risks against the advantages of having a security dealer hold negotiable CDs and securities in bearer form for safekeeping; namely, the credit union will have liquid investments that they can immediately redeem.

Deposit Notes

Credit unions may invest in deposit note issues by a §107(8) institution (e.g., a national bank.) Deposit notes are unsecured obligations of §107(8) institutions. Federal deposit insurance (to $100,000) covers a deposit note if the following exist:

- The bank, instrument, or offering circular states that the obligation is a deposit;
- The bank's call report reports it as a deposit; and
- The bank pays the FDIC insurance premium.

The issuing bank should state in writing the eligibility requirements in an offering circular or contract.

Bank Notes

A bank note is an unsecured and uninsured obligation of the issuing bank. Credit unions may invest in bank notes issued by §107(8) institutions with maturities less than five years. (NCUA's Office of General Counsel has deemed them permissible as deposits under Regulation D.) However, credit unions may not invest in debt obligations of a bank holding company.

The credit union should closely review and document the financial status of the issuer of any bank note and any deposit note with an uninsured portion. As with CDs, a broker-dealer may invest a pool of funds in a §107(8) institution's deposit note. The risks previously specified for CD pooling apply equally to deposit notes.

Eurodollar Deposits

A Eurodollar deposit is a dollar-denominated deposit in either a foreign branch or a foreign subsidiary of a United States bank, or in a foreign bank located outside the United States. Credit unions may invest only in foreign branches of parent U.S. depository institutions and only if the parent U.S. depository institution meets the requirements of §107(8) of the *FCU Act*. Federal deposit insurance does not cover Eurodollar certificate of deposits.

Yankee Deposits

A Yankee Dollar deposit is a dollar-denominated deposit in a United States branch or subsidiary of a foreign financial institution. Credit unions may invest in these institutions pursuant to §107(8) of the *FCU Act* if the branch or subsidiary has federal deposit insurance or operates in accordance with the laws of a state in which the federal credit union does business.

Bankers' Acceptances

Federal deposit insurance does not cover time drafts drawn on a bank called bankers' acceptances. §703.100 authorizes investments in bankers' acceptances issued by §107(8) institutions. Bankers' acceptances represent irrevocable obligations of the bank that arise in a variety of ways, but generally, corporate customers of the bank use them initially to "pay" for goods and services. Often, recipients of banker's acceptances discount and trade them as money market instruments.

Mutual Savings Banks, State Banks, Trust Companies

Credit unions may make deposits or investments in shares or accounts of mutual savings banks, state banks and trust companies located in the state in which the credit union does business, or in financial institutions insured by the FDIC. Financial institutions located in the state where the credit union does business qualify as depositories even though they do not carry federal deposit insurance.

The credit union's board of directors must accept responsibility for selecting the mutual savings banks, state banks, and trust companies, and for determining the amount they will invest in each. Examiners may decide to discuss the advantages of placing funds in insured institutions. However, they should not take exception if the credit union invests in non-insured institutions in the state where the credit union does business, assuming that reasonable limits as to the amounts invested with each institution govern these investments. As with other uninsured investments, the credit union must fully analyze the credit quality of the institution. (See, §703.30(e)).

Loans to Other Credit Unions

Credit unions record loans to nonmember credit unions separately from loans made to their members. They must comply with the limitations and restrictions (not to exceed 25 percent of paid-in and unimpaired capital and surplus) set forth in §107(7) of the *FCU Act*.

The board, the executive committee, or the credit union's investment committee must properly authorize loans to nonmember credit unions. The aggregate of these loans may not exceed the legal limit, and a signed note must evidence the loan ((§107(7) of the *FCU Act.*) When the credit union has not met these requirements, the examiner should inform the officials, reach appropriate agreements, and comment in the examination report.

State and Municipal Obligations

Credit unions may invest in state and municipal securities authorized in §107(7)(k) of the *FCU Act*. Most municipal (muni) bonds receive a credit rating from a rating service (a nationally recognized statistical rating organization.) *NCUA Rules and Regulations* §703.100(f) permits investment only in those muni bonds rated in the top four ratings categories (e.g., BBB, A, AA, or AAA.) When evaluating credit risk, examiners should review bond ratings assigned to munis in the portfolio. Further, §107(7)(k) limits obligations of any one issuer, except general obligations of the issuer, to no greater than 10 percent of the credit union's unimpaired capital and surplus. This means revenue bonds, even when insured, are subject to the percent limit.

States and municipalities generally issue their obligations at lower interest rates because of the unique tax advantage to security holders. Since credit unions do not pay income taxes, there is no offset to the lower yield and, therefore, no financial advantage to investing in these tax-exempt securities. Taxable revenue bonds have no tax exemption, but generally carry greater credit risk than do general obligation bonds.

Repurchase Transactions

In a repurchase transaction the credit union agrees to purchase a security from a counterparty and to resell the same or an identical security to that counterparty at a specified future date and at a specified price. §703.100(i) authorizes credit unions to enter into repurchase transactions within the following limitations:

- The repurchase securities consist of permissible investments for a federal credit union;

- The credit union receives a daily assessment of the market value of the repurchase securities, including accrued interest, and maintains an adequate margin that reflects a risk assessment of the repurchase securities and the term of the transaction; and

- The credit union has entered into signed contracts with all approved counter parties.

The examiner may review the credit union's file to determine that it contains a written custodial agreement as well as copies of the safekeeping receipts. The Federal Reserve Book Entry System could record the credit union as the owner of the security. As with physical securities, third-party control further minimizes custodial risks.

The credit union entering into the repurchase transaction usually requires collateral with a security value in excess of the amount of cash delivered, an amount often called the “haircut.” For example, for $1,000,000 in cash, the credit union may require securities valued at $1,020,000 to collateralize the transaction. This "haircut" generally ranges from two to five percent and protects the cash participant's collateral position if fair values change. The credit union must monitor the collateral's market value. If the value decreases relative to the cash outstanding, the credit union should request a margin call and require the securities lender to provide additional collateral. Responsibility for repaying the funds ultimately rests with the counter party to the transaction, making that party’s reputation (ability to pay) important to others in the transaction. FDIC insurance does not cover repurchase agreements and a secondary market for repurchase agreements does not exist.

Commitments to Purchase or Sell Securities

Under §703.100, credit unions may not invest in forward commitments to purchase or sell a security. Commitments to purchase or sell securities (forward commitments) represent contingent liabilities.

§703.100 permits the purchase or sale of a security as long as the delivery of the security is by regular-way settlement. Regular-way settlement means delivery of a security from a seller to a buyer within the time frame that the securities industry has established for that type of security.

For example, regular-way settlement of mortgage-backed securities occurs once a month according to a schedule of The Bond Market Association (PSA) settlement dates. While a regular-way settlement in a mortgage-backed security transaction is pending, the credit union should account for the transaction in accordance with GAAP.

Standby Commitment

Generally, a standby commitment consists of an agreement to purchase or sell a security at a future date, whereby the purchaser must accept delivery of the security at the seller's option. To induce the purchaser to buy at the seller's option, the seller pays a non-

refundable option premium called a "commitment fee." If the market price of the security on settlement date has increased, the seller would not exercise the option, but would sell the security elsewhere. The purchaser would then recognize the commitment fee as income.

Examiners should review documentation required by §701.21(i) for long positions in financial put option contracts. §703.110(a) prohibits all financial derivatives, except as provided under §701.21(i) for the purchase of certain financial put option contracts (also called standby commitments) to manage risk of loss through a decrease in value of its commitments to originate real estate loans.

Cash Forward Agreement

A cash forward agreement represents a firm commitment for a purchaser to buy and a seller to sell an agreed-upon security on a specified settlement date. A commitment fee does not pass from the seller to the purchaser. A cash forward agreement extends beyond the term of a regular-way settlement; therefore, a federal credit union may not enter into a cash forward agreement for a security.

Short Sale

A short sale is a forward commitment to sell a security that the seller does not own. Short sales sellers speculate that market prices will decline before the settlement date. Thus, they can purchase a less expensive security to meet the commitment to sell and realize a gain. If, however, the market price increases, the seller incurs a loss in meeting the commitment. §703.110 prohibits a federal credit union from engaging in short sales.

Pair-Off Transactions

A pair-off transaction matches or nets the commitments to purchase and to sell securities. Participants in pair-off transactions often do not take delivery of the security purchased, but speculate that the market price will increase before settlement date resulting in a gain from its sale. Many times, participants make the commitment to sell and the commitment to purchase on the same day. §703.100(l) specifies requirements for a credit union to trade securities including when-issued trading and pair-off transactions. Credit unions must record these transactions at fair value on the trade date.

Reverse Repurchase Transactions

A reverse repurchase transaction (reverse repo) is a transaction by a credit union in which the credit union agrees to sell a security to a counter party and to repurchase the same or an identical security from that counter party at a specified future date and at a specified price. In effect, the credit union incurs a borrowing collateralized by a marketable security.

Credit unions may use funds generated by a reverse repo to (1) meet liquidity needs, such as share or loan demands, or (2) purchase other securities with a yield higher than the borrowing rate of the reverse repo (often called a spread trade or "arbitrage.") When engaging in the latter, the credit union must comply with statutory limitations. Any security purchased with the funds obtained from the transaction or the securities collateralizing the transaction must have a maturity date not later than the maturity date for the reverse repo transaction and be permissible investments under Part 703. A reverse repo transaction is a borrowing transaction subject to the aggregate borrowing limit of 50 percent of a credit union's unimpaired capital and surplus specified in §107(9) of the *FCU Act*.

> **Example**: A credit union owns a $1,000,000 Treasury security with a 7 percent coupon rate, valued at par. The credit union enters into a reverse repo, borrowing $1 million, collateralized by the Treasury security, at 5.5 percent for 90 days. The credit union also purchases a 90-day time certificate paying 6.0 percent, also maturing in 90 days. Thus, the credit union earns a 0.5 percent spread (the difference between the cost of the funds borrowed, 5.5 percent, and the income earned, 6.0 percent.)

If the examiner finds a credit union entering into reverse repo transactions with the intent of earning a positive spread by reinvesting the funds, the examiner should determine if the credit union actually realizes a positive earnings spread.

The credit union must retain signed contracts with all approved counter parties. Examiners should encourage master contracts (i.e., The Bond Market Association (formerly called PSA) Agreements) covering the dates and responsibilities of each party. Confirmations under the master contract constitute evidence of individual reverse repo transactions. A trade sheet, rather than written agreements between a broker and the credit union, does not constitute acceptable evidence.

Since reverse repos represent borrowings by the credit union, credit unions must record them as notes payable and the board of directors or executive committee should approve them. The investment committee cannot authorize borrowing through a reverse repo.

The credit union must properly record reverse repos, the income applicable to the related investment, and the interest on the notes payable. GAAP provides guidance on the proper accounting treatment for repurchase transactions (SFAS No. 125 and 140.)

For examination analysis and CAMEL-rating purposes, examiners must use GAAP determined total assets. Examiners should note that the existence of reverse repos can (1) cause material changes in the asset size of the credit union, (2) affect any ratio that uses

average assets or total assets, and (3) distort the trends and ratios of the most recent Financial Performance Report (FPR.)

During the period (usually a short duration of 90 to 120 days) of spread transactions, reverse repos will increase total assets by the committed amount. The investment, which may be material, remains on the credit union's books while, at the same time, the credit union establishes a notes payable account and an asset account for the amount of the transaction. At the end of the transaction term, the credit union will reduce the liability account and the asset account accordingly, while the investment account remains unchanged.

As an alternative, credit unions may engage in securities lending transactions (i.e., “bonds borrowed” agreements.) These generally consist of very short-term lending activities in which the credit union releases control of investment grade securities in exchange for a promise for repayment, and receives a fee for the related risks. In some cases, the credit union must record a securities lending transaction in its financial statement, similar to a reverse repurchase transaction, as a notes receivable and a securities lending (“bonds borrowed”) credit.

The examiner should ensure that the credit union adequately discloses any securities lending (“bonds borrowed’) transactions. In addition, credit union officials should review the borrower's financial condition.

Adjusted Trading

§703.110(b) prohibits credit unions from engaging in adjusted trading. Adjusted trading also may violate applicable statutory provisions because it does not (1) meet "full and fair disclosure" requirements, (2) record losses in a timely manner, or (3) fairly present the financial condition to members, creditors, and the regulator.

When reviewing investments, the examiner should look for indications that the credit union purchased or sold securities at other than “at market” prices, which could evidence adjusted trading. The examiner should test several purchases or sales if indications exist that a security transaction was not at market. Examiners can verify sales prices using the *Wall Street Journal* or another reliable paper as of the sales date, or by contacting a broker-dealer.

The examiner should analyze problems noted. In the past, problems in adjusted trading occurred with broker-dealers who were not regional or who did not have a reputation for knowing their customers.

The two most common methods of adjusted trading are:

- **Adjusted trading or overtrading.** When market prices decline, credit unions may face investment losses if (1) they must sell their securities or (2) must meet commitments to purchase securities without having available funds to do so. To avoid these losses, a credit union might enter into an agreement with its broker to transfer or to hide the loss in another transaction. Such an adjusted trade violates *NCUA Rules and Regulations*.

  Example: The credit union owns Investment A with a book value of 97 and a market value of 95. The broker owns Investment B with a fair value of 91. Needing funds, the credit union decides to sell Security A, but does not wish to incur the loss of two points. The broker agrees to purchase the investment at book value; however, in return, the credit union agrees to purchase Security B using a forward commitment for 93; or two points over market. The credit union is speculating that the fair value of Security B will increase by the settlement date. If that happened, the credit union would sustain no loss and would not record the transaction.

- **Fee trading.** Fee trading, or reposition trading, represents a form of adjusted trading. Fee trading uses similar mechanics except the credit union pays a fee or "up front" money to the broker. Using the example above, the broker would purchase Security A at 97, but would require the credit union to forward a two-point fee. The fee ensures the credit union’s purchase of Security B on settlement date. When the credit union purchases Security B, the broker returns the fee.

  If the investment review discloses possible adjusted trading, the examiner should contact the supervisory examiner. In any case, the examiner should exercise additional scrutiny should there appear to be indications of adjusted trading.

Impermissible or Unsuitable Investments

The examiner may find that a credit union has investments not permitted by statutes or regulations. Examples include investments in commercial paper, a stock-based mutual fund, or loans to other credit unions in excess of the legal limit. The credit union should liquidate the investments as soon as possible. If the divestiture most likely will result in a material loss, the examiner should consider the investment's maturity and safety, as well as its effect on the credit union's financial condition. When examiners find impermissible investments, they should contact their supervisory examiner. Credit unions must also notify the surety company of the illegal investment.

In most cases, the examiner and officials can resolve the problem during the examination. If not, the examiner should address it with the officials and, if material, in the

examination report. Examiners should reserve administrative action only for extreme cases where other supervisory efforts fail.

If the examiner determines that the credit union holds permissible, but not suitable, investments for the credit union's balance sheet, the examiner should contact the supervisory examiner before requiring the write-down or sale of the investments.

Investment Trading

The goal of trading securities is to take short-term trading profits from an increase in fair value. Investors may earn sizable trading gains as interest rates decline; however, rate increases typically result in losses.

NCUA Rules and Regulations §703.30(k) sets forth policy requirements and §703.100(l) sets forth other requirements for a federal credit union to trade securities. Credit unions should know the market risks associated with trading, and adopt policies and procedures to limit risk to an acceptable level. The board of directors must approve a written trading security policy that includes, at a minimum, the provisions listed in this section. Credit unions must maintain consistency with GAAP guidance in accounting for trading securities.

The examiner should review the credit union's investment activity and determine if the credit union is trading. This analysis should include a review of the following:

- The broker's monthly statement to determine proper booking of all activity;
- The month-end safekeeping statement and transaction reports;
- The source documents, such as the broker confirmations, to adequately analyze trading activity; and
- The cash and corporate credit union account transactions to determine the existence of large security purchases or sales.

Credit unions involved in trading must have adequate reserves to absorb potential trading losses and should establish loss parameters based on the level of reserves. If unsafe and unsound trading policies or procedures exist, the examiner should consult with the supervisory examiner to develop a plan for resolving the problems.

Before a credit union's board engages in trading securities, they must develop and adopt a written securities trading policy that at a minimum specifies the following:

- Internal controls, including appropriate segregation of duties;
- Individuals who have purchase and sale authority;

- Trading account size limits;
- Allocation of credit union's cash flow to trading accounts;
- Stop loss or sale provisions;
- Dollar limits for the purchasing of specific types, quantities, and maturities;
- Limits on the length of time an investment may remain in the trading account;
- Monthly reports for the board of all purchase and sale transactions, and the resulting individual transaction gain or loss (credit unions should report purchases and sales to trade date); and
- A requirement for recording at fair value on the trade date any security purchased for trading purposes.

See the Classification of Securities SFAS 115 section for transfers to or from the trading category.

Workpapers and References

- Workpapers
  - Critical Input tab
  - Statement of Income
  - Review Considerations
  - ALM Tab
  - Solvency Evaluation
  - Investment Trend
  - Investment Maturity
  - Investment Classification
  - Investment Controls Questionnaire
  - Credit Union Service Organization Controls Questionnaire
  - Certificate Review
  - Amortizing Investment
- References
  - *Federal Credit Union Act*
    - §§§107(7), 107(8), 107(9), and 107(15) - Powers
    - §§304 and 305, Central Liquidity Facility
  - *NCUA Rules and Regulations*
    - §701.21(i), Put Options in Managing Increased Interest-Rate Risk for Real Estate Loans Produced for Sale on the Secondary Market
    - §712, Credit Union Service Organizations
    - Part 703 - Investment and Deposit Activities
    - Part 725 - Central Liquidity Facility
  - *Federal Credit Union Bylaws*
  - Accounting Bulletin 94-1

- SFAS 107
- SFAS 115
- SFAS 125
- SFAS 133
- SFAS 140 - Administrator's Letter No. 29, dated 4/17/79; Custodial/Safekeeping Accounts
- NCUA Letter No. 57, dated 6/24/81, Investment Risk
- NCUA Letter No. 79, dated 5/29/85, Mutual Funds
- NCUA Letter No. 130, dated February 1992, Risks of Long-Term Investments - Mortgage Derivative Products
- NCUA Letter No. 139, dated September 1992, Collateralized Mortgage Obligations
- NCUA Letter No. 146, dated August 1993, New Investment Products
- NCUA Letter No. 155, dated April 1994, Permissible Investments for Mutual Funds
- NCUA Letter No. 157, dated September 1994, Broker Selection, Security Safekeeping
- NCUA Letter No. 169, dated April 1995, Divestiture of CMOs and REMICs
- NCUA Letter No. 00-CU-05, dated September 2000, Investments in Brokered Certificates of Deposits
- IRPS 98-02, dated 1998, Supervisory Policy Statement on Securities Activities and End-User Derivatives Activities
- NCUA Investment Report No. 1, dated 1/31/89, Mortgage Pass-Through Securities
- NCUA Investment Report No. 2, dated 4/10/89, Broker Selection
- NCUA Investment Report No. 3, dated 7/19/89, Collateralized Mortgage Obligations (CMOs)
- NCUA Investment Report No. 4, dated 12/1/89, Stripped Mortgage-Backed Securities
- NCUA Investment Report No. 5, dated 4/1/90, Short-Term Investments for Federal Credit Unions
- NCUA Investment Report No. 6, dated 9/1/90, Treasury-Backed Stripped Securities
- NCUA Investment Report No. 7, dated February 1991, Deposit Notes
- NCUA Investment Report No. 8, dated July 1992, The New Investment Regulation

- NCUA Investment Hotline - 1-800-755-5999 (703-518-6620 Washington, DC area)
- Investment Guidance Paper(s), Developed by OSPSP and RCMS Staff
- Using the Regional Investment Specialist, dated February 1999

GLOSSARY OF INVESTMENT TERMS - APPENDIX 12A

This section contains definitions of financial terms commonly used in investments and asset-liability management. Standard dictionaries do not contain the definitions of many words and phrases used throughout the investment industry; therefore, this glossary was compiled to assist the examiner in understanding specialized industry-specific words.

Accretion of a Discount: the accounting recognition of earnings on a discount bond in anticipation of receipt of par at maturity.

Accrued Interest: the amount of coupon interest accumulated on a security between coupon payment dates, or between issuance and the first coupon payment date. The purchaser of the bond pays to the seller the market price plus accrued interest. Accrued interest is calculated using the accrued interest (day count) type for the security.

Accrued Interest Types: the day count used to calculate the accrued interest and the coupon period. A day count type is displayed as DD/YYY, where DD denotes the number of days per month elapsed in the coupon period and YYY denotes the number of days per year (for calculating the coupon period). The day count does not include the settlement day. Common day count types include:

- ACT/ACT: actual days for month and year (365 or 366 days).
- 30/ACT: each month has 30 days and the year has 365 or 366 days.
- 30/360: each month contains 30 days and a year has 360 days.
- 30/365: each month has 30 days and a year has 365 days.

Actuals: the physical or cash commodity, as distinguished from a commodity futures contract or derivative contract which has a value based upon an underlying commodity or index. Forward contracts with an immediate delivery date are called spot contracts. Actuals are also called spot commodities or cash commodities.

Adjusted Trading: a prohibited method of deferring or hiding a loss on the sale of a security. Generally, a security is sold at its book value, which is above the market value, and another security is purchased (or a commitment is made to purchase another security) at a price that also is above the market value.

Advance Commitment (Conditional): a written promise to make an investment at some time in the future if specified conditions are met.

Agent: a person or firm authorized by another (called a principal) to act on his/her behalf. An agent in an investment transaction does not own the security, but instead, represents the employer’s interests and is subject to control by the employer. Purchase confirmations should state whether the broker acted as agent (representing the credit union) or as principal (acting at arms length from the credit union). See “Principal”.

Amortization: a reduction in an investment due to periodic payments of part of the principal before final maturity, usually made in accordance with a predetermined schedule of installment payments. Compare “Prepayment”.

Arbitrage: the simultaneous purchase in one market and sale in another of an investment. The arbitrageur hopes to profit from the price differences between different markets. Arbitrage has been used in the credit union industry to describe a position in a security that is funded by a reverse repurchase agreement (see, “Carry”, “Positive Carry”, “Negative Carry”); however, there is price risk in such a position when the term

of the borrowing is shorter than the maturity of the investment. There may also be credit risk in such a position if the investment is not issued or guaranteed by the U.S. Government.

Ask Price: the lowest declared price at which a seller is willing to sell a security at a particular time. Opposite of “Bid”. Same as “Offer”.

Asset-Backed Security (ABS): a security that is collateralized, typically, by loans, leases, unsecured receivables, or installment contracts on personal property. Asset-backed securities are not permissible investments for federally chartered natural person credit unions.

Assignment: the transfer of ownership of a right or a contract from one party, the assignor, to another, the assignee.

At-the-Money: describes an option when the current trading price of the underlying security is the same as the option’s strike price.

At Market: the going bid price of a security at any given time.

Auction: a competitive process by which an issuer sells its securities, rather than selling at a negotiated, or non-competitive, price.

Auction Stop Out: the lowest or cheapest price (corresponding to the highest yield) at which securities are awarded in a multi-price auction. The Treasury Department has used one-price auctions for two- and five-year Treasury Notes, resulting in the award of securities to each winning bidder at the stop-out yield (the highest yield).

Average Life: the weighted average time to principal repayment. It is useful to describe the life of an instrument as an approximation of a single maturity.

Backup Bid: see “Take Out Bid”.

Bad Delivery: a delivery of securities that does not fulfill the requirements for good delivery.

Bailment for Hire: a obsolete name used for a custodial (or safekeeping) agreement between a custodian (or safekeeping institution) and its customer (or the beneficial owner of the security).

Balloon: a final payment at maturity on a security (or loan) that is much greater than the previous payments. For example, a 7-year balloon loan is amortized on a 30-year schedule to make the payments affordable, but has a large payment of the remaining principal balance (balloon) due at the end of the 7 years. A balloon feature is usually associated with real estate loans and mortgage-backed securities.

Band: see “PAC” (Planned Amortization Class).

Banker's Acceptance: a time draft or bill of exchange accepted by a bank. It represents an irrevocable obligation of the accepting bank to guarantee payment of the draft at maturity at the face value. These instruments are uninsured and are sold at a discount from face value prior to maturity.

Bank Deposit: an account with a bank, including a checking, time, interest or savings account. Bank deposits with certain institutions are authorized in the Federal Credit Union Act. Some deposits are insured up to $100,000, while other deposits are not insured. For example, Federal funds, banker’s acceptances and certain bank notes have been determined by general counsel to be bank deposits under the FCU Act and thus to be permissible, but not insured, investments.

Bank Note: an unsecured and uninsured obligation of the issuing bank. General counsel has determined that bank notes with maturities less than five years are deposits under Regulation D and thus are permissible investments.

Basis: 1) a price expressed in terms of yield-to-maturity or annual rate of return, or a term to describe the yield to expected maturity, as in the expression "GNMAs are trading on a 9-1/2% basis" or a 10 percent bond selling at 100 has a 10 percent basis; 2) the difference between the spot or cash price of a commodity and the price of the nearest futures contract for the same or a related commodity, e.g., basis is usually computed in relation to the futures contract next to expire and may reflect different time periods, product forms, qualities, or locations; 3) used in the phrase "long the basis" or "short the basis" to indicate a cash market position hedged with a futures contract. See “Long the Basis” and “Short the Basis”.

Basis Point: a measurement of yield for fixed income securities. One basis point equals 1/100 of one percent. For example, the difference between 8.00 percent and 8.25 percent is 25 basis points.

Basis Risk: 1) the risk that rates on assets and liabilities will react differently to changes in interest rates, e.g., the investment coupon linked to the Federal Home Loan Bank’s 11th District Cost of Funds (COFI) will not be perfectly correlated with the funding rate offered on a money market share account tied to the overnight Federal fund rate; 2) the risk associated with an unexpected widening or narrowing of the difference in rates or prices between the time a hedge position is established and the time that it is lifted.

Beneficial Owner: the entity that is entitled to receive some or all of the benefits of ownership, including the cash flow, even though title to the security may be in another name, e.g., a nominee name. Title is frequently held in a name other than that of the beneficial owner for safety or convenience of transfer.

Bid Price: the highest declared price at which a buyer is willing to purchase a security at a particular time. Opposite of “Ask” or “Offer”.

Bid and Asked: usually refers to the inside bid/ask quotation, i.e., the best bid and best offer in the market. From a single dealer, the bid/ask represents the prices at which the dealer stands ready to purchase and to sell, often referred to as making a two-way market quotation. See also “Quotation” and “Take Out Bid”.

Bloomberg: an information vendor system that provides financial market information and performs various analyses of securities. There are a number of private companies or publications that provide a source of basic information and analytic detail about securities.

Board of Trade: an exchange or an association of persons, whether incorporated or unincorporated, that is engaged in the business of buying and selling any commodity or receiving the same for sale on consignment.

Bond: a certificate or evidence of a debt on which the issuer promises to pay a specified amount of interest and to repay the principal on the maturity date. Examples include Treasury bills (original maturity under one year), Treasury notes, Treasury bonds (original maturity over 15 years), agency debt, and mortgage backed securities.

Bond-Equivalent Yield: a comparable measure of the return over the life of a bond or Treasury bill or other discount instrument, assuming it is purchased at the ask price and the return is computed using a semi-annual interest formula and an actual-day year. Other rates of return cannot be compared directly with the bond-equivalent yield; e.g., a discount rate of return is calculated by using the par amount rather than the purchase price, by using another formula, and by using a 360-day year rather than an actual-day year. The Securities Industry Association has published standard securities calculation methods for fixed income securities formulas.

Book Entry Security: a security that is not represented by a physical certificate. The beneficial owner (or the custodian) of the security is recorded on an electronic system on which the terms and conditions of the

security exists. The method of computerized entries eliminates the need for physical certificates. For example, the Treasury and certain government sponsored enterprises use a book-entry system maintained in computerized records at the Federal Reserve Banks in the names of member banks. A member bank, in turn, keeps records of securities held for 1) beneficial owners with whom it has a direct custodian agreement and 2) other custodians that hold as nominees for others that, in turn, maintain records of beneficial ownership or other custodians.

Book Entry Transfer: a system of custody and transfer of securities through the electronic delivery and settlement of transactions.

Book Value: the value at which a held-to-maturity security is shown on the holder's balance sheet. Book value may differ significantly from market value.

Broker: an entity that engages in securities transactions for the account of others. A broker does not buy and sell securities for its own account, as contrasted to a dealer that trades for its own account. A broker charges a commission for the service which it provides.

Broker-Dealer: an entity engaged in securities transactions for its own account and for the account of others. A broker-dealer may act as agent (broker) or principal (dealer). The purchase confirmation will state whether the broker-dealer acted as broker (agent) or dealer (principal) for the transaction.

Bullet Bond: a debt security that returns 100 percent of principal on the maturity date.

Call: 1) an option contract granting the buyer the right but not the obligation to purchase (call) a specified quantity of a security at a specified price (the exercise or strike price) and time (the exercise style). Typical option terms provide for exercise a) at any time until the stated expiration date of the contract (American exercise style), or b) only at the stated expiration date (European exercise style). Such an option is bought in the expectation of a price rise above the strike price. If the price rise occurs, the purchaser will exercise the option. If the rise does not occur, the purchaser will let the option expire and will lose the purchase price of the option, that is, the option premium. 2) an embedded call in a security grants the issuer the right to retire or "call away" all or part of the security at a specific price (the call price) and at a specific time prior to its contractual maturity date. The ability to call the security is an "option" that belongs to the issuer of the bond. Common call features include a) callable only on specific call dates, or b) continuous, that is, callable anytime, usually after a lockout period, which is a time period when a call cannot occur.

Call Date: the date or dates on which a security may be redeemed by the issuer at a pre-specified price.

Call Feature: a provision on a bond which entitles the issuer to redeem the bond at face value or other price before the maturity date.

Call Loan: a short-term loan of temporarily liquid funds by banks to securities dealers and brokers.

Cap: 1) an embedded option in a floating-rate security that places a rate ceiling (specifying the highest interest rate that will be paid) on the floating rate coupon. 2) a stand-alone option contract (usually written as a swap) that pays the holder of the cap an amount equal to the notional principal amount times the excess of the market rate over the cap rate. A cap usually consists of a strip of caplets (that is, a series of options with sequential expiration dates). Each caplet is an option on rates for a single period of time. 3) for risk management purposes, the quantitative limit placed on the position that a participant in a funds or securities transfer system can incur during the business day.

Carry: the interest cost of financing securities positions, calculated by subtracting the cost of funds borrowed to finance the securities from the interest earned on the securities.

Cash Commodity: see "Actuals".

Cash Flow: 1) the stream of principal and interest payments on a security. 2) the amount of cash derived over a certain measured period of time from the operation of income-producing property after debt services and operating expenses, but before depreciation.

Cash Forward Agreement: a cash transaction in which a buyer and seller agree upon delivery of a specified amount of a security at a specified future date. Also known as a firm commitment. See “Commitment”.

Cash Market: traditionally, denotes the market in which commodities are traded, for immediate delivery, against cash. The cash market in which securities trade for immediate delivery is contrasted with the futures markets in which securities trade for future delivery.

Cash Price: a price quotation obtained or a price actually received in a cash market. Same as “Spot Price”.

Cash Settlement: 1) money market securities purchased for delivery on the same day the trade is made. 2) a method of settling an option contract whereby the seller pays the buyer a cash amount determined according to a procedure specified in the contract based on the cash value of the underlying instrument at expiration. Futures contracts also may specify cash settlement in lieu of physical delivery at maturity.

CATS (Certificate of Accrual on Treasury Securities): an obsolete form of zero coupon Treasury security. See “STRIPS”.

Certificate of Deposit (CD): a time deposit issued by a bank that pays interest periodically or at maturity. While principal may be paid according to a schedule, typically principal is repaid in a single payment on the maturity date. “Brokered CDs” are marketed through a deposit broker to investors. By way of comparison, a “direct CD” is purchased from the issuing financial institution without the use of a deposit broker. A negotiable CD can be sold by the holder to another party in the market prior to maturity. In contrast, a non-negotiable CD cannot be transferred, but may be redeemed with the issuer subject to any interest penalty.

Cheap: Wall Street vernacular for the relative value of one security to another in terms of its historical price relationship. If a security is cheap, it is underpriced relative to another security. See also “Rich”.

Chicago Board of Trade (CBOT): an exchange which is designated as a contract market in various commodity futures and option contracts. The CBOT introduced GNMA futures contracts in 1975 (no longer traded) and now is an active contract market for futures contracts in Treasury securities.

Churning: excessive purchases and sales by a broker in the accounts of one or more customers for the purpose of generating commissions while disregarding the interests of the customers.

Clean-up Call: the redemption of the remaining outstanding principal of an asset-backed security that is triggered by the reduction in outstanding principal through amortization or prepayment to a specified percentage of the original principal.

Clearing/Clearance: the process of transmitting, reconciling and in some cases confirming payment orders or security transfer instructions prior to settlement. Sometimes the terms are used to include settlement.

Clearing Corporation: 1) any person who acts as an intermediary in making payments or deliveries or both in connection with transactions in securities, generally serving to centralize and reduce the number of settlements of securities transactions. Major clearing corporations for fixed income securities include the Government Securities Clearing Corporation and the Mortgage-Backed Securities Clearing Corporation. 2) a corporation organized to function as the clearing house for an exchange, that may interpose itself as the buyer to every seller and the seller to every buyer.

Clearing Member: a brokerage concern entitled to use the services of a clearing corporation.

Clearing Organization: usually a brokerage concern which clears the transactions of another brokerage concern.

Closed Position: forward or futures contracts which have been offset in full are considered "closed" because the obligations cancel each other out.

Closing Price: the price (or price range) at which transactions are made just before the end of trading on a given day. See also "Settlement Price".

Collar: 1) a maximum and a minimum interest rate on a floating rate bond. This is comprised of two embedded option positions: a short cap on rates and a long floor on rates. See "Embedded Option", "Cap", and "Floor". 2) a swap contract that eliminates the downside risk below the floor price (or rate) and eliminates the upside participation above the cap price (or rate). This is comprised of a long floor on price (or rate) and a short cap on price (or rate).

Collateral: an asset pledged to a lender until a loan is repaid. If the borrower defaults, the lender has the right to seize the collateral and sell it to pay off the loan.

Collateralized Mortgage Obligation (CMO): a bond that represents a partitioned ownership of a mortgage pool. CMOs are issued by a trust which holds mortgage-backed securities as collateral. The trust issues several different classes of CMOs, called tranches. Tranches have different maturities, coupons, and risks. A common CMO structure separates pools into short-, medium-, and long-term classes, which divides the ownership of the MBS pools into sequential-pay tranches; principal is paid to the class with the highest priority claim on principal payments (the short-term class, often called the A tranch) until all bonds of that priority have been redeemed; then, principal is paid to the next highest priority class (the medium-term class, often called the B tranch) until all bonds of that priority have been redeemed; finally, principal is paid to the long-term class (often called the C tranch). This structuring creates a series of bonds of distinct expected maturities. There are many different structures that specify complex cash flow priorities of principal and interest. A CMO is also referred to as a REMIC (Real Estate Mortgage Investment Conduit).

Commercial Mortgage-Related Security: a mortgage related security where the mortgages are secured by real estate upon which a commercial structure is located.

Commercial Paper: a short-term unsecured promissory note issued by a corporation for a maturity specified by the buyer.

Commitment: an agreement to buy or sell a security at a future date, subject to compliance with stated conditions. Applies to mortgage-backed securities. See "Cash Forward Agreement"," Standby Commitment", and "Take-Out Commitment".

Commitment Fee: see Fee.

Commodity Futures Trading Commission (CFTC): a federal regulatory agency charged and empowered under the Commodity Exchange Act with regulation of futures trading in all commodities.

Common Trust: a collective investment fund maintained by a national bank under 12 CFR part 9.

Competitive Bid: 1) bid tendered in a Treasury auction for a specific amount of securities at a specific yield or price. 2) bids solicited from one or more syndicates by issuers such as municipalities and public utilities for new issues.

Conditional Prepayment Rate (CPR): same as "Constant Prepayment Rate".

Confirmation: the document (or process) whereby a market participant notifies its customers of the details of a trade and, typically, allows time to affirm or to question the trade which had previously been agreed to verbally.

Connie Mac: a colloquial term for securities collateralized by pools of conventional mortgages. See "Conventional Loan".

Constant Maturity Treasury (CMT): a construct to obtain a bond equivalent yield for a fixed maturity. Yield curves on U.S. Treasury securities are constructed daily by the Treasury Department. The curves are fitted based on the closing market bid yields of actively traded Treasury securities. Values are read (or interpolated using cubic spline fitting) from the yield curve for constant remaining maturities of 1, 2, 3, 5, 7, 10, and 20 years. The yield for one and three year CMT's are often used as indexes for variable rate securities.

C**onstant Percent Prepayment (CPP):** an infrequently used term that expresses single monthly mortality (SMM) on an annualized basis without correcting for the effects of compounding. CPP is SMM multiplied by 12.

Constant Prepayment Rate (CPR): a measure of the prepayment rate at which mortgage collateral is expected to prepay, expressed as an annual percentage of the remaining collateral. Sometimes called "Conditional Prepayment Rate". CPR reflects the result of compounding on SMM. If a constant percent of the outstanding balance prepays each month, the dollar amount prepaid declines over time. Using a 4 percent SMM, on a $100,000 mortgage, $4,000 ($100,000 x .04) would prepay in the first month, but only $3,840 ($96,000 x .04) would prepay in the second month. In the first year the CPR would be 38.73 percent, i.e., $[1 - (1 - .04)^{12}]$ and the remaining mortgage balance at the end of the first year would be $61,270, i.e., [(1 - .3873) x 100,000].

Contract: 1) a bilateral agreement between buyer and seller. 2) a term of reference describing a unit of trading for a commodity for future delivery.

Contract Grades: those grades of a commodity which have been officially approved by an exchange as deliverable in settlement of a futures contract.

Contract Market: a board of trade designated by the Commodity Futures Trading Commission as a contract market under the Commodity Exchange Act. Contract markets include: 1) a futures contract in a specified commodity or financial instrument; 2) an option contract on a specified commodity or financial instrument (also called an option on a physical); and 3) an option contract on a futures contract (also called a futures option).

Contract Month: the month in which delivery is to be made in accordance with a futures contract.

Convertible: 1) a feature of an adjustable rate mortgage that permits a change to a fixed rate mortgage. 2) a bond containing a provision that permits conversion to the issuer's common stock at some fixed exchange ratio.

Convexity: 1) a measure of the curvature of the relationship between the change in bond price and the change in interest rates. A bond or note is said to have positive convexity if the instrument's value increases at least as much as duration predicts when rates drop, and decreases less than duration predicts when rates rise. Positive convexity is desirable to investors because it makes a position more valuable after an interest rate change than suggested by a duration estimate. Negative convexity refers to a position that loses value relative to duration's prediction when prices change in either direction. 2) a colloquial term for the gamma of an option, which practitioners may refer to as curvature. Practitioners also may use interchangeably the

terms selling convexity and selling volatility; these terms refer to the pick up in yield for selling the call options that are embedded in bonds such as MBS and callable GSE bonds.

Corporate Bond Equivalent Yield: an upward adjustment to reflect monthly payment of interest rather than semiannual payment of interest which is the convention in the Corporate and Government bond markets.

Correspondent: a mortgage banker who services mortgage loans as a representative or an agent for the mortgage owner or investor. Also applies to the mortgage banker's role as originator of mortgage loans for an investor.

Cost of Funds Index (COFI): an index that reflects the cost of funds for all thrift institutions as reported by the Federal Home Loan Banks. Cost of funds is defined as the annualized average interest paid or accrued on deposits, on FHLB advances and other borrowed money during a reporting period. The most common COFI is the Federal Home Loan Bank's 11th District COFI, which is compiled from savings banks in California, Arizona, and Nevada.

Counterparty: the opposite party to a financial transaction or contract.

Coupon: 1) the stated annual interest rate on a debt instrument that the issuer promises to pay periodically to the holder until maturity. See "Coupon Rate". 2) that portion of the physical security which shows the interest due on the payable date (usually semiannually). Physical securities may have detachable coupons that must be presented by the holder for payment.

Coupon Date: the date the interest payment is due to the owner of the investment.

Coupon Income: the income received from the coupon rate on owned securities.

Coupon Rate: the interest rate on a debt instrument, expressed as a percentage of face value, paid periodically by the issuer, e.g., a bond with a 6% coupon will pay $6 per $100 of face amount per year, usually in installments every six months. Not synonymous with yield. See "Rate of Interest".

Cover: purchasing to offset a short position. Same as "Short Covering". See "Offset", "Liquidation", "Evening Up".

Covered Call Writer: a seller of a call option who owns the underlying security on which the option is written.

Cover Value: the monetary amount necessary to buy-in a short position at the current market value.

Credit Enhancement: 1) the backing of a debt instrument with collateral, a bank LOC, or some other device to achieve a higher rating for the debt instrument than would be obtained based solely on the issuer's credit risk. 2) any structural component of a transaction that increases creditworthiness.

Credit Risk: the risk of default as reflected by the financial and operating risks of the issuer.

Cross Hedge: a hedge with two transactions in different, but related, securities, usually in different markets; e.g., a long position in US Treasury Bonds in the futures market and a short position in the GNMA forward market.

Current Coupon: a newly issued or to-be-announced mortgage-backed security selling at or close to par. Other new issues are referred to as discounts or premiums.

Current Issue: the most recently auctioned issue, usually in Treasury securities. Also referred to as an on-the-run issue. Trading is more active in current issues than in off-the-run issues.

Current Market Value: the closing price of a security as of the preceding business day.

Current Maturity: current time to maturity on an outstanding note, bond, or other money market instrument, e.g., a 5-year note one year after issue has a current maturity of four years.

Current Yield: coupon payments on a security as a percentage of the security's market price. The market price should be gross of accrued interest, particularly on instruments where no coupon is left to be paid until maturity. Often referred to as current return.

Custodial Agreement: a contract in which a custodian agrees to exercise ordinary care in safekeeping and administration of securities and financial instruments on behalf of others. Regulation 703 prohibits a contract with a standard of care less than ordinary. Modern term for Bailment for Hire.

Custodian: an individual or organization responsible for safeguarding and administration of securities and financial instruments on behalf of others.

CUSIP Number (Committee on Uniform Securities Identification Procedures): an identifying number assigned to a publicly-traded security. It is a nine-digit code (alpha-numeric) that uniquely identifies an issue.

Dealer: any person engaged in the business of buying and selling securities for his own account, through a broker or otherwise. Such an individual or firm is acting as principal rather than as agent. The dealer typically does not charge a commission, but makes a profit from the difference between its purchase price and its sale price. A dealer is not required to disclose its cost basis. Therefore, each party to a trade should establish whether the contra party will receive dealer status. The dealer's confirmation discloses to the customer that the dealer has acted as principal. At different times, the same individual or firm may function as either broker or dealer.

Dealers Association: see "Mortgage-Backed Securities Dealers Association".

Debenture: a bond secured only by the general credit of the issuer.

Debt securities: IOUs created through loan-type transactions-commercial paper, bank CDs, bills, bonds, and other instruments.

Decay: the rate at which a variable's value diminishes through time, e.g., if a variable is set equal to Ce^{-rt}, and C is greater than 0, r is positive, and t equals time, then the variable exhibits exponential decay. Where r is the continuously compounded interest rate, the formula computes the present value of the cash flow (C) that will occur at a time (t) in the future.

Deferred Futures: the most distant expirations of the listed futures contract months. Also called back months.

Delay: refers to the "stated" delay time elapsed to the first payment of principal and interest (GNMA I--45 days, GNMA II--50 days, FHLMC PC--75 days, FHLMC Gold--44 days, FNMA MBS--55 days, conventional pass-throughs--55 days). The "actual" delay, or penalty, is 30 days less than the "stated" delay.

Deliverable Grades: see "Contract Grades".

Delivery: 1) the tender of the securities to the purchaser against receipt of payment at the contract price in settlement of a cash or forward trade. 2) the tender and receipt of the actual commodity, the cash value of

the commodity, or of a delivery instrument covering the commodity, e.g., warehouse receipts or shipping certificates, used to settle a futures contract.

Delivery Month: a specified period (not necessarily a calendar month) within which a futures contract can be settled by delivery.

Delivery Versus Payment (DVP): a security delivery method in which the buyer's payment for securities is due at the time of delivery (usually to a bank acting as agent for the buyer) upon receipt of the securities.

Delta: the expected change in an option's price for a given change in the price of the underlying instrument or security.

Department of Housing and Urban Development (HUD): a department of the US Government. GNMA is a corporate instrumentality within HUD.

Deposit Note: a term deposit in a bank. A deposit note is an obligation of a bank that is similar to a certificate of deposit but is rated.

Depository: a central facility for holding securities which enables securities transactions to be processed by book entry without physical delivery of securities certificates. In addition to safekeeping, a depository may incorporate comparison, clearing and settlement functions. Major depositories include the Depository Trust Company (DTC) and the Fedwire book-entry securities system. DTC has a separate MBS Division (formerly operating as the Participants Trust Company).

Discount: an amount, expressed as a percentage or dollar amount, that a security is trading below its par value. Some securities, e.g., Treasury Bills, are issued at a discount, without a coupon, and are redeemable at par when they reach maturity; the difference between the original discount and par provides the rate of return on the investment.

Discount Bond: a bond selling below par.

Discounted Cash Flow: an accounting technique used to estimate the present value of future cash flows by applying a discount rate to anticipated cash flows.

Discount Rate: 1) the interest rate charged by the Federal Reserve Banks for loans to member banks, using government securities or eligible paper as collateral. 2) a discount rate (as opposed to the Discount Rate) is an interest rate used in determining the present value of future cash flows.

Disintermediation: the phenomenon that occurs when there is a decline in the deposit and lending relationships between financial intermediaries and their customers and an increase in direct relationships between ultimate suppliers of funds and ultimate borrowers of funds. Caused, for example, when financial intermediaries cannot compete efficiently with the rates being paid by others. This results in a shrinkage in the amount of deposits held by those financial intermediaries which are unable to pay the higher (market) rates. See also "Intermediation".

Dollar Rolls: a special repurchase agreement transaction where the holder of a security agrees to sell the security to a second party and agrees to buy back a security with substantially similar characteristics at a specified price, on a specified date. It differs from a repurchase transaction in that the seller gives up the cash flows from the security during the roll period. The accounting profession may refer to this type of transaction as a Dollar Price Repurchase Agreement.

Domino Effect: the notion that a default by (or financial stress at) one organization will cause a default or financial stress at other firms in the securities industry because of interconnected obligations.

Don't Know (DK): denying knowledge of a trade and a refusal to settle a trade by a buyer when the buyer (or the buyer's receiving agent) does not recognize confirmation or the securities that the seller has delivered. The buyer's operations department may have no record of or instructions to complete the trade, or the buyer may "DK" the trade because it reflects an incorrect price or quantity.

Due Bill: a promissory note delivered in lieu of the security to a buyer by the seller which evidences the seller's obligation to deliver the security to the buyer at a later date. A due bill check is a post-dated check issued by the seller to the buyer that becomes payable to the buyer on a specified date in the amount of principal and interest due to the buyer. Prior to the payable date, the due bill check serves as a due bill.

Duration: a measure of the sensitivity of an instrument's price to changes in yields. It is calculated as a present value-weighted time to maturity of the cash flows from an instrument. Also termed "Macaulay Duration". See also "Modified Duration", which is slightly different but often used interchangeably with duration. For a bond with known cash flows, the percentage change in the security's price in response to a small change in yield is approximately equal to the negative of the product of the security's modified duration and the rate shift. For mortgage-backed securities, such as CMOs, where cash flows are subject to uncertainty, the calculated duration is a poor indication of market risk, since it does not adjust for the impact of changing interest rates on prepayment and extension risks. In such a case "Effective Duration" is a better measure.

Effective Duration: a measure of the sensitivity of an instrument's price to changes in yields, taking into account the effect of embedded options and changes in prepayments. It is calculated typically as an average percentage change in a bond's value (price plus accrued interest) for shifts in the Treasury curve of +/- 100 basis points (that is, plus and minus one percent). Effective duration may also be calculated for other shifts (e.g., +/- 200 basis points) in the Treasury curve.

Embedded Option: an option that is an inseparable part of another instrument. Embedded options include caps, floors, calls, puts, and prepayment provisions. Typical embedded options grant early termination rights to the issuer, such as the call provision in many corporate bonds or the homeowner's prepayment option that permits the issuer to repay the mortgage-backed security earlier than the nominal maturity. While embedded options are not severable, in contrast, detachable options can be traded separately.

Endorsement: a signature, other than that of a signer as maker, drawer, or acceptor, that alone or accompanied by other words is made on an instrument for the purpose of 1) negotiating the instrument, 2) restricting payment of the instrument, or 3) incurring endorser's liability on the instrument. Spelled "indorsement" in the Uniform Commercial Code.

Equivalent Bond Yield: annual yield on a short-term, non-interest-bearing security calculated so as to be comparable to yields quoted on coupon securities. See "Bond-Equivalent Yield".

Escrow Agent: a third party, acting as an agent for the buyer and the seller, who carries out the instruction of both and assumes the responsibilities of handling the paperwork and the disbursement of funds.

Escrow Fees: fees charged by the escrow holder for services.

Eurodollars: U.S. dollars deposited in a financial institution located outside of the United States. Permissible Eurodollar deposits under Part 703 are deposits in foreign branches of United States depository institutions. These deposits are not covered by FDIC insurance.

Evening Up: buying or selling to offset an existing market position. See "Liquidation".

Exchange: an organization which maintains a market by bringing together members to execute trades in the commodities or securities listed on the exchange. Also called a "Board of Trade" in the commodities markets.

Exchange of Cash for Futures: a transaction in which the buyer of a cash commodity receives a short futures position in a corresponding amount and the seller of a cash commodity receives a long futures position in a corresponding amount, at a price difference from the cash commodity mutually agreed upon. These transactions allow ex-pit trading of futures to facilitate movement of the cash commodity and can establish, transfer, or offset open interest. Also called Exchange for Physical, or Against Actuals.

Exempted Securities: securities exempt from registration under the Securities Act of 1933 (see section 3) or exempt from certain provisions of the Securities Exchange Act of 1934 (see section 3(a)(12)). Such securities include governments, agencies, municipal securities, and certain commercial paper and private placements.

Exercise: to elect to put into effect the right (but not the obligation) held by an option holder, e.g., to require the option writer to deliver a security at the strike price (call), or to require the option writer to purchase a security at the strike price (put).

Exercise Price: the price at which the option buyer may purchase (call) or sell (put) the underlying security. Also called "Strike Price".

Expiration Date: the final date on or before which an option may be exercised. If not exercised by the expiration date, the option is void and worthless.

Extension Risk: the potential that the principal of a mortgage-backed security will be paid later than expected, typically in response to rising interest rates. Since the expected prepayments will be slower in a higher interest rate environment, the result is a longer expected average life. Opposite of "Prepayment Risk".

Face Value: typically the value of a bond or financial instrument at maturity. Historically, all securities were issued in the physical form of a certificate; the face value appeared on the face of the certificate. Face value is not an indication of market value. For amortizing instruments such as mortgage-backed securities, face value typically refers to the original principal amount. Also called "Par Value".

Factor: the proportion of the outstanding principal balance of a security to its original principal balance expressed as a decimal. In mortgage backed securities (MBS), the principal amount of each outstanding certificate is reduced monthly by its pro rata share of the regular mortgage payments by the mortgagees of the underlying mortgages and any prepayments or foreclosures. The MBS issuer publishes a list of factors each month (e.g., .987654321). The MBS security holder can calculate the current amount of principal outstanding by multiplying the factor by the original principal amount (e.g..987654321 factor times $100,000 original principal balance = $98,765 outstanding principal balance). The MBS security holder can calculate the amount of principal received in the current month by subtracting the prior month's outstanding principal balance from the current month's outstanding principal balance.

Fail: when the seller of a security does not make delivery on the agreed settlement date.

Fair Value: the amount at which an instrument could be exchanged in a current arms-length transaction between willing parties, other than in a forced liquidation sale. Market prices, if available, are the best evidence of the fair value of financial instruments. If market prices are not available, the best estimate of fair value may be based on the quoted market price of a financial instrument with similar characteristics or on valuation techniques (e.g., the present value of estimated future cash flows using a discount rate commensurate with the risks involved, option pricing models, or matrix pricing models.)

Fannie Mae: see "Federal National Mortgage Association (FNMA)".

Farmers Home Administration (FmHA): a US Government agency established under the Farmers Home Administration Act of 1946 to provide financing to farmers and other qualified borrowers who are unable to obtain loans elsewhere. It makes, participates in, and insures loans for rural housing and other purposes.

Federal Agency Security: interest bearing debt securities issued by U.S. departments and agencies. Agency securities are backed by the full faith and credit of the U.S. government (e.g., GNMA pass throughs and participation certificates). Securities of Government Sponsored Enterprises (GSEs) often are referred to as agency securities, but typically are backed only by the issuer (e.g., FNMA debentures).

Federal Funds (Fed Funds): funds deposited at Federal Reserve Banks by financial institutions, including funds in excess of reserve requirements. Fed funds can be sold by a credit union to a Section 107(8) institution. Fed funds sold represents an uninsured investment by the credit union (a permitted borrowing by the bank). Although a credit union can also buy Fed funds, Fed funds purchased represents a borrowing by the credit union.

Federal Home Loan Mortgage Corporation (FHLMC or Freddie Mac): a private corporation authorized by Congress. FHLMC is a secondary-market facility of the FHLBB system. It primarily sells mortgage participation certificates secured by pools of conventional mortgage loans whose principal and interest are guaranteed through the FHLMC.

Federal Housing Administration (FHA): a division of HUD. Its main activity is the insuring of residential mortgage loans made by private lenders. It sets standards for construction and underwriting. FHA does not lend money or construct housing.

Federal National Mortgage Association (FNMA or Fannie Mae): a private corporate created by Congress to support the secondary mortgage market. It primarily purchases conventional residential mortgages and issues mortgage-backed securities.

Federal Open Market Committee (FOMC): the arm of the Federal Reserve System (Fed) that controls the purchase and sale of securities in the market for the Fed's open market account. A purchase of securities by the Fed adds reserves to the banking system (increasing the money supply), while a sale of securities withdraws reserves. Open market operations serve as one of three basic tools the Fed uses to conduct monetary policy (the other two being changes in the discount rate and reserve requirements).

Fee: 1) a Commitment Fee is a payment to investors or prospective investors, which may or may not be refundable, for the purpose of obtaining a commitment to purchase or to sell securities. 2) a Standby Fee is a non refundable amount received or paid for the sale or purchase of a standby commitment. 3) an Up-front Fee is a commitment fee paid in advance of the settlement date to an investor for a future purchase.

Fee Trading: see "Adjusted Trading".

FHA Experience: a statistical series, revised periodically, which represents the portion of mortgages that "survive" a given number of years from their origination.

Financial Accounting Standards Board (FASB): the professional quasi-regulatory organization that primarily establishes and reviews generally accepted accounting principles (GAAP), which are mainly delineated by Statements of Financial Accounting Standards (SFAS).

Financial Instruments: 1) any obligation or contract which can be negotiated, including stocks, bonds, commercial paper, forwards, and futures. 2) more generally, cash, evidence of an ownership interest in an equity, or a contract that establishes a right of one party to receive cash (or another financial instrument) or to exchange other financial instruments on potentially favorable terms with the counterparty.

Financial Intermediary: a financial institution which acts as an intermediary between savers and borrowers by accepting money from the public and, in turn, by lending the accumulated funds to borrowers. The classification includes savings associations, commercial banks, mutual savings banks, life insurance companies, and credit unions.

Firm Commitment: a commitment to buy or sell a security at a fixed price for a specified period of time.

Firm Price: a price at which a trader is willing to trade for a limited period of time, usually no longer than the length of the phone call. Opposite of indicative price or indication.

Floor: 1) an embedded option in a floating-rate security that places a rate minimum (specifying the lowest interest rate that will be paid) on the floating rate coupon. 2) a stand-alone option contract (usually written as a swap) that pays the holder of the floor an amount equal to the notional principal amount times the excess of the floor rate over the market rate. A floor usually consists of a strip of caplets, i.e., a series of options with sequential expiration dates. Each caplet is an option on rates for a single period of time.

Floor Broker: any person who, in or surrounding any pit, ring, post or other place provided by an exchange for the meeting of persons similarly engaged, executes for others any orders for the purchase or the sale of any commodity or security and receives a prescribed fee or commission.

Foreclosure Payment: a prepayment made to holders of mortgage-backed securities from proceeds of property liquidation after foreclosure. Amount of prepayment must equal the principal balance of the foreclosed mortgage.

Forward: a cash market transaction in which two parties agree to the purchase and the sale of a commodity at some future time under such conditions as the two agree. In contrast to futures contracts, the terms of forward contracts are not standardized. A forward contract usually is not transferable and can be canceled only with the consent of the other party, which often must be obtained for consideration and under penalty, and forward contracts are not traded in federally designated contract markets. Essentially, forward contract refers to any cash market purchase or sale agreement for which delivery is not made "on the spot." See “Commitment”, “Cash Forward Agreement”, and “Standby Commitment”.

Forward Contract: see “Forward”.

Forward Market: refers to informal (non exchange) trading of commodities to be delivered at a future date. Contracts for forward delivery are not standardized, e.g., delivery time and amount are as determined between seller and customer.

Forward Months: see “Deferred Futures”.

Forward Roll: like "roll over," a term used to describe the action of selling an investment position and redeploying the proceeds into a new but similar position. A trader in the Government securities market may elect to sell a long position in the previously-issued 2-year note (the "current" 2-year) and use the proceeds to buy the newly-issued 2-year note (referred to as the "when issued" or "w.i." 2-year) prior to its settlement date. When this action is done with the forward settlement date, it is described as a "forward roll from the current to the w.i.” In the futures and options markets, a forward roll is used to describe the extension of a position from one month (maturity) to a longer month. A trader may elect to shift from a March Eurodollar contract to a June Eurodollar contract to avoid the expiration date on the March contract.

Freddie Mac: see “Federal Home Loan Mortgage Corporation (FHLMC)”.

Fully Modified Pass-Through: a security for which the timely payment of both principal and interest is guaranteed. Investors in the security will receive mortgage interest and principal payments on a certain date regardless of whether the mortgage borrowers have actually made those payments.

Funding Date: term used by mortgage bankers to denote the date on which the mortgage banker funds or finances a new issue of MBS. See "Settlement Date".

Fungibility: the characteristic of interchangeability. Treasury securities of the same maturity and coupon are interchangeable, as entries in the Fed's book-entry system. Futures contracts for the same commodity and delivery month are fungible due to their standardized specifications for quality, quantity, delivery date, and delivery locations. GNMAs bearing the same interest rate generally are treated as fungible until pool numbers are assigned. Subsequently, fungibility may decline or vanish.

Futures Commission Merchant: the CFTC's term for a futures broker. Any individual, association, partnership, corporation, or trust engaging in soliciting or in accepting orders for the purchase or sale of any commodity for future delivery on, or subject to, the rules of any futures exchange.

Futures Contract: an agreement to purchase or sell a commodity or financial instrument for delivery in the future: at a price determined at initiation of the contract, which obligates each party to the contract to fulfill the contract at the specified price, which is used to assume or shift price risk, and which may be satisfied by delivery or offset. Futures contracts are sold on an exchange or board of trade in which the terms are standardized. See "Contract Market".

Futures Exchange: see "Contract Market".

Futures Price: the price of a given commodity unit determined by public auction on a futures exchange.

Gamma: a measure of the rate of change of the option's delta with respect to a change in the price of the underlying asset.

Gap: mismatch between the earlier of maturity or repricing of a depository institution's assets and liabilities, prepared by scheduling the cash flows of all balance sheet items into time periods, or "buckets." A static gap reports the current balance sheet repricing mismatch. Dynamic gap a) typically refers to a gap report projected as of a future balance sheet date, but b) may refer to the use of estimated cash flows in the maturity or repricing buckets of a gap report.

General Obligation Bonds: municipal securities secured by the issuer's pledge of its full faith, credit, and taxing power.

Ginnie Mae Mortgage-Backed Security (Ginnie Mae or GNMA): a security issued and guaranteed by the U.S. Government. Cash flows on Ginnie Mae securities are based on the underlying FHA, VA, or FmHA mortgages. The term "pass-throughs" is often used to describe Ginnie Maes. See "Government National Mortgage Association", "GNMA I", "GNMA II".

GNMA I: a pass-through mortgage-backed security on which the registered holders receive on the 15th day of each month a separate principal and interest payment on each of their certificates. GNMA I securities are collateralized by a pool of mortgages from a single originator, such as a mortgage banker, commercial bank, savings and loan association, savings bank, credit union, or and other institution.

GNMA II: a pass-through mortgage-backed security on which registered holders receive on the 20th day of each month an aggregate principal and interest payment from a central paying agent on all of their GNMA II certificates. GNMA II securities are collateralized by multiple-issuer pools ("Jumbos") or custom pools (one originator but different interest rates that may vary within one percentage point).

Go-Around: the technique whereby the manager of the System Open Market Account purchases and sells securities for the Federal Reserve System.

Good Delivery: a term indicating that a security in proper form has been delivered timely in accordance with the terms of the transaction.

Government Agency: organizations established by Congress to serve many different purposes. Most agencies typically do not issue securities, but borrow indirectly through the US Treasury. Those securities issued directly by agencies typically are direct obligations of the US Government. Government Sponsored Enterprises, which are private corporations, often are called (loosely and erroneously) “agencies”.

Government National Mortgage Association (GNMA or Ginnie Mae): a wholly-owned government corporation within the Department of Housing and Urban Development. GNMA supports a secondary market in government insured and guaranteed mortgages. GNMA securities are backed by pools of FHA-insured and VA-guaranteed mortgages. See “Ginnie Mae”, “GNMA I”, “GNMA II”.

Government Sponsored Enterprise (GSEs): a financial intermediary established by Congress to provide funding to sectors of the economy that are in need of credit beyond that supplied by purely private intermediaries. GSEs are privately owned and operate with limited government direction. Obligations are not guaranteed by the full faith and credit of the U.S. government. Examples include:
- Federal Home Loan Bank (FHLB)
- Federal Home Loan Mortgage Corporation (FHLMC - Freddie Mac)
- Farm Credit System
- Agriculture Mortgage Corporation (Farmer Mac)
- Student Loan Marketing Association (SLMA - Sallie Mae)
- Financing Corporation (FICO)

Graduated Payment Mortgage (GPM): a mortgage that features negative amortization in which early payments are scheduled to be insufficient to pay the interest accruing on the outstanding principal. After a period of low initial payments, there is a graduation period where the size of the payments increase for some number of years. The number, frequency, and rate of increases are specified in the original contract.

Gross Long: the total of open long (purchase) contracts, not reduced by any short positions (sales contracts) held at the same time.

Gross Short: the total of open short (sales) contracts, not reduced by any long positions (purchase contracts) held at the same time.

Guaranteed Loan Participation Certificate (GLPC): see “Small Business Administration Secondary Participation”.

Guaranty: a promise by one party to pay a debt or to perform an obligation contracted by another party in the event that the original obligor fails to pay or perform as contracted.

Haircut: 1) deductions of specified percentages from the market value of assets solely for the purpose of computing regulatory net capital. 2) in computing the worth of assets deposited as collateral or margin, the difference between the actual market value of a security and the value assessed by the lending side of a transaction.

Hedge: 1) a position or combination of positions that reduces some type of risk, usually at the expense of expected return. A hedging transaction is a transaction or position in a swap, futures contract, or other financial instrument that reduces financial risks of a commercial enterprise. Typical hedges involve: entering into an opposite position (in a related security in the cash market or in a futures contract) to a position held in the cash market to minimize the risk from adverse price changes; and entering into a position in the futures market as a temporary substitute for a cash transaction that will occur later to guarantee today’s price. 2) among traders and portfolio managers, a term used to describe a partially hedged position. 3) used erroneously to minimize the perceived risk in describing a risky position (or combination

of positions) taken with the intent of profiting from an expected change in a spread (also termed a basis arbitrage) or value (also termed a risk arbitrage).

Hit: a dealer is "hit" when the bid side of a market which the dealer has made is accepted by the customer, that is, when the customer sells a security to the dealer. When bids are being "hit," the general response of the dealer is to lower the bid price.

HUD: the Department of Housing and Urban Development. Established by the Housing and Urban Development Act of 1965 to supersede the Housing and Home Finance Agency. Responsible for the implementation and administration of government housing and urban development programs. HUD programs include community planning and development, housing production, the extension of mortgage credit (FHA), and ensuring equal opportunity in housing.

Impound: see "Escrow Payment".

Indenture of a Bond: a legal statement spelling out the obligations of the bond issuer and the rights of the bondholder.

Index: the interest rate used in determining the coupon rate of a variable rate security or loan. A margin is usually added to the index.

Index Amortizing Note (IAN): a note that returns principal prior to final maturity. The amount and timing of the return of principal is linked to an index, such as three-month LIBOR or the prepayment speed of a mortgage-backed security. Typically, as the index rises, the scheduled return of principal payments slow down, exposing the owner to extension risk; as the index declines, the scheduled return of principal payments increase, exposing the owner to prepayment and reinvestment risk. Corporate credit unions have offered Amortizing Certificate Programs (ACPs) that behave in a similar manner. IANs are not mortgage backed, but they have similar market risk due to the uncertainty of payments.

Initial Margin: the amount of money or its equivalent that a customer must deposit with a broker when the customer buys or sells a security or futures contract on margin.

Institutional Lender: a financial institution that invests in mortgages and carries them in its own portfolio, e.g., mutual savings banks, life insurance companies, commercial banks, pension and trust funds, and savings and loan associations.

Insured Association: a savings association with savings accounts insured by FDIC.

Interest Rate Risk: the potential for change in the value of a security when the level of interest rates changes.

Interest Rate Swap: a contract to exchange streams of interest payments, e.g. fixed for floating, based upon a specified dollar amount (notional amount) at specified dates in the future.

Interest Trades: these transactions involve a) a purchase of securities for current settlement; b) a delayed settlement (forward) sale of these securities or the possession of a long standby; and c) a financing of a long position by a sale under an agreement to repurchase on or before the forward delivery date.

Intermediation: the phenomenon that occurs when rates paid by certain financial intermediaries can compete successfully with the rates being paid by others, e.g., the US Government on its Treasury Bills. This causes an expansion in the amount of deposits held by the intermediaries which are able to pay higher rates. See "Disintermediation".

In-the-Money: a term to describe an option that has a positive value if exercised immediately. A call option is in-the-money if the underlying security's price is higher than the option's strike price. A put option is in-the-money if the underlying security's price is below the option's strike price. An option that is in-the-money has intrinsic value.

Intrinsic Value: the value of an option if immediately exercised. A call option has intrinsic value when the price of the underlying security exceeds the option's exercise price. A put option has intrinsic value when the underlying security's price is less than the option's exercise price.

Inventory: the total issues, long and short, held by a dealer that comprise that dealer's inventory.

Inverted Market: a futures market in which the nearer months are selling at prices higher than the more distant months; hence, a market displaying inverse carrying charges. This is characteristic of markets in which supplies are currently in shortage.

Inverted Yield Curve: a graph illustrating the level of interest rates as a function of time to maturity, where shorter maturity investments have higher yields than longer maturity investments. Inverted Yield Curves generally occur during period when the Federal Reserve is attempting to fight inflation by restraining growth in economic activity and restricting growth in the money supply. Normally, the yield curve is upward slopping.

Issuer: the legal entity that is selling or has sold its security or other financial instrument. In mortgage banking, the entity who pools mortgages to back GNMA pass-through securities. See "Originator".

Junior/Senior Structure: a securities issuance with one class that is subordinated to a senior obligation.

Junk Bond: a bond with a credit rating that is low, below BBB (S&P) or equivalent.

Key Rate Duration: a duration analysis technique to determine the affect on an instrument's value of a rate change in part of the yield curve. The sum of the key rate durations for an investment provides a measure comparable to duration for parallel shifts in the yield curve.

Legal Eligibility: investments that life insurance companies, mutual savings banks, or other regulated investors may make under a state charter, law, or regulation.

Liquidation: 1) making a transaction that offsets or closes out a position. 2) closing out a defaulted transaction.

Liquidity Risk: 1) the potential loss when a security cannot be sold promptly at or near prevailing market prices. This may be the result of a general market disruption, uncertainty in the market place regarding the value of the security, or a large position relative to market trading volume. 2) in a financial institution, the costs incurred to attract new deposits or liquidate assets to meet the cash flow needs of unanticipated withdrawals.

Liquidity Support: in a structured securities transaction, a source of funds for the issuing trust to cover shortfalls in cash flow resulting from timing mismatches between payments received on trust assets and payments due to securities holders.

Load Fee: a fee charged to invest in a mutual fund. Load fees may be "up-front" fees charged at the time of purchase and/or "back-door" or "back-end" fees charged at the time of sale. These fees may be based on the amount of funds placed in the investment and the length of time the investment is held.

Long Bond: generally a bond that matures in more than ten years is a long bond. Wall Street refers to the 30-year U.S. Treasury bond as the “long bond.”

LIBOR: the London Interbank Offered Rate. When not specified, usually the rate at which major banks offer to lend US dollars (i.e., to make a Eurodollar deposit, as opposed to a deposit denominated in some other currency such as the German mark). There is a different LIBOR rate quoted for each deposit maturity. Different banks may quote slightly different LIBOR rates, just as different banks in the US may have slightly different deposit rates. A popular interest rate survey of LIBOR is prepared each day by the British Bankers’ Association (BBA). NCUA considers a US dollar-denominated LIBOR to be a domestic interest rate.

Long: one who owns an inventory of securities, commodities, or forward or futures contracts.

Long the Basis: a person or firm that has bought the spot commodity and hedged with a sale of futures is said to be long the basis.

Macaulay Duration: see “Duration”.

Maintenance Margin: the minimum amount of money or collateral required to be maintained in a margin account in accordance with exchange regulations or broker requirements. If a customer's margin account drops below the required level, the broker issues a margin call to the customer for a payment sufficient to restore the account, often to the level of the initial margin. Maintenance Margin differs from Variation Margin or Payment, which is a cash payment made to the clearinghouse, usually at least daily, because of an adverse movement in price.

Maker: see “Writer”.

Making a Market: a dealer makes a market when he stands ready to buy or sell at his bid and offered prices.

Margin: 1) a constant value added to an index to arrive at the fully indexed coupon, which is the interest rate paid on a variable rate loan or investment, in the absence of a teaser rate or binding cap rate. The cap rate will be paid on an investment while its fully indexed coupon is above the cap rate. 2) a deposit of cash or collateral by a client with a broker (or by a broker with a clearing house) which protects the broker (or clearing house). Margin in commodities is not a payment for equity or down payment on the commodity itself, but rather is in the nature of a performance bond. The difference is significant because a) both buyers and sellers post margin in commodities; b) the remainder of the position is not being borrowed from one's broker and does not require interest payments; and c) as price moves against one's position, the account is debited (termed Variation Margin at the clearing member level) and the protection represented by the Initial Margin may fall below the prescribed maintenance level, in which case the trader will be required to post additional margin. See “Initial Margin”, “Maintenance Margin”, “Original Margin”, and “Variation Margin”.

Margin Call: 1) a call from a brokerage firm to a customer to bring margin deposits up to minimum levels required by the broker, at least equal to exchange minimums. 2) a request by the clearing house to a clearing member to bring clearing margins back to minimum levels required by the clearing house rules.

Market Order: an order to buy or to sell a stated amount of a security at the most advantageous price obtainable after the order is entered.

Market Price: market price usually is indicated by the last reported price at which the security or financial instrument sold. For an inactive security that has not traded recently, the market price is the latest bid price.

Market Risk: the risk that an investment will vary in price as market conditions change.

Market Value: the current or prevailing price of a security, at which a security presumably could be sold.

Marketability: 1) the capacity of the market in a particular security to absorb a reasonable amount of buying and of selling at reasonable price changes. See “Liquidity Risk”. 2) the degree of investment interest underlying a security.

Mark-to-Market: 1) to value a position or portfolio at current market prices. Marking to market is an effective way to monitor profit and loss. Trading accounts must be marked to market daily to provide management with a measure for control purposes. 2) a procedure whereby a brokerage concern has the right to demand funds or securities in the amount of unrealized loss on unsettled contracts to purchase or sell securities. The making of a mark to market payment restores original margin. 3) the accounting adjustment made to bring the book value of an investment to its market value. It is the accounting procedure that is applicable to a credit union's trading account securities.

Markup: the difference between what a dealer has paid for a security and the price at which the security is offered to another person. May be referred to loosely as Spread. Spread, however, usually refers to the difference in current bid and current offer prices, rather than the difference between the dealers cost and the current offer price.

Matched Repurchase Agreement (Matched REPO): matched repurchase agreements include transactions in which a dealer acquires a security on a reverse repurchase agreement or a collateral loan, only when the dealer has outstanding commitments both to repurchase and to resell the security on the same date. If the reverse repurchase agreement is made first in anticipation of a subsequent matching agreement, the transaction is not a matched agreement until the security is sold under a repurchase agreement. Matched agreements also include transactions in which a dealer is in any way subject to a contingent liability, as well as those where the dealer is acting as an agent in a transaction that involves the temporary exchange of cash for securities between two or more other parties but remains contingently liable for any losses incurred because of the failure of any of the other parties to fulfill their part of the agreement.

Matched Sale-Purchase Agreements: an agreement where the Federal Reserve sells a security outright for immediate delivery to a dealer or foreign central bank, with an agreement to buy the security back on a specific date (usually within seven days). Matched Sale-Purchase Agreements are the reverse of repurchase agreements and allow the Federal Reserve to withdraw reserves on a temporary basis.

Maturity: the date on which the principal amount of the security is due and payable to the registered owner of the security. On such date, the accrual of interest typically terminates on a note, time draft, acceptance, bill of exchange, mortgage-backed security, or bond.

Medium-Term Notes (MTNs): plain corporate debt instruments with a fixed rate and fixed maturity (typically less than seven years), that often are continuously offered notes, ranging in maturity from nine months to 30 years. Bank Deposit Notes are a form of MTN.

Midgets: GNMA pass-through security with collateral of 15-year original maturity mortgages. It is similar in structure to a GNMA security backed by 30-year original maturity mortgages.

Modified Duration: a measure of the sensitivity of an instrument's price to changes in yields. It is calculated as Duration, discounted by a small factor noted below. See “Duration”. Modified Duration often is used interchangeably with Duration, since many uses of duration are not sensitive to the small difference. For a bond with known cash flows, the percentage change in the security’s price in response to a small change in yield is approximately equal to the negative of the product of the security’s modified duration and the rate shift. For mortgage-backed securities, such as CMOs where cash flows are subject to uncertainty, the calculated duration is a poor indicator of market risk, since it does not adjust for the impact of changing interest rates on prepayment and extension risks. In such a case Effective Duration is a better measure.

$D_{mod} = [1/(1 + [y/f])] D$

where D_{mod}= modified duration; y= yield to maturity; f= frequency of coupon payment, and D = duration.

Modified Pass-Through: a security for which the timely payment of interest, but not principal, has been guaranteed by an institution or agency.

Money Market: the market for trading of short-term, high-grade financial instruments, such as banker's acceptances, certificates of deposit, and commercial paper.

Money Market Mutual Fund: a mutual fund that invests in highly liquid securities and pays money market rates of interest, in accordance with regulations of the SEC (17 CFR 240.2a-7). Some funds invest only in government-backed securities. Money market funds attempt to maintain a stable Net Asset Value (NAV) of $1.00 per share. These funds are not insured by the government.

Mortgage-Backed Security Dealers' Association: a voluntary association of dealers in GNMA mortgage-backed securities. The association changed its name from the GNMA Mortgage-Backed Securities Dealers' Association.

Mortgage Banker: a party who originates, sells, and services mortgages. A mortgage banker retains servicing rights to loans and may service the loans it has sold. A mortgage banker also may sell servicing rights. As the local representative of regional or national institutional lenders, it acts as a correspondent between lenders and borrowers.

Mortgage Bankers Association of America (MBA): an association of mortgage bankers. The association serves as the trade association for the mortgage banking industry.

Mortgage Bond: a bond secured by a lien on property, equipment, or other real assets.

Mortgage-Backed Bonds: a bond collateralized by mortgages. The cash flow of the bond need not be linked directly to the principal payments of the mortgages.

Mortgage-Backed Security: a term used broadly to refer to a security backed by mortgages, including pass-through securities, pools, mortgage-backed bonds, and CMOs.

Mortgage Pass-Though Security: a security representing an undivided ownership interest in a pool of mortgages. The mortgages are serviced by a financial institution which transfers the monthly payments by home owners of principal and interest (less a servicing fee and a guarantee fee, if any) to be received by the owner of the interest in the MBS. This process of transferring cash flow is termed a "pass through."

Mortgage Participation Certificates: similar to pass-through securities, representing an undivided interest in residential mortgages.

Mortgage Yield: an internal rate of return calculation. In the early days of mortgage-backed securities, the yield was calculated as if all principal were prepaid at the end of 12 years. Now, a reasonable and supportable estimate of the prepayment speed is used in calculating the estimated yield on a mortgage-backed security. See "Constant Prepayment Rate".

Municipal Securities Rulemaking Board (MSRB): a self regulatory organization established to propose and adopt rules for brokers and dealers in Municipal Securities. The SEC oversees the MSRB. The MSRB was created under §15B of the Securities Exchange Act of 1934.

Municipal Security (Muni): obligations of a state, and of a county, city, tax district, or other division of a state. Municipal securities include: a) General Obligation (GO) Bonds, which the municipality backs with its full faith and credit; b) Revenue Bonds, which are payable from specified revenues only, such as a property or facility financed by the revenue bond, but which do not bind the municipality; and c) short term notes issued by municipalities in anticipation of tax receipts (tax anticipation notes or TANs), proceeds from a bond issue (bond anticipation notes or BANs), or other revenues (revenue anticipation notes or RANs). Many municipal bonds are insured by municipal bond insurance typically issued by one of three leading triple-A rated municipal-bond insurers, AMBAC Indemnity corporation, FGIC (Financial Guarantee Insurance Corporation, or MBIA (Municipal Bond Insurance Association).

Mutual Fund: a fund operated by an investment company that raises money from shareholders. Funds offer professional management and diversification for a fee. The market price of a share is called its Net Asset Value (NAV), which reflects the mark-to-market value of all securities held by the investment company. Also called open end investment company. A mutual fund that invests in fixed income securities often is called a bond fund. See “Money Market Mutual Fund”.

National Association of Securities Dealers, Inc. (NASD): the self-regulatory organization of the securities industry responsible for regulation of the Over-The-Counter securities market and the many products traded in it. The NASD administers qualifications tests to securities professionals and enforces compliance by its members with the securities laws, the rules of the Municipal Securities Rulemaking Board, and NASD rules. The NASD rules, in general, protect investors by preventing fraudulent and manipulative acts and practices, and promoting just and equitable principles of trade. The NASD was created under §15A of the Securities Exchange Act of 1934 (the Maloney Act). The SEC oversees the activities of the NASD. The NASD also owns and operates the NASDAQ market.

Negative Arbitrage: See “Arbitrage”.

Negative (or Inverse) Yield Curve: See “Inverted Yield Curve”.

Negotiable Security: under the Uniform Commercial Code (UCC), an instrument that meets certain legal requirements and can be transferred by endorsement or delivery.

Net Asset Value: the value of a mutual fund share determined by the fund on a daily basis based upon the market value of the underlying securities and the number of shares outstanding.

Net Capital: net worth of a brokerage concern, less certain items such as exchange memberships, carrying value of securities which are not readily marketable, "haircuts" on marketable securities in proprietary accounts, furniture and equipment, etc.

Net Long: a net position that is long.

Net Position: the difference between the open long contracts and open short contracts held by one trader in any one contract market or financial instrument. Trades which have been offset are removed from the net position.

Net Short: a net position that is short.

Net Yield: the part of gross yield that remains after the deduction of all costs, such as mortgage servicing expenses and guaranty fees. See also “Yield”.

New Issue: 1) a security that is purchased at issuance. 2) a recently issued security.

No Load: a mutual fund sold without a load fee.

Normal Yield Curve: a graph illustrating the level of interest rates as a function of time to maturity, where shorter-maturity investments have lower yields than longer-maturity investments. The Normal Yield Curve is upward slopping.

Note: a written promise to pay a debt.

Notional Principal (or Notional Amount): in an interest rate swap agreement, the dollar amount to which interest rates are applied in order to calculate periodic payment obligations. The notional amount is not exchanged by the parties to the interest rate swap agreement.

Odd Lot: a quantity of securities which is less than the typical cash market trading unit, e.g., an odd lot for a Treasury security is a par amount of less than one million dollars. The bid-ask spread on an Odd Lot is slightly wider than for a round lot.

Offer: the lowest declared price at which a seller is willing to sell a security at a particular time. Opposite of bid.

Offset: the liquidation of a purchase of futures through sale of an equal number of contracts of the same delivery month or the covering of a short sale of futures through the purchase of an equal number of contracts of the same delivery month. Either action cancels the obligation to make or take delivery of the commodity.

Open Interest: the total number of future contracts in a given commodity which have not yet been liquidated by offset or fulfilled by delivery; the total number of open contracts. Each open contract has a buyer and a seller; however, when calculating the open interest of an exchange, only one side of the contract is counted.

Open Position: a forward or futures contract is open if it has not been fulfilled by delivery or liquidated by offset. The open position includes open long and short contracts, including option contracts that have not been exercised.

Option: a contract that grants the option buyer the right or privilege, but not the obligation, to buy or sell a specified amount of a given financial instrument at a fixed price (the exercise price) before or on a designated date (the expiration date). A call option confers on the option buyer the right to buy the financial instrument. A put option confers on the option buyer the right to sell the financial instrument. The option writer has the obligation of performing if the option is exercised timely by the option buyer. See also "Standby Commitment", "Optional Commitment", "Exercise Price", "Expiration Date".

Option Adjusted Spread (OAS): represents an expected incremental return (spread) over Treasury rates, given the observed market price for a security. The OAS is normally positive and reflects the risks of the security, including option risk, relative to a Treasury security. A Treasury security will have an OAS of zero. A negative OAS means a security is expected to earn less than a Treasury security of comparable maturity.

OAS is calculated using an iterative modeling process. First, a large sample of potential Treasury interest-rate paths consistent with the current term structure and current level of volatility are generated; second, the cash flows of the security for each of those Treasury interest-rate paths are generated; third, the cash flows are discounted using the projected Treasury rates to compute an estimated model price. The estimated model price is then compared to the observed market price of the security. If the model price is greater than the market price, an increasingly larger spread is added to each of the Treasury rates and the process of discounting cash flows is repeated until the model price equals the market price. OAS is the spread that results in the estimated model price equaling the observed market price.

When OAS is calculated using Treasury rates as discount rates, the OAS includes both option spread and credit spread. Thus, occasionally OAS may be calculated using a corporate interest-rate curve, such as LIBOR, to compute primarily the spread arising from the embedded optionality.

Given a reasonable estimate for OAS, a fair (model) value can be calculated for a security, using the current term structure of interest rates and the current level of volatility.

Option Buyer: the purchaser of a call or put option who pays a premium to receive the exercise right of the contract.

Option Writer: the seller of a call or put option who grants the exercise right to the buyer in exchange for receiving the premium.

Optional Commitment: a term for an over-the-counter option; an option to receive securities, exercisable at a future date. The buyer of the optional commitment has the option to receive the securities. A long optional commitment is an option to purchase securities. A short optional commitment is a commitment to sell. See also “Option and Call”.

Optional Commitment Fee: amount paid for the purchase of an optional commitment. Also called a “Premium”.

Original Margin: term applied to the initial deposit of performance bond or margin money required of clearing member firms by clearing house rules.

Origination: the process whereby a bond, such as a GNMA certificate, backed by approved mortgages in a pool, is issued. See “Issuer”.

Originator: one whose function is to originate or issue mortgage-backed securities. Builders, brokers, and others are solicited to obtain applications for mortgage loans. The individual mortgage company which performs this function is also designated as the originator or issuer. See “Issuer”.

Out-of-the-Money: an option that has no value if exercised under current market conditions (e.g., the option to purchase is at $100, while the market price is below $100). Such an option has no intrinsic value, but may have time value. A call option is out-of-the-money when the exercise price of the option is higher than the underlying security’s price. A put option is out-of-the-money when the exercise price is lower than the underlying security’s price.

Output: the volume of mortgage securities that a mortgage company can be expected to issue in a month. Also called “Production” or “Origination”.

Overcollateralization: the value of the collateral for an asset-backed security exceeds the par amount of the asset-backed security. From the perspective of the issuing entity, the extent to which the value of the asset or the cash flow produced by the asset (collateral) exceeds the liability or the cash flow required to meet the liability obligations. It is usually expressed as a percentage of par amount of the liability.

Over-The-Counter (OTC): 1) non-exchange traded instruments, including Treasury securities, mortgage-backed securities, municipal securities, negotiable CDs, swaps, forwards, and certain options. 2) a market that is not part of an organized exchange.

Overtrading: see “Adjusted Trading” and “Fee Trading”.

P&I: abbreviation for "principal and interest." This is customarily used to describe the regular monthly checks paid to the registered owner of mortgage-backed securities by the issuer. Payment of GNMA I P&I

is scheduled to arrive by the fifteenth of each month and contains the interest, regular principal payments, and prepayments made on a pro rata basis by the entire pool for the previous calendar month.

PAC (Planned Amortization Class): a CMO tranche which is protected, to some degree, from both prepayment and extension risk. The CMO pays principal according to a predetermined schedule that is expected to be met if the collateral prepayment speed remains within the PAC band, that is, between the two specified prepayment speeds.

Pair Off: the matching or netting of contra transactions between two parties when delivery is due. Only the unmatched balance is delivered with a check for the difference between the purchase and sale prices of all transactions being received or delivered. This reduces the number of physical deliveries and redeliveries which otherwise would be required. A pair-off transaction is a security purchase transaction that is closed or sold at, or prior to the settlement or expiration date.

Papers: term sometimes given to put or call options.

Par Cap: a provision in the contract of sale for GNMA securities which restricts delivery only to pools which bear an interest rate sufficiently high so that the securities would trade at or below par when computed on the agreed-to yield.

Par Value: the face value of a security.

Participation Certificate: a type of mortgage-backed security which represents an undivided interest in certain real estate loans.

Pass-Through: a mortgage-backed security on which payment of interest and principal on the underlying mortgages are “passed through” to the security holder by an agent shortly after interest and principal payments are received from the mortgage borrowers.

Pay Down: when the dollar value of a new issue of Government securities is less than the maturing issue which it replaces, the difference is called the pay down.

Paying Agent: an agent, usually a commercial bank, engaged by an issuer to effect dividend or interest payments periodically.

Pay Up: when the dollar value of a new issue of Government securities is more than the maturing issue which it replaces, the difference is called the pay up.

Permanent Investor: one who provides permanent mortgage financing.

Physical/Definitive Security: a security for which there exists a physical paper document as a certificate of ownership identifying terms and conditions.

Plus (+): describes an additional 1/64th on quotations. For example, 98.4+ means 98 and 4/32nds, plus an additional 1/64th.

Point: 1) an amount equal to one percent of the face value or principal amount of an investment or note. 2) a mortgage loan discount point, which is a one-time charge assessed at closing by the lender to increase the yield on the mortgage loan to a market rate. 3) in the foreign-exchange market, the lowest digit at which the currency is quoted, e.g., “one point” is the difference between sterling prices of $1.8080 and $1.8081. Also called pips.

Pool: a collection of mortgages which are packaged and sold as a security. Holders of GNMA pass-through securities own a pro rata share of the outstanding balance of all mortgages in the same pool. Pools must be

mortgages of the same kind (single family, mobile home, or projects), carrying the same or similar rate of interest, and must all be of the same or similar maturity (e.g., 30 years). All mortgages within a single pool are serviced by the same issuer and are usually from the same geographic area.

Position: an interest in the market, either long or short. Securities purchased and held are a long position. Securities sold short and not yet covered are a short position. Forward or futures contracts purchased are called a long position. Forward or futures contracts sold and not yet liquidated are called a short position. A call option purchased and a put option sold economically are equivalent to a long position. A put option purchased and a call option sold economically are equivalent to a short position. See also “Open Position” and “Net Position”.

Position Limit: the maximum number of speculative futures contracts in one commodity that a person or group of persons acting in concert can hold as determined by the Commodity Futures Trading Commission or the exchange upon which the contract is traded.

Positive Yield Curve: See “Normal Yield Curve”.

Premium: 1) the amount by which the current market price exceeds the security’s face value, 2) the amount paid to purchase an option, 3) the amount by which the redemption price exceeds a callable security’s face value, 4) loosely, refers to the higher yield demanded by the market for CDs and securities issued by a particular institution as a result of higher perceived credit risk of that institution relative to other similarly rated institutions (also referred to as “paying up for funds”), 5) in the case of federally insured zero-coupon CDs, the amount of the purchase price in excess of the original (or accredited) issue price charged by Broker-Dealers to secondary market investors, which is not FDIC-insured, 6) refers to a higher price charged for a security that is in short supply relative to other similar securities, as in the phrase, “the old 2-year is at a premium to the When Issued 2- year.”

Prepayment: payment made ahead of the scheduled payment date.

Prepayment Model: an empirical method which produces a reasonable and supportable forecast of mortgage prepayments in particular interest rate scenarios. The estimated prepayment speeds from such models typically are available from securities broker-dealers and industry-recognized information providers. These estimated prepayment speeds are used in tests to forecast the weighted average life, change in weighted average life, and price sensitivity of CMOs and mortgage-backed securities. The estimated prepayment speeds usually are expressed in terms of a prepayment benchmark, either “Constant Prepayment Rate (CPR)” or “PSA”.

Prepayment Risk: the potential that all or part of the principal of a security, such as a mortgage-backed security, will be paid earlier than expected, typically in response to falling interest rates.

Price Limits: the maximum price advance or decline from the previous day's settlement price permitted for a contract in one trading session by the regulations of a futures exchange.

Prime Rate: the interest rate at which preferred customers can borrow from commercial banks.

Primary Dealer: dealer in Treasury securities which reports its activities and resource commitments to the Federal Reserve Bank of New York and with whom the Federal Reserve conducts open market operations to expand or contract the money supply. To maintain their status with the Federal Reserve, primary dealers must maintain an active market-making role in Treasury securities.

Primary Market: offerings in a security at its issuance. See also “Secondary Market”.

Principal: (as contrasted with Agent) a party who buys and sells for his or her own account in an arms-length transaction with another, and who is not required to disclose the price basis of a transaction.

Principal Balance: the actual balance of an obligation exclusive of accrued or unpaid interest.

Principal Transaction: a securities transfer wherein one or both of the parties acts as principal dealing for his/her own account.

Private Placement: a security issue offered only to a limited number of sophisticated investors, as opposed to being publicly offered. Subject to certain securities laws, a Prospectus for a Private Placement does not have to be registered with the SEC.

Production: the aggregate of mortgages assembled by a mortgage company, e.g., if a mortgage company generates $1 million per day of new mortgages, it is said to be a $5 million a week producer.

Prospectus: a detailed statement prepared by an issuer and filed with the SEC prior to the sale of a new issue. The prospectus gives detailed information on the issue and on the issuer's condition and prospects.

Proxy: when one person acts on behalf of another, the first person is acting as proxy for the second. Similarly, one instrument can be viewed as a proxy for another when the primary instrument is unavailable or too costly. Warehouse receipts or depository receipts may be used as proxies for commodities or securities.

PSA: a prepayment speed benchmark used for expressing estimated prepayment rates for CMOs. The PSA benchmark assumes slow, but rising, prepayments during the first thirty months, then level prepayments in subsequent months. Thirty months after issuance, a speed of 100% PSA is equal to a 6% CPR. The name derives from the Public Securities Association (now The Bond Market Association), which was an association of dealers in government securities that served as the trade association for brokers and dealers in exempt securities.

Purchased Interest Receivable: interest due to the previous owner of an investment that is paid to the new owner. This accrued interest is part of the transaction's cost, but is not reflected in the investment's quoted price. The receivable is eliminated when the first coupon payment is received.

Put: 1) an option contract granting the buyer the right, but not the obligation, to sell (put) a specified quantity of a security at a specified price (the exercise or strike price) and time (the exercise style). Such an option is bought with the expectation of a price decline below the contract price. If the price decline occurs, the purchaser will exercise the option. If the decline does not occur, the purchaser will let the option expire and will lose the purchase price of the option, that is, option premium. 2) an embedded put in a security grants the holder the right to retire or "put back to the issuer" all or part of the security at a specific price (the put price) and at a specific time prior to its contractual maturity date. The ability to put the security is an "option" that belongs to the holder of the bond. See "Option"; compare with "Call".

Pyramiding: successive borrowing on securities to finance the purchase of additional securities.

Quality: a reference to the credit quality of a security. A security is said to be of high quality if the return on principal and the payment of interest are well secured or guaranteed.

Quotation: the bid to buy and the offer to sell a security in a given market at a given time. Often shortened to "quote." See also "Bid" and "Asked".

Range/Accrual Note: a note with a coupon determined by whether the underlying price or rate falls within a specified range, e.g., for a typical LIBOR-based range note, no interest is paid if the LIBOR rate is outside of the specified range.

Rate of Interest: the coupon rate of a security; the annual interest rate of a pool. Usually not equal to the yield. See "Bond Equivalent Yield".

Real Estate Syndicate: a group of investors who pool funds for investment in real property.

Refunding: the process of issuance of a new security to replace a security that was redeemed before maturity. Usually used in reference to a municipal security that was called.

Registered: 1) a security that is issued in the name of the owner or the owner's nominee. 2) opposite of exempt. A registered security may not be issued without the filing of a registration statement with the SEC.

Regular-way Settlement: 1) delivery of a security by a seller to a buyer within the number of days (between the trade date and the delivery date) that the securities industry has established for a particular type of security for normal settlement, e.g., regular-way settlement is three business days after the trade date for agency securities and once a month on the earliest scheduled date for mortgage-backed securities 2) delivery of a security for spot delivery, as opposed to forward delivery, e.g., a US government security may settle for spot delivery on the same (cash), the next (regular), or the second (skip) day after the trade date.

Regulation T: the name for the Federal Reserve Board's regulation governing the amount of credit that brokers and dealers may extend to customers who buy securities.

Regulation U: the name for the Federal Reserve Board's regulation governing the amount of credit that banks may extend to customers who borrow money to buy securities on margin.

REMIC (Real Estate Mortgage Investment Conduit): a CMO issued after January 1, 1987, through a financing vehicle created by the Tax Reform Act of 1986. A pass-through entity that can hold mortgages secured by any type of real property and issue multiple classes of ownership interests to investors in the form of pass-through certificates, bonds or other legal forms. See "CMO".

Remote: 1) isolated, as in bankruptcy remote. 2) non-recurring. Per FASB, "isolated, nonrecurring, and unusual" encompasses the "extremely remote 'disaster scenarios' (such as a run on the credit union)." This type of event would not be anticipated by a credit union in deciding whether it has the positive intent and ability to hold a debt security to maturity. Other events, no matter how infrequent or remote, that are related to on-going business activities, such as the construction of a building or the payment of claims by an insurance company, are not considered "isolated, nonrecurring, and unusual" under SFAS 115.

Repurchase Agreement (Repo): a security sold subject to an agreement to repurchase at a specified price on an agreed forward date. From the broker's standpoint, this transaction occurs when a security is sold to a counterparty (e.g., credit union) with the obligation that the broker will repurchase the security at a later date. (Industry terminology uses the broker's standpoint.)

Residual: the difference between the cash flows originating from the collateral of a mortgage pool and the funds needed to fund the securities supported by the collateral. Among the CMOs issued by a REMIC, the residual has special tax consequences.

Revenue Bond: See "Municipal Security".

Reverse Repurchase Agreement (Reverse Repo): a security purchased subject to an agreement to resale at a specified price on an agreed forward date. From the broker's standpoint, this transaction occurs when a security is purchased from a counterparty (e.g., credit union) with the obligation that the counterparty will repurchase the security at a later date. (Industry terminology uses the broker's standpoint.)

Rich: Wall Street vernacular for a high value of one security relative to another in terms of its historical price relationship. If a security is said to be rich, it is believed to be overpriced relative to another security. See also “Cheap”.

Roll Over: using funds received from a maturing security to reinvest in a similar new security.

Round-Lot: the usual minimum unit of trading (normally $1,000,000 or more in Governments.)

Safekeeping: a term that refers to the storage and protection of securities provided as a service by a bank or institution acting as agent for the customer. Since ownership interests in most securities now are held as securities entitlements in book-entry form, the broader term is custodian.

Safety: an attribute of an investment. Safety is often associated with securities that have a short maturity and a low credit risk arising from insurance or government guarantee.

Seasoning: the aging of a mortgage. The amount of time that has elapsed since origination.

Secondary Market: the resale market for securities. See also “Primary Market”.

Section 107(8) Institution: an institution in which a credit union may make a deposit as authorized under Section 107(8) of the Federal Credit Union Act (12 U S C 1757(8)), e.g., an institution that is insured by the FDIC or a state bank, trust company, or mutual savings bank operating in accordance with the laws of a state in which the credit union maintains a facility.

Securities and Exchange Commission (SEC): an agency established by Congress to regulate the corporate securities market. Brokers and dealers in securities are required to register with the SEC.

Securities Industry Association (SIA): a trade association of securities dealers.

Securities Investor Protection Corporation (SIPC): a federally chartered corporation that provides insurance for customer accounts carried by US broker-dealers. The insurance protects against safekeeping losses from failure of the broker-dealer up to $500,000.

Securities Lending: lending a security to a counterparty, directly or through an agent, and receiving as collateral an amount of money or securities in return. The value of the collateral usually is greater than the value of the loaned security. A fee is earned by the lender. Similar to “Reverse Repurchase Agreement”.

Security: a common or preferred stock, a bond, a US Government or agency issue, or a state or municipal obligation. See also “Negotiable Security”.

Self-Regulatory Organization (SRO): any organization which develops regulations for its members and enforces the regulations. Typically, enforcement is obtained by expulsion of members who do not follow the regulations.

Seller-Servicer: an approved corporation that sells mortgages to, and services mortgages for, FNMA, GNMA, and/or FHLMC.

Seller's Option: the right of a seller to select, within the limits prescribed by a contract, the quality of the commodity delivered and the time and the place of delivery.

Selling Hedge: selling futures contracts to protect against possible decreased prices of commodities. Usually called short hedge. See “Hedge”.

Sell Out: action taken by a broker or a dealer to liquidate an account or a transaction for failure to maintain proper margin or to make timely payment.

Serial Bonds: a multiple bond issue in which the maturities are staggered over a number of years.

Servicing: the duties of the mortgage banker as a loan correspondent, per specifications in the servicing agreement for which a fee is received. The collection for an investor of payments, interest, principal, and trust items (e.g., hazard insurance and taxes), on a note by the borrower in accordance with the terms of the note. Servicing also consists of operational procedures covering accounting, bookkeeping, insurance, tax records, loan payment follow-up, delinquent loan follow-up, and loan analysis.

Servicing Agreement: a written agreement between an investor and a mortgage loan correspondent stipulating the rights and obligations of each party.

Settlement: an act that discharges obligations in respect of funds or securities transfers between two or more parties, e.g., settlement of a security transaction typically is by delivery of securities in proper form to the buyer and delivery of funds in proper form to the seller on the settlement date.

Settlement Date: the date agreed upon by parties to a security transaction for the payment of funds and the transfer of the security. Trades that are not settled on the settlement date are said to fail.

Settlement Price: the price at which a security or a commodity is to be settled. Used primarily in connection with clearing house operations. In commodity trading, the settlement price is based on the closing price or the range of closing prices.

Short Covering: the purchase of securities so that securities previously sold to make delivery on a short sale may be returned. To close a short position.

Short Hedge: see “Selling Hedge”.

Short Option: an option that has been sold.

Short Sale: the sale of a security not owned by the seller. The seller anticipates being able to purchase the security at a later time at a lower price. To make delivery on the short sale, the seller will obtain the security through borrowing (securities lending) or a reverse repurchase agreement.

Short the Basis: the purchase of futures as a hedge against a commitment to sell in the cash market.

Short (vs. Long) Bond: Wall Street refers to the short bond as a US Treasury security with a maturity of two years. See “Long Bond”.

Short-Term Investment Fund (STIF): a collective investment fund maintained by a national bank under 12 CFR Part 9, that is restricted to a dollar-weighted average portfolio maturity of 90 days or less similar to a Money Market Mutual Fund.

Small Business Administration Secondary Participation: a security that represents the guaranteed portion of a SBA loan that is sold by a lending institution to a secondary participant. Also called a “Guaranteed Loan Participation Certificate (GLPC)”.

Small Business Related Security: a security as defined in §3(a)(53) of the Securities and Exchange Act of 1934, i.e., a security, rated in one of the four highest rating categories by a nationally recognized statistical rating organization, that represents ownership of one or more promissory notes or leases of personal property which evidence the obligation of a small business concern. It does not mean a security issued or guaranteed by the Small Business Administration.

Slow-Pay Bonds: bonds in a low priority class compared with bonds in other classes with respect to the order of redemption, which may result in slow redemption when compared to other classes.

Speculate: to buy or sell securities, commodities, futures, or forward contracts without a natural hedge or a bona fide hedge, e.g., a natural hedge would be to buy a security funded by a deposit liability of similar duration. To trade (e.g., GNMAs) with the hope of quick profit by market movement as opposed to investment income. See “Speculator”.

Speculator: one who trades with the objective of achieving profit through the successful anticipation of price movements. In commodity futures, a speculator is any person with a position that is not a bona fide hedge as defined by the Commodity Futures Trading Commission.

Spot: refers to the characteristic of being available for immediate or nearly immediate delivery. Cash market transactions usually are grouped into two kinds - spot and forward contracts. An outgrowth of the phrase "on the spot."

Spot Commodity: see “Actuals”.

Spot Month: in futures trading, the nearby contract month, in which case delivery usually is possible at any time. However, such trading is in a futures contract.

Spot Price: the price at which a financial instrument or physical commodity is selling at a given time and place. Same as cash price.

Spread: the difference between yields on securities of different quality or different maturity. The difference between bid and ask price is also called the spread.

Spreading: the purchase of one futures contract and the sale of another, in the expectation that the price relationships between the two will change so that a subsequent offsetting sale and purchase will yield a net profit. Examples include: (a) the purchase of one delivery month and the sale of another in the same commodity on the same exchange, (b) the purchase and the sale of the same delivery month in the same commodity on different exchanges, (c) the purchase of one commodity and the sale of another (wheat vs. corn or GNMAs vs. long-term US Treasury Bonds), and (d) the purchase of one commodity and the sale of the products of that commodity (soybean vs. soybean oil and soybean meal). When the terms of the contract and all other relevant factors indicate that the price relationships between the contracts should be constant, but price discrepancies develop due to temporary supply-demand imbalances, spreading operations to take advantage of such discrepancies are sometimes erroneously called arbitrage. Spreading generally involves the making of judgments about price relationships which are subject to gradual change due to economic factors which vary over a period of time and is, therefore, a form of speculation.

Standby Commitment: a commitment to either buy or sell a security, on or before a future date, at a predetermined price. The seller of the commitment is required to either accept delivery of a security (in the case of a commitment to buy) or make delivery of a security (in the case of a commitment to sell), in either case, at the option of the buyer of the commitment. See “Option”.

Standby Fee: the fee charged by an investor for a standby commitment. The fee is earned upon issuance and acceptance of the commitment.

Stop-Loss: a method of limiting the amount of loss caused by a decline in the market value of an investment by establishing a "low" point at which an investment will be sold.

Street Name: a registered security which has been endorsed in blank or endorsed in favor of a recognized dealer is said to be in street name. A security may remain in the broker’s name as long as the credit union is

the beneficial owner of the security.

Strike Price: the price at which a security underlying a call (or put) option can be purchased (or sold) upon exercise during the period specified in the contract. Also called "Exercise Price".

Strips or Stripped Treasuries or STRIPS: see "Zero Coupon Treasury Bonds".

Stripped Mortgage-Backed Security: a mortgage-backed security that has been separated into principal and interest components. Stripped mortgage-backed securities are not permissible investments for natural person federal credit unions.

Structured Note: a security with a coupon, average life, or redemption value that is linked to a) changes in an underlying index; b)changes in the prepayment speed of a mortgage-backed security used as a reference for the structured note; or 3) other factors. A government sponsored enterprise may issue structured notes to reduce the agency's cost of funds. The risk of embedded options make some structured notes unsuitable investments for federal credit unions.

Stuffed Pig: a transaction initiated by a dealer for a client without authorization from the client. See also "Wooden Ticket".

Subordinated Debenture: an unsecured debt obligation that is junior in payment priority to other senior bonds. In the event of bankruptcy, the claims of the unsecured debt holders are paid after those of senior unsecured debt holders.

Swap: 1) a contract between two parties to exchange cash flows in the future based on an agreed formula. A swap is a bundle of forward contracts. Swaps are available in and between all active financial instruments. a) The "plain vanilla" interest rate swap agreement is an agreement to exchange fixed interest payments for floating-rate payments based on a notional principal amount. The notional principal amount is not exchanged in an interest rate swap. b) A generic currency swap is an agreement to exchange one currency for another, at the beginning and at the end of the swap, and to make fixed interest rate payments based on the currency obtained during the life of the swap. c) A generic equity swap is an agreement to exchange the capital gains (and perhaps dividends) based on an equity index in return for payments based on a fixed or floating rate of interest. 2) the practice of exchanging one bond for another to improve yield, change credit exposure, reflect an interest rate view, or register a tax loss. More generally, the exchange of one asset or liability for a similar asset or liability for the purpose of lengthening or shortening maturities, or raising or lowering coupon rates, to maximize revenue or minimize financing costs. A bond swap is very different from a notional principal swap, but the term "swap" has been in use longer in the context of bond swaps. The different uses occasionally confuse new users of notional principal swaps.

Sweep Account: an account into which funds are transferred on a short-term basis. Cash or checking accounts may be swept into an overnight federal funds account through a sweep account arrangement.

Switch: liquidation of a position in one delivery month of a commodity and simultaneous initiation of a similar position in another delivery month of the same commodity. When used by hedgers, this tactic is referred to as rolling forward the hedge.

Systemic Risk: the risk that the failure of one participant in a transfer system, or in financial markets generally, to meet its required obligations will cause other participants or financial institutions to be unable to meet their obligations (including settlement obligations in a transfer system) when due. Such failure may cause significant liquidity or credit problems and, as a result, might threaten the stability of financial markets.

Systematic Risk: the risk associated with the movement of a market or market segment as opposed to distinct elements of risk associated with a specific security. Systematic risk cannot be diversified away; it can only be hedged.

TAC (Targeted Amortization Class): a CMO tranche which is protected, to some degree, from prepayment risk, but not extension risk. See “PAC”, “CMO”.

Take Out Bid: a GNMA dealer agrees to purchase GNMA securities at a specific price from a mortgage banker, subject to a successful bid for mortgages sold at auction. This take-out or backup bid allows mortgage bankers to bid on the purchase of mortgages, obtained from GNMA, to their servicing portfolios. This two-party agreement helps GNMA to implement its management and its liquidation functions. In net effect, the mortgage banker is purchasing the mortgage collateral and is financially backed by the GNMA dealer.

Taken (Lifted): a dealer is "taken" (lifted) when the offering side of a market which he has made to a customer is accepted.

Taking a Position: purchasing a security for inventory.

Term: 1) the period of time between the commencement date and the termination date of a note, mortgage, legal document, or other contract. 2) a provision in a contract.

Theta: a measure of the rate of change in the value of an option (or portfolio) as a result of the passage of time. The value of an option usually will decline with the passage of time with all else remaining constant. Also called time decay.

Tick: the typical minimum price increment in cash market quotations, e.g., one thirty-second of one percent, .03125% or .0003125, in US Treasury securities.

Time Value: the part of the option premium that reflects the remaining life of the option. The total option value is the sum of its intrinsic value and its time value. The more time that remains before the expiration date, generally the higher the premium, because more time is available for the value of the underlying security to move up or down.

To Be Announced (TBA): a delayed-delivery contract. A contract for the purchase or sale of a mortgage-backed security to be delivered at an agreed upon future date, but that does not specify an identified pool number and number of pools. Trading in these securities is often done on a yield basis.

Total Return: the sum of interest and principal payments, the income earned on the reinvestment of these cash flows, and the change in fair value over a specific holding period (horizon) for a specific security.

Trade: either a purchase or a sale of a security.

Trade Date: the date on which parties enter into an agreement, orally or in writing, for the purchase or sale of a security.

Trading: the act of entering into purchases or sales of a security.

Trading Income: income derived from the trading of a portfolio of securities.

Trading Profits or Losses: profits or losses resulting from the trading of a portfolio of securities.

Transfer: when a registered instrument is acquired, it is sent to the transfer agent for transfer. The transfer agent records that this certificate is no longer owned by the previous holder but is now owned in the name of the individual who has acquired it.

Transfer Agent: an entity appointed to maintain records of securities owners, to cancel and issue certificates and to address issues arising from lost, destroyed or stolen certificates.

Treasury/U.S. Government Obligations: negotiable debt obligations of the US Government secured by its full faith and credit.

Treasury Bill (T-Bill): a direct obligation of the US Government issued at regular auctions on a discount basis from face value for original maturity periods of 13 weeks to 52 weeks.

Treasury Bonds: a direct obligation of the US Government issued at regular auctions. Currently issued in original maturity of 30 years. Treasury bonds are coupon instruments with semi-annual interest payments.

Treasury Notes: Treasury notes have the same characteristics as Treasury bonds except that the original maturities range from one to ten years.

Twelve-Year Life: historically, an assumption that the cash flow associated with a mortgage will consist of level payments until the twelfth year, when the remaining principal balance is paid in full.

Uncovered Call Writer: a call writer who does not own the underlying financial instrument on which the option is written. Also called a naked call writer.

Underlying: the security, cash commodity, forward, futures, swap, or other contract or instrument that is the subject of a derivatives contract or instrument.

Underwriting: 1) any person who has purchased from an issuer with a view to distribute any security. Securities dealers use this term to designate the issue of origination of new securities. 2) the process used by a Mortgage Banker to analyze risk and the matching of risk to an appropriate rate and term.

Uniform Commercial Code (UCC): a comprehensive model statute to simplify and clarify the law governing commercial transactions, designed to make uniform the laws of the states. It has been adopted, with modification, by most states.

Unit Investment Trust: an investment company similar to a mutual fund, but which issues only redeemable securities (units), each of which represents an undivided interest in a portfolio of securities.

Up-Front Fee: see “Fee”.

Variation Margin: in futures trading, a payment made on a daily or intraday basis by a clearing member to the clearing organization based on adverse price movement in positions carried by the clearing member. Variation margin is a cash payment, as opposed to maintenance margin, which is a value (in cash or eligible securities) which must be maintained on deposit as a performance bond. Individuals may be subject to a margin call to replenish the performance bond to the initial margin level in the event the value drops below the maintenance margin level.

Vega: a measure of the change in an option’s price for a given change in the volatility of the underlying security.

Volatility: a measure of a security’s actual or expected price movement over a specific time period. Usually this is the standard deviation of proportional changes in the asset’s price.

Warehousing: the borrowing of funds by a mortgage banker on a short-term basis at a commercial bank, using permanent mortgage loans as collateral. This form of interim financing is used until the mortgages are sold to a permanent investor. It is a form of "line of credit" financing.

Weighted-Average Coupon (WAC): the arithmetic mean (dollar-weighted) of the coupon rate of the underlying mortgages that collateralize a security as of its issue date. This is the same calculation used for WAM except using the mortgage coupon.

Weighted Average Life: the arithmetic mean (dollar-weighted) of the time to principal repayment of a security. WALs for CMOs and mortgage pass-through securities are calculated under a prepayment assumption. The WAL is a commonly used maturity measure in the mortgage market. Since the weighted-average lives of Treasuries are equal to their maturities, the par yield curve for Treasuries provides a natural benchmark for pricing mortgage-backed securities of various projected average lives.

Weighted-Average Maturity (WAM): the arithmetic mean (dollar-weighted) of the remaining term of the underlying mortgages that collateralize a security as of its issue date. This is the sum of the principal balance of each mortgage in the pool times its months to maturity divided by the total principal balance of the mortgages in the pool. Subsequent to issuance, estimates are made of the expected average remaining term assuming no prepayments.

When Issued (WI): short for when, as, and if issued. Transactions prior to issuance of a security are on a WI basis, because the transaction is conditional on issuance, although the security has been authorized. The when issued trading period in US Treasury securities is normally three to ten days. However, interest does not accrue during the when issued period, and payment is not required until the settlement date. When issued trading in Treasury securities occurs on a yield basis prior to the auction (sometimes denoted w.w.i.) and on a price basis following the auction (denoted w.i.).

Wooden Tickets: a transaction initiated by a dealer for a client without authorization. See ‘Stuffed Pig’.

Writer: the grantor of an option contract. Also called the “Maker”.

Yield: the yield on a bond is the annual percentage of return that it pays, typically based on a semi-annual coupon convention. By way of comparison, the annual percentage yield (APY) is based on an annual compounding convention. In real estate, the term refers to the current yield, that is, the effective annual amount of income which is being accrued on an investment, expressed as a percentage of the price originally paid. See also “Net Yield”.

Yield Curve: a graph illustrating the level of interest rates as a function of time to maturity. The most common yield curve plots Treasury securities from the 3-month Treasury bill to the 30-year Treasury bond. Yield Curves may be described as a) a normal yield curve (short-term rates are lower than long-term rates); b) an inverted yield curve (short-term rates are higher than long-term rates); and 3) a flat yield curve (little difference between short-term and long-term rates).

Yield on Average Life: historically, GNMA yields were quoted from tables which calculated the yield on a single loan prepaid at the end of 12 years. It was assumed that such a yield calculation was fairly representative of a pool of loans wherein the average loan life was thought to be 12 years. No longer a basis of trading.

Yield Maintenance Contract: concurrent commitment to purchase a security via a cash forward agreement and to sell the same security on the same settlement date via a standby commitment. Also refers to a forward contract written with terms which maintain the yield at a fixed rate until the delivery date.

Yield to Call: the bond-equivalent yield that an investor would receive on his investment if he were to buy a particular security at the quoted asked price and the bond was called on the call date.

Yield to Maturity: the bond-equivalent yield that an investor would receive on his investment if he were to buy a particular security at the quoted asked price and hold to maturity.

Zero Coupon Bond: a security that makes no periodic interest payments and is sold at a discount from face value. Zero coupon bonds that mature more than ten years from settlement date are not permissible under Part 703.

Zero Coupon CMOs: CMO bonds that are either true zero coupon instruments or accrual bonds. An accrual bond (or compound interest bond) is a coupon bond that, during some part of its life, accumulates accrued interest as increased principal rather than as cash paid. This accumulation is called accretion.

Zero Coupon Treasury Bonds (STRIPS, Stripped Treasuries): a Treasury security with a single cash flow at maturity. These securities result from the separation of the principal (corpus) and interest (coupon) portions of US Government obligations. Most zero coupon Treasury securities are in the Federal Reserve book-entry system under the STRIPS program, Separate Trading of Registered Interest and Principal of Securities. The holder of a corpus strip has the right to receive the principal balance on the maturity date. The holder of a coupon strip has the right to receive the periodic interest payment on the coupon payment date. These instruments are sold at a discount from the value to be received on the due date. Prior to the STRIPS program, Wall Street firms issued ownership interests in trusts that stripped Treasury securities. As a transitional measure, the Federal Reserve registered stripped physical coupons as CUBES, Coupons Under Book-Entry System.

REVIEWING THE AUDIT OF DERIVATIVE INSTRUMENTS, HEDGING ACTIVITIES, AND INVESTMENTS IN SECURITIES – APPENDIX 12B

Definitions

Derivatives are broadly defined as an instrument or financial contract with cash flows that receives its value from the performance of underlying assets, interest or currency exchange rates, or indices. The most common derivatives are swaps, futures, forwards, and options.

Hedging is a position that reduces some type of risk, usually at the expense of expected return. Typically, hedging involves entering into an opposite position to a position held in the cash market to minimize the risk from adverse price changes.

Overview

Before beginning an examination, the examiner may benefit from reviewing the audit documentation regarding derivatives, hedging, and investments to assist in developing the scope and risk assessment. The examiner may explore regional procedures to obtain assistance for reviewing this complex area from a Capital Market Subject Matter Examiner or the Regional Capital Market Specialist.

Portions of the Statement on Auditing Standards (SAS) No. 92 of generally accepted auditing standards (GAAS) provide guidance to the licensed professional auditors in planning and performing audits of derivative instruments, hedging activities, and investments in securities.

When an auditor plans the derivative audit, the complexity and extent of the review determines the relevant scope and level of associated risk. SAS 92 identifies six areas that the auditor must consider when planning and auditing derivatives and securities. These areas are discussed below.

1. The need for special skill or knowledge to plan and perform the auditing procedures. The auditor may need special knowledge to plan and perform auditing procedures for derivatives and securities. Specialized knowledge may include:

   - Understanding information systems for derivatives and securities including third party provider systems and related system controls;

- Understanding generally accepted accounting principles (GAAP) relative to derivatives (i.e., the accounting treatment, estimating fair value);
- Understanding fair value determination (i.e., valuation concepts and models);
- Assessing inherent and control risk, (i.e., understanding general risk management concepts and typical asset and liability management strategies) appropriately;
- Deciding whether to seek and use the assistance of others with the necessary knowledge, skills, and abilities to perform the audit; and
- Identifying controls placed in operation by a third-party vendor.

2. Audit risk and materiality. The auditor must design procedures that provide reasonable assurance of detecting misstatements that, when aggregated with other misstatements, could cause a material effect on the financial statements.

   - Inherent risk is the susceptibility of the instrument to material misstatement. Areas that may affect the auditor's assessment of derivatives and securities with respect to inherent risk include:

     - Complexity of the derivative's features (may increase the complexity of measurement and disclosure required by GAAP);
     - Management's objective (i.e., hedging, not hedging, and accounting treatment);
     - Whether cash was exchanged in the transactions (those that do not involve cash can contain more risk);
     - The credit union's experience with derivatives and securities;
     - Whether a derivative is freestanding or an embedded feature of an agreement (management may less likely identify embedded derivatives);
     - Whether external factors affect the assertion (e.g., credit, market, basis, and legal risk);
     - The evolving nature of derivatives and the applicable GAAP; and
     - Significant reliance on outside parties.

   - Control risk relates to obtaining an understanding of internal controls that will enable the auditor to plan the audit. This may include controls over transactions from initiation to inclusion in the financial statements. It may also include controls in operation by third parties, in which case, the credit union's auditor may require audit reports, contracts, user manuals, and

other resources. This understanding of controls could also include an assessment of a regular review by senior management (or an independent group) of the identified controls to determine the effectiveness of their implementation.

Areas that can affect the auditor's assessment of derivatives and securities with respect to control risk may include:

- Monitoring by control staff that is independent of derivative activities;
- Obtaining management's approval before derivative personnel exceed limits;
- Addressing by senior management any limit excesses and divergences from approved strategies;
- Transmitting accurate derivatives positions within risk measurement systems;
- Performing reconciliations to ensure data integrity;
- Defining constraints on derivative activities by traders, risk managers, and management;
- Performing regular reviews of identified controls and financial results to determine whether staff adheres to established controls;
- Reviewing limits within the context of strategy, risk tolerance, and market conditions; and
- Reviewing the controls of service organizations, where applicable.

After obtaining an understanding of internal control over derivatives and securities transactions, the auditor should assess control risk and test, where necessary, considering the credit union's size, organizational structure, frequency and complexity of derivatives, and controls over transactions.

3. Designing substantive procedures based on risk assessments. In addition to using professional judgment, the auditor should use the assessed levels of inherent risk and control risk to determine the nature, timing, and extent of substantive procedures needed to detect material misstatements. The auditor should also consider whether the results of other audit procedures conflict with management's assertions. The use of a third-party service organization (including data processors, investment advisers, holders of securities, record keepers, etc.) may affect the nature, timing, and extent of the substantive procedures for assertions and whether an auditor needs to visit and test controls of the provider. Evaluation of audit risk should include a review of

controls by data processors and third parties that initiate transactions and/or hold and service the derivatives.

4. Financial statement assertions. These assertions concern the existence, occurrence, completeness, valuation, presentation and disclosure, and rights and obligations of derivatives and securities.

   - Existence or occurrence assertions address whether the instruments existed at the date of the statement of financial position while occurrence assertions address whether reported transactions actually occurred. Examples of documents the examiner may see include confirmations from issuers of securities, holders of securities, brokers of settled transactions, or copies of significant contracts. One characteristic of derivatives is that they may involve only a commitment to perform under a contract, and not an initial exchange of tangible consideration. Therefore, tests should not focus exclusively on evidence relating to cash receipts and disbursements.

   - Completeness assertions determine whether these instruments were included in the financial statements. The auditor may obtain information from external parties, inspect documents for embedded derivatives, read meeting minutes, compare previous and current account detail, etc., while maintaining that not all transactions require an initial cash outlay.

   - Rights and obligations assertions relate to whether the credit union has the rights and obligations associated with the derivatives and securities. The external auditor may confirm terms with the counterparty, inspect underlying agreements, and other relevant data.

   - Valuation addresses whether the derivatives and securities were reported in accordance with GAAP, which may require that the basis for valuing a derivative or security be one of the following:

     - Cost. The auditor should evaluate the need to recognize an impairment loss[3] below cost.

[3] Impairment loss factors include fair value significantly below cost and the decline is attributable to adverse security or market conditions and has existed for an extended period of time, and management does not possess the intent and ability to hold the security for long enough to recover fair value. Other factors may include the downgrading of the security by a rating agency, deteriorated financial condition of the issuer, losses from securities or reduced or eliminated dividends.

- The investee's financial results (including, but not limited to, the equity method). The auditor should obtain and review the audited financial statements, the accompanying report of the investee, and additional materials as needed. The auditor may expand the review to include the investee's committee minutes, budgets, cash flow information, interim financial statements, etc., if a time lag in reporting exists between the investee and credit union, or differences in accounting principles, changes in ownership, or a significant purchase between reporting dates, etc., have occurred.

- Fair value. If valuation is based on fair value, audit evidence may exist supporting management's contention about fair value, whether the valuation method is consistent with accounting principles, and how the valuation determination method was derived (national exchanges, over the counter, broker-dealer, valuation model). If the determination of fair value requires the use of estimates, the auditor should consider the guidance in section 342, *Auditing Accounting Estimates.* Estimates from broker-dealers or other third parties based on valuation models may suffice when quoted prices are not available. The auditor should understand the method used in developing the estimate and be aware that the relationship with the third party may impact or impair objectivity (e.g., involvement of the pricing source in selling the product).

• Presentation and Disclosure assertions address whether derivatives and securities conform with GAAP (i.e., are the securities held to maturity or available for sale).

5. Additional considerations about hedging activities. GAAP requires management to designate the derivative as a hedge at its inception. Management should document and the auditor should review the hedging relationship, risk management objective and strategy for undertaking a hedge, and the method of assessing the hedge's effectiveness. Reviewing the audit documentation will enable the examiner to determine that the auditor collected sufficient data to conclude that the credit union complied with GAAP. Audit documentation must also support management's expectation that the hedging relationship will be highly effective and they are performing a periodic assessment as required by GAAP.

6. Assertions about securities based on management's intent and ability. The auditor must consider management's intent and ability in classifying securities

as held to maturity, available for sale, or trading. The documentation should show that the auditor:

- Obtained an understanding of the process management used to classify securities;
- Determined whether management has the ability to exercise influence over the financials of the investee when using the equity method;
- Evaluated and disclosed reasons for deviating from the accounting methodology if the presumption was that management should be using the equity method of accounting;
- Considered whether management's activities reconciles to their intent (review historical security documentation);
- Considered whether management's activities, contractual agreements, or the credit union's financial condition provides evidence of its ability to hold to maturity (i.e., the credit union's financial position may provide evidence of its ability).

References

- Statement of Auditing Standard (SAS) No. 92, Auditing Derivative Instruments, Hedging Activities, and Investments in Securities [AU Section 332]

Interest Rate Risk

Interest rate risk refers to the current and prospective risk to a credit union's capital and earnings arising from movements in interest rates. When interest rates change, the present value and timing of future cash flows may change. This, in turn, changes the underlying value of a credit union's assets, liabilities, and off-balance-sheet items and thus its overall net economic value. Changes in interest rates also affect a credit union's earnings by altering interest rate-sensitive income and expenses, which affects its net interest income. Excessive **IRR** can present a significant threat to a credit union's current capital and projected earnings if not managed appropriately.

IRR is a potentially significant risk that arises from credit union activities, and it is inherent to some degree in all credit unions. The risk arises because interest rates can vary significantly over time, while the credit union business typically involves activities that produce exposures to maturity mismatch (for example, long-maturity assets funded by short-maturity liabilities) or rate mismatch (such as fixed-rate loans funded by variable-rate shares/deposits). In addition, there are embedded options in many of the typical credit union balance sheet items (such as non-maturity shares, term deposits, mortgage loans, and investments) that could be triggered with changes in interest rates.

In January 2010, the **FFIEC** emphasized the importance of effective governance, policies and procedures, risk management and monitoring systems, stress testing, and internal controls related to IRR exposures. The advisory indicates financial institutions should manage IRR commensurate with their complexity, risk profile, business model, and scope of operations.

In 2012, the FFIEC issued supplemental guidance addressing Frequently Asked Questions:

FFIEC Advisory on Interest Rate Risk Management (January 6, 2010)

NCUA Letter to Credit Unions 10-CU-06, Interagency Advisory on Interest Rate Risk Management (May 2010)

FFIEC Interagency Advisory on Interest Rate Risk Management - Frequently Asked Questions (January 12, 2010)

In addition to the FFIEC advisories, the NCUA has emphasized the importance of IRR management in numerous communications and, notably, in:

NCUA Letter to Credit Unions 99-CU-12, Real Estate Lending and Balance sheet Management (August 1999)

NCUA Letter to Credit Unions 03-CU-15, Real Estate Concentrations and Interest Rate Risk Management for Credit Unions with Large Positions in Fixed Rate Mortgages (September 2003)

NCUA Letter to Credit Unions 12-CU-05, Interest Rate Risk Policy and Program Requirements (May 2012)

NCUA rules and regulations Part 741, Appendix B, Guidance for an Interest Rate Risk Policy and an Effective Program (rule applies to all federally insured credit unions with assets equal to or greater than $50 million) (January 2012)

This section of the Examiner's Guide addresses the following topics:

- Why NCUA evaluates a credit union's IRR exposure
- Types and sources of IRR
- How IRR relates to other risks
- Methods and processes to measure IRR
- Stress testing
- Measurement systems
- Risk management framework
- Impact on a credit union's financial position
- Exam Procedures
- References

ALM is the process of evaluating, monitoring, and controlling changes in a credit union's market and balance sheet risk. These risks can adversely affect earnings and capital adequacy. Examiners' evaluation of a credit union's ALM is reflected in the "L" component of the CAMEL rating. (NCUA Letter to Credit Unions 07-CU-12, CAMEL Rating System).

Workpapers & Resources

- NCUA rules and regulations Part 741, Appendix B, Guidance for an Interest Rate Risk Policy and an Effective Program

See Also

- List of IRR References

Last updated October 11, 2016

Why NCUA Evaluates Credit Unions' IRR Exposure?

The **NCUA** evaluates a credit union's **IRR** exposure because the level of IRR exposure can represent a major potential threat to a credit union's earnings and capital. When extreme, IRR can present an undue risk to the National Credit Union Share Insurance Fund.

> As set forth in Section 201 of the Federal Credit Union Act and further defined in NCUA rules and regulations §741.3(d), "undue risk to the **NCUSIF** " refers to a condition which creates a probability of loss in excess of that normally found in a credit union and which indicates a reasonably foreseeable probability of the credit union becoming insolvent because of such condition, with a resultant claim against the NCUSIF.

In excessive amounts, IRR can threaten a credit union's financial performance, net worth, and overall safety and soundness. This is particularly true for credit unions with more complex loan, share, and investment products. In severe circumstances, IRR can result in a loss to the NCUSIF, with a greater risk of loss in larger credit unions.

IRR is one of seven risk categories evaluated during the NCUA's examination process. As part of the NCUA's supervision procedures, each of these risk areas receive a high, moderate, or low rating.

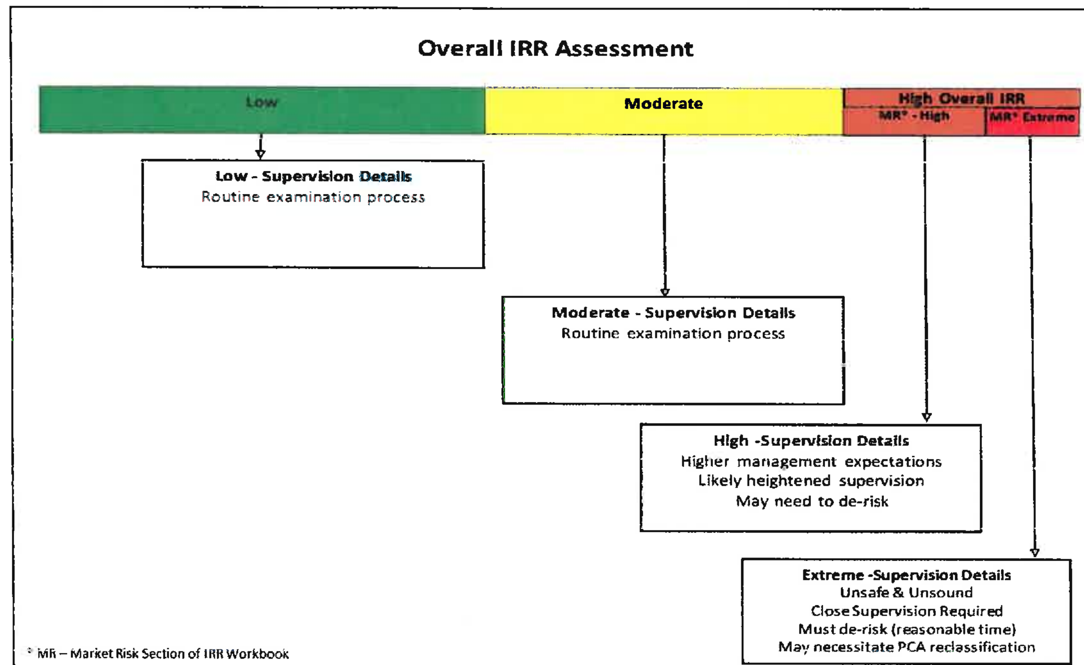
The NCUA's IRR rating criteria for the level of market risk incorporates the additional category of extreme in order to clearly delineate the level of IRR exposure (as measured by the **NEV** Supervisory Test) that it regards to be an undue risk to NCUSIF. Thus, an extreme level of market risk is automatically considered to be an unsafe and unsound condition for which close supervision will be required. (The NEV measurement method is further discussed in the Methods and Processes to Measure and Monitor IRR section of this guide.)

In cases of extreme IRR, supervisory oversight will be executed with increased urgency. The credit union will be required to develop and execute an adequate strategy for reducing its IRR exposure to an acceptable level. This can require "de-risking" its balance sheet through hedging, restructuring and/or asset disposition to keep it below the level of extreme for the foreseeable future, and to do so within a reasonable time. It is expected that instances of extreme market risk will be very rare. Extreme IRR exposure can occur when a credit union's starting level of capital is significantly lower than the industry average and is coupled with a material amount of IRR exposure. If a credit union fails to adequately de-risk below an extreme exposure level within the agreed upon timeframes, it will likely necessitate administrative actions, including a proposal to the NCUA Board to adjust the credit union's net worth classification.

If a credit union is not able or willing to adequately de-risk, an NCUA examiner and his/her supervisor should discuss with regional management the need to provide a recommendation to the NCUA Board to reclassify the credit union's net worth category, based on safety and soundness, as well as to pursue any other applicable enforcement

actions to correct the problem (as provided in the existing authority in NCUA rules and regulations §702.102).

The following figure illustrates the potential supervisory action related to a credit union's IRR rating. As a credit union's IRR level increases, supervisory expectations for management increase as well. ("MR" is "market risk.")



The following table is provided in Appendix B to Part 741 to assist credit unions in determining the adequacy of their IRR policy and the effectiveness of their program to manage IRR. These guidelines serve as the basis for this section of the Examiner's Guide and the **AIRES** IRR workbook.

Policy	
Board oversight	Policy is consistent with credit union strategy and balance sheet complexity, clearly defines board risk tolerances through reasonable interest rate risk limits, and states actions required to address policy exceptions.
Responsible parties identified	A committee or individual(s) is designated as being responsible for IRR management activities, including review and monitoring of IRR.
Direct appropriate action to measure, monitor, and control IRR	Policy states all actions that are sufficient to manage IRR, including measurement and monitoring methods, and interest rate risk reduction alternatives.
Reporting frequency specified	Reporting of results is required with sufficient frequency and detail to alert management to emerging IRR.

Policy	
Risk limits stated with appropriate measures	Clearly defined risk limits are established and are appropriate for the size and complexity of the credit union.
Tests for limits	Tests substantially display the level and range of credit union IRR.
Review of material IRR changes	Any changes beyond a stated level are reported to management and, where appropriate, the Board.
Impact of new business	IRR impact of all business initiatives (new products, pricing changes) is required where these will affect future IRR.
Periodic policy review	Review by Board required at least annually to ensure continued relevance and applicability of policy to management of IRR.
IRR Oversight and Management	
Oversight	Board approves policy and strategies and understands IRR faced by its own credit union.
Oversight assessment of program effectiveness	Board periodically evaluates program effectiveness by monitoring management's IRR knowledge. Use of third-party professional advice is acceptable, but does not absolve the Board of its responsibility for informed and knowledgeable oversight and governance.
Choice of IRR measurement systems	Management selects and maintains systems that are able to capture the complexity of IRR risks. The systems used by the credit union must be able to capture IRR (for example, balance sheet contains material options in investments, mortgage loans, or core deposits - calls, prepayments, or administered rates).
Evaluation of IRR risk exposures	Credit union understands all material IRR exposures and evaluates these accordingly relative to credit union strategy. If management relies on outside parties to evaluate credit union's IRR, it must be able to explain the IRR measurement method or the results.
System of internal controls	Internal controls encompass and effectively evaluate programs that manage elements of IRR at the credit union. Internal audit has addressed the correction of IRR deficiencies (for example, processes for tracking changes in measurement assumptions, such as repricing of core deposits).
IRR resource management	Credit union has allocated initial or additional qualified staff resources sufficient to properly measure and manage IRR by means that address sources of risk.

Policy	
Expertise of IRR program staff	Staff responsible for IRR measurement and monitoring correctly identifies sources of IRR and can quantify those risks, and is knowledgeable about the operation and limitations of the IRR model, even if modeling is performed by a third-party vendor.
Procedures and assumptions of IRR measurement systems	Credit union identifies reasonable procedures and is responsible for supportable assumptions, even if modeling is performed by a third-party vendor.
Accountability of IRR management	Responsibility for managing IRR is specific and clearly delineated.
Transparency of changes in assumptions, methods, and IRR tests	Management requires clear disclosure of relevant changes in all material assumptions and methods.
IRR Measurement and Monitoring	
Reasonable and supportable assumptions	Credit union carefully evaluates all assumptions and assesses the sensitivity of results relative to each key assumption. Key assumptions should be demonstrated to be supportable (for example, mortgage prepayments capture contraction and extension risk and core deposit premiums indicate reasonable maturities).
Assumption changes from observed information	All material changes in assumptions are based on tested internal data or reliable industry sources.
Rigor of calculations and conformity of concepts	Techniques used appropriately capture complexity of balance sheet instruments. Methods to attribute cash flows and rate sensitivities are based on correct techniques (for example, proper use of statistical correlations).
Position with uncertain maturities, rates, and cash flows	Activity is monitored on a regular basis and compared to projected behavior in order to validate reasonableness of modeling assumptions.
Rigor of interest rate measures and tests	Measures and tests employed capture the material risks embedded in the credit union's balance sheet (for example, rate shocks trigger the embedded options in some products).

Policy	
Components of IRR Measurement Methods	
Chart of accounts	A sufficient number of accounts have been defined to capture key IRR characteristics inherent within each product (for example, 15- and 30-year fixed-rate mortgages are modeled separately in order to capture various coupons and prepayment behaviors).
Data aggregation	The level of data disaggregation is sufficient given the credit union's complexity and risk exposure (for example, instrument level processing).
Account attributes	Account setup is appropriate to allow for the capture of key IRR characteristics (for example, adjustable-rate mortgages are modeled with periodic and lifetime caps and floors).
Discounting methodology	Methodology used properly calculates the value of the asset or liability being modeled (for example, discount rates or maturities or cash flows are accurate and appropriate in discounting calculations).
Assumptions	Credit union carefully evaluates all assumptions and assesses the sensitivity of results relative to each key assumption (for example, mortgage prepayments reflect contraction and extension risk and core deposit premiums indicate reasonable maturities).
Internal Controls	
Internal assessment of IRR program	Staff is identified and have annually assessed policy and program to correct any weaknesses.
Compliance with policy	IRR program is evaluated semi-annually for any policy exceptions, including compliance with approved limits.
Timeliness and accuracy of reports	Reports that are routinely provided to management and the Board successfully communicate material IRR exposure of the credit union.
Audit findings reported to Board or supervisory committee	IRR program deficiencies and policy exceptions are report to the Board in accordance with the policy.
Decision-making and IRR	
Use of IRR measurement results in operational decisions	Measured IRR results form part of the credit union's ongoing business decisions and are substantive considerations routinely included in the business decision process.

Policy	
Escalated use of results when IRR exposure is raised or approaching limits	Procedure specifies review escalation at specific levels with increasing contingency triggers close to limits.
Application to reduce elevated levels of IRR	Credit union utilizes IRR results to clearly define and formulate response (balance sheet structure, funding or pricing strategies) to increased IRR levels.

Workpapers & Resources

- Federal Credit Union Act
- NCUA rules and regulations Part 741

Last updated October 11, 2016

IRR Types and Sources

IRR may arise in various forms and can quickly impact a credit union's earnings and net worth. IRR is inherent in a variety of transactions and the degree of its impact is driven by changes in market rates. Types of IRR include repricing risk, basis risk, yield curve risk, option risk, and price risk.

Types of Interest Rate Risk

Repricing risk arises from the possibility that a credit union's assets and liabilities will reprice at different times or amounts and potentially negatively affect the credit union's earnings, net worth, and financial position. Repricing differences create a mismatch between sources and uses of funds. For example, a portfolio of long-term, fixed-rate loans or securities (such as credit union assets) funded with short-term deposits (such as credit union liabilities) could significantly decrease in value when rates increase, since the loan rates are fixed, while funding costs increase. Nevertheless, maintaining some degree of repricing mismatch is fundamental to the credit union business. Repricing gaps can occur from either borrowing short-term to fund longer-term assets or borrowing long-term to fund shorter-term assets. Such mismatches expose a credit union to adverse changes in both the overall level of interest rates (that is, parallel shifts in the yield curve) and the relative level of rates across the yield curve (that is, nonparallel shifts in the yield curve).

Basis risk arises from a change in the relationship of rates in different financial markets. Basis risk occurs when market rates, or the indices used to price assets and liabilities, change at different times or by different amounts. The relationship between different market indices can change over time and this means that if sources of funds are priced in relation to one market index while uses of funds are priced on a different index, the spread between them can potentially change. For example, a credit union may use funds from 6-month certificates to purchase 6-month Treasury bills. The market interest rate for the 6-month Treasury bill might remain constant while local market interest rates for certificates increase due to competitive pressures. Thus, changes in the spreads of instruments that are being repriced off of different market indices will affect a credit union's net interest margin, and quite possibly reduce earnings.

Yield curve risk reflects exposure to various changes in the shape or slope of the yield curve. It occurs when assets and funding sources are linked to similar indices with different maturities. The most typical exposure for depositories is to "borrow short" (typically demand deposits) and "lend long." If the relationship between short- and long-term rates changes, it will impact earnings. The relationship changes when the shape of the yield curve for a given market flattens, steepens, or becomes inverted or negatively sloped during an interest rate change.

- In a **parallel yield curve**, all maturities on the yield curve move by an equal amount. In a parallel shift, a credit union would see a yield increase or decrease in all maturities by the same amount.

- In a **steepening yield curve**, long-term rates increase faster than short-term rates or short-term rates decrease faster than long-term rates. For example, long-term rates may change by 100 basis points, while short-term rates may change by only 50 basis points.

- In a **flattening yield curve**, the difference between long-term rates and short-term rates narrow as either long-term rates or short-term rates move closer to the other.

- In an **inverted yield curve**, long-term rates are below short-term rates. This historically has been a short-term phenomenon when the market is anticipating a recessionary period where rates are expected to fall. For example, the yield on a long-term asset drops to 200 basis points, while the yield on a short-term asset remains constant at 250 basis points.

Changes in the shape of the yield curve can change the IRR of a credit union's position by magnifying the effect of maturity mismatches.

Option risk is the risk that a financial instrument's cash flows (timing or amount) will change at the exercise of the option holder (such as a depositor, borrower, or other transaction counterpart), who may be motivated to exercise an option by changes in market interest rates. The exercise of options can adversely affect a credit union's earnings by reducing asset yields or increasing funding costs. Balance sheet accounts that present option risk include, but are not limited to, the following.

- **Non-maturity shares (deposits)**, such as regular shares, share drafts, and money market accounts, present option risk because they have no contractual maturities. While balances in these accounts can be withdrawn on demand (depositor has the option to withdraw the funds at any time), typically such accounts experience periodic inflows and outflows (for example, share deposits and withdrawals). Therefore, while these shares can be a long-term funding source, the uncertain timing of inflows and outflows can make the appropriate treatment of non-maturity shares challenging. It is not possible to predict with any degree of certainty what the future balances in non-maturity accounts will be, how long they will need to remain open, or what future rates will be paid to members on these accounts.

  See **NCUA** Letter to Credit Unions 03-CU-11, Non-Maturity Shares and Balance Sheet Risk (July 2003) and NCUA Letter to Credit Unions 01-CU-19, Managing Share Inflows in Uncertain Times (October 2001).

- **Loans** that give borrowers the option to refinance or make prepayments present option risk. For example, a mortgage holder may elect to refinance a mortgage in a falling interest rate environment in order to take advantage of a lower interest rate. This will reduce the credit union's yield on assets. Similarly, if a borrower makes prepayments on a loan, credit union income will potentially be reduced.

- **Investments**, such as callable bonds, present option risk because they can be redeemed by the issuer prior to maturity. For example, assume that a credit union purchased a 5-year callable bond at a market yield of 2 percent. If market rates

subsequently decline to 0.5 percent, the bond's issuer will be motivated to call the bond and issue new debt at the lower market rate. At the call date, the issuer effectively repurchases the bond from the credit union. As a result, the credit union will not receive the originally expected yield (such as, 2 percent for 5 years). Instead, the credit union may re-invest the principal at the new, lower market rate. On the other hand, in a rising rate environment, the issuer will likely not call the bond and the credit union will have a below market-yielding investment.

See NCUA **IRPS** 98-2 Investment Securities and End-User Derivatives and NCUA Letter to Federal Credit Unions 98-**FCU** -4, Interpretive Ruling and Policy Statement 98-2 Examiner Guidance (September 1998). The Examiner Guidance on IRPS 98-2 covers a broad range of instruments, including all securities in held-to-maturity and available-for-sale accounts (as defined in the Statement of Financial Accounting Standards No. 115 (ASC320) and the more recent Guidance on "Financial Instruments – Credit Losses" (Topic 326)), certificates of deposit held for investment purposes, and end-user derivative contracts not held in trading accounts.

Price risk is the risk that the fair value of a financial instrument will change due to market factors. Generally, long-term assets have more price risk than short-term assets because, as cash flows become more distant, the present value or price of the investment declines. When market interest rates rise, the market value of a credit union's assets will typically decrease; when market interest rates decline, the market value of the credit union's assets will typically increase.

However, this does not hold true for all types of assets. For example, changes in market interest rate have the opposite impact on mortgage servicing rights. Anything that increases the amount of unscheduled principal payments (such as refinances and prepayments) will adversely affect the expected earnings stream from mortgage servicing rights and cause their value to decline. When interest rates decrease, the value of a credit union's mortgage servicing rights generally decrease, because the total servicing fees fall as consumers refinance. Because servicing assets are measured at fair value, or carried at amortized cost and tested for impairment, the fair value adjustment or any impairment is reflected in current earnings.

Sources of Interest Rate Risk

Mortgage-related products potentially create price risk within a loan pipeline, on a balance sheet portfolio of loans and investments, and mortgage servicing rights. Interest rate changes affect not only current values, but also future lending volumes and related fee income. Some examples of the types of these activities are:

- Long-term, fixed-rate mortgage loans
- Long-term, fixed-rate investments (for example, mortgage-backed securities)
- Variable-rate loans where the rate is based on a market index
- Variable-rate loans with caps and floors

- Asset-backed securities where the cash flows and maturity of the security vary as market rates change

See NCUA Letter to Credit Unions 10-CU-03, Concentration Risk, which discusses the evaluation of concentration risk as it relates to a credit union's current balance sheet, how strategic plans may affect the level of concentration risk, and how to determine if risk management practices are commensurate with the level of risk.

Embedded options associated with assets and liabilities can create IRR. Embedded options are features that provide the holder with the right, but not the obligation, to buy, sell, pay down, payoff, withdraw, or otherwise alter the cash flow of an instrument. Embedded options can create various risks, such as prepayment risk, extension risk, and negative convexity.

Prepayment and call risk increases when rates decline and borrowers can refinance at a lower rate, requiring a credit union to reinvest maturing proceeds at the lower current market rates. Extension risk describes the increase in expected average life that results from a rise in market rates that, in turn, diminishes the incentive to call, refinance, or make other unscheduled principal payments. Higher rates will change the forecasted amount of call and prepayment options and lead to a longer expected average life than previously estimated. The lengthening of expected average life is called "extension."

The holder of the option may be the credit union, credit union member, the issuer, or a counterparty. Many instruments contain embedded options that can alter cash flows and impact the IRR profile of the credit union. Here are some examples:

- Non-maturity shares - Member depositors have the option to withdraw funds at par any time.

- Callable bonds - The issuer has the option to redeem at a stated price all or part of a bond before maturity (based on contractual call dates).

- Structured notes - Options can vary by the type of instrument and may include step-up or step-down features, interest rate caps and floors, call features, and rules that change the priority and timing of cash flows received by different classes of investors within the deal structure.

- Wholesale borrowings - Market lenders may have a right to call an advance prior to its stated maturity (requiring credit unions to repay the funding amount), or the borrowing credit union may have a right to prepay an advance early (allowing it to "put" back the funds prior to scheduled maturity).

- Derivatives - Purchasers of interest rate caps or floors.

- Mortgage loans - Borrowers may have the option to partially or fully prepay the loan at par.

- Mortgage-backed securities (**MBS**) - Borrowers' options to prepay individual mortgage loans included in an MBS loan pool can shorten the life of a tranche of loans within a security. Some MBS are issued as structured instruments that add additional optionality.

Non-maturity share-based funding sources, which are a significant source of funding for credit unions, may increase IRR, especially when matched to a longer-term asset portfolio. For example, long-term, fixed-rate loans funded by member shares may involve repricing risk, basis risk, or yield curve risk. As a result, certain interest rate changes could cause funding costs to increase substantially while the yields on fixed-rate assets remain unchanged.

Derivative contracts and IRR hedging. Approved federal credit unions (and some state-chartered credit unions) can use interest rate derivatives to hedge IRR. Depending on the specific structure of the derivative, the instrument may create repricing, basis, yield curve, option, or price risk. Although derivatives can be used to mitigate IRR, they potentially expose a credit union to basis risk because the spread relationship between the cash instrument (that is, the hedged item) and the derivative instrument may change. For example, a credit union using interest rate swaps (priced off Libor) to hedge its Treasury securities portfolio may face basis risk because the spread between the swap rate and Treasuries may change.

A credit union using derivative instruments, such as interest rate futures, swaps, and options to hedge or alter the IRR characteristics of on-balance-sheet positions needs to consider how the off-balance-sheet contract's cash flows may change with changes in interest rates and in relation to the positions being hedged.

Fee income businesses may be influenced by IRR, particularly mortgage origination and credit card servicing. Fluctuating interest rates can affect the volume and returns of such activities.

Product pricing may introduce IRR, particularly basis risk or yield curve risk. Basis risk exists if funding sources and assets are linked to different market indices. Yield curve risk exists if funding sources and assets are linked to similar indices with different maturities.

Workpapers & Resources

- NCUA Letter to Credit Unions 03-CU-11, Non-Maturity Shares and Balance Sheet Risk (July 2003)
- NCUA Letter to Credit Unions 01-CU-19, Managing Share Inflows in Uncertain Times (October 2001)
- NCUA IRPS 98-2, Investment Securities and End-User Derivatives
- NCUA Letter to Federal Credit Unions 98-FCU-4, Interpretive Ruling and Policy Statement 98-2 Examiner Guidance (September 1998)

Last updated October 11, 2016

How IRR Relates to Other Risks

The impact of **IRR** can expose a credit union to other risk areas, including:

Credit Risk

IRR and credit risk can be closely correlated. Ignoring the impact of potential IRR on delinquency can lead to a severe underestimation of overall risk. For example, a rise in interest rates can exacerbate defaults, such as in adjustable-rate products, resulting in a decrease in **NII** .

Given time, a credit union with sufficient capital and liquidity can recover from the adverse effects that a rise in rates can have on credit performance. It's expected that as asset rates eventually reset upwards to market, the net interest margin will recover. However, credit unions should understand that rapidly rising market rates can exacerbate credit risk exposures and should be considered in the overall risk management process when assessing how market risks threaten earnings and net worth. Therefore, it is important to assess the type of adjustable-rate loan products, as well as their potential to expose a credit union's balance sheet to concentration risk.

Liquidity Risk

Liquidity risk is the current and prospective risk to earnings or net worth arising from a credit union's inability to meet its obligations at a reasonable cost when they come due. Changes in interest rates can impact a credit union's primary source of funds (generally, member shares), which can lead to a strain on liquidity.

For example, some credit union non-maturity shares (regular shares, share drafts, and money market accounts) have no contractual maturity. While these non-maturity shares can be a long-term funding source, the timing of their cash flows are uncertain and they may be sensitive to changes in interest rates.

Strategic Risk

Strategic risk is the current and prospective risk to earnings or net worth arising from adverse business decisions, improper implementation of decisions, or lack of responsiveness to industry changes. Any strategic business decision that alters a credit union's balance sheet composition can impact its exposure to IRR. Credit unions should consider the potential impact of any new program or service on IRR exposure both prior to implementation and periodically thereafter.

See Also

Liquidity (in development)

Last updated October 11, 2016

Methods and Process to Measure IRR

A credit union may use a number of methods to identify, measure, monitor, and control **IRR** . The method should be commensurate with a credit union's size, level of risk, and complexity. As these factors increase, supervisory expectations scale upward accordingly. Each credit union should employ a measurement method that captures all material balance sheet items and is capable of quantifying IRR exposure to both earnings and net worth. The most common methods for measuring IRR are:

- Net Interest Income Simulation – Measures the changes to earnings, typically in the short term (for example, 12 to 36 months), caused by changes in interest rates.
- Net Economic Value – Measures the changes in the economic value of net worth caused by changes in interest rates.

Interagency guidance encourages institutions to use both **NII** and **NEV** methods. When used together, these measures provide a more comprehensive view of potential IRR.

There are also two important instrument-level measures also can provide information about price sensitivity and valuations, and serve as the underpinning of the NEV computation:

- Duration – Duration analysis measures the change in the valuation of an asset or liability that may occur given discrete change in interest rates. Duration measures the average price change for a plus and minus 1 percent change in rates.
- Convexity – This method measures the curvature in the relationship between prices and yields, and reflects how the duration of a financial instrument changes as interest rates change.

A less common method of interest rate measurement that may be utilized by smaller credit unions is gap analysis. This is a simple IRR measurement method that identifies maturity and repricing mismatches between assets and liabilities over a given time period (for example, 3, 6, or 12 months). Generally, gap analysis is appropriate only for simple balance sheets that consist primarily of short-term investments, non-mortgage-related loans, and basic funding sources (like regular shares).

However, gap analysis can be used to determine whether a credit union's balance sheet is more asset or liability sensitive. For example, if earnings move upward as interest rates increase, the balance sheet is more asset-sensitive (positive gap). If earnings deteriorate as interests rate increase, the balance sheet is more liability sensitive (negative gap).

Workpapers & Resources

- **FFIEC** Advisory on Interest Rate Risk Management (January 6, 2010)

Last updated October 11, 2016

Net Interest Income Simulation

NII simulation is a modelling technique that looks at **IRR** through an earnings-at-risk construct. It projects the changes in asset and liability cash flows, expressed in terms of NII, over a specified time horizon for defined interest rates scenarios. Credit unions use income simulations to forecast NII under varying interest rate scenarios to learn about the sources and levels of interest rate risk inherent in their balance sheets. NII simulation analysis allows a credit union to learn which rate scenarios pose the greatest potential threat to its expected earnings stream and to identify which of its assets and/or liabilities are the source of potential earnings volatility under different scenarios.

NII simulations generate insight into the impact of changes in market rates on earnings and guide risk management decisions. Because the levels of future market rates are unknowable, practitioners utilize models to simulate potential outcomes under varying scenarios. Credit unions should simulate a variety of scenarios such as base case, instantaneous parallel rate shock, and alternate interest rate changes to broadly assess different IRR threats that can occur.

NII simulations provide a comprehensive way to stress plausible near-term earnings results. Understanding NII volatility is important because credit unions must always endeavor to do the following: maintain stable earnings, build adequate net worth, and ensure they can smoothly fund normal operations without disruption. Because IRR is inherent to the business model of a credit union, and because certain IRR exposures can materially threaten earnings and net worth, NII simulations provide an important means to comprehend and manage this risk. Simulation results help identify balance sheet-related vulnerabilities, inform management about threats to the earnings stream, and highlight the need for possible risk mitigation strategies. Thus, a credit union's earnings simulation model provides valuable information: a formal estimate or baseline of future earnings and an evaluation of how earnings would change under different rate scenarios. Together with historical earnings trends, a credit union's estimate of the IRR sensitivity of its earnings derived from simulation models is an important indication of the potential exposure to changes in rates.

Analyzing the historical behavior of the net interest margin, including the yields on assets, liabilities, and off-balance-sheet positions that make up that margin, can provide useful insights into the relative stability of a credit union's earnings. It also provides useful empirical data against which simulation model outputs can be compared for reasonableness.

A limitation of NII is that the simulation horizon periods are typically too short to fully measure the income changes resulting from embedded options in longer-dated cash flows (such as those cash flows that occur beyond the horizon of the simulation period). This is one reason why interagency guidance recommends using **NEV** in conjunction with NII simulations to gain both a short- and long-term perspective on IRR (especially when there are material amounts of longer-term liabilities and assets containing optionality in cash flows that are beyond the simulation horizons).

A key aspect of NII and income simulation modeling involves selecting an appropriate time horizon (or horizons) for assessing IRR exposures. Typically, the forecast horizon for income simulations spans 1–3 years from the run date forward. Simulations allow modelers to produce multiple variations of possible rate moves and identify those scenarios that adversely impact NII (or earnings) compared to the credit union's base case assumption. Base case represents projected earnings based on the current balance sheet with no change in interest rates.

Simulations can be performed over any period and are often used to analyze multiple horizons identifying short- through longer-term risks. As the simulation time horizon extends, however, the reliability of results diminishes due to uncertainties surrounding how principal and income cash flows are reinvested. Reinvestment assumptions introduce predictions about decisions regarding future sources and uses of funds. Because income simulations are not a point-in-time measure, estimates of future cash flows and holdings must be assumed. As the level of reinvestment decision estimates increases, confidence in the model's ability to predict diminishes, making simulations with longer horizons less dependable as a risk management tool.

Operational management should recognize that the results of NII might differ substantially between short- and longer-term time horizons. NII is more reliable for short- to medium-time horizons (anywhere from 12 to 36 months) and becomes increasingly uncertain beyond that. It is beneficial to apply 12- to 36-month time horizons to gain a perspective on the short-term versus medium-term risk exposures. The timing of cash flows is significant so a sufficient scenario time horizon is always an important consideration in capturing IRR in income simulations. For example, a credit union may have shifting loan concentrations, rapid share/deposit growth, and/or other strategies the risk of which is materially understated if only viewed over a short time horizon (such as 12 months) that fails to capture relevant longer-term cash flows.

Thus, a credit union modeling a 12-month horizon NII simulation, with a significant amount of adjustable-rate mortgages (ARMs) that reset in 24 months, would not properly capture the IRR aspects of these products (such as repricing, basis, and yield curve risk) in year two.

Some practitioners will address the IRR arising from longer cash flows by lengthening the maturity horizons of their simulations beyond the 1–3 year standard. Medium- to longer-term NII simulations of up to 60 months may be used by some credit unions with material concentrations of assets and liabilities with embedded options. An extended simulation may be able to identify when longer-term mismatches occur (for example, NII can show that a credit union is liability sensitive in years two, three, and four, but asset sensitive in years five, six, and seven), whereas NEV will only aggregate the effect of such mismatches because NEV is a present value methodology that expresses each asset and liability as a single economic amount at a single point in time.

While the confidence in longer-horizon simulations does decline as the horizon extends, their use can provide important insight into the timing of actual cash flow mismatches and help modelers determine when the risk is likely realized in the expected earnings stream.

It is not uncommon for practitioners to run multi-factor scenarios that alter the level and/or timing of market rate changes as well as varying key underlying assumptions. A credit union may vary its simulation rate scenarios based on factors such as pricing

strategies, balance sheet compositions, and/or hedging activities. NII simulations may also measure risks presented by non-parallel yield curve shifts (shifting the shape of the yield curve by altering the spread between short rates and long rates). Credit union policy limits are generally only tied to parallel rate shocks results with the additional scenarios being generated only to provide additional information and influence decision making. Credit unions with complex balance sheets are encouraged to produce these alternative NII scenarios, especially ones that involve stressing key drivers of risk (for example, varying prepayment options, non-maturity share assumptions, and key rates) and shifts in the yield curve. When credit unions produce and include such information in their strategic and/or risk management discussions, it reflects favorably on the quality of their process.

Other scenario variations include whether to simulate for changes in the balance sheet. Credit unions can run **static or dynamic simulations**.

- Static simulations are based on current exposures and assume a constant balance sheet with no new growth. The static simulation approach is focused on gaining an insight into the current portfolio risks. These NII simulations can also include replacement-growth assumptions, where replacement growth is used to offset reductions in the balance sheet during the simulation period.

- Dynamic simulations may assume asset growth, changes in existing business lines, new business, or changes in management or member behaviors. Dynamic simulations can be useful for business planning and budgeting purposes. However, these simulations are highly dependent on key variables and assumptions that are difficult to project with accuracy over an extended period.

When management changes simulation scenarios, it may lose insights on the credit union's current IRR positions (the risk inherent in the present book of business). Dynamic simulations do provide beneficial information, but also introduce added complexity due to a layering of assumptions. When layering multiple assumptions within a scenario, the modeler is introducing an increasing number of predictions about balance sheet changes and management action. This adds to the risk of growing imprecision and, therefore, potentially misleading results.

It is important for modelers to distinguish between those scenarios designed to highlight risk and those which represent pro forma scenarios used for income budgeting. Projected growth assumptions in dynamic simulations often alter the balance sheet in a manner that reflects reduced IRR exposure. For example, if a liability-sensitive credit union assumes significant growth in one-year ARMs or long-term liabilities that fail to materialize, initial simulation results may have understated the actual exposures to changing interest rates due to reliance upon an overly optimistic budget estimate as opposed to thoughtful scenario analysis designed to capture risk.

Therefore, when performing dynamic simulations for risk management purposes, credit unions should also run static or no-growth simulations to ensure they produce an accurate, comparative description of the credit union's current IRR exposure. When performing dynamic simulations, credit unions should also run static simulations to provide the Asset-Liability Management Committee (**ALCO**) or senior management a complete and comparative description of the credit union's IRR exposure.

Again, the underlying objective of NII simulations is to generate forward-looking information that demonstrates how changes in market rates impact expected earnings and to challenge management's expectations and guide its risk management decisions. One of the key aspects of a sound NII analysis process is having the ability to generate a spectrum of varying outcomes that informs the practitioner about which underlying assumptions serve as the key drivers of risk.

As discussed above, NII simulations may not capture certain risks when the simulation horizon periods are too short to fully measure the income changes resulting from embedded options in longer-dated cash flows. As a result, NEV should also be used to broaden the assessment of IRR exposures, particularly in relation to net worth.

Workpapers & Resources

- **FFIEC** Advisory on Interest Rate Risk Management (January 6, 2010)

Last updated October 11, 2016

Net Economic Value

NEV is measured by calculating the present value of assets minus the present value of liabilities, plus or minus the present value of the expected cash flows on off-balance-sheet instruments (such as some interest rate derivatives). NEV quantifies the economic value of the entire balance sheet expressed as a single amount, and it may serve as a proxy for a market-based valuation of an institution's net worth. NEV analysis quantifies the degree to which the economic values of a credit union's balance sheet positions change under different rate scenarios. By calculating NEV changes, credit unions are able to simulate impacts for different rate scenarios and understand the potential effects on net worth. As a capital-at-risk measure, NEV provides important insights about the threats and vulnerabilities posed by various rate environments and, in turn, how the results potentially affect a credit union's level of net worth and overall solvency.

The economic values of all interest-bearing assets and liabilities are directly linked to interest rates. NEV can be used to measure a credit union's long-term **IRR** by capturing the impact of interest rate changes on the value of all future asset and liability cash flows. It measures the long-term IRR exposure on a credit union's balance sheet at a fixed point in time. NEV measures and quantifies IRR by capturing the impact of interest rate changes on the present value calculation of all future cash flows on both sides of the balance sheet. An NEV model projects the value of a credit union's economic capital for a base case scenario, and then compares the base measure to resulting NEVs for stress scenarios. Generally, NEV computations demonstrate the economic value of net worth under current interest rates and shocked interest rate scenarios, which typically include an instantaneous, parallel, and sustained shift in the yield curve (up and down), as well as alternative scenarios for changes in the yield curve.

Importantly, declines in a credit union's NEV measures signal a reduction in a credit union's overall economic position (that is, losses) just as increases in NEV measures signal an improvement (gains). When model results show a falling NEV level, it implies that a credit union's earnings would be negative. Conversely, results that show NEV increasing indicate earnings in that scenario are favorable. Producing NEV analysis for rising and falling rate scenarios provides important long-term foresight into how specific rate environments may favor or threaten the level and accumulation of net worth.

Economic values, which will differ from reported book values due to **GAAP**, can provide a number of useful insights into the current and potential future financial condition of a credit union. Economic values reflect one view of the ongoing value of the credit union. Economic values can offer comprehensive insights into the potential future direction of earnings performance, since changes in the economic value of a credit union's net worth reflect changes in the present value of the credit union's future earnings arising from its current holdings at current market rates. Most economic value models use a static point-in-time approach, in which the analysis does not incorporate any new or projected activities and all financial instruments are held until the contractual or expected maturity. The economic value analysis quantifies the risk to net worth at a point in time, from a balance sheet's mismatched re-pricing of asset and liability cash flows.

Because NEV utilizes a time horizon that spans to the time of the last cash flow, it identifies IRR that short-term measures (such as gap analysis and **NII** simulation) may not. Therefore, credit unions with material positions in long-term balance sheet accounts (such as fixed-rate mortgages and mortgage-backed securities) should compute NEV. This is especially important when a credit union's balance sheet also has significant embedded options (such as interest rate caps on ARMs and prepayment options on fixed-rate mortgages). The impact of these options may not be evident if the impact of interest rate changes is evaluated only over a short time horizon.

To compute the present value of the balance sheet, all projected cash flows for all balance sheet instruments, including any optionality, are modeled and then discounted using current interest rates for the respective interest rate markets. The concept of discounted cash flows represents a basic financial tool that captures the relationship between interest rates and fair value. Understanding the process of discounting cash flows can help a credit union value its balance sheet and interpret the results of its NEV model.

Present value is the amount of money an individual must invest today at a specified rate of interest to realize a future amount. In other words, present value is today's value of the dollar amount the recipient will receive in the future. Accordingly, present value represents the discounted value, and the interest rate used is often called the "discount rate." The price of purchasing any financial instrument (for example, a mortgage or investment) is the present value of its future cash flows.

The value of all interest-bearing assets and liabilities are directly linked to interest rates. The following example demonstrates how a change in interest rates can affect the fair value of an investment or loan. The example applies the formula to a hypothetical million dollar face value fixed-rate security. It first discounts the cash flows at the coupon rate (3.5 percent) and then again 300 hundred basis points higher (6.5 percent).

Note that the present value of the 3.5 percent coupon bond equates to its face amount of $1 million when the cash flows are discounted at the 3.5 percent coupon rate. This would equate to a no-rate change or "base case" scenario when computing NEV. However, the present value decreases by about $74,000 when the cash flows are discounted at 6.5 percent. This would approximate a potential 300 basis point rate shock when computing NEV. The decline in value underscores how an increase in market interest rates can reduce the fair market value of an asset such as a security or a loan. This decline also represents potential changes to capital under a NEV rate shock scenario.

While this discounted cash flow example is very basic, it is the fundamental concept behind what an asset-liability management (**ALM**) program does to compute NEV. NEV models become more detailed when the user adjusts discount factors for credit, option, and liquidity risks. But essentially, modelers are calculating a discounted cash flow measure for every instrument on the balance sheet, aggregating the results and then subtracting the net liability measure from the net asset measure to get the NEV.

Typically, an NEV model projects the value of a credit union's economic net worth for a base case scenario (the current NEV calculated with the prevailing yield curve), and then compares it to a specified stress scenario. These models go by various names and acronyms, such as Economic Value of Equity (EVE), Market Value of Equity (MVE), Market Value of Capital (MVC), Net Portfolio Value (NPV), or NPV (Net Present Value). Regardless of the name, they are computed the same way.

Credit unions can benefit from the use of NEV, and should establish NEV risk limits and integrate NEV simulations into their IRR measurement procedures. Limits should generally be based on both the percentage change of NEV from the base measure and the post-shock level of the NEV ratio, which is NEV divided by the economic value of total assets.

For example, policy risk limits could be established for immediate, parallel, and sustained rate shocks for ranges of +/- 300 basis points, and should also address rate shocks of +/- 100 and 200 basis points, as well. Risk limits should address the:

- Minimum level for a post-shock NEV ratio, and
- Maximum percentage change in NEV (from base level to shock level) permitted.

For credit unions that use NEV to measure their IRR, management should disclose how the NEV calculation results compare to the policy risk limits. Management should report this comparison to the board and senior management at least quarterly. When policy risk limits are exceeded, management should promptly enact strategies to reduce IRR and report the status of this monthly to the board and **ALCO** .

Most credit unions perform *static* NEV simulations, meaning they produce single point-in-time assessments of the economic value that do not reflect any changes in the balance sheet composition (such as through potential loan growth, changes in investment strategies, or other changes). A static NEV measure shows the risk inherent in the current balance sheet, and is beneficial as a benchmark of IRR.

Some credit unions may also perform *dynamic* NEV simulations, which estimate NEV at a future point in time (for example, 6 months, 1 year, and/or 2 years from the measurement date) and incorporate forecasted changes to the balance sheet (like minimum asset replacement and new business). Dynamic simulations rely on detailed assumptions regarding changes in existing business lines, new business, and changes in management and member behavior. The value of generating dynamic NEV is that it will measure the potential IRR to net worth associated with planned business activities along with changes to balance sheet asset and liability composition. This information can inform decision makers about the potential IRR associated with planned business activities, bringing a more risk-adjusted discipline to bear on strategic decisions.

NEV estimates the future cash flows for all of a credit union's assets and liabilities, including products with no contractual maturity dates. Developing estimated cash flows for instruments that have no contractual maturity is a complex and challenging modeling issue. This can be especially true for non-maturity shares. (Non-maturity shares include those share accounts with no defined maturity, such as share drafts, regular shares, and money market accounts.) Measuring the IRR associated with these accounts is difficult because the risk measurement calculations require management to define the assumptions for their products. For example, in order for a credit union to compute present values of non-maturity share accounts for its NEV inputs, management must make assumptions about how long each member share account will remain and how sensitive it is to changes in market rates. These assumptions will drive the estimate of the expected stream of cash flows associated with each member account that, in turn, will be discounted to a present value computation in the model.

Non-maturity share accounts that are assumed to have a long life (maturity) and be insensitive to changes in market rates (that is, are indifferent to the rate of interest paid by the credit union) have a higher intrinsic value to the credit union and thus benefit the NEV measure more than accounts with shorter lives and greater rate sensitivity. A credit union may attribute value to these shares (a value "premium" based on positive expected behavior) because they assume these shares will remain a lower cost of funds than market sources and will stay relatively insensitive to the rate paid by the credit union even if market rates rise elsewhere. Therefore, the underlying assumptions of the shares require scrutiny. Credit unions that forecast share behavior and incorporate those assumptions into their risk identification, monitoring, and measurement process should perform sensitivity analysis also.

When a credit union has a complex balance sheet with embedded options, the importance of proper data aggregation should be applied to all simulations. Complex or structured investments should be modeled on an individual basis, and homogenous balance sheet accounts should be aggregated by common IRR attributes. For example, loan portfolios should be aggregated by product type, coupon, maturity, and prepayment volatility. For adjustable-rate portfolios, simulations should include more IRR attributes, such as coupon reset dates and indexes, embedded caps and floors, and any prepayment penalties.

Workpapers & Resources

- **FFIEC** Advisory on Interest Rate Risk Management (January 6, 2010)
- Non-Maturity Shares

Last updated October 11, 2016

Duration Analysis

Duration analysis measures the change in the valuation of an asset or liability that may occur given a discrete change in interest rates. It is a very useful concept for understanding how the value of an instrument, portfolio, or even balance sheet will change for a specified percentage move in market rates. For example, if duration is calculated to be 3.8, this means for a 1 percent increase in interest rates, a bond's price is expected to decline by 3.8 percent. The analysis will factor in the size and timing of cash flows occurring before the contractual maturity of an asset or liability. Duration is the price volatility of a zero-coupon bond with that number of years to maturity. For example, if a bond has a duration of four years, it has the same approximate price sensitivity to rate changes as a four-year zero-coupon bond.

Duration underpins contemporary portfolio and balance sheet management theories. While it may not be used as a direct policy limit parameter, it can be a useful measurement to quickly understand a portfolio's sensitivity to changes in interest rates. Beyond its utility as an instrument level measurement, duration can be aggregated on a weighted basis across portfolios or the entire balance sheet and provides important insight into overall price sensitivity. For example, measurements such as **NEV** provide a capital-at-risk approach that is rooted in the duration mismatches of the underlying balance sheet portfolios. In some cases, the economic value of balance sheet equity can also be expressed in terms of duration (duration of equity).

Duration of equity is derived from subtracting the duration of total liabilities from the duration of total assets. The longer the duration of equity, the more sensitive it becomes to a given change in rates. In this way, duration can be used as a proxy for overall price and value sensitivity.

There are three basic determinants that will affect a financial instrument's duration:

1. Maturity – the longer the maturity of the bond, the higher the duration
2. Cash flows – the more front-loaded the cash flows, the lower the duration
3. Coupon – the higher the coupon of the instrument, the lower the duration

Duration allows instruments of different maturities and coupon rates to be directly compared. The higher the duration, the higher the risk of price changes as interest rates change. A credit union can build its portfolio based on weighted average duration, which provides the ability to determine portfolio value changes based on a forecasted change in interest rates.

There are three customary measures of duration: **Macaulay**, **modified**, and **effective**.

Macaulay Duration calculates the weighted average term to maturity of an investment's cash flows.[1] Duration, stated in months or years, will: 1) equal less than maturity for investments with payments prior to maturity; 2) decline as time passes; 3) equal maturity for zero-coupon investments; and 4) really makes sense only for an instrument with fixed cash flows.

$$\text{Macaulay Duration} = \sum_{t=1}^{n} \frac{(PV)(CF_t) \times t}{\text{Market Price of Bond}}$$

Definitions:

$(PV)(CF_t)$ = present value of coupon at period t

t = time to each cash flow (in years)

n = number of periods to maturity

Modified Duration will use the calculation from the Macaulay duration, and estimate price sensitivity for small interest rate changes. An investment's modified duration represents its percentage price change given a small change in interest rates.

Modified duration assumes that interest rate shifts will not change an investment's cash flows. As a result, it does not estimate price sensitivity with an acceptable level of precision for option-based assets.

$$\text{Modified Duration} = \frac{\text{Macaulay Duration}}{1 + \dfrac{\text{Yield to maturity}}{\text{Number of coupon periods per year}}}$$

Effective Duration estimates price sensitivity more accurately than modified duration for instruments with embedded options, and is calculated using valuation models that contain option-pricing components. First, a credit union must determine the financial instrument's current value. The valuation model then assumes an interest rate change (usually 100 basis points) and estimates the instrument's new value based on that assumption. The percentage change between the current and forecasted values represents the instrument's effective duration.

All duration measures will assume a linear price/yield relationship; however, larger shifts in rates will have a greater effect than smaller shifts. Therefore, duration may only accurately estimate price sensitivity for rather small (up to 100 basis point) interest rate changes.

$$\text{Effective Duration} = (V_- - V_+)/(2V_0 \times \Delta Y)$$

Where, ΔY = Change in market interest rate used to calculate new values:

V_+ = Price if yield is increased by Change Y

V_- = Price if yield is decreased by Change Y

V_0 = Initial price per $100 of par value

Last updated October 11, 2016

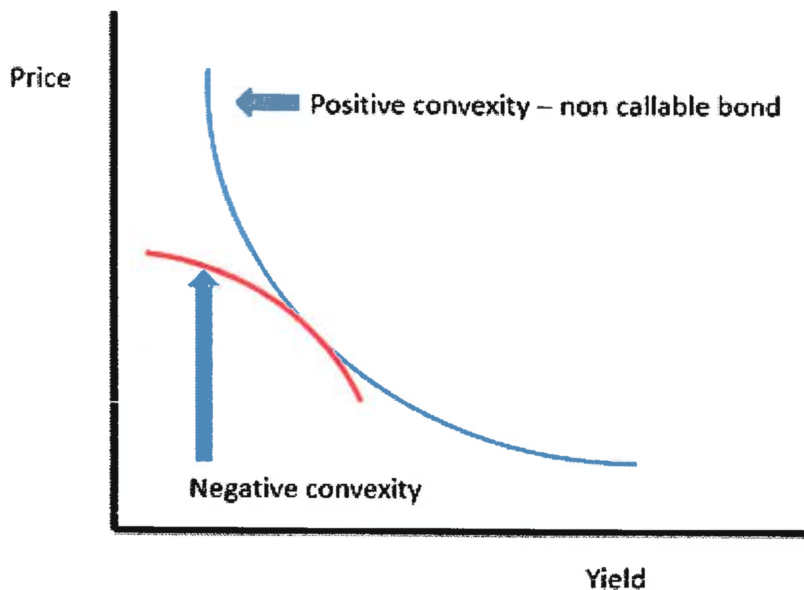
Convexity

Convexity describes the non-linear relationship between a financial instrument's price and changes in market interest rates (yield). When depicted in graphical form, this price/yield relationship becomes a plot line that reveals a curvature that is convex in shape. This convex price/yield phenomenon is where the term convexity was applied to risk of financial instruments. Convexity essentially shows how the duration of an investment changes as interest rates change by greater degrees. If an instrument's price/yield relationship remained perfectly linear regardless of the amount of rate moves, duration would be sufficient, but this is not the case for most financial instruments.

Financial instruments typically exhibit two types of convexity: negative or positive. Negative convexity is found in instruments with embedded options, while positive convexity is found in instruments without embedded options.

A positively convex financial product's price will increase at an increasing rate when rates decline; when rates rise, the price declines at a decreasing rate. Conversely, a negatively convex financial instrument's price increases at a decreasing rate when rates decline; when rates rise, the price of a negatively convex instrument will decline at an increasing rate. In addition, negative convexity causes the duration of an option-based investment to lengthen when rates rise and shorten when rates fall.

The chart below displays the price change differential between a non-callable bond (positive convexity) and a callable security (negative convexity). As yields decline, the price of a non-callable bond will continue to rise because of the fixed cash flow stream. The callable security's price will begin to level out as the bond moves from being priced to maturity to being priced to the call date, essentially changing its effective duration. Because of these embedded options, investors are compensated for the additional risk with more yield. This price change due to the movement in the maturity of the callable bond is captured by the graph. Durations lengthen for securities with negative convexity when interest rates rise and shorten when interest rates fall. Neither movement is attractive to investors who buy and own the asset.



Calculating the convexity of a financial instrument or portfolio of financial instruments is an effective **IRR** measurement tool because it can help identify the amount of market risk and IRR to which an instrument or portfolio is exposed. High amounts of negative convexity in a portfolio of assets demonstrates that the portfolio is more prone to price risk (sensitivity) than a portfolio with no (or lesser amounts of) negative convexity. Understanding which instruments have material amounts of convexity, at the instrument and portfolio levels, can also provide risk managers with a reliable way to spot-check whether their **NEV** simulation results reasonably capture the price risk of embedded options.

Last updated October 11, 2016

Net Interest Income vs. Net Economic Value

Credit unions are encouraged to use a variety of measurement methods to assess their **IRR** profile, and **NII** and **NEV** simulations are both widely used within the industry. By combining earnings-at-risk (NII) and value-at-risk (NEV) approaches, credit unions will gain a more comprehensive perspective on both near-term and longer-term IRR factors. NEV will be useful in identifying risk within assets of longer duration and with optionality, especially when a material amount of cash flows occur beyond an NII simulation's horizon. NII simulations provide more detailed information about the structure and timing of instrument cash flows and are useful in determining when notable risk events transpire within the model horizon. Each approach provides unique aspects and helpful information about potential risks and should be used together, especially when portfolio compositions are long in duration, complex, and/or have material amounts of option risk.

Despite being different methodologies, NII and NEV methods generally provide a consistent view of IRR trends. However, the two approaches may also generate divergent outcomes. In many cases, NII simulation models provide shorter-term results, while NEV models provide a longer-term risk profile. An NEV approach measures all estimated changes to the balance sheet and earnings, as opposed to gap models and NII simulations, which generally measure shorter-term balance sheet and earnings projections. These divergent outcomes can result from a variety of factors, such as the structure of the balance sheet, including the credit union's derivative positions and off-balance-sheet items, interest rate environment, timing of asset/liability mismatches, sensitivity of funding sources to interest rate changes, and volume of fixed- or floating-rate assets. Divergent outcomes don't mean models are incompatible, but they do require practitioners to understand what underlying factors drive the respective results.

Regardless of the methods used, an institution's IRR measurement system should be sufficiently robust to capture all material on- and off-balance-sheet positions and incorporate a stress-testing process to identify and quantify the institution's IRR exposure and potential problem areas.

Workpapers & Resources

- **FFIEC** Advisory on Interest Rate Risk Management (January 6, 2010)

Last updated October 11, 2016

Gap Analysis

Gap analysis is a simplistic **IRR** measurement model used by small or non-complex institutions that provides an easy way to identify repricing gaps. It can also be used to estimate how changes in rates will affect future income. However, gap analysis has several weaknesses and is generally not sufficient as the sole IRR measurement model for other than small credit unions. Gap analysis can be a first step in identifying IRR exposures and may serve as a reasonableness check for more sophisticated forms of IRR measurement models.

Gap analysis helps identify maturity and repricing mismatches between assets and liabilities. Gap segregates a credit union's rate-sensitive assets from rate-sensitive liabilities, according to their repricing characteristics. Then the analysis summarizes the repricing mismatches for a defined time horizon. Additional calculations can then estimate the effect the repricing mismatches may have on **NII** .

Gap analysis may identify periodic, cumulative, or average mismatches. It may show the ratio of rate-sensitive assets and rate-sensitive liabilities, divided by average assets or total assets. However, using those denominators does not produce a standard gap ratio. It simply provides other ways of describing the degree of repricing mismatches.

A credit union has a positive gap if the amount of rate-sensitive assets repricing in a given period exceeds the amount of rate-sensitive liabilities repricing during the same period. When a credit union has a positive gap, it is considered asset sensitive. Should market interest rates decrease, a positive gap indicates that NII would likely decrease. If rates increase, a positive gap indicates that NII may increase.

Conversely, a credit union has a negative gap when the amount of rate-sensitive liabilities exceeds the amount of rate-sensitive assets repricing during the same period. When a credit union has a negative gap, it is considered liability sensitive, and a decrease in market rates would likely cause an increase in NII. Should interest rates increase, a negative gap indicates NII may decrease.

Only smaller and non-complex credit unions with very simple balance sheet structures should consider relying solely on gap analysis for IRR measurements.

Last updated October 11, 2016

Stress Testing

Stress testing, which includes both scenario and sensitivity analysis, is an integral part of **IRR** management. Scenario analysis simulates possible outcomes given an event or series of events, while sensitivity analysis estimates the impact of change in one or only a few of a simulation model's significant assumptions.

With IRR stress testing, the modeled scenarios involve changing interest rates by defined amounts and potentially severe magnitudes. At a minimum, standard stress tests typically include instantaneous, parallel, and sustained shocks in the yield curve of +/- 300 basis points.

Parallel and static interest rate shocks in the yield curve of only +/- 300 basis points may not be sufficient to adequately assess IRR. In addition to the standard IRR policy limits, a credit union must determine the number of potential interest rate movements, including meaningful stress situations for which it will measure and analyze its IRR. In developing these appropriate rate scenarios, management should consider a variety of factors, such as the shape and level of the current and historical term structure of interest rates. Credit unions should produce scenarios that provide useful estimates of risk to allow management to understand the risk inherent in the credit union's balance sheet.

The rate scenarios used should be significant enough to expose all material sources of IRR in the credit union's balance sheet. The range of scenarios should be sufficient enough to fully identify repricing, basis, and changes to the yield curve, as well as the risk of embedded options. When conducting stress tests, management should:

- Focus on products and characteristics where concentrations in portfolios exist, especially when concentrated positions may be difficult to sell or hedge during periods of market volatility with no material losses.
- Compare stress test results against approved limits to better understand the elasticity of the limit structure. It is not necessary to adopt new limits for stress-testing simulations. Results that exceed standard limits should not be identified as violations of policy, but used to inform the board and senior management of potential risk exposures that should be discussed and understood. Contingency actions should be evaluated proactively.
- Ensure the scenarios are rigorous and consistent with the existing level of rates and the market environment.

A credit union's stress-testing framework for IRR should be commensurate with its size and complexity, as well as business activities and overall risk profile. The framework should include clearly defined objectives, scenarios tailored to the credit unions various products and risks, well-documented assumptions, and sound measurement methodologies. The framework will be used to assess the potential impact of the scenarios on the credit union's financial condition, enable ongoing and effective review processes for stress tests, and recommend actions based on the stress test results. For example, in low-rate environments, scenarios involving significant declines in market

rates should be de-emphasized with additional emphasis on rising-rate scenarios. Alternatively, there may be instances where more extreme stress tests should be considered.

Last updated September 14, 2016

Scenario Testing

Scenario testing allows a credit union to assess a range of alternative or potential interest rate scenarios. There are multiple scenario types.

- In a **rate shock scenario**, parallel rate changes are immediate and sustained. For example, in a plus 300 **Basis point** rise scenario, the full effect of the rate increase would be for all points along the yield curve.
- In a **yield curve test**, changes in the shape or slope of the yield curve are imposed, such as a steepening or flattening scenario run from the current term structure.
- In a **rate ramp scenario**, rate changes are applied gradually over a period of time. For example, when measuring the effects of a 300 basis point rate increase during a 12-month period, rates could be increased 25 basis points each month.
- In a **stair step scenario**, rate changes are at less frequent intervals over a period of time. For example, in a 300 basis point increasing rate environment stepped up over a two-year time period, rates may be increased 50 basis points each quarter of the first year and 25 basis points each quarter of the second year.
- In a **basis risk scenario test**, changes are applied in the relationships between key market rates for concentrations of assets with basis risk.

Not all credit unions need to use the full range of the scenarios listed above. Credit unions with non-complex cash flows (with limited embedded options or structured products) may be able to justify running fewer or less intricate scenarios. Also, not all alternative tests need to be run with the same frequency as those tests which serve as policy limits. Credit unions can adjust the frequency of alternative scenarios based upon their understanding of their inherent sensitivities revealed in prior results.

Management should run repricing, basis, and yield curve risk scenarios regularly. Credit unions should assess these risk scenarios at least annually or when the risk profile changes for new products. If the testing shows a material exposure to one of these risks, the credit union should consider a more regular schedule to assess the risk and should include this in monthly or quarterly **IRR** monitoring. For examiners, if a credit union has relatively non-complex risks to basis, yield curve, or option risk, they should document that the risks are minimal.

Another example of a possible extreme stress scenario would be when interest rates are low. Credit unions should consider negative interest rate scenarios and the possibility of asymmetrical effects of negative interest rates on their assets and liabilities. The absence of history and empirical information about negative interest rates makes it difficult to forecast the potential effects of such a scenario. To the extent that the term structure of interest rates trends toward lower and even negative levels, credit unions may need to begin researching and developing **Assumptions** to forecast the potential impact on share behavior and how to handle the pricing of assets and liabilities.

An important trait of effective risk management is ongoing monitoring and effectively responding to IRR measures. Credit unions that use risk measurement information to make business decisions, whether it be purchases, sales, or another kind of risk mitigation (such as hedging), are more likely to optimize their net worth and earnings performance over time.

Last updated September 14, 2016

Operational Considerations

The identification of relevant shock and stress scenarios for **IRR**, the application of sound modeling approaches, and the appropriate use of the stress-testing results require qualified staff with sufficient expertise in the credit union's finance department, Asset-Liability Management Committee (**ALCO**), and risk management functions. A stress-testing program for IRR should ensure that the outcomes and potential decision making are communicated to the ALCO, appropriate senior staff, and the board of directors.

In addition to the standard shock tests run for internal IRR policy compliance, it is prudent to stress the balance sheet using other rate scenarios. Static parallel **NEV** shock tests are meaningful, but they do not capture certain risks that may be relevant to a credit union's balance sheet. For example, parallel rate shocks do not reveal how a change in the shape of the yield curve impacts capital-at-risk and earnings-at-risk measures. Other relevant stress scenarios can include shocks to the level of prepayments, rate sensitivity factors for non-maturity shares, and credit spreads.

The use of stress testing is an essential discipline within the IRR management process. By generating a variety of stress test results, a credit union gains critical insight into the specific factors that have a material impact on the risk measurement results. Risk management decisions are better supported when the decision makers have a range of information available to guide risk mitigation actions.

When developing interest rate shock and stress scenarios for IRR, credit union management should consider the following:

- Assess the possible interaction of IRR with its related risks (such ascredit risk and liquidity risk).
- Assess the effect of adverse changes in the spreads of new assets/liabilities replacing those assets/liabilities that mature over the horizon of the forecast on **NII**.
- Estimate the potential change in relevant interest rates (such as prime rates or retail deposit rates, as opposed to those that are purely market-driven). Management should document how these assumptions are derived.
- Ensure that the scenario testing is sufficient to fully identify material levels of IRR within the balance sheet.
- Ensure that the scenario testing is consistent with the existing level of rates and market environment. For example, in low rate environments, scenarios involving significant declines in market rates may be de-emphasized (though negative rate scenarios could be relevant if actively considered by monetary policy makers at the time of testing). Instead, the credit union should test a number of alternative rising rate scenarios (for example, test various non-parallel short-term and long-term rates). In addition, there may be instances where more extreme stress tests (immediate and parallel 500 basis points) are appropriate.

- Assess IRR exposure on a regular basis and whenever the credit union's risk profile changes significantly (for example, because of a merger, sudden growth, a significant new product, or new hedging program).

By generating stress test scenarios periodically, credit unions will hone their understanding of the particular alternative scenarios and assumptions to which they should be more sensitive.

Last updated September 14, 2016

Sensitivity Analysis

Sensitivity analysis should be conducted to help determine which assumptions have the most influence on the model results. Through sensitivity analysis, management can identify, document, monitor, and test those assumptions. Sensitivity testing can also be used to identify less material assumptions and weaknesses in the measurement system. It is important for credit unions to document the sensitivity of their **NEV** and **EAR** measures that result from changes to key assumptions. This helps risk management staff isolate the factors, if any, that pose a key threat or vulnerability to net worth and the earnings stream, and informs decision making about how best to mitigate **IRR** if necessary. Credit unions should generate pre- and post-modeling results when changing assumptions and review the comparison. Sensitivity analysis is an increasingly important aspect of IRR management, as it is the primary means through which key drivers of risk and the potential model error risks are identified.

Sensitivity testing should only be applied to one assumption at a time. Credit unions should test the effects of small, large, and, in some cases, extreme changes to significant assumptions, and assess their impact on the overall measure of IRR.

For example, to test the sensitivity of non-maturity share decay rates, a credit union could alter its non-maturity share rate sensitivity factor (**RSF**) assumptions incrementally (up and down) in multiple scenarios (for example, test a 10, 25, and 50 percent increase/decrease from the base-case assumption). The revised results could then be compared to the base-case scenario. If a change in the assumption disproportionately impacts the results, management should implement more robust assumption documentation, monitoring, and testing.

Credit unions should consider assessing risks using sensitivity analysis annually. Operational management should document the results of sensitivity testing and present the results to the board of directors and/or **ALCO** . By conducting sensitivity analysis over time, management can gain a more in-depth understanding of the assumptions that contribute the most volatility to output results. This will reinforce management's understanding about the level of IRR in the credit union's balance sheet and the rate conditions that may affect the level of earnings and capital.

An absence of sensitivity testing indicates a weakness in the risk management program. Some credit unions generate results only for "compliance" purposes. Credit unions with strong risk management disciplines use their sensitivity analyses to challenge their thinking and influence actions they take to manage IRR.

Last updated September 14, 2016

Assumptions

Projected interest rate assumptions are a critical part of measuring **IRR** and may be generated from internal analysis and/or external information-provider sources. Internal interest rate forecasts, which may be derived from implied forward yield curves, economic analysis, or historical regressions, should be documented to support the assumptions used in the analysis. Key rate assumptions that should be considered include assumptions for relevant market rates, repricing rates, replacement interest rates, and discount rates.

Assumptions are postulations about interest rates, member behavior, and economic factors that are used in IRR measurements. Assumptions used to assess the interest-rate sensitivity of complex instruments (such as those with embedded options) and instruments with uncertain maturities (such as non-maturity shares) should be subject to rigorous documentation and review, as appropriate for the level of risk and the size and sophistication of the credit union. IRR measurements rely on assumptions regarding key parameters, such as:

- Projected balance sheet volumes
- Prepayment rates for loans and investment securities
- Repricing sensitivity
- **Decay** and **Beta** rates of non-maturity shares
- Projected interest rates
- Discount rates versus offering rates relationships

> Non-maturity share decay rates and repricing sensitivity (Rate Sensitivity Factors or **Beta**) are commonly the most difficult assumptions that management makes when measuring IRR exposure. These assumptions are critical, particularly in market environments in which member behaviors may not reflect long-term economic fundamentals, or in which credit unions are subject to more competition for such deposits.

These assumptions can have a significant impact on the measurement system's output, so it is crucial that they be reasonable and supportable.

It is important that material assumptions be updated regularly to reflect the current market and operating environment and in response to sensitivity analysis. Furthermore, the process for developing material assumptions should be formalized and periodically assessed (at least annually for critical assumptions). This periodic assessment of the information and processes used to generate assumptions may prompt management to reevaluate its assumptions in order to better reflect current strategies or member behaviors.

However, before changing key assumptions that can materially alter measurement results, management should conduct thorough due diligence. Key assumption changes should be properly documented and reviewed by the board of directors and/or **ALCO** .

Last updated September 14, 2016

Non-Maturity Shares

Non-maturity shares are an essential funding source for most all credit unions and have at times comprised 70 percent or more of total deposits. By definition, **NMS** are accounts that have no contractual maturity date and may be withdrawn by a member immediately upon demand. NMS accounts exist in different forms and are most commonly grouped into checking, savings, and money market type accounts. The interest paid on NMS typically represents the majority of a credit union's cost-of-funds expense. These various NMS accounts can respond quite differently in response to macroeconomic changes (most importantly, to the level of interest rates). Thus, it is important for **IRR** modelers to differentiate NMS accounts into different behavioral segments based on their estimated sensitivities to interest rate changes and other market factors. Because NMS have no contractual maturity, their ultimate behavior is unknowable and this makes the need to dynamically model them especially critical to the effectiveness of the IRR measurement process.

The valuation of NMS accounts and the computation of **NEV** simulation results involve several key variables that include rate sensitivity factor, decay rate, and discount rates.

- The rate sensitivity factor, also known as **Beta** , is a measure of the sensitivity of a credit union's repricing of a particular NMS type given a change in market rates. Estimates of RSFs are typically supported by the credit union's historical repricing behavior. For example, if market rates move by 100bps and the credit union changes the NMS account rate by 40bps, the **RSF** is .40 (40/100). RSFs are a key driver of NMS account values.

- **Decay rates** measure the amount of monthly or annual run-off from a static pool of shares. The lower the observed decay rate, the longer will be the estimated average life of the NMS account. Since NMS accounts often pay a below market rate, longer average life assumptions will typically result in a greater NMS premium and a higher NEV.

- Discount rates - The NEV ratio, calculated by subtracting the net present value of liability cash flows from the net present value of asset cash flows, is highly dependent upon the choice of discount rates. For example, are liability cash flows discounted by an alternative cost of funds curve or a single point on the Treasury curve plus a pricing spread? Credit union staff and **NCUA** examiners should understand how the choice of alternative discount rates can significantly affect NMS premiums and the resulting NEV simulation results.

In 2001, the National Economic Research Associates prepared a study of NMS in response to a request from the NCUA that **NERA** evaluate the available methods for valuing non-maturity deposits of individual credit unions. The resulting study, The Evaluation of Credit Union Non-Maturity Deposits, includes a detailed discussion of valuation methodology of NMS.

The NCUA also provides guidance regarding sound practices for evaluating the behavior of non-maturity shares in the context of managing risk in its Letter to Credit Unions 03-

CU-11, Non-Maturity Shares and Balance Sheet Risk.

Similar to prepayment behavior, the underlying assumptions (behaviors) of NMS are typically among the most material and complex assumptions that management must establish when modeling IRR exposure. The behaviors are influenced by potential actions of management and credit union members. These dynamics need to be considered when assessing the reasonableness of assumptions. Members have control over the amount and movements of their deposit accounts. Management has some discretion over the dividend rates paid on these accounts. In setting rates, management must take into account a wide array of factors, including local and national competitors, the credit union's desired funding needs, and the relative costs of all funding sources.

The NMS model assumptions usually reflect both aspects of this relationship: management's discretion to set rates and members' immediate control over their funds. Consideration should be given not only to historical correlation analysis, but also to management's strategic intentions regarding future rate movements. If the measurement system has the capacity to reflect different assumptions for rising and falling rates, management should establish rate sensitivity assumptions for both scenarios. While management does have discretion in setting the rates that are paid on NMS, they may have only limited influence over what they can pay because many depositors likely expect rates to remain competitive.

Credit unions can become captive to market pressure when setting rates on NMS balances in order to retain shares. This is especially true for any portion of NMS that is non-core and possesses inherently higher rate sensitivity. For example, during the period of extraordinarily low interest rates after 2007, many NMS accounts grew and exhibited lower sensitivity, which may have been a function of the desire for safety combined with the lack of yield opportunities elsewhere. For higher and/or rising rate scenarios, the NMS assumptions should consider a greater likelihood of non-core NMS being increasingly rate sensitive for those yield curve scenarios with a level(s) that corresponds to pre-2007 ranges.

Non-maturity instruments present a unique challenge for NEV simulation modeling because they lack a contractual maturity date, which means their maturity (and average life) are not known and, therefore, must be estimated. Generally, an asset or liability instrument is valued using known or estimable cash flows (including a contractual or expected maturity date) based on the present value of all the expected cash flows over the life of the instrument discounted at an appropriate interest rate. Therefore, in order to model the intrinsic value of NMS accounts, an NEV model requires a maturity date input. This input is based upon management's assumptions for the implied runoff over the life of the account (known as the decay rate) and its ultimate maturity.[1] The most common assumptions for NMS accounts include decay rates, repricing coefficients (beta rates), and projected dividend rates.

NMS assumptions can either be developed internally by staff or by a third-party service provider. Reliance on third parties is common practice and acceptable provided the credit union's board and management retain ultimate responsibility for approving final assumptions they deem to be reasonable and supportable. Management should utilize NMS assumptions that reflect member-specific factors and avoid overreliance on default settings that may be contained as predefined assumptions within off-the-shelf IRR models. Using historical regression to determine estimates of NMS behavior is challenging if the credit union doesn't possess historical and detailed deposit information.

Credit unions with limited data and/or staff expertise will have more difficulty developing reasonable and supportable decay rates for NMS accounts. Industry averages can provide approximations when data is lacking, but may be inaccurate proxies because they are not uniquely tailored to the credit union's membership, pricing strategies, market, and experience. However, using industry averages is better than arbitrary assumptions, and management can use them as a starting point until they develop adequate data sets. Management should consider modeling different decay rates under various rate scenarios and, when appropriate, should consider engaging third parties to assist in determining NMS assumptions. Examiners should recognize that, while NMS decay rates are often imprecise, they can be a significant factor in the IRR analysis when coupled with other drivers of NMS valuations.

Assumptions regarding NMS are particularly critical in market environments where credit union member behaviors may be atypical or where a high level of competition for such deposits exists. Generally, rate-sensitive and higher-cost deposits reflect higher decay rates than other types of deposits. Also, credit unions with lower capital levels may become more prone to reputation and event risks and should adjust deposit assumptions accordingly.

NMS (share drafts, regular shares, and money market accounts) are typically the largest segment of a credit union's liabilities. The majority of NMS accounts are federally insured deposits and credit unions generally benefit in times of macroeconomic stress because these accounts are perceived as safe havens in which to store funds (often referred to as "flight to quality"). Liquid funds can move swiftly when financial markets are volatile as investors seek ultimate security of principal. A significant influx of flight-to-quality deposits may remain for an extended period during uncertain times, as was observed in the years following 2007. This phenomenon makes it difficult for deposit modelers to distinguish between the portion of balances that is potentially rate sensitive and the "core" NMS that are more stable and long-term in nature. Ultimately, the portion of NMS balances that may be rate sensitive (and thereby more susceptible to withdrawal) is not knowable, but must be estimated just the same. A credit union can set attractive dividend rates to try to retain these shares, but if members leave their balances in NMS, they retain the option to move the funds into other higher-priced shares or out of the credit union altogether at any time.

As stated above, NMS are a large percentage of a credit union's funding base, and represent a key driver of risk in a credit union's balance sheet. NMS are, therefore, a critical component in determining a credit union's exposure to IRR. For **NII** simulations, the correlation between changes in NMS dividends/interest, compared with changes in market interest rates will be a significant driver of the NMS rate sensitivity. If a credit union assumes its administered rates paid on NMS can significantly lag changes in market interest rates, and that members will not move or withdrawal their funds in response, then those NMS accounts are being modeled as less sensitive (or more "sticky") relative to market interest rate moves. In contrast, NMS dividends/interest rates that are assumed to reprice in lockstep with market interest rates are being modeled as more rate sensitive (or less "sticky"). Where management sets the repricing coefficient, also called the beta, is how the level of sensitivity between NMS and their reference market rate(s) is established within the model. A lower beta implies less sensitivity and a higher beta implies more.

For NEV modeling, assigning long implied maturities to NMS accounts typically indicates that management believes they have low rate sensitivity, whereas assigning short

implied maturities indicates they believe the accounts have higher rate sensitivity. Assuming the dividend rate is fixed, a long maturity will result in a lower value (benefit) for NMS and higher NEV.[2] Conversely, a shorter maturity will result in a higher NMS value and decreased NEV. A credit union that models its NMS with little or no sensitivity to changes in market interest rates (in its earnings simulation or NEV analysis) may significantly understate its actual IRR exposure by understating post-shock earnings at risk and overstating the post-shock NEV.

As previously stated, assigning values to NMS is complex because the actual future behavior of the accounts is not knowable, yet the risk measurement calculations require management to define principal cash flows for NMS accounts over a discrete time horizon and set an expected maturity, so they can simulate expected earnings (for earnings at risk, also known as **EAR**) and a present value (for NEV). A credit union's NMS behaviors are sensitive to circumstances at the credit union, in the credit union's competitive market, and in the general economy. Risk modelers responsible for developing assumptions should take such factors into consideration. These factors can include, but are not necessarily limited to:

- **The credit union's need for funds and its ability to use alternative funding sources.** In a period of low loan demand, a credit union may change its deposit pricing policies to disincentivize shares and allow some of its NMS to run off. As loan demand increases, a credit union seeking to increase liquidity may raise its rates in order to attract more shares.

- **The credit union's pricing structure and member base.** Using a variety of implicit and explicit pricing structures for its core shares/deposits, a credit union can tailor pricing for certain parts of its member base. For example, a credit union may waive certain account fees for members who maintain minimum balance requirements. Applying tiered pricing strategies will divide a credit union's member base between high-balance, rate-sensitive members and low balance, rate-insensitive members. The demographics of the credit union's member base may help a credit union to determine the rate sensitivity of their shares/deposits.

- **The credit union's marketing and strategic plans for its share and deposit products.** In developing and planning marketing strategies, credit unions may view individual products as having life cycles or market niches that influence how the credit union will position and price them in the future. For example, credit union management may decide to let a certain share or deposit product become less rate sensitive over time, and to introduce a new, more rate sensitive deposit product to members who are more likely to move balances when interest rates change.

- **The number and type of competitors within the credit union's market.** The pricing behavior of competitors will likely influence the degree and speed with which a credit union will respond to changes in market interest rates. As consumers become more knowledgeable and comfortable with alternative investments, a credit union's competitive market expands. Increasingly, a credit union competes not only with other credit unions or financial institutions for shares and deposits, but also with investment houses, mutual funds, and even entities that advertise their rates and services over the internet.

- **The general level and trends of market interest rates.** Market interest rates (such as the rate that a member could earn by investing in other credit unions, financial institutions, etc.) help determine members' "opportunity cost" of maintaining a balance at the credit union. The opportunity cost of holding NMS is relatively low when market interest rates are low. As market interest rates rise, so does the opportunity cost of holding these types of shares and deposits. As the spread widens between market interest rates and the rates a credit union pays on its NMS, there may be increasing incentives for credit union members to move balances to other options outside of the credit union.

- **Product development and changes in credit union rules and regulations.** The development of new financial products and changes in the credit union industry can have a dramatic effect on the structure of a credit union's share base and member behavior. When analyzing NMS, credit unions should consider any impending legislation or new products that would significantly alter the credit union industry and/or force a credit union to change its assumptions about member behavior.

To identify the appropriate assumptions for NMS, management should:

1. Analyze the credit union's share base and the demographics of its local market.

2. Assess how the circumstances described above and any other relevant factors will influence the level of shares/deposits and the rates offered.

3. Consider how those circumstances could affect the credit union's share base differently in alternative interest rate scenarios.

In summary, the tools used to analyze NMS should vary with the size and sophistication of the credit union. Credit unions with more complex balance sheets and cash flows will typically use tools such as share/deposit studies to help create and support assumptions about their shares and deposits. The methods of smaller credit unions may be similar, but less robust.

It's important for examiners to keep in mind that modeling NMS behavior is subjective and nobody actually knows how the accounts will react to macroeconomic factors (including changes in market rates). Examiners should not debate whether a credit union should obtain a deposit study or take a position on whether the individual underlying assumptions are accurate. Instead, the primary supervisory focus should be upon:

- Whether the scope and rigor of the analysis is commensurate with the size, complexity and risk of the credit union

- Whether the sensitivity analysis is sufficiently broad and thoughtful in its scope

- How management is using the information in conjunction with its IRR management decisions

Additional guidance on NMS is included in NCUA Letter to Credit Unions 03-CU-11, Non-Maturity Shares and Balance Sheet Risk (July 2003).

Workpapers & Resources

- NCUA Letter to Credit Unions 03-CU-11, Non-Maturity Shares and Balance Sheet Risk (July 2003)
- National Economic Research Associates, The Evaluation of Credit Union Non-Maturity Deposits (September 10, 2001)

Last updated September 14, 2016

Prepayments

Prepayment assumptions are important considerations when measuring optionality risk, especially for mortgage-related products. Prepayment risk (or conversely, extension risk) on loans and mortgage-related securities are highly influenced by changes in interest rates. Prepayment assumptions may also be affected by factors such as loan size, geographic area, credit score, and type of rate (for example, fixed versus variable). It is critical that assumptions be reasonable for each rate scenario measured. For example, in an increasing rate environment, prepayment assumptions should typically reflect slower prepayments than in a declining rate environment.

Credit unions may actively track internal prepayment data or obtain prepayment data from external sources. Management should consider the reliability and applicability of external data and be aware that market stress, externalities, or a change in the credit union's financial condition may influence membership behaviors.

Management should ensure that assumptions are appropriate given the characteristics of the credit union's portfolio (for example, prepayment speeds for a portfolio of various types of real estate loans will have different assumptions). In addition, proper aggregation of the assets is necessary before applying assumptions.

Last updated September 14, 2016

Measurement Systems

An effective **IRR** management program incorporates a process for measuring the credit union's overall level of IRR exposure. The measurement system used should be appropriate to capture, identify, and quantify the major sources of IRR for all material on- and off-balance-sheet items to both earnings and net worth. The latter is particularly important for credit unions with significant holdings of intermediate and long-term instruments or instruments with embedded options because their market values can be particularly sensitive to changes in interest rates.

In other words, while all of a credit union's activities should receive appropriate treatment, measurement systems should rigorously evaluate the major products and characteristics whose values are especially sensitive to rate changes.

Last updated October 11, 2016

Management Responsibility

A credit union's board of directors and management are responsible for selecting an appropriate **IRR** measurement system and assessing its capabilities regularly.

The accurate and timely measurement of IRR is necessary for effective risk management and control. The product composition and the risk characteristics of credit union activities should guide management's selection of the most appropriate measurement system.

Last updated October 11, 2016

System Capabilities

The **IRR** measurement system should capture and reliably estimate all material risk exposures. Therefore, the system should consider all significant balance sheet categories, income statement items, and underlying risk factors. For example, if a credit union has a large concentration of mortgage loans or mortgage-backed securities, then its measurement system should be able to adequately incorporate prepayment projections. Likewise, if the credit union has a mortgage operation that generates material fee income, its system should capture the rate sensitivity of this non-interest income.

When a credit union develops an IRR measurement system internally or considers acquiring a third-party system, operational management should assess its suitability by evaluating the system's ability to reasonably capture all relevant and material IRR exposures. Additionally, management should periodically re-evaluate the adequacy of the system as the credit union's balance sheet, strategies, and activities change. Operational management must fully understand the system's capabilities.

Some measurement systems have only limited ability to change model assumptions. In these cases, the examiner may need to determine if the measurements are suitable for the size and complexity of the credit union. More complex systems can support many scenarios and assumptions, and management should thoroughly support and document assumptions related to the most significant risks.

Last updated October 11, 2016

Data Integrity

The usefulness of **IRR** measures depends on the integrity of the data on current holdings, validity of the underlying assumptions, and IRR scenarios used to model IRR exposures. A model's accuracy depends on the assumptions and data used. Like any model, inaccurate data or unreasonable assumptions will render unreliable results.

Examination of the system's input process should focus on the procedures for inputting and reconciling system data, categorizing and aggregating account data, ensuring the completeness of account data, and assessing the effectiveness of internal controls and independent reviews.

System data should accurately reflect the credit union's current condition. When evaluating the adequacy of a model, management should consider the extent to which the model uses automated versus manual processes, how it interfaces with the credit union's core systems, and the staff and expertise needed to run and maintain the model.

The internal control process must be comprehensive enough to ensure that data inputs are accurate and complete prior to running the system and generating reports. Inputs may be processed into the system manually, through data-extract programs, or a combination of both. Internal control procedures should be established to ensure that input data, such as general ledger balances and contractual terms of transactions, are accurately captured. The most significant assumptions underlying the system should be documented and clearly understood by credit union management. Credit unions should verify system inputs with reconciliations of the balances to other verified source documentation, such as the general ledger.

Last updated October 11, 2016

Adequacy of Data Inputs

In addition to capturing account balances, credit unions with complex balance sheets should use measurement systems that adequately capture the embedded market risk of all material balance sheet activity. In the initial setup of an **IRR** measurement system, the credit union will make critical decisions regarding a number of variables. Most measurement models allow for the input of the following contractual terms:

- Current balance
- Contractual maturities
- Principal and interest payments and frequencies
- Coupon rates and repricing frequencies
- Contractual caps and floors
- Contractual optionality (such as security or borrowing calls)

Examination of the system's input process should focus on the procedures for inputting and reconciling system data, categorizing and aggregating account data, ensuring the completeness of account data, and assessing the effectiveness of internal controls and independent reviews.

In addition to capturing account balances, credit unions with complex balance sheets should use measurement systems that adequately capture the embedded market risk of all material on- and off-balance-sheet activity.

Last updated October 11, 2016

Account Attributes

Account attributes define a product, including principal type, rate type, rate index, repricing interval, new volume maturity distribution, accounting accrual basis, prepayment driver, and discount rate

Last updated October 11, 2016

Chart of Accounts

The chart of accounts is a listing of each account on the credit union's balance sheet and income statement. A credit union's chart of accounts will show all assets (such as loans and investments), liabilities (such as member shares), income, and expenses. In order for the **IRR** measurement system to produce accurate and reliable results, the credit union must ensure that the chart of accounts is up to date and accurate.

Last updated October 11, 2016

Aggregation of Data

Credit unions should ensure that transactional data are delineated at the appropriate level of aggregation (for example, by instrument type, coupon rate, or repricing characteristic) to ensure that risk measures capture all meaningful types and sources of **IRR** , including those arising from explicit or embedded options.

Aggregation is the process of grouping together assets and liabilities of similar types and cash flow characteristics. The appropriate account stratification can improve the IRR measurement system's efficiency, but it can result in an imprecise measure of IRR.

A typical aggregation would include loans of similar rate, maturity, and type (such as 6 percent, fixed-rate, 30-year residential loans). It would be inappropriate to aggregate 6 percent, fixed-rate loans with 6 percent, adjustable-rate loans.

Thus, the use of aggregation will vary from one credit union to another. Credit unions with less-complex cash flows and a low exposure to IRR may obtain reliable results from its IRR measurement system by aggregating data. A credit union with more complex cash flows or greater IRR exposure should de-emphasize aggregation or at least consider the potential loss of precision from any aggregation and simplification used in its measurement of IRR.

A credit union should ensure that the measurement system allows for a sufficient separation of assets and liabilities with significantly different cash flow patterns. For example, systems that aggregate information based on Call Report data may not provide the granularity necessary for credit unions with significant levels of embedded options. When applicable, a credit union should ensure that its system has the ability to model highly structured instruments and unique products.

A credit union's process of determining how to aggregate assets and liabilities should be transparent, documented, and periodically reviewed. Furthermore, requests for changes to existing groups or new aggregations should be formalized and documented. Credit unions should maintain documentation disclosing the characteristics of aggregated assets and liabilities (including all derivative instruments).

Management should also ensure that all material positions are represented in IRR measures, that the data used are accurate, and that the data adequately reflect all relevant repricing and maturity characteristics. When applicable, data should include information on the contractual coupon rates and cash flows of associated instruments and contracts. Manual adjustments to underlying data should be well documented.

Last updated October 11, 2016

Model Assumptions

Measurement systems should effectively process a number of data elements for **IRR** , including, but not limited to:

- Projected balance sheet volumes
- Prepayment rates for loans and investment securities
- Repricing sensitivity
- **Decay** and **Beta** rates of non-maturity shares
- Projected interest rates
- Discount versus offering rates relationships

> Non-maturity share decay rates and repricing sensitivity (Rate Sensitivity Factors or **Beta**) are commonly the most difficult assumptions that management makes when measuring IRR exposure. These assumptions are critical, particularly in market environments in which member behaviors, may not reflect long-term economic fundamentals, or in which credit unions are subject to more competition for such deposits.

Last updated October 11, 2016

Model Risk

The use of models invariably presents model risk, which is the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports.

The credit union's asset liability model, used to generate **IRR** measurements, is based on simplified algorithms representing the complex interrelationships among a list of variables. **Assumptions** based on past behavior, such as how quickly a credit union will reprice its assets and liabilities given changes in interest rates and competitive forces, may not accurately predict future behavior. Using unreliable assumptions may result in inaccurate estimates of a credit union's risk to earnings and available liquidity.

Model risk increases with model complexity and with higher levels of uncertainty about the validity of inputs and assumptions. Model risk management should be conducted to address these risks. This may include robust model development, a sound model validation process, and an effective governance framework that defines roles and responsibilities for clear communication of model limitations and assumptions. (The **FRB** and **OCC** have issued supervisory guidance on model risk management.)

Workpapers & Resources

- FRB and OCC SR Letter 11-7, Supervisory Guidance on Model Risk Management (April 4, 2011)

Last updated October 11, 2016

Model Governance and Validation

Credit unions should periodically review the accuracy and performance of their **IRR** measurement systems. The frequency and extent to which a credit union reviews its system will depend on the particular IRR exposures on the credit union's balance sheet, interest rate changes, and compliance with internal policies for measuring and managing IRR.

This review should include assessments of all assumptions, parameters, and methodologies used as part of the IRR measurement system. It should also provide an assessment of the IRR measurement system's ability to capture all material components of IRR.

Model validation of IRR measurement methods and assessment of corresponding model risk should be included in a formal policy process that should be reviewed and approved by the board of directors. The policy should specify the management roles and designate who is responsible for the development, implementation, and use of models. In addition, the model oversight responsibilities and policies (including the development of initial and ongoing validation procedures, evaluation of results, approval, version control, exception, escalation, modification, and decommission processes) need to be specified and integrated within the governance processes for model risk management.

An effective validation framework should include three core elements:

1. Evaluation of conceptual/methodological soundness, including developmental evidence
2. Ongoing model monitoring, including process verification
3. Outcomes analysis, including back-testing of key internal assumptions (such as deposit modeling, prepayments, pricing of assets)

Credit unions that rely on external service providers should ensure there is adequate documentation of their use of those models, including any specific customization. If vendors provide input for market data, behavioral assumptions or model settings, the credit union should have a process in place to determine if those inputs are reasonable for the risk characteristics of its portfolio and activities.

This review should be performed by an independent party, which may be an internal or external auditor. Reports should be available to **NCUA** examiners.

Last updated October 11, 2016

Reporting and Documentation

Documentation of, and support for, all significant assumptions, including yield curve rates, spreads, deposit modeling, and **NMS** rates should be maintained and available for examiners to review.

Management should understand and use **IRR** measurement system results in the normal course of business (for example, to make operational decisions about the balance sheet structure, funding, pricing strategies, and business planning). Management should also use the results proactively as a tool to adjust exposure to IRR for changes in interest rate environments (such as when measures show a high level of IRR or when measurement results approach board-approved limits).

Measurement systems should produce summary reports detailing key model assumptions, including a change log identifying the staff member associated with each entry, and all other data input relevant to support the valuations for base and stressed scenarios. Examiners should review a copy of these reports when analyzing a measurement system. It should be noted that the organization of the report outputs, in term of account aggregation, may be different than the level of data input. For example, a fixed-rate mortgage line on a report may require assumptions at each of the types of fixed-rate mortgage as data input into the model.

Most vendor-management systems offer an array of summary reports (such as a chart of accounts and account attribute reports) that aid management in reviewing measurement system assumptions. These reports may also provide information regarding the contractual terms and parameters that have been entered into the system for various account types and products.

Assumption summary reports are an important tool that management and examiners can use to ensure that reasonable assumptions have been entered into the measurement system. The reports can also be useful to examiners when management does not maintain adequate documentation of current assumptions. For example, when assumption summary reports are regularly produced and retained, examiners can compare current assumptions against historical assumption reports.

If a credit union is unable to provide assumption and market data reports, examiners should determine whether the absence of the report is due to measurement system limitations or credit union personnel's lack of familiarity with system reporting. Typically, measurement system user manuals will provide a list of reports that may be generated by the system.

The measurement systems should produce reports to support the IRR strategy for ongoing monitoring and decision making. At a minimum, the system should have reporting capabilities to support:

- Current risk metrics to compare to policy limits
- Summary of key assumptions and data inputs

- All stress-testing results

Last updated October 11, 2016

Risk Management Framework

The **IRR** management framework sets forth strategies and risk tolerances as established in the credit union's policies and procedures that guide the identification, measurement, management, and control of sensitivity to market risk. The framework begins with sound management oversight and covers strategies, policies, risk controls, measurements, reporting responsibilities, and independent review functions.

The organization of the IRR management program should correspond with a credit union's balance sheet complexity and risk profile. Less complex programs may be adequate for credit unions that maintain basic balance sheet structures, have moderate exposure to embedded options, and do not utilize complicated funding or investment strategies. However, all credit unions should clearly document their procedures, and senior management should actively review those policies and procedures on a periodic basis.

More complex portfolios need more formal, detailed IRR management programs. In such cases, management should establish specific controls and produce analyses that address all major risk exposures. Internal controls at complex credit unions should include a more thorough independent review and validation process for the IRR processes used, as well as more rigorous requirements for separation of duties.

Management and the board should understand the IRR implications of the credit union's activities, products, and strategies, while also considering their potential impact on market, liquidity, credit, and operational risks.

NCUA rules and regulations §741.3 (b)(5) and Appendix B outline requirements and provide guidance on developing an effective interest rate risk program. Additional guidance is available in:

- NCUA Letter to Credit Unions 12-CU-05, Interest Rate Risk Policy and Program Requirements (May 2012)
- NCUA Letter to Credit Unions 12-CU-11, Interest Risk Policy and Program Frequently Asked Questions (August 2012)

Last updated October 11, 2016

Management Oversight

A credit union's board of directors and operational management should understand the **IRR** implications of its business activities, products, and strategies.

The board of directors is ultimately responsible for oversight of a credit union and for approving policy, major strategies, and prudent limits regarding IRR. To meet this responsibility, the board should understand the level and nature of the credit union's IRR exposure. Where necessary, the board should consider obtaining professional advice and training to enhance its understanding of IRR oversight.

The board is also responsible for:

- Ensuring that operational management executes the IRR policy effectively
- Assessing how well the IRR policy identifies, measures, monitors, and controls the credit union's IRR exposure of the credit union

A credit union's senior operational management is responsible for the daily management of activities and operations. In order to implement the board's IRR policy, management's responsibilities include, but are not limited to:

- Developing and monitoring appropriate risk limits including the procedures for exceptions and ensuring the compliance with the limits
- Developing and utilizing adequate IRR measurement systems
- Evaluating and understanding the IRR exposure
- Establishing an appropriate system of internal controls
- Allocating sufficient resources for an effective IRR program
- Developing and supporting competent staff with technical expertise commensurate with the IRR policy and procedures
- Identifying the procedures and assumptions involved in implementing the IRR measurement systems
- Establishing clear lines of authority and responsibility for managing IRR
- Providing a sufficient set of reports to ensure compliance with board-approved policies

A credit union's board typically delegates responsibility for establishing specific IRR procedures to a committee comprised of senior managers, credit union staff, and board members. This operational management committee is often referred to as the Asset-Liability Management Committee (**ALCO**). Smaller credit unions with limited staff and resources may delegate ALCO responsibilities to the manager and the board. An ALCO, if

appointed, typically manages the structure of the credit union's balance sheet and is responsible for ensuring that:

- IRR measurement systems accurately reflect the credit union's risk exposure
- Reporting systems adequately communicate relevant information concerning the level and sources of the credit union's exposure

The ALCO may also recommend or implement risk mitigation when necessary.

The ALCO should include representatives from each of the credit union's major functional areas that expose it to IRR (for example, lending and investment departments). Preferably, at least one board member will sit on the ALCO. This improves communication between the ALCO and the board, and increases board members' awareness of the credit union's IRR position. All ALCO members should understand IRR and, as the credit union's balance sheet becomes more complex, they should receive additional IRR training.

Last updated October 11, 2016

Policies and Processes

NCUA rules and regulations Part 741, Appendix B requires all federally insured credit unions with assets greater than $50 million to incorporate the following six elements into their **IRR** program:

1. A board-approved IRR policy
2. Oversight by the board of directors and implementation by management
3. Risk measurement systems assessing the IRR sensitivity of earnings and/or asset and liability values
4. Internal controls to monitor adherence to IRR limits
5. Risk limits
6. Decision making that is informed and guided by IRR measures

IRR Policy

NCUA rules and regulations §741.3(b)(5) requires all federally insured credit unions with assets greater than $50 million to develop and implement a written IRR policy and an effective IRR management program as part of asset-liability management. Appendix B to Part 741 provides guidance on how to develop an IRR policy and an effective IRR program.

The policy should establish responsibilities and procedures for identifying, measuring, monitoring, controlling, and reporting IRR, and establish risk limits. IRR policies and procedures should:

- Identify committees, persons or other parties responsible for review of the credit union's IRR exposure.
- Direct appropriate actions to ensure management takes steps to manage IRR so that IRR exposures are identified, measured, monitored, and controlled.
- State the frequency with which management will report on measurement results to the board to ensure routine review of information that is timely (such as current and at least quarterly) and in sufficient detail to assess the credit union's IRR profile.
- Set risk limits for IRR exposures based on selected measures (such as limits for changes in repricing or duration gaps, income simulation, asset valuation, or net economic value). IRR policy limits should maintain risk exposures within prudent levels.
- Choose tests, such as interest rate shocks, that the credit union will perform using the selected measures.

- Provide for periodic review of material changes in IRR exposures and compliance with board approved policy and risk limits.
- Provide for assessment of the IRR impact of any new business activities prior to implementation (such as evaluating the IRR profile of introducing a new product or service).
- Provide for at least an annual evaluation of policy to determine whether it is still commensurate with the size, complexity, and risk profile of the credit union.

Last updated October 11, 2016

Internal Controls

A credit union's **IRR** management process should be an extension of its overall internal control structure. A properly structured system of internal controls will promote effective and efficient operations, reliable financial and regulatory reporting, and compliance with relevant rules and regulations, and internal policies. Key IRR controls in credit union operations include, but are not limited to:

- Segregation of duties between the risk taker and risk measurer
- Change control for method assumptions
- Process to back-test projected versus actual results
- Validation of measurement system
- Process to ensure IRR exposures are reported to board/senior management
- IRR-related audit findings reported to the board with recommended corrective actions and time frames

An important element of a credit union's internal controls for IRR is management's comprehensive evaluation and review of the various components of the IRR management process. This includes ensuring that personnel are following policies and procedures, as well as ensuring that the policies and procedures accomplish their intended objectives. Such reviews and evaluations should also address any significant change that may impact the effectiveness of controls, and ensure that timely escalation has occurred for any policy limit breaches. Management should ensure that all such reviews and evaluations are conducted regularly by individuals who are independent of the function they are assigned to review. The results of this review, along with any recommendations for improvement, should be reported to senior management and/or the board and acted upon in a timely manner.

Last updated October 11, 2016

Risk Limits

IRR limits should be consistent with the credit union's overall approach to measuring and monitoring IRR and should address the potential impact of changes in market interest rates on earnings and net economic value. The limits for monitoring a credit union's income and **NEV** should be appropriate for the size and complexity of its underlying positions.

The goal of IRR management is to maintain a credit union's IRR exposure within board- and management-approved parameters over a range of possible changes in interest rates. A construct of IRR limits and risk-taking guidelines provides the means for achieving that goal.

IRR limits should also ensure that any violation of a credit union's chosen IRR limits receive prompt management action.

Aggregate IRR limits clearly articulating the amount of IRR acceptable to the credit union should be approved by the board of directors and reevaluated periodically.

Typically, a credit union will use a combination of limits to monitor its IRR exposures. These limits include primary limits on the level of reported earnings at risk and economic value at risk (the amount by which net income and economic value may change for a given interest rate scenario) as well as "secondary" limits.

For earnings-based limits, the approach should be consistent with the methodologies used to monitor the exposure of economic value. IRR limits on earnings volatility primarily address the short-term effects of changing interest rates on the credit union's financial condition. Earnings-at-risk (**EAR**) limits are designed to monitor and control the risk of a credit union's projected earnings using various rate scenarios and assumptions. A limit is usually expressed as a change in projected earnings (in dollars or percent) over a specified time horizon and rate scenario.

IRR limits on economic value are used to monitor the effect of changes in interest rates on the present value of all transactional earnings and cash flows from the credit union's current balance sheet. A credit union's NEV limits should reflect the size and complexity of its underlying positions. Ultimately, NEV policy limits are the prerogative of a credit union's senior management and board of directors and these limits should serve to place meaningful constraints upon the level of exposure consistent with a pre-determined risk tolerance threshold. Thus, a credit union that states it has a low tolerance for IRR exposure would not be expected to permit aggressive (high-risk) limits on their activities or operate with high IRR exposures for an extended period of time.

> If a credit union professes to have a high tolerance for IRR and intentionally adopts high-risk policy limitations to match, the supervisory expectations surrounding their IRR risk management program will rise significantly, and the examiner's surveillance will need to increase with both frequency and depth..

Credit unions can vary significantly with respect to their tolerance for different business risks, and IRR is no exception. The **NCUA** does not have a preferred level of IRR exposure, but rather an expectation that risk management will be scaled commensurate with the risk level that is adopted. The NCUA's risk current risk tolerance thresholds for NEV measures are tied to the level of economic capital so risk exposures are automatically viewed in the context of capital adequacy. Whatever risk tolerance level a credit union adopts in its IRR limits, those limits must be reasonable and supportable from the standpoint of the management, systems, and processes being used to manage the actual exposure.

Generally, when credit unions set internal policy limits on both post-shock NEV and NEV sensitivity measures, they will consider the NCUA's supervisory guidance to understand how the agency characterizes (and rates) IRR exposure. The NCUA has maintained long-held guidance on what constitutes low, moderate, and high levels of IRR expressed for both NEV and earnings at risk; dating back to the early 2000s. These positions were illustrated in a table within a prior version of the **ALM** chapter of the Examiner's Guide and have been familiar to both credit unions and their ALM service providers. By having risk tolerance thresholds explicitly outlined in supervisory guidance, the NCUA gave its examiners a scale for gauging the relative degree of IRR, which aided in the supervisory rating process. Not surprisingly, credit unions tend to establish their respective IRR policy limits on NEV (and EAR) in line with the NCUA's established thresholds for supervisory rating purposes.

Gap (maturity or repricing) limits are designed to reduce the potential exposure to a credit union's earnings or capital from changes in interest rates. The limits control the volume or amount of repricing mismatch in a given time period. These limits often are expressed by the ratio of rate-sensitive assets to rate-sensitive liabilities in a given time period. A ratio greater than one suggests that the credit union is asset-sensitive and has more assets than liabilities subject to repricing. All other factors being constant, the earnings of such a credit union generally will be reduced by falling interest rates.

An **RSA** /**RSL** ratio of less than one means that the credit union is liability-sensitive and that its earnings may be reduced by rising interest rates. Gap ratios may be a useful way to monitor a credit union's repricing exposures, but may not be an adequate nor an effective method of managing and reporting IRR risk.

Last updated October 11, 2016

How IRR Impact a Credit Union's Financial Position

Changes in interest rates impact a credit union's net worth, earnings, and liquidity position by altering its **NII** and the level of other interest-sensitive income and expenses. Nearly all credit unions maintain a maturity mismatch between their assets and liabilities as their business requires them to intermediate funds between members who are savers and those who are borrowers. The fact that the risk associated with their source of funds (liabilities) is different than the risk associated with their use of funds (assets) makes **IRR** relevant for any significant rate move, in either direction.

If rates rise significantly, credit unions experience a rising cost of funds and an extension in the average life of their assets. If rates fall significantly, they experience a falling cost of funds but also experience maturity calls and principal prepayments on investments and loans which creates unwelcome reinvestment risk. This incidental mismatch is both a source of income and a source of risk.

Changes in interest rates also impact the underlying economic value of the credit union's assets and liabilities. These changes occur because the present value of future cash flows, and in many cases the cash flows themselves, change when interest rates change, which alters future earnings and the credit union's underlying economic value.

Last updated October 11, 2016

Net Worth and Economic Value

Net worth represents the credit union's equity, and provides the credit union protection from unexpected losses and a foundation for future strategic initiatives/growth. As market interest rates change, the economic value (base valuation at current interest rates) of a credit union's assets and liabilities will change, which, in turn, will impact a credit union's level of net worth.

The sensitivity of a credit union's economic value to changes in interest rates is an important concept when assessing its net worth adequacy. A credit union with higher **IRR** may experience a significant decline in net worth levels over time, in response to adverse changes in interest rates.

Credit unions with higher IRR exposure must hold additional net worth to provide a larger margin for potential reductions in economic value and earnings.

Last updated October 11, 2016

Interest Rate Risk > Impact on Credit Union Financial Position > Earnings (Net Interest Income)

Earnings (Net Interest Income)

Earnings represent a credit union's overall net income, and the largest source of earnings typically comes from **NII** , which is highly sensitive to interest rate changes. As credit unions adjust their rates on loan and share products in conjunction with market interest rate changes, the impact of those changes vary by product. For example, for regular shares, the impact may occur overnight, while for longer-term mortgage loans, the impact will occur incrementally over an extended period of time, which can strain NII.

High earnings can be the result of successfully executed strategic plans. However, it is also possible for a credit union to record high earnings in the short term by assuming an unacceptable degree of **IRR** , which could negatively impact future earnings, given adverse changes in market interest rates.

Last updated October 11, 2016

Liquidity

Liquidity represents a credit union's ability to meet share withdrawals and other operational demands (expenses and liability payments) and to fund assets (originate loans and purchase investments). Credit unions should maintain adequate liquidity to manage both expected and unexpected cash flows from changes in interest rates without adversely affecting either short-term liquidity needs or the financial condition of the credit union.

A credit union's primary source of funds is member shares. For many credit unions, evaluating how shares will behave under changing interest rates is a very important issue in analyzing **IRR** .

Another liquidity source, investments, is impacted by changes in market interest rates. In the event of an adverse change in interest rates, the value of these assets will be lower than their book value. If a credit union needed to sell the investments to generate liquidity, it may incur a loss, reducing net income.

Workpapers & Resources

- **NCUA** Letter to Credit Unions 01-CU-08, Liability Management - Highly Rate-Sensitive & Volatile Funding Sources (July, 2001)

Last updated October 11, 2016

Mitigation Strategies

A risk mitigation strategy, by definition, is taking steps to reduce the risk (the severity of the impact and/or probability of the occurrence). A credit union should have at least a general plan for how it would systematically reduce an adverse **IRR** exposure that goes beyond its established risk tolerance threshold.

A credit union can take a number of actions to mitigate its IRR exposure. The appropriate action will depend upon the level and source of the exposure. High and extreme measures of IRR elevate the degree of potential urgency with which a credit union may need to act.

Proactive strategies to de-risk (such as to sell assets or enter hedge transactions) may be necessary when risk levels are excessive or otherwise outside of risk tolerance limits. Passive strategies (for example, letting riskier assets roll off the books by letting them mature and reinvesting proceeds in less risky instruments) can be acceptable when the time horizon for de-risking in this manner occurs within a relatively short time period.

An effective risk management program will include a systematic and timely approach to dealing with IRR measures that fall outside of policy. A credit union should avoid a "wait-and-see" strategy when holding excessive levels of IRR on its balance sheet. Losses can quickly accumulate if rates rapidly change and, at that point, reducing the risk becomes considerably more costly. Given this possibility, credit unions should be vigilant in generating **NII** and **NEV** simulations with sufficient frequency to identify adverse exposures and they must be adequately and properly prepared to incur the loss of necessary risk reduction when identified. Risk mitigation is most effective when it is integrated into the credit union's formal discipline of measuring, monitoring and managing IRR.

Active Mitigation Strategies

Active mitigation strategies are typically necessary when a credit union has experienced a significant change in its portfolio holdings and it determines that it has an unsafe level of IRR exposure as a result. A credit union in this position should consider the sources of its risk exposure, the time it would realistically need to reduce or unwind unfavorable risk positions, and management's willingness to recognize losses in order to restructure its risk profile.

Each credit union has its own individual risk profile, tolerance for risk exposure and policy limits. A credit union's respective risk tolerance notwithstanding, if NEV measurements are low, declining, or even negative, or if income simulations indicate unsafe reductions in earnings, management should be prepared to take the necessary steps to bring risk within acceptable levels timely. A lack of action by credit union management when unsafe exposure to IRR is evident may indicate a failure in risk governance.

Active strategies to restructure the balance sheet could include the sale of assets that are primarily contributing most to IRR (longer duration assets), reinvesting the proceeds in shorter duration loans and investments (including variable-rate products), and

lengthening liability durations (such as term borrowings, **CD** programs, or interest rate derivative hedging). This strategy may include product pricing that incentivizes member movement to the desired product.

Another active strategy for credit unions with the appropriate expertise, is the use of interest rate derivative instruments. Generally, credit unions will use derivative instruments as a hedge to mitigate IRR, and help protect earnings and net worth under potential interest rate changes.

Passive Mitigation Strategies

Passive mitigation strategies include reinvesting regularly scheduled cash flows from loan amortizations and investment maturities into shorter-term loans and investments (including variable-rate instruments). These strategies are intended to reduce the overall IRR exposure periodically (for example, quarterly). Passive strategies are more appropriate when a credit union has a demonstrably strong risk management platform, is highly familiar with its risk exposures, and has a clear alternative strategy if the urgency of its risk exposure increases significantly before the passive approach has succeeded.

Last updated October 11, 2016

IRR Exam Procedures

The **NCUA** has developed comprehensive materials to help examiners evaluate credit unions' **IRR** exposure:

- IRR Exam Procedures workbook (.xls)
- Guide to Using NCUA's IRR Exam Procedures workbook (pdf)

Last updated October 11, 2016

A. Market Risk (MR)

Complete the "G" - NEV Supervisory Test to see what questions are included in your Exam Scope

	Review Steps		Exam Scope Level No Review Required	Results of Review

1.) Supervisory Test Results (Source: NEV Supervisory Test)

		Review Step	Exam Scope	Results of Review
a)	**Data Source:**	Complete the Supervisory Test and indicate source (See Tab for "G" NEV Supervisory Test).	Optional Step	**IRR Data Source:** **Credit Union IRR Report**
b)	**NEV Test**	Post-Shock +300bps NEV Ratio Measure — *Risk Level*: <=2% Extreme; 2% - 4% High; 4% - 7% Mod; >7% Low	Optional Step	*Extreme* 0.00% *NEV Sup Test Results*
		OR		OR
c)	**NEV Sensitivity**	NEV +300bps Sensitivity Measure — *Risk Level*: >=85% Extreme; 65% - 85% High; 40% - 65% Mod; < 40% Low		*Low* 0.00% *NEV Sup Test Results*
d)	**Final NEV Supervisory Test Risk Level**	The final NEV Supervisory Test Risk level is the most unfavorable risk level from the two NEV measurements in Market Risk 1b and 1c above. Sourced from NEV Supervisory Test tab "G".		*Extreme* *NEV Sup Test Results*

2.) Verification of Supervisory Test Results (Using the NEV Supervisory Test)

		Review Step	Exam Scope	Results of Review
a)	**Book to Base**	Attribute the variance from Book values (Assets minus Liabs, not NWR) to the Base NEV without consideration to the underlying assumptions and pricing methodologies. Identify the account groups that are contributing to the Premium or Discount using the CU IRR Report. *(e.g. if Loans are the primary group contributing to the change, what sub-account(s) of loans are the largest contributor(s))(AFS securities and Derivatives should have little impact from book to base given the accounting requirement for Fair Value)*	Optional Step	*Book Ratio* 0.00% *Base Ratio* 0.00% *Change* 0.00% **Assets Contribution to change:** 0.00% **Products:** Loans 0.00% Invest 0.00% **Liab Contribution to change:** 0.00% **Products:** NMS 0.00% Non-NMS 0.00%
b)	**Base to Shock**	Attribute the variance from base values to the shocked NEV without consideration to the underlying assumptions and pricing methodologies. Identify the account groups that are contributing to the premium or discount using the CU IRR Report. *(e.g. if Loans are the primary group contributing to the change, what sub-account(s) of loans are the largest contributor(s)).*	Optional Step	*Base Ratio* 0.00% *Shocked Ratio* 0.00% *Change* 0.00% **Assets Contribution to change:** 0.00% **Products:** Loans 0.00% Invest 0.00% **Liab Contribution to change:** 0.00% **Products:** NMS 0.00% Non-NMS 0.00%
c)	**Asset Review**	Determine the reasonableness of the material asset categories price or value changes (% movement) for Base and Shock using the CU IRR report. Are Asset valuations, durations and sensitivity measures reasonable, supportable and observable? *The analytics to the right are the changes in values from book-to-base and base-to-shock, however, examiners should review the valuations that support these changes.*	Optional Step	see table below
d)	**Funding Review**	Determine the reasonableness of the material contractual liability categories (e.g. CDs, borrowings and derivatives) price or value changes (% movement) for Base and Shock using the CU IRR report. Are the valuations, durations and sensitivity measures reasonable, supportable and observable? *The analytics to the right are the changes in values from book-to-base and base-to-shock, however, examiners should review the valuations that support these changes.*	Optional Step	see table below
e)	**Account Aggregation and Data Completeness**	Are the account aggregations for risk assessment suitable for consistent risk characteristics and is there a documented reconciliation of the data in the ALM model vs the call report and general ledger?	Optional Step	
f)		How does the Supervisory Test NEV and NEV Sensitivity metrics compare to the		Base NEV / Shock NEV / NEV Change

Asset Group	% of Assets	Base Δ	Shock Δ
CCE	0.00%	0.00%	0.00%
Loans	0.00%	0.00%	0.00%
Investments	0.00%	0.00%	0.00%
Other	0.00%	0.00%	0.00%
Total	**0.00%**	**0.00%**	**0.00%**

Liab Group	% of Liabs	Base Δ	Shock Δ
NMS	0.00%	0.00%	0.00%
Certificates	0.00%	0.00%	0.00%
Borrowings	0.00%	0.00%	0.00%
Other	0.00%	0.00%	0.00%
Total	**0.00%**	**0.00%**	**0.00%**

Base NEV	Shock NEV	NEV Change

A. Market Risk (MR)

Analysis	credit union NEV results. *The difference between the two measurements will be the valuations assigned to NMS. Describe the base and shock difference and how the difference contribute to the differences in NEV.*

Optional Step

Complete the "G" - NEV Supervisory Test to see

CU Results	0.00%	0.00%	0.00%
NEV Sup Test	0.00%	**0.00%**	**0.00%**
Difference	***0.00%***	***0.00%***	***0.00%***

Interest Rate Risk Indicators				
	Low	**Moderate**	**High**	**Extreme**
Market Risk	• Balance sheet valuations and interest rate sensitivities indicate there is a minimal (low) IRR exposure. • The level of net worth provides substantial support for the degree of IRR exposure taken by the CU. • Accounts are well stratified and appropriate settings to support valuations for IRR reporting.	• Balance sheet valuations and interest rate sensitivities indicate there is a moderate IRR exposure. • The level of net worth provides adequate support for the degree of IRR exposure taken by the CU. • Accounts are adequately stratified with material accounts detailed using appropriate settings to support valuations and sensitivities for IRR reporting.	• Balance sheet valuations and interest rate sensitivities indicate there is a significant (high) IRR exposure. • The level of net worth may not be or is inadequate to support the level of IRR exposure taken by the CU. • Accounts do not adequately stratify the material balances of the balance sheet nor are the setting appropriate to support the valuations for IRR reporting.	• Balance sheet valuations and interest rate sensitivities indicate a extreme potential thet the capital position will be adversely affected. • The level of net worth may not or is inadequate to support the level of IRR taken by the CU. • Accounts do not adequately stratify the material balances of the balance sheet nor are the setting appropriate to support the valuations for IRR reporting.

MR Score	Complete NEV Sup Test

B. Earnings at Risk (EAR) and Other IRR Measurements

Complete the "G" - NEV Supervisory Test to see what questions are included in your Exam Scope

	Review Steps		Exam Scope Level / No Review Required	Results of Review
1.) Earnings at Risk Results				
a)	**Base Simulation Results**	How do the Base Case results compare to the credit union's actual performance? How do the projected interest income levels and earnings metrics (NII, NIM) compare to results historically achieved by the credit union? If management uses other means to measure the earnings risk exposure, explain the credit union's approach and how the results compare to the results historically achieved by the credit union.	**Optional Step**	
b)	**Shocked Simulation Results**	How do the Shocked results compare to Policy limits? Compare the earnings simulation NII/NIM levels of base case to the shocked scenarios and review the results to determine if reasonable and supportable.	**Optional Step**	
2.) Earnings at Risk Verification				
a)	**EAR Results Assets**	Evaluate if the interest income generated by the material asset account categories are reasonable for base case and shocked scenarios relative to the credit union's current and historic levels. Evaluate the material assumptions used to generate interest income (e.g. prepay speeds, maturity distribution, key rates, spreads).	**Optional Step**	
b)	**EAR Results Liabilities**	Evaluate if the interest expense generated by the material liability account categories are reasonable for base case and shocked scenarios relative to the credit union's current and historic levels? Evaluate the material assumptions used to generate interest expense (e.g. RSF/Beta, decay, repricing lags, maturity distribution, key rates, spreads).	**Optional Step**	
c)	**EAR Scenarios**	Identify what balance sheet scenario (e.g. time horizon, static, dynamic) the credit union uses to generate earnings simulations and are EAR simulations run under parallel rate shock or ramp scenarios? If ramp scenarios, how long to reach maximum rate change (e.g. 12 months, 24 months)?	**Optional Step**	
d)	**Assumption Changes**	If management changed any assumptions since the last examination what were the changes, what was the impact of those changes, and how did management support the changes?	**Optional Step**	

Interest Rate Risk Indicators

	Low	Moderate	High
EAR and Other IRR	• Measurements and scenarios supporting the income simulations result in a minimal exposure to earnings volatility. • Methodologies and assumptions are appropriate and supportable.	• Measurements and scenarios supporting the income simulations result in a moderate exposure to earnings volatility. • Methodologies and assumptions require some enhancements, but still provide reasonable reliability as a supportable risk measure.	• Measurements and scenarios supporting the income simulations result in a high exposure to earnings volatility. • Methodologies and assumptions are not adequate and contain material weaknesses that undermine the reliability of the EAR results. The process is not commensurate with the size and complexity of the CU portfolios.

EAR Score	

C. Stress Testing (ST)

Complete the "G" - NEV Supervisory Test to see what questions are included in your Exam Scope

Review Steps			Exam Scope Level No Review Required	Results of Review
1.) Stress Testing				
a)	**Rate Scenarios**	What are the interest rate (e.g. changing slopes and twist of the yield curve), and shocked rate scenarios (e.g. severe but plausible rate shocks relative to existing level of rates), the CU uses to evaluate the IRR exposure of the balance sheet? Specify the frequency of testing. Is the frequency of testing sufficient? *For Baseline II review, does the credit union conduct interest rate stress testing, if so, describe and determine if commensurate with the size and complexity of the balance sheet?*	**Optional Step**	
b)	**Sensitivity Testing**	What assumptions has management determined to influence the model output most (RSF/Beta, Lag, Decay, Prepays)? Has the credit union performed sensitivity analysis to identify what degree of change in these assumptions cause model results to fall outside of management's risk tolerance level? Specify the frequency of testing. Is the frequency of testing sufficient? *For Baseline II review, does the credit union conduct sensitivity stress testing, if so, describe and determine if commensurate with the size and complexity of the balance sheet?*	**Optional Step**	
c)	**Limit Monitor-ing**	Does management evaluate stress tests that fall outside of policy limits? How relevant are these stress tests to the credit union and, what has management done to address stress tests that fall outside of limit? Are they discussed and reported to the board and/or ALCO?	**Optional Step**	

	Interest Rate Risk Indicators		
	Low	**Moderate**	**High**
Stress Testing	• The credit union produces a wide range of alternative interest rate scenarios consistent with the size and complexity of the CU portfolios. • Sensitivity analysis is an integral component of IRR management. Management has a strong understanding of the key drivers of risk in their balance sheet. They are fully aware of how results compare to policy limits and they utilize test results to guide management decisions.	• The credit union produces an alternative interest rate scenarios consistent with the size and complexity of the CU portfolios. • Management uses sensitivity analysis to quantify modeling risk and they have a basic understanding of key risks. Policy limits are taken into consideration and information is reviewed on a regular basis.	• Stress testing analysis is not sufficiently dynamic to capture plausible events and risk outcomes adequately. • Management does not have a good understanding of stress-testing discipline or key drivers of risk. They have a weak understanding of how the underlying assumptions affect results or how the analysis relates to policy limits and are not using test results to guide risk decisions.

ST Score	

D. Measurement Systems (MS)

Complete the **"G" - NEV Supervisory Test** to see what questions are included in your Exam Scope

	Review Steps		Exam Scope Level No Review Required	Results of Review
1.) ALM Vendor Model				
a)	**Model Capability**	Is the ALM model sufficient in its level of depth and capability to adequately capture the complexity and magnitude of the interest rate and liquidity risks being taken? (i.e. Is the ALM model an appropriate fit for the credit union's asset/liabilities product types and characteristics?)	**Optional Step**	
b)	**Model Validation**	Has the ALM model been validated by the credit union (i.e., mathematical integrity, user inputs, system output and reports, etc.) to confirm that the model produces accurate forecasts of earnings and valuations? If so, what documentation is available to support the validation?	**Optional Step**	
c)	**Assump-tions and inputs**	What are the credit union's procedures for assessing inputs and outputs for accuracy and relevancy? If the credit union relies on a model validation to complete this task, under what instances will the credit union verify accuracy and relevancy when periodic changes in the assumptions are made? What are the assumptions in the credit union's written Assumption Summary?	**Optional Step**	
d)	**Controls**	Is the internal control process comprehensive enough to ensure the accuracy and completeness of the data inputs and assumptions?	**Optional Step**	
e)	**Changes**	Were there any significant changes to the model or functionality since last exam?	**Optional Step**	

	Interest Rate Risk Indicators		
	Low	**Moderate**	**High**
Measurement Systems	• Measurement systems support the accounts, methods and assumptions under defined and reasonable rate scenarios. • Management completes an independent model validation periodically to assess data integrity and the reasonableness of assumptions. The mechanics and mathematics of the measurement model were tested.	• Measurement systems adequately support the accounts, methods and assumptions under defined and reasonable rate scenarios. • Management has reasonable oversight practices and adequate processes to confirm the integrity of modeling analysis. Validation practices could include constructing an identical model to test assumptions and outcomes.	• Measurement systems do not support the accounts, methods and assumptions under defined and reasonable rate scenarios. • The depth and extent of model validation processes is not commensurate with the materiality and complexity of risk exposure.

MS Score	

E. Risk Management (RM)

Complete the **"G" - NEV Supervisory Test** to see what questions are included in your Exam Scope

		Review Steps	Exam Scope Level No Review Required	Results of Review
1.) Board and Senior Management Oversight				
a)	**BOD/ALCO Meetings**	What IRR information does the BOD and ALCO receive that demonstrates oversight of the IRR limits and policies? Are meeting minutes prepared and do they reflect the decisions made and discussions held?	**Optional Step**	
b)	**Policies & Procedures**	Who has the primary responsibility for IRR policies and does senior management or ALCO ensure that all policies and procedures are being monitored and are sufficient to identify risks?	**Optional Step**	
c)	**IRR Triggers & Tools**	What triggers does management use to identify when IRR exposure is approaching or exceeding limits? What strategies and tools (e.g. balance sheet changes, derivatives, sales) are considered in managing IRR exposure within policy limits?	**Optional Step**	
2.) Risk Monitoring and Management Reporting				
a)	**Policy Limits**	What policy IRR limits does the CU use for management reporting purposes? Are the limits suitable for the size and potential risk exposures of the CU? Has there been any changes to the IRR Policy since the last exam and what was the basis of the changes?	**Optional Step**	
b)	**Policy Limits Violations**	Were there any violations to the IRR limits since the last exam, what was the violation and what remedial action was taken in moving the risk back within limits?	**Optional Step**	
c)	**Process Validation**	Does the CU obtain an independent validation of the IRR measurement process and assumptions that generate the IRR reporting? Did management implement the recommendations?	**Optional Step**	
d)	**Reporting**	How often do they generate IRR results and report them to ALCO and the BOD (with explicit IRR measurements against limits) and the comparative analysis on changes from period to period?	**Optional Step**	
e)	**Policies and Planning**	Is the CU budget forecasting consistent with the IRR risk limits? How does modeling the credit union's budget compare to the IRR limits?	**Optional Step**	
f)	**Planning and Backtest**	How does the credit union's NII backtest compare to actual results?	**Optional Step**	
g)	**Business Forecast**	Are there any future events forecasted by the credit union that may have a material impact on the balance sheet structure (e.g., new loan, share, or investment strategies, merger, aggressive growth strategy) and what interest rate risk analysis (e.g. What-if) was done to support the proposed changes?	**Optional Step**	
h)	**Qualified Staff**	Is staff capable of managing the IRR program including having the experience and capability to support the IRR modeling and reporting?	**Optional Step**	
i)	**Internal Controls**	Are the internal controls documented and approved (Governance by who?) and has a review of IRR internal controls highlighted any deficiencies? Are the staff responsible for inputs/assumptions independent from other major functions(e.g. Accounting, cash operations) in the CU?	**Optional Step**	
j)	**BSRM**	How does management consider the impact that other risks such as credit, liquidity, strategic, and operational may have on IRR?	**Optional Step**	

E. Risk Management (RM)

Complete the "G" - NEV Supervisory Test to see

RM Score	

	Interest Rate Risk Indicators		
	Low	**Moderate**	**High**
Risk Management	• Management effectively understands and is regularly informed about the level and trends of their IRR exposure.	• Management reasonably understands implications of the IRR strategies they pursue, including their potential impact on IRR exposure.	• Management does not understand or ignores key aspects of IRR. Regular reporting of key risk indicators is not taking place.
	• Comprehensive IRR management governance of policies and procedures are in place. Policies specify IRR tolerances in the context of plausible stressed market rate scenario and other performance metrics.	• Policies and procedures are adequate to control all material components of IRR. Policies ensure the IRR implications of significant new strategies, products and businesses are integrated into IRR management process.	• IRR tolerances are not clearly articulated. Policies do not address the potential impact of changing interest rates on earnings and capital from a short-term and a long-term perspective.
	• There is complete separation from those who measure risk and those who make risk-taking decisions. Internal audit regularly reviews the IRR process.	• There is reasonable separation from those who measure risk and those who make risk-taking decisions. Management has implemented appropriate oversight practices where enhanced separation of duties is not possible.	• There is a lack of separation between risk measuring and risk-taking. Internal reviews do not cover any aspect of the IRR management program.
	• Management clearly defines income simulation and NEV risk limits under an appropriate range of plausible stressed market rate scenarios.	• Risk Limits are adequate to control the risk to earnings and NEV under defined stressed market rate scenarios.	• IRR limits are not reasonable or do not reflect an understanding of the risks to earnings and NEV.
	• Effective reporting of IRR exists. Comprehensive systems and standards for measuring IRR, valuing positions, and assessing performance are in place. Accurate, complete, and reliable. The board receives reports on the credit union's IRR profile on a regular basis. The frequency and detail of reporting is commensurate with the size and complexity of the balance sheet.	• Adequate reporting of IRR exists. Material components of IRR are measured and results are reported. Reports are generally accurate, complete and reliable. The reports to the board are timely, and concisely summarize IRR measurement results.	• IRR monitoring and reporting are inadequate. Current measurement techniques do not capture all material risks
	• Management anticipates and responds to market conditions effectively.	• Management adequately responds to changing market conditions.	• Management does not anticipate or take timely and appropriate actions in response to changing market conditions.
	• Knowledge of interest rate risk is well understood at appropriate levels of the credit union and risk information is proactively used in the decision making process and clearly documented on a continual basis.	• Knowledge of interest rate exists at appropriate levels of the credit union. Risk information is reviewed on a regular basis by senior management and discussions are documented.	• Knowledge of interest rate risk may be limited to too few individuals and risk information is only generated for compliance purposes and is not well documented or used to guide decision making.

F. Overall IRR Rating

1.) Section IRR Scores

Section	Market Risk	EAR and Other IRR	Stress Testing	Measurement Systems	Risk Management
Score	Complete NEV Sup Tes				

2.) IRR Overall Rating ....

Use this space for Overall Summary for Scope Module

NEV Supervisory Test

Data in USD Thousands for Asset/Liab

	Credit Union Data	NEV Supervisory Test
CU Data		
Credit Union Name		0
Credit Union Charter Number		0
Region		0
Vendor Name		
(If Other - Input Name)		
Measurement Date (Use Drop Down)		

Asset Data

	Credit Union Book ($ in thousands)	Credit Union Base ($ in thousands)	Credit Union Up 300 ($ in thousands)	% Changes Book vs Base	% Changes Base vs 300	% Changes Book vs 300	NEV Credit Union Book ($ in thousands)	NEV Credit Union Base ($ in thousands)	NEV Credit Union Up 300 ($ in thousands)	NEV % Changes Book vs Base	NEV % Changes Base vs 300	NEV % Changes Book vs 300
ASSETS												
Cash & Cash Equivalents (C&CE)				0.00%	0.00%	0.00%	-	-	-	0.00%	0.00%	0.00%
Loans				0.00%	0.00%	0.00%	-	-	-	0.00%	0.00%	0.00%
Investments				0.00%	0.00%	0.00%	-	-	-	0.00%	0.00%	0.00%
All Other Assets				0.00%	0.00%	0.00%	-	-	-	0.00%	0.00%	0.00%
Total Assets	-	-	-	0.00%	0.00%	0.00%	-	-	-	0.00%	0.00%	0.00%
C&CE (%)	0.00%	0.00%	0.00%				0.00%	0.00%	0.00%			
Loans (%)	0.00%	0.00%	0.00%				0.00%	0.00%	0.00%			
Investments (%)	0.00%	0.00%	0.00%				0.00%	0.00%	0.00%			
All Other Assets (%)	0.00%	0.00%	0.00%				0.00%	0.00%	0.00%			
Total Asset Eff Duration (+300) (DUR)									0.00			
Estimate of Effective Duration(+300)			0.00						0.00			

Liability Data

	Credit Union Book ($ in thousands)	Credit Union Base ($ in thousands)	Credit Union Up 300 ($ in thousands)	% Changes Book vs Base	% Changes Base vs 300	% Changes Book vs 300	NEV Credit Union Book ($ in thousands)	NEV Credit Union Base ($ in thousands)	NEV Credit Union Up 300 ($ in thousands)	NEV % Changes Book vs Base	NEV % Changes Base vs 300	NEV % Changes Book vs 300
Liabilities												
Share Drafts				0.00%	0.00%	0.00%	-	-	-	0.00%	0.00%	0.00%
Reg Shares				0.00%	0.00%	0.00%	-	-	-	0.00%	0.00%	0.00%
MMA				0.00%	0.00%	0.00%	-	-	-	0.00%	0.00%	0.00%
Total NMS Shares	-	-	-	*0.00%*	*0.00%*	*0.00%*	-	-	-	*0.00%*	*0.00%*	*0.00%*
Certificates (See Comment)				0.00%	0.00%	0.00%	-	-	-	0.00%	0.00%	0.00%
Borrowings				0.00%	0.00%	0.00%	-	-	-	0.00%	0.00%	0.00%
Other Liabilities				0.00%	0.00%	0.00%	-	-	-	0.00%	0.00%	0.00%
Total Liabilities	-	-	-	*0.00%*	*0.00%*	*0.00%*	-	-	-	*0.00%*	*0.00%*	*0.00%*
NMS Supervisory Premium								-1.0%	-4.0%			
Share Drafts of Liabs (%)	0.00%	0.00%	0.00%				0.00%	0.00%	0.00%			
Reg Shares of Liabs (%)	0.00%	0.00%	0.00%				0.00%	0.00%	0.00%			
MMA of Liabs (%)	0.00%	0.00%	0.00%				0.00%	0.00%	0.00%			
Total NMS Shares to Liabs (%)	*0.00%*	*0.00%*	*0.00%*				*0.00%*	*0.00%*	*0.00%*			
Certificates of Liabs (%)	0.00%	0.00%	0.00%				0.00%	0.00%	0.00%			
Borrowings of Liabs (%)	0.00%	0.00%	0.00%				0.00%	0.00%	0.00%			
Other Liabs of Liabs (%)	0.00%	0.00%	0.00%				0.00%	0.00%	0.00%			
Total Liab Eff Duration (+300) (DUR)									0.00			
Estimate of Effective Duration (+300)			0.00						0.00			

NEV Ratio Drivers

	Credit Union Base	Credit Union Up 300	NEV Base	NEV Up 300
Cash	0.00%	0.00%	0.00%	0.00%
Loans	0.00%	0.00%	0.00%	0.00%
Investments	0.00%	0.00%	0.00%	0.00%
Other Assets	0.00%	0.00%	0.00%	0.00%
Total Assets	0.00%	0.00%	0.00%	0.00%
Total NMS Accounts	0.00%	0.00%	0.00%	0.00%
Total Non-NMS Accounts	0.00%	0.00%	0.00%	0.00%
Total Liabilities	0.00%	0.00%	0.00%	0.00%
Net Ratio Attribution	0.00%	0.00%	0.00%	0.00%

NEV Stats

	Credit Union Book	Credit Union Base	Credit Union Up 300	NEV Book	NEV Base	NEV Up 300	Risk Level
Estimated DUR Mismatch (+300)			0.00			0.00	
Estimated DUR Gap (+300)			0.00			0.00	
CU NEV $ (Book / Base / +300)	-	-	-	-	-	-	
CU NEV Ratio (Book / Base / +300)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	Extreme
CU Net Worth Ratio				0.00%			
CU NEV IRR Sensitivity			0.00%			0.00%	Low
Final NEV Supervisory Test Risk Level							Extreme

IRR NEV Risk Levels			
Extreme	High	Moderate	Low
<=2%	2% - 4%	4% - 7%	>7%
>=-85%	-65% - -85%	-40% - -65%	< -40%

Asset and Liability Category Matrix*

Assets	
Cash & Cash Equivalents (C&CE)	- Cash - Fed Funds Sold - If investments with original maturity of 90 days or less are reported, otherwise report in Investments
Loans	- All Loans including ALLL (Total balance will be net of All loss provisions)
Investments	- All Investments excluding what is reported in CCE
Other Assets	- All Other assets not recorded in prior categories to equal Total Assets - Gain(Loss) associated with Derivatives if hedging Assets (fair Value hedge)
Reported Effective DUR (+300)	- Record the CU =+300 total asset Effective Duration

Liabilities	
Share Drafts	- Checking accounts (i.e., high yield checking, club checking, honors checking, advantage checking, privilege checking, etc.) - Non-interest bearing accounts - Non-interest bearing deposits (NIB deposits) - Demand deposits accounts (DDA) - Business sweep accounts - Business accounts (i.e., business checking)
Regular Shares	- Regular shares - Share account - IRA (i.e., IRA only, IRA savings, IRA shares, IRA Roth) - Wealth builder account - Health savings accounts (HAS) - Saving accounts - Short durations saving accounts (i.e., club savings, summer holiday savings, etc.) · Escrow accounts - Deferred compensation - Custodial shares
MMA (Money Market Accounts)	- Money market shares - MMA (i.e., investment plus accounts and value plus money market) - Deferred compensation money market
Certificates	- Certificate of deposits (CDs – 6 month, 1 year, 2 year, etc.) - Time deposits - Non-member deposits - Rate builders (i.e., 60 months, other terms) - IRA certificates (i.e., 6 month, 1 year, 2 year, etc.)
Borrowings	- Borrowings - Notes payable - Advances - Affiliate deposits - FHLB (type of advanced / borrowing) - Loan participations sold
Other Liabilities	- Other liabilities - Gain(loss) associated with derivative instruments if hedging liabilities (cashflow hedge) or All Derivatives can be entered here - Interest payables - Non-interest bearing current liability (NIBCL)
Reported Effective DUR (+300)	- Record the CU =+300 total Liability Effective Duration
CU NW %	- Credit Union Net Worth Ratio as of Report Date

*Detailed products were grouped on the basis of similar IRR sensitivities

Guide to Using NCUA's Interest Rate Risk (IRR) Examination Procedures Workbook

NCUA has developed this comprehensive guide to provide examiners and credit union staff detailed information about each step in the IRR review process.

(October 2016)

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Focus and Scope of IRR Examination

A review of a credit union's IRR exposure has long been part of NCUA's supervision. Results of this evaluation are reflected in the Liquidity/Asset-Liability Management (or "L") component of a credit union's CAMEL rating.

IRR is assessed as part of supervision of all federally insured credit unions, both in the Risk-Focused Examination (RFE) program and the Small Credit Union Examination Program (SCUEP). The scope of the IRR review is scaled to the credit union's asset size and, in some cases, the results of the NEV Supervisory Test.[1]

NCUA's process for evaluating IRR requires examiners to consider a number of quantitative and qualitative factors, including:

- Results of the NEV Supervisory Test and an assessment of the valuations assigned to accounts supporting NEV
- Income simulations performed by the credit union, including analysis of underlying assumptions, scenarios, and results of those simulations
- Stress testing performed by the credit union, including analysis of rate scenarios, and sensitivity testing
- IRR measurement systems, including the capability of the model, model validation, assumptions and inputs, controls, and changes to the model
- IRR management, such as board and asset/liability committee (ALCO) oversight, policies and procedures, policy limits, mitigation strategies, reporting, back-testing, forecasting, staff qualifications, and internal controls

IRR Risk Category Review Focus

The focus of the IRR review is to determine an overall rating for a credit union's interest rate risk. IRR is one of seven discreet supervisory risks that are systematically evaluated during an examination. The final IRR assessment is then evaluated in conjunction with the other supervisory risks, in what is termed the total analysis process, to conclude on the need for examination findings and/or to assign CAMEL component ratings. *Figure 1* below illustrates how the seven supervisory risk categories, including IRR, provide source input for examiners to reach overall conclusions about key risks in the institution.

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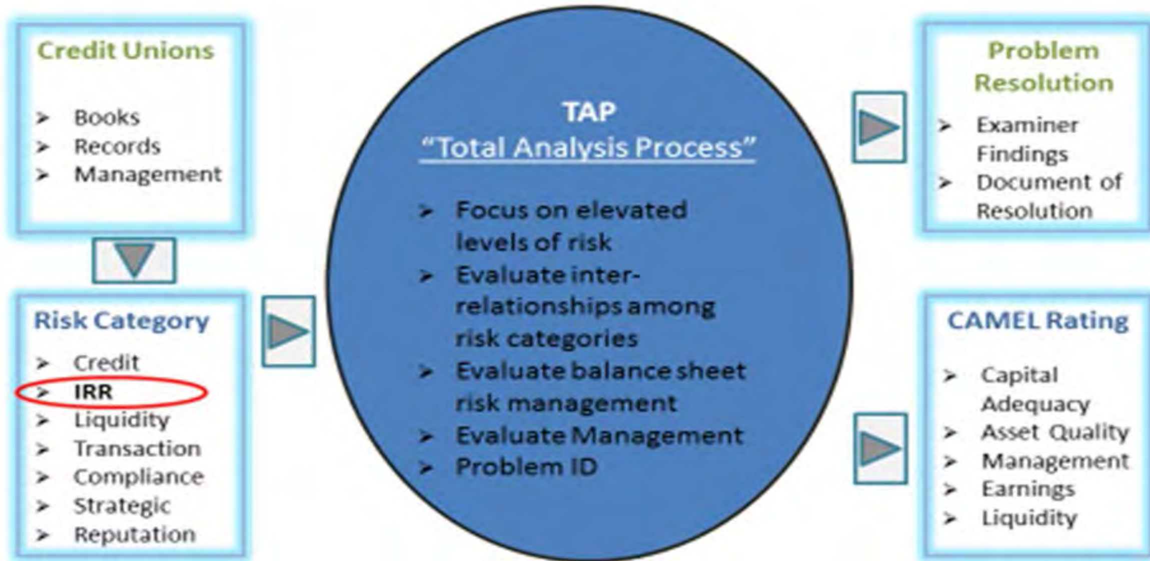
[1] Net economic value (NEV) is the present value of assets minus the present value of liabilities along with off-balance sheet items such as derivatives. It is a tool that can measure the changes in the economic value of net worth caused by changes in interest rates.

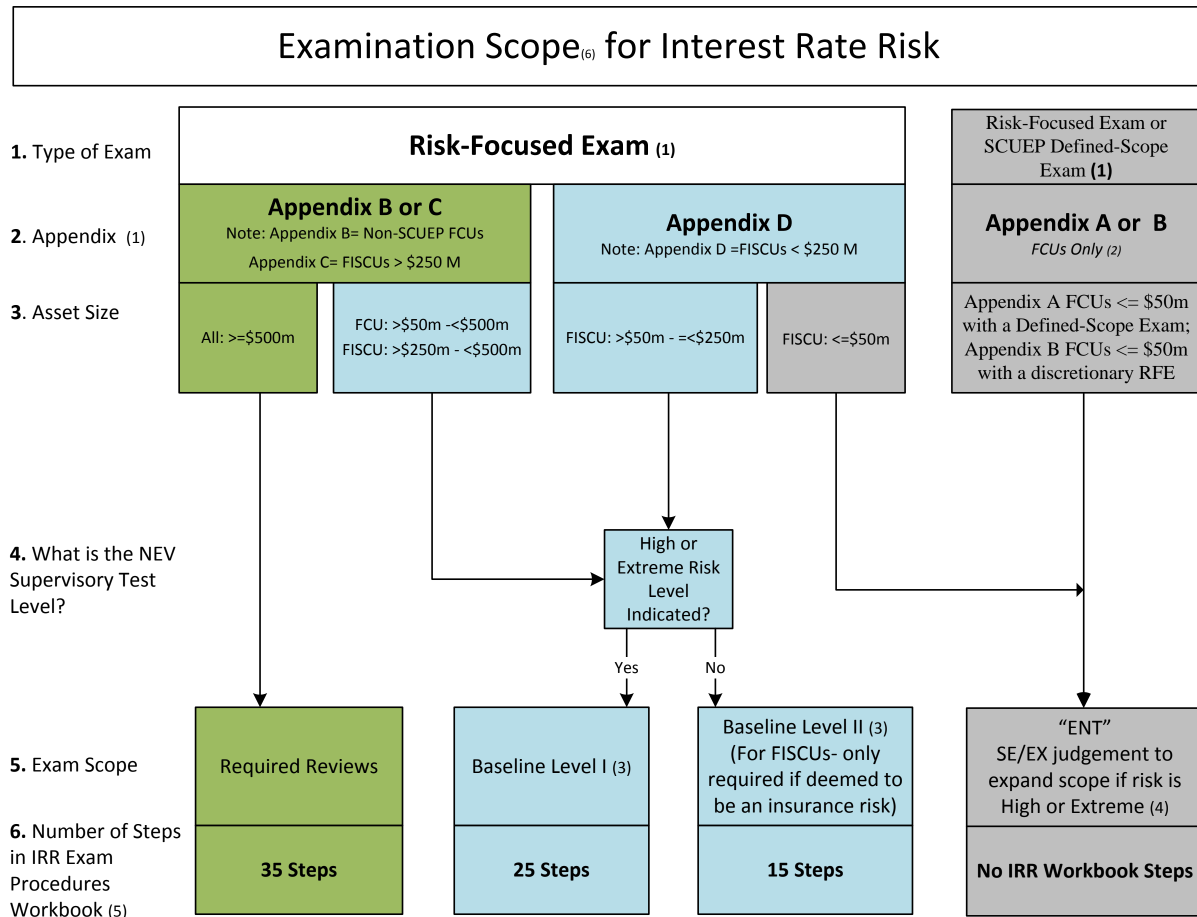
FIGURE 1. TOTAL ANALYSIS PROCESS INCORPORATING ALL RISKS



IRR Exam Scope

The exam scope of an IRR review uses a credit union's total asset size and the verified level of balance sheet risk as measured by the NEV Supervisory Test. Scope procedures are scaled up or down depending on the risk level result of the NEV Supervisory Test. The examination scope is outlined in the *Figure 2*, which is designed to help determine the appropriate examination scope.

FIGURE 2. EXAMINATION SCOPE FOR IRR



Determining the Scope of the IRR Review

Examiners will make the following determinations when setting the appropriate scope of the IRR review.

1. **Type of Exam**

   Examiners will determine which type of examination to conduct: risk-focused examination (RFE) or defined scope examination (such as SCUEP). NCUA Instruction 5000.20 sets forth the criteria used to determine if a credit union will receive an RFE or SCUEP exam. Each NCUA Regional Office has discretion in selecting a RFE or SCUEP exam for credit unions with total assets between $30 and $50 million.

2. **Applicable Instruction Appendix**

   NCUA Instruction 5000.20 includes a series of appendices that outline the required, baseline, and optional review areas for the different types and sizes of credit unions. For SCUEP defined-scope examinations, all identified review areas are required. Based on the type of credit union being examined, examiners will refer to the appropriate appendix to determine what review areas are required to be performed.

3. **Credit Union's Asset Size (for RFEs only)**

   The credit union's asset size (usually determined by the last Call Report) will be used to determine this scope step.

4. **NEV Supervisory Test Risk Level**

   The results of the NEV Supervisory Test are another important factor in determining the scope of the IRR review. If the credit union's total assets range between $50 million and $500 million and the result of the NEV Supervisory Test result is high or extreme, examiners will complete more review steps than if the NEV Supervisory Test result rating is moderate or low.

5. **Exam Scope**

   Based on the outcomes of the four previous scope determinations, examiners will identify the appropriate IRR exam scope. Credit unions with total assets of $500 million or more will be subject to *all* procedures in the *IRR Exam Procedures Workbook* (35 steps for the first exam cycle after implementation). Examiners performing an RFE of a credit union with assets less than $500 million will perform either Baseline Level I (25 steps) or Baseline Level II (15 steps). Examiners can refer to the *IRR Exam Procedures Workbook* for detailed guidance for completing Baseline I and II review steps.

6. Number of Steps to Complete

Once the appropriate exam scope has been identified, examiners perform the required number of review steps. This will be re-assessed after at least one exam cycle has been completed.

- For credit unions with total assets of $500 million or more, the examiner will complete the full 35 steps.
- For all other RFEs, the results of the NEV Supervisory Test will determine whether the examiner completes 25 steps (Baseline Level 1), 15 steps (Baseline Level II), or no steps.
- For SCUEP exams or credit unions with total assets of $50 million or less, examiners have discretion regarding whether to perform review steps, subject to supervisor approval, and can rely solely upon the Estimated NEV Tool (ENT) to assign the IRR rating. Where IRR is determined to be a high or extreme based on the ENT results, the examiner should seek concurrence from their supervisor (as outlined in NCUA Instruction 5000.20) to expand the scope. The number of steps completed should be appropriate to the level of risk identified and the time allotted for review.

Organization of the IRR Examination Workbook

The *IRR Examination Workbook* is organized into nine sections. Each section appears on a separate tab in the workbook.

- Tab A: *Market Risk* (includes instructions for Tab G)
- Tab B: *Earnings at Risk*
- Tab C: *Stress Testing*
- Tab D: *Measurement Systems*
- Tab E: *Risk Management*
- Tab F: *Overall IRR Rating*
- Tab G: *NEV Supervisory Test* (See comments in Tab A section)
- Tab H: *Category Matrix* (See comments in Tab A section)
- Tab I: *Examiner Worksheet* (See comments in Tab A section)

Tabs A through E include review steps that are designed to help the examiner evaluate the major components of a credit union's IRR management program in a systematic way. These five sections focus on the key aspects of the credit union's IRR exposure, measurements, and

management. Completing the steps in each tab results in an individual section score; these components are then evaluated collectively to make an overall IRR rating of low, moderate, or high. This overall risk rating is documented in Tab F: *Overall IRR Rating*, which uses the "Market Risk" rating as a floor for the final rating. Tabs G and H are further described and incorporated into the Tab A section below. Tab I is an available worksheet for examiners to aggregate data or calculations to support the NEV Supervisory Test.

The content included in this guide describes the general focus and approach to be used by examiners when performing the steps in tabs A through F. This content includes detailed explanation of relevant factors. It serves as a guide for the examiner through major considerations that will influence how the tabs are rated and how the overall IRR rating should be made.

Tab A: *Market Risk*

The *Market Risk* tab serves as the primary quantitative assessment of a credit union's level of market risk exposure and utilizes the NEV Supervisory Test as the quantification measure. The NEV Supervisory Test provides a basis for the degree to which changes in market interest rates can adversely affect a credit union's economic value.

The NEV Supervisory Test uses asset and liability values from the credit union's NEV report to generate results for review. The reliability of the NEV Supervisory Test results is a function of how reliable the model inputs are, so examiners must assess the credit union's valuation process before accepting the data. Credit unions should use and document appropriate assumptions, based on available data (for example, using observed market values where possible), when valuing individual or groups of assets and liabilities.

With one exception, the NEV Supervisory Test utilizes the credit union's values for assets and liabilities. It uses prescribed, standardized valuations for non-maturity shares (NMS) in both the "base" and "shock" scenarios, which are built into the model.

Why Use NEV to Measure IRR?

The NEV Supervisory Test uses NEV as the analytical measure for evaluating the quantitative level of IRR in a credit union's balance sheet. NEV scenario analysis measures the effect of changing interest rates on the economic value of net worth by capturing the net valuation changes for all interest bearing assets and liabilities as measured for base case and shocked scenarios. As NEV is a present value calculation, it is a single point-in-time measure of a static balance sheet. It includes all cash flows, meaning it incorporates every payment for the entire life of each asset and liability. This makes NEV useful in capturing long-term risk of outlying cash flows, especially those with embedded options, in a way that most earnings-at-risk measures do not.

The review steps included in Tab A are designed to help examiners a) gauge the inherent degree of market risk present on the credit union's balance sheet and b) understand the sources of balance sheet risk exhibited in the NEV Supervisory Test results. Examiners will review the credit union's valuations for assets and liabilities for reasonableness and supportability, and will seek to identify and understand elements of the balance sheet that contribute to the overall IRR position.

By completing the review steps in Tab A, the examiner will verify the credit union's NEV evaluation and conclude on the reasonableness and supportability of the material asset and liability valuations. The *Market Risk* tab is broken into two sections containing ten total review steps.

- Section I: NEV Supervisory Test Results
- Section II: Verification of NEV Supervisory Test Results
- Scoring Guidelines

Section I: NEV Supervisory Test Results

- Step A: *Data Source*
- Step B: *NEV Test Results*
- Step C: *NEV Sensitivity Results*
- Step D: *Final NEV Supervisory Test Level*

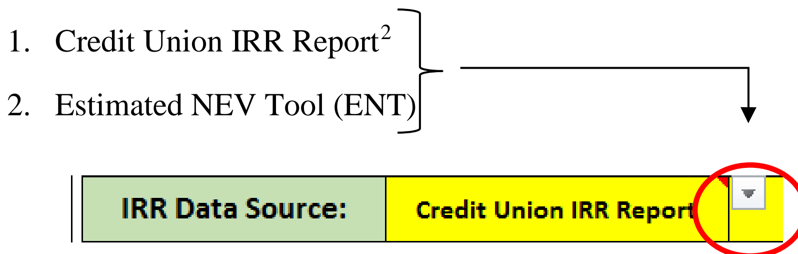
Step A: *Data Source*

a)	**Data Source:**	Complete the Supervisory Test and indicate source (See Tab for "G" NEV Supervisory Test).

The examiner must determine the source of data for the NEV Supervisory Test before beginning the IRR review. It must be completed to establish a review scope for credit unions with total assets between $50 million and $500 million.

There are two options for the data source:

1. Credit Union IRR Report[2]
2. Estimated NEV Tool (ENT)



NOTE: If, at any time, the examiner switches the data source from IRR Report to the ENT tool (for example, because they conclude that data available from the credit union's IRR Report has material deficiencies and is unreliable), the examiner must go back to Tab A and change the dropdown selection to "Estimated NEV Tool" dropdown. The examiner will receive a warning

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[2] Also referred to as the ALM model reports or ALM report.

that the previous input (sourced from the credit union's IRR report) will be deleted (lost) and replaced with the ENT data.

Source: Credit Union IRR Report

A credit union's IRR report data should be the same source the credit union uses for reporting its compliance with IRR limits. Examiners will input the asset and liability values for the book, base,[3] and +300 basis points (bps) in thousands, as indicated in the yellow cells of Tab G: NEV Supervisory Test. (See *Figure 3*.)

Examiners will input the reported effective duration[4] (+300 bps) for total assets and liabilities and the credit union's net worth ratio in the required highlighted cells. The effective duration calculations do not impact the results of the NEV Supervisory Test and are for information purposes only. However, examiners should familiarize themselves with the duration measures, compare the model input to the estimated calculation, and consider if it appears reasonable. (**NOTE:** If the credit union's IRR model report does not include effective durations, leave the fields blank.)

> Tab H: *Asset and Liability Category Matrix* provides additional guidance on how to group asset and liability accounts.

Examiners will compare total assets and total liabilities for book, base, and shocked NEV values in the NEV Supervisory Test table against a) the credit union's IRR model report or b) the Estimated NEV Tool sourced from the Exam.xls sheet for book balances to ensure all data has been captured accurately in the template. **The reliability of the NEV Supervisory Test is dependent on accurate transcription of the data.**

The critical reconciliation points in the NEV Supervisory Test template that must be checked for book, base, and shocked data are as follows:[5]

1. Total assets
2. Total non-maturity share accounts
   (The sum of the three respective categories as grouped using Tab H: Category Matrix; see *Figure 4*.)
3. Total liabilities
4. Book ratio
   (A calculation of assets minus liabilities. Generally, the Book NEV Ratio should not be

[3] The base case is the starting point from which shock scenarios are compared to for NEV Sensitivity.
[4] Further discussion on Duration can be found in the IRR chapter of the Examiners Guide.
[5] These six items are also cross referenced in *Figure 3*.

significantly different from the Net Worth Ratio, as reported on the credit union's Call Report or Financial Performance Report (FPR).)

5. Base NEV and shocked NEV ratios
   (Differences of a few of basis points are reasonable if there are only small differences in the data input.)

6. NEV ratio sensitivity to a shock

If the data from the credit union's IRR report needs to be manually subtotaled for input in the NEV Supervisory Test template in Tab G, examiners should use Tab I: *Examiner Worksheet* to support the template inputs.

Important: Examiners should verify that they are using values from an instantaneous, parallel, and sustained +300 bps shock scenario and not, for example, values from a ramped or alternative yield curve scenario. Using other scenarios will yield incomparable results that do not correspond to NCUA's specified risk classifications for NEV.

FIGURE 3. ASSET, LIABILITY, AND NEV INPUTS (FROM TAB G: NEV SUPERVISORY TEST)

		Credit Union		
		Book ($ in thousands)	Base ($ in thousands)	Up 300 ($ in thousands)
Asset Data	**ASSETS**			
	Cash & Cash Equivalents	76.5	76.5	76.5
	Loans	1,847.4	1,846.4	1,692.1
	Investments	160.2	160.2	145.0
	All Other Assets	87.0	87.0	87.0
	Total Assets	**2,171.1**	**2,170.1**	**2,000.6** (1)
Liability Data	**Liabilities**			
	Share Drafts	318.0	285.0	251.2
	Reg Shares	345.2	325.8	301.1
	MMA	645.8	628.0	613.0
	Total NMS Shares	*1,309.0*	*1,238.8*	*1,165.3* (2)
	Certificates	416.6	419.4	405.5
	IRA/Keough Certs	39.7	40.1	38.0
	Borrowings	148.8	148.0	139.5
	Other Liabilities	18.1	18.1	18.1
	Total Liabilities	***1,932.2***	***1,864.4***	***1,766.4*** (3)
NEV Stats	CU NEV $ (Book / Base / +300)	238.94	305.73	234.20
	CU NEV Ratio (Book / Base / +300) (4)	**11.01%**	**14.09%**	**11.71%** (6)
	CU Net Worth Ratio	**11.03%**	(5)	
	CU NEV IRR Sensitivity			**-23.40%**