Regulatory Bulletin
RB 32-15

Handbook: **Thrift Activities**
Subject: **Various Sections**

Thrift Activities Regulatory Handbook Update

Summary: This bulletin provides updates to the following Thrift Activities Regulatory Handbook Sections: 110, Capital Stock and Ownership, and 530, Cash Flow and Liquidity Management. Please replace the existing handbook sections with the enclosed revised sections. This bulletin also provides an update to the Interest Rate Risk Management section. Please remove existing section 520 and insert new section 650.

For Further Information Contact: Your Office of Thrift Supervision (OTS) Regional Office or the Supervision Policy Division of the OTS, Washington, DC. You may access this bulletin at our web site: www.ots.treas.gov. If you wish to purchase a handbook and a subscription to the updates, please contact the OTS Order Department at (301) 645-6264.

Regulatory Bulletin 32-15

SUMMARY OF CHANGES

OTS is issuing updates to the following Thrift Activities Handbook Sections. Change bars in the margins of Handbook Section 110 indicate revisions. We restructured Handbook Sections 530 and 650 so we did not include change bars. We provide a summary of all substantive changes to the handbook sections in the listing below. These handbook sections are in plain language to comply with the President's June 1, 1998, memorandum "Plain Language in Government Writing."

OTS is also issuing three new tabs. Please follow the enclosed instructions for insertion into your Handbook.

110 Capital Stock and Ownership

Common Stock: Adds heading and information on rights of ownership of common stock.

Preferred Stock: Adds new section.

Mutual Holding Companies: Adds heading and additional information.

Subchapter S Corporations: Adds new section.

Supervisory Conversion: Adds information regarding BIF-insured mutual savings banks.

Merger Conversions: Adds OTS limitation on merger conversions.

Beneficial Ownership Reports: Annual Statement of Changes in Beneficial Ownership (Form 5): Adds new information.

Review of Exchange Act and Securities Offering Filings; Regulatory Procedures: Moves this section to new Appendix B.

Contributed Capital: Adds information on OTS policy.

Reporting of Stock Loans: Removes section because Congress removed the statutory requirement.

Capital Distributions: Adds information regarding the revised capital distribution regulation.

Subchapter S Distributions: Adds new information on distributions by a Subchapter S Corporation.

Employee Stock Ownership Plans; Regulatory Restrictions and Issues; Transactions with Affiliates: Revises this section.

Employee Stock Ownership Plans; Accounting: Adds new information on accounting guidance. Adds subsections on accounting for leveraged ESOPs and nonleveraged ESOPs.

References: Adds Part 563, Subpart E, and SOP No. 93-6.

Program: Updates No. 4 and adds new procedures 5 through 8 on S Corporations. Omits former No. 16.

Appendix B: Adds Washington and Regional Processing of Exchange Act Filings.

530 **Cash Flow and Liquidity Management**

In addition to the changes listed below, we reorganized the structure of this handbook section.

Funds Management Perspective: Separates and condenses text previously included under the deleted heading "Asset/Liability Perspective."

Management's Responsibilities: Shortens title and condenses text from deleted heading "Management's Responsibilities in Liquidity Management."

Cash Flow: Adds title.

Customers' Role in Liquidity Management: Condenses text from four paragraphs to one.

Assets and Liquidity; Measurement: Deletes former first paragraph and part of second paragraph.

Maturity and Duration: Condenses text.

Credit Risk: Condenses text.

Prepayments: Deletes former Table 4.

Liabilities and Liquidity; Measurement: Deletes former first and third paragraphs, and updates current Table 6.

Borrowed Money: Deletes all but one paragraph; deletes former Table 6; carries forward from the deleted subsection "Management Considerations," a listing and explanation of some types of financing that savings associations may use to generate cash flow and manage liquidity.

Federal Home Loan Bank (FHLB) Membership and Liquidity Concerns: New section, incorporates TB 66.

Liquid Asset Requirements: Updates based on regulatory changes; adds reference to Appendix A.

Troubled Institutions: New section.

Program: Revises procedures five and eleven to reflect current policies.

Appendix A, Liquidity Regulation – Interpretive Guidance: New section contains guidance from previous "Additional Guidance" subsection.

650 **Interest Rate Risk Management**

Restructured pursuant to TB 13a.

-Scott M. Albinson
Managing Director, Supervision

Enclosures

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Department of the Treasury

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November 18, 1999

TO THE RECIPIENTS OF THE OTS THRIFT ACTIVITIES HANDBOOK:

Please use the following instructions to file the revised sections and new tabs:

Volume I

Remove the existing Table of Contents (TOC) and insert the revised TOC behind the Contents tab.

Remove existing section 110, Capital Stock and Ownership, and insert revised section 110.

Remove existing section 253, Real Estate Held for Investment. We incorporated Section 253 into Section 230, Equity Investments, issued in June 1999.

Volume II

Remove the Liquidity/ALM tab and insert the new **Liquidity tab.**

Remove existing section 520, Interest Rate Risk Management.

Remove existing section 530 and insert revised section 530, **Cash Flow and Liquidity Management.**

Insert the new **Sensitivity to Market Risk tab** behind section 580.

Insert revised section 650, **Interest Rate Risk Management,** behind the Sensitivity tab.

Remove the Related Organizations tab and insert the new **Other Activities tab.** We will issue revised Related Organizations sections in the near future that will be filed behind the Other Activities tab.

Remove the Bulletins tab and contents. We will not reissue this section.

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INTRODUCTION

This Section of the Handbook presents basic information concerning stock organization. This section provides guidance in the following areas:

- Types of capital stock.
- Conversions from mutual to stock organization.
- Securities and Exchange Commission (SEC) reporting requirements.
- Insider stock trading.
- Change in control.
- Divestiture of control.
- Contributed capital.
- Capital distributions.
- Employee stock ownership plans (ESOPs).

The Section assists in identifying controlling interests in a savings association and in determining the appropriate allocation and exercise of control.

CAPITAL STOCK

Capital stock consists of stock certificates issued to investors (stockholders) as evidence of their ownership interest in the savings association. One or more individuals or any business entity such as a partnership, a trust, or a corporation may own the stock.

Common Stock

Common stock represents all the basic rights of ownership. Common stockholders exercise their basic rights in proportion to the shares owned. These rights include the following:

- The right to vote for the directors.
- The right to share in dividends declared by the board of directors.
- The right to share in the distribution of cash or other assets, after payment of creditors, in the event of liquidation of the savings association.

Savings associations may value capital stock on their books at a stated par value. A savings association will assign a nominal par value if the stock does not have a par value. Savings associations account for amounts paid in excess of the par value as additional paid-in capital.

The market value of shares does not coincide with par values. The market price reflects many factors, including the following:

- Overall economic conditions.
- Financial health of the savings association.
- Liquidity of the stock.
- Competition.
- Dividend policies.
- Growth potential.
- Market saturation in financial institution issues (supply and demand).

A savings association may list its shares on an organized exchange, or trade them over the counter (OTC). A savings association may act as its own registrar and transfer agent. If the savings association has 500 or more stockholders, the savings association must adhere to the SEC regulations when performing transfer agent functions.

Among the records a stock savings association must maintain is a (registrar's) list of stockholders. The list should include the following information:

- Name of holder.

- Address.
- Number of shares owned.
- Date acquired.
- Certificate number(s) held.
- Amount and type of dividend paid each stockholder.

It is important to promptly record transfers of shares to new owners. Savings associations, periodically, should reconcile the stockholder ledger with the general ledger control account and the stock certificate book.

Preferred Stock

Preferred stock carries certain preferences, such as a prior claim on dividends, over common stock. Often preferred stock conveys no voting rights, or only limited voting rights, to the holders. The articles of incorporation (charter) govern special rights of a preferred stock issue. The chartering authority may also regulate stockholders' rights.

Whether preferred stock is includable in regulatory or generally accepted accounting principles (GAAP) capital depends on its permanence as a funding source. The status of preferred stock as part of capital also depends on whether a savings association is subject to the Securities Act of 1933 and the Securities Exchange Act of 1934. Like common stockholders, preferred stockholders have basic ownership rights and do not have priority over creditors in the event of liquidation.

Although forms of permanent perpetual preferred stock exist, other preferred stock contains defined redemption terms and consequently it is not as permanent or long-term a funding source as common stock.

OTS regulation §563c. 102 states that savings associations subject to the Securities Act of 1933 and the Securities Exchange Act of 1934 may not include subordinated debt securities or mandatorily redeemable preferred stock in equity.

Savings associations not subject to federal securities laws financial report requirements may make financial reports using Thrift Financial Report (TFR) instructions and rely on OTS capital regulations. Under 12 CFR Part 567 (Capital), savings associations include noncumulative perpetual preferred stock in core capital (§567.5(a)(1)(ii)). Savings associations include cumulative perpetual preferred stock in supplemental capital (§567.5(b)(1)(i)). Supplemental capital also may include certain redeemable preferred stock and subordinated debt issued under OTS regulations and memoranda. Eligibility for such instruments to qualify as part of regulatory capital depends on the timing of the redemption and other contractual characteristics. See 12 CFR § 563.81, Issuance of subordinated debt securities and mandatorily redeemable preferred stock.

Mutual Holding Companies

The Mutual Holding Company regulation implements §10(o) of the Home Owners' Loan Act (HOLA). Part 575 authorizes a mutual holding company to engage in capital raising activities. A mutual holding company may pledge or issue up to 49.9 percent of its post-reorganization stock to persons other than the mutual holding company.

Effective April 1, 1998, OTS adopted amendments to Part 575 (Mutual Holding Companies) that expand the authority of a mutual holding company (MHC). A MHC now may create a new subsidiary stock holding company (SHC) that would exist between the MHC and its savings association in a three-tier corporate structure. The SHC, like a stock savings association subsidiary, must issue at least a majority of its shares to the MHC and could issue up to 49.9 percent of its shares to the public. The SHC must own 100 percent of the shares of the savings association subsidiary.

Dividends

At the formation of a mutual holding company, OTS imposes conditions designed to protect the interests of the mutual owners. Mutual holding companies may request OTS approval to waive receipt of dividends declared by a subsidiary savings association. OTS may approve dividend waiver requests by a MHC after supervisory and legal review. OTS must determine that the waiver of dividends by the MHC is not detrimental to the

safe and sound operation of the savings association. Any waivers of dividends by MHCs must be in accordance with the fiduciary responsibilities of the directors of the MHC. While a MHC controls a savings association the dollar amount of dividends waived by the MHC is a restriction on the retained earnings of the savings association. The amount of any dividend waived by the MHC shall be available for distribution as a dividend solely to the MHC.

If the MHC subsequently converts to a stock holding company, an adjustment to lower the percentage of ownership otherwise applicable to the minority stockholders is necessary. This adjustment reflects the benefit the minority stockholders received due to previous dividend waivers by the MHC.

In addition, the saving association must consider the amount of any waived dividend as having been paid in evaluating any proposed dividend under 12 CFR Part 563, Subpart E - Capital Distributions and 12 CFR Part 565 - Prompt Corrective Action. Circumstances related to waived dividends may require financial statement disclosure by the savings association.

Subchapter S Corporations

Subchapter S corporations generally receive pass-through tax treatment for federal income tax purposes. The Small Business Job Protection Act of 1996 made changes to the Internal Revenue Code that allows financial institutions, and their parent holding companies to elect Subchapter S Corporation status under the Code. The savings association must meet the following criteria:

- Shareholders may only be individuals, certain estates, and trusts.
- There may be no more than 75 shareholders and they must all consent to the election of S Corporation status.
- There must be only one class of stock.
- Must use (or convert to) the specific charge-off method in accounting for bad debts for tax purposes.
- Must use a calendar year, unless IRS grants permission to use some other year.

A Subchapter S holding company may wholly (but not partially) own a savings association that is a Subchapter S Corporation. Thus holding companies and their wholly owned depository institution subsidiaries are both eligible for S Corporation status.

Savings associations may voluntarily or involuntarily lose their S Corporation status. Although there is no penalty or direct tax for a termination, either a voluntary or involuntary loss may have adverse effects on a savings association's capital. For example, revocations may adversely affect an association, because the association may need to re-establish deferred tax accounts, which may reduce capital.

Ability to Raise Capital

If an S Corporation needs to raise capital, its initial efforts will often focus on selling additional common stock to its existing stockholders to preserve its tax status. If existing stockholders are unable or unwilling to properly capitalize the thrift, the institution will normally offer to sell common stock to Subchapter S eligible investors who consent to the tax election. The institution should seek to limit the increase in the number of its stockholders to stay within the 75-shareholder limit for S Corporation.

S Corporation stockholders customarily sign shareholder agreements that prevent them from selling stock or otherwise transferring their stock to ineligible stockholders. These agreements typically require a shareholder who wishes to sell stock to first offer the shares to the other existing stockholders before offering the shares to any other party. As a prerequisite to purchasing an S Corporation's stock, a new investor must agree to sign the shareholder agreement.

If the institution cannot successfully increase its capital through these means, it may pursue other potential investors who may cause the institution to lose its Subchapter S election. Alternatively, the institution may have to issue a second class of stock that will result in an involuntary termination of its election. In either case, the institution would

not incur any tax penalties because of its return to C Corporation status. Therefore, an institution's tax status as an S Corporation does not prevent it from raising additional capital.

STOCK CONVERSION

For mutual savings associations, conversion to stock form is the avenue available to raise capital in the equity market.

To facilitate the conversion process, management may contract for the services of attorneys, accountants, appraisers, and conversion managers who have conversion experience. Savings associations record conversion sales proceeds after deduction of conversion expenses. In smaller offerings, conversion expenses may amount to as much as ten percent of the equity raised.

Following is a description of various types of conversions. See Part 563b for additional information.

Standard Conversion

A standard conversion offers a funding source for healthy savings associations. In this form, eligible account holders receive nontransferable, pro-rated subscription rights to purchase the stock of the converting savings association before the public offering. Savings associations sell shares of the converting institution not purchased by persons with subscription rights either in a public offering through an underwriter or by the savings association in a direct community offering.

Submission of a conversion plan according to § 563b.3 is the first requirement before effecting a standard conversion. The resulting savings association must be in compliance with the capital standards of Part 567. The accounting used for acquiring assets and liabilities in a standard conversion is generally historical cost of the acquired savings association (pooling-of-interest accounting).

Supervisory Conversion

A supervisory conversion permits savings associations that fail to meet specified capital levels to raise additional capital without government assistance. The resulting savings association must be a viable entity under § 563b.26(b).

Any SAIF-insured savings association that is significantly undercapitalized will qualify for a supervisory conversion unless OTS determines otherwise. OTS may permit, on a case-by-case basis, an undercapitalized savings association to undertake a supervisory conversion if the savings association can demonstrate that a standard conversion is not feasible. Any BIF-insured mutual savings bank may qualify for voluntary supervisory conversion provided OTS concurs in a certification given by FDIC in accordance with 12 USC 1464(0)(2)(c).

A savings association may accomplish a supervisory conversion through a nonpublic offering (that is, the sale of the savings association's securities issued in the conversion directly to a person or persons).

A majority of the board of directors of the converting savings association must adopt a plan of supervisory conversion that is in accordance with Part 563b. The members of the savings association shall have no rights of approval or participation in the conversion or rights to the continuance of any legal or beneficial ownership interest in the converted savings association.

Merger Conversions

A merger conversion occurs when an existing stock institution or holding company acquires a converting mutual savings association. The converting mutual exchanges its stock for stock of the acquiror. OTS limits merger conversions to cases involving financially weak savings associations. OTS will also consider requests for waivers from this general policy for very small institutions, such as those with assets under $25 million.

Stock Organization

Section 552.2-l outlines the process for organizing a federal stock savings association. Stock organization means that management decisions are subject to shareholder vote and scrutiny. Stock savings associations must hold annual meetings of shareholders subject to regulatory requirements. These requirements appear in § 552.6 or

applicable state law and/or § 14 of the Securities Exchange Act of 1934 (Exchange Act). Savings associations that convert to stock form face increased public disclosure requirements in becoming a public reporting company under that act.

REVIEW OF EXCHANGE ACT AND SECURITIES OFFERING FILINGS

Under § 12(i) of the Exchange Act, OTS has the powers, functions and duties vested in the SEC to administer and enforce several sections of the Exchange Act for savings associations. The applicable sections are §§ 12, 13, 14(a), 14(c), 14(d), 14(f), and 16. For this purpose, OTS is the securities disclosure oversight regulator for all Home Owners' Loan Act (HOLA) federal charters (both SAIF and BIF members). In addition, OTS is the securities disclosure oversight regulator for state-chartered savings association SAIF members. The FDIC is the comparable regulator for all BIF-insured, state-chartered savings banks.

Approximately 136 savings associations have a class of equity securities registered under the Exchange Act. They are, therefore, subject to Exchange Act periodic reporting requirements and rules governing a wide range of activities. Such activities include proxy solicitations; tender offers; and the acquisition of securities by officers, directors, and significant shareholders. In addition, savings associations that engage in public offerings of securities generally must file an offering circular with OTS. OTS declares the offering circular effective under the requirements of OTS securities offerings regulations for savings associations. These regulations include 12 CFR Parts 563b, 563d, and 563g.

The Business Transactions Division (BTD) of the Office of Chief Counsel and the Accounting Policy Division (APD) of the Office of Supervision review Exchange Act and securities offering filings of savings associations for compliance with the Exchange Act and OTS regulations. The applicable OTS regulations are 12 CFR Parts 563b, 563d, and 563g.

The regional offices are responsible for timely review of filings of savings associations and holding companies for information of supervisory concern. Regional staff should alert Washington to disclosure problems noted during these reviews. For a more detailed discussion of the Washington and Regional Processing of Exchange Act Filings, refer to Appendix B.

Filing Requirements

Controlling persons, such as savings association directors and officers, are potentially liable in connection with their savings association's reports. Directors and officers should ensure accurate filings. This duty to evaluate the completeness and accuracy of reports applies to directors and responsible management officials whether or not they sign the report.

Savings Associations

Section 563d. 1 applies Exchange Act rules, regulations, and forms to securities issued by savings associations. As a result, savings associations with a class of equity securities registered under § 12 of the Exchange Act must file various periodic reports with both Washington and the appropriate regional office.

Failure to file timely and accurate Exchange Act reports is a violation of the federal securities laws and applicable OTS regulations. Violations may subject a savings association and its officers, directors, and other related persons to sanctions. These sanctions include:

- Civil suit.
- Cease-and-desist order.
- Civil money penalties.
- Supervisory agreement.

If you note any apparent violations of the Exchange Act filing requirements, report your findings to Washington and the regional accountant without discussing the apparent violations with the savings association. It is very important that any apparent violations of filing requirements be brought to the attention of Washington to ensure uniform interpretation and enforcement of Ex-

change Act regulations. BTD or APD will contact the savings association and OTS Enforcement, if necessary.

A savings association may become subject to reporting obligations under the Exchange Act in one of four ways:

- Section 12(b) of the Exchange Act requires the registering of any class of a savings association's securities registered on a national securities exchange.

- Exchange Act rules generally require that each savings association with 500 or more shareholders and $5 million or more in assets register its equity securities under the Exchange Act. Savings associations may satisfy this requirement by filing Form 10 with OTS. Also, savings associations may register securities not otherwise requiring registration by filing Form 10 with OTS.

- Section 563b.3(c)(19)(i) generally requires savings associations converting from the mutual to the stock to register the class of securities issued in the conversion under the Exchange Act. Savings associations may not deregister such securities for three years.

- Each savings association, not otherwise required to report under the Exchange Act, has special responsibilities relating to offering circulars filed with BTD. If BTD declares an offering circular effective pursuant to Part 563g, savings associations must make filings pursuant to § 563g.18 with OTS. Savings associations must make these filings for at least the first year during which the offering circular becomes effective. These filings consist of periodic and current reports on Forms 10-K, 10-Q, 10 KSB, 10 QSB, and 8-K as Section 13 of the Exchange Act may require. The duty to file reports under § 563g.18 is automatically suspended for any fiscal year under the following condition:

  — If at the beginning of the fiscal year, (other than the fiscal year the offering circular became effective) the securities of each class to which the offering circular relates are held of record by less than 300 persons.

In addition, § 563g.2 provides that no savings association shall offer or sell any security unless the offer or sale includes an effective offering circular. Part 563g provides for the declaration of effectiveness of offering circulars. In certain circumstances an exemption from filing requirements is available. Savings associations must file offering circulars required under Part 563g with both BTD and the appropriate regional office.

Savings and Loan Holding Companies

OTS regulation, 12 CFR § 584.1, requires savings and loan holding companies to file Form H-(b)11 with the respective regional offices.

Holding companies with securities registered with the SEC under the Exchange Act must attach certain SEC filings to the H-(b)11. For example, the H-(b)11 must include the following information:

- Proxy material filed with the SEC.
- The annual report on Form 1 O-K.
- Current reports tiled on Form S-K.
- Any prospectus tiled in connection with the public offering of securities.
- SEC reports not excluded by request of the OTS regional office.

Description of Filings

The Annual Report (Form I O-K or Form IO-KSB)

Savings associations must file this report within 90 days of the close of a fiscal year.

The Quarterly Report (Form I O-Q or Form 10-QSB)

Savings associations must file this report for each fiscal quarter (except the fourth quarter) no later than 45 days after the end of the quarter.

The Annual and Quarterly reports provide specific financial information regarding the savings association as well as management's discussion of the savings association's financial condition. The reports also include a description of matters voted on by securities holders, and other relevant matters as required by the applicable form and regulations.

The Current Report (Form 8-K)

Savings associations must file this report with OTS as a result of the occurrence of the following events and within the following time frames:

- Any changes in control of the savings association — 15 days.
- Acquisition or disposition of assets (of a significant amount other than in the ordinary course of business) — 15 days.
- Placing of the savings association in receivership or conservatorship — 15 days.
- Any change in the savings association's certifying accountant — 5 days.
- Occurrence of other events the savings association deems to be materially important to security holders -no time frame, but within a reasonable time.
- Resignation of directors — 5 days.
- A change in fiscal year — *15* days.

Beneficial Ownership Reports

The Initial Statement of Beneficial Ownership (Form 3)

Those who fall into any of the categories listed below must file within 10 days, Form 3 with OTS.

- Officers.
- Directors (regardless of whether they own any securities).
- Beneficial owners of ten percent or more of any class of the savings association's equity securities.

A Statement of Change in Beneficial Ownership of Equity Securities (Form 4)

Previous filers of Form 3 must file Form 4 when a change occurs in the nature or amount of the person's beneficial ownership of the savings association's equity securities. Filers must file Form 4 within ten days after the end of the month in which a change occurs.

Annual Statement of Changes in Beneficial Ownership (Form 5)

Report annually, within 45 days of the end of the fiscal year, any other small changes in ownership.

The Shareholder Report of Beneficial Ownership (Schedule 13D)

Shareholders must tile Form 13D within ten days of the acquisition of beneficial ownership of more than five percent of any class of equity securities. Any material change in the facts of the statement requires that the shareholder promptly (generally within two business days of the material change) file an amendment.

Schedule 13G

Mutual funds and other institutions that invest funds or manage portfolios for beneficial owners must file Schedule G. Filers must file Schedule G within 45 days after the end of the calendar year.

Shareholders must file 13D and 13G reports with the savings association, OTS, each exchange where the savings association's securities trade, or to the National Association of Securities Dealers, Inc. (NASD) if the National Association of Securities Dealers Automated Quotation System (NASDAQ) quotes the stock.

In reviewing Forms 3, 4, and 5 and Schedule 13D, BTD attorneys watch for issues related to Part 574, the potential for hostile takeovers, and possible trading on insider information. You should be

alert to these possibilities and alert BTD to relevant information.

Persons own directly any stock held in their own name or held by a bank, broker, or nominee in a street name for their account. Under the convention of holding shares in a street name, a broker executes the trade and holds the stock in the name of the brokerage firm or a nominee. The savings association, through the shareholder (registrar's) ledger, is unaware of the individual initiating the transaction. There are no rules governing the disclosure of ownership held in a street name except for the threshold reporting requirements described above.

Persons are the beneficial owners of any stock that they have the right to acquire through the exercise of presently exercisable options, including options granted through a stock option plan. Indirect beneficial ownership includes stock held in the name of another person if, because of an agreement or relationship, a person obtains benefits substantially equivalent to those of ownership. Such benefits include the right to receive income and the right to control transfer of the stock. For example, a person generally is the beneficial owner of stock in the following situations:

- Stock held by certain family members, such as a spouse or minor children.
- Stock owned as trustee, where the person or members of the person's immediate family have a vested interest in the income or principal of the trust.
- Stock held in trust for which the person is a beneficiary.
- Stock owned by a partnership of which the person is a member.
- Stock owned by a corporation that the person controls.

Proxy and Information Statements

Exchange Act Regulations 14A and 14C require the filing of preliminary copies of all Proxy Statements, other soliciting materials, and Information Statements (used where there is no solicitation of proxies). Savings associations file this material with OTS at least ten calendar days prior to the date of first sending or giving such information to shareholders. Savings associations file definitive copies of the above materials with OTS no later than the date of sending or giving such materials to shareholders.

In certain circumstances, savings associations must provide an Information Statement that contains the information specified by Regulation 14C under the Exchange Act. In those instances where a savings association plans corporate action, the Exchange Act requires the filing of an Information Statement. This is a requirement even where there is no solicitation of proxies. The corporate action may occur either at a meeting of the savings association's security holders or by written authorization or consent of such holders. Savings associations must file preliminary copies of either proxy-solicitation material or an Information Statement, as appropriate, with OTS. Savings associations must submit this material within a specified period prior to any distribution of such information to security holders.

Annual Report to Shareholders

Savings associations must mail to shareholders copies of the Annual Report to Shareholders. Savings associations mail the Annual Report to Shareholders with, or subsequent to the mailing of, either proxy-solicitation material or an Information Statement. The Information Statement relates to an annual meeting, a special meeting instead of an annual meeting, or a written consent instead of either an annual or special meeting that includes election of directors.

Insider Stock Trading

There are substantive limitations on the ability of savings association directors, officers, and ten percent shareholders to trade in the savings association's stock. Any profit realized from any purchase and sale or sale and purchase of the savings association's stock within a six-month period (short-swing trade) is subject to recapture. Either the savings association or the savings association's stockholders by filing suit on its behalf (15 USC § 16(b)) may seek recapture. The rule pro-

vides a rigorous guard against misuse of confidential information by insiders. Prohibition, however, does not extend to all reportable transactions.

Furthermore, the Exchange Act generally prohibits directors, officers, and ten percent stockholders from making any short sale of their savings association's stock. That is, any sale of stock that the seller does not then own. The Exchange Act also requires that directors, officers and 10 percent stockholders deliver to buyers within 20 days any stock they sell. Alternatively, the Exchange Act requires the depositing in the mail within 5 days any stock sold by directors, officers and 10 percent stockholders.

In addition, Rule 1 Ob-5 under the Exchange Act prohibits a person from trading a savings association's stock using material inside information. Inside information refers to information not available to the public in general (17 CFR § 240.1 0b-5). The. rule also prohibits a person in possession of material nonpublic information from selectively disclosing this information to others (tipping) and generally bars the tippees from trading on such a tip. Information is material for this purpose if a reasonable investor would consider it important in reaching an investment decision or would attach actual significance to the information in making the decision. Thus, savings association officers, directors, and others in possession of material inside information must not trade in the savings association's stock until the information is available to the investing public. Managers must not make any disclosures of material information to selected persons without concurrently releasing the information to the public.

Change in Control

Control of a savings association's voting rights may influence the direction and operating policies of the savings association; therefore, the composition of the controlling ownership is of considerable concern to regulators. No person shall acquire control of a savings association through a purchase, assignment, transfer, pledge, or other disposition of voting rights of such savings association without OTS approval. This includes the individual acting directly or indirectly or through or in concert with one or more other persons. OTS rules on acquisition of control of savings associations are in 12 CFR Part 574.

Section 563.181 contains special notification requirements that apply whenever a change occurs in the outstanding voting rights that will result in control (or a change in control) of any mutual savings association. The president or other chief executive officer must report such facts to the OTS. They should file the report within 15 days of their knowledge of such change.

Section 563.183 requires the savings association to file a report whenever there is a change in control of any savings association or holding company and there is also a change or replacement of the chief executive officer within a specified time.

The president or other chief executive officer must file a report when a change in control of a savings association or holding company occurs concurrently with, or within 60 days after or 12 months before, a change or replacement of the chief executive officer. (A change in control also mandates filing Form S-K for a savings association or holding company subject to public reporting requirements of the Exchange Act.)

The president or other chief executive officer shall report to OTS whether a change in ownership or other change in the outstanding voting rights under §§ 563.18 1 or 563.183 will result in control or a change in control of the savings association or holding company. Section 574.4 outlines the conditions under which an acquirer possesses control. The regulation also includes conclusive control determinations.

Section 563.18 1 (c) states the conditions that will require a report from a mutual savings association president or CEO when there is a solicitation of voting rights of the savings association. If a solicitation is of a continuing nature, it is necessary to file a report only when the solicitation begins. The report should indicate the continuing nature of the solicitation. No further reporting is necessary unless or until there is a change in the solicitor.

The president or CEO of the savings association or the holding company should file the report required under 12 CFR §§ 563.181 and 563.183.

Under 12 CFR § 5 16.1 (c), they should send an original and two copies to the regional office.

Savings associations must provide a business plan with each of the following applications:

- Approval of change in control of a stock savings association.
- Change in control of a mutual savings association.
- Change in or replacement of the chief executive officer.

Willful violations of §§ 563.181 and 563.183 may be subject to harsh enforcement action, including civil money penalties. If you discover such activity, you should remind savings associations and savings and loan holding companies of these reporting requirements. Savings associations and savings and loan holding companies are to resolve any doubt regarding the necessity of filing by submission of a report.

Section 574.4(b) requires reports whenever any person, partnership, corporation, trust, or group of associated persons acquires, receives, or in effect, becomes the holder of ten percent or more of the outstanding stock or voting rights of a savings association.

REGULATORY CONSIDERATIONS

Divestiture of Control

Section 567.13 requires that any acquiror subject to a capital maintenance obligation give prior written notice to OTS if the acquiror proposes divestiture of the savings association.

After receiving the notice, OTS has 90 days to conduct an examination of the savings association. OTS determines the extent of any capital deficiency and communicates the results to the acquiror. If the examination indicates that no deficiency exists, the acquiror may divest control of the savings association upon receiving written notice of the examination results.

If a capital deficiency does exist, any acquiror subject to a capital maintenance agreement may only divest a savings association if they provide OTS with a capital infusion agreement. Such an agreement must provide that the acquiror will infuse the savings association with the amount necessary to remedy the deficiency. Further, the acquiror must arrange for payment, satisfactory to OTS, or otherwise satisfy the deficiency. If the acquiror provides OTS with a satisfactory agreement before the completion of an examination made to determine the extent of any capital deficiency, it may proceed to divest control. Also, the acquiror must arrange for payment, satisfactory to OTS, to ensure payment of any deficiency. Alternatively, the acquiror may immediately satisfy the deficiency.

Contributed Capital

Owners of savings associations may contribute cash or other assets as capital (contributed capital). It is not an accepted practice to make non-cash contributions. OTS policy requires that savings associations deduct from assets the contribution of non-cash assets for purposes of determining core capital. An exception exists for those assets that meet the following three-part test. Subject to a limit of 25 percent of core capital, assets meeting the following criteria and receiving prior OTS approval qualify for an exception:

- The assets must be separable and sold apart from the savings association or from the bulk of the savings association's assets.
- Savings associations must establish the market value of the assets on an annual basis. In addition savings associations must establish the market value through an identifiable stream of cash flows. In addition, there must be a high degree of certainty that the assets will hold their market value despite the future prospects of the savings association.
- The savings association must demonstrate and document that a market exists that will provide liquidity for the asset.

All accounting treatment of non-cash contributions to capital must be in accordance with GAAP.

Capital Distributions

FDICIA § 38 prohibits an insured institution from taking certain actions if, as a result, the institution would fall within any of the three undercapitalized capital categories. The prohibited actions include the following:

- Declare any dividends.
- Make any other capital distribution.
- Pay a management fee to a controlling person.

See 12 CFR § 565.4(b) and Thrift Activities Handbook Section 120, Capital Adequacy, for guidance regarding the capital categories.

A savings association permitted to make a capital distribution under the prompt corrective action regulations may do so in accordance with 12 CFR Part 563, Subpart E - Capital Distributions. This new rule was effective on April 1, 1999. The revised capital distribution regulation incorporates FDICIA's capital distribution requirements and imposes other limitations comparable to those applicable to national banks.

Subchapter S Distributions

Distributions by a Subchapter S corporation are dividends for regulatory purposes, including prompt corrective action. This includes distributions intended to cover a shareholder's personal tax liability for the shareholder's proportionate share of the taxable income of the institution

OTS may restrict such distributions to shareholders in amount or prohibit them in some instances. There may be some cases where the amount of dividends that shareholders would need to receive to pay their personal income taxes would exceed the amount of dividends allowable under 12 CFR Part 563, Subpart E - Capital Distributions. It is also possible for an association to be generating taxable income in a period when the association is reporting a loss or nominal income for financial reporting purposes. This situation can arise, for example, when an association takes a large provision for loan losses because of credit quality problems but has not yet charged off specific loans.

EMPLOYEE STOCK OWNERSHIP PLANS

It is not unusual for a significant holder of a savings association's shares to be an Employee Stock Ownership Plan (ESOP). An ESOP is an employee benefit plan. The Employee Retirement Income Security Act of 1974 (ERISA) and the Internal Revenue Code (IRC) of 1986 describe an ESOP as a stock bonus plan, or combination stock bonus and money purchase pension plan. ESOPs invest primarily in an employer's stock, generally by using tax deductible contributions made to the ESOP under the terms of the plan. Other pension plans normally limit the amount of the plan's assets allowable for investment in the employer's securities.

Federal legislation encourages the use of ESOPs to help achieve two major objectives:

- Broadening stock ownership of corporations by employees.
- Providing corporations with an additional source of capital funds.

A plan and trust are the vehicles used to establish an ESOP. The trustee is typically a financial institution. There are over 100 savings associations with trust powers. A savings association with trust powers can be the trustee for its own ESOP and the ESOPs of other employers.

After the establishment of the plan and the trust, the employer periodically makes contributions to the ESOP. The ESOP uses the contributions to purchase stock of the employer and to pay administrative and other expenses.

A common form of this type of benefit plan is the leveraged ESOP, whereby the sponsoring company forms a tax-qualified ESOP trust. The ESOP then borrows funds from a lending institution to acquire shares of the employer's stock. The stock

may consist of outstanding shares, Treasury shares, or newly issued shares.

The debt of the ESOP is usually collateralized by the pledge of the stock to the lender. Also, there is either a guarantee or a commitment from the employer to make future contributions to the ESOP sufficient to cover the debt service requirements. There is a prohibition on the use of guarantees during a stock conversion. In leveraged ESOPs, the employer provides contributions to repay the debt and also pay administrative expenses associated with the plan.

A suspense account under the control of the trustee of the plan usually holds the stock shares. Employees receive credit to their individual account when the trustee releases shares from the suspense account. The trustee releases shares from the suspense account as the ESOP repays the loan.

An ESOP must be tax qualified in order for the corporation's contribution to the plan to be tax free. This means the plan must meet certain requirements specified by the Internal Revenue Code and is, therefore, subject to IRS examination. These requirements pertain to participation, vesting, distribution, and other rules designed to protect the interests of the employees.

Recognition of a deferred tax liability may occur if a savings association contributes more than the maximum percentage allowed for deduction in the current year. This allows for an inter-period tax allocation in a future year. Further, ESOPs allow for an above the line deduction for federal income tax purposes. This consists of a pre-tax deduction for employer contributions to the ESOP. The deduction includes both the principal and interest on the loan. Alternatively, if the ESOP is not leveraged, a deduction is allowable for the amount of contribution up to a certain maximum. The net effect of this transaction is a reduction in operating income for the tax year.

An ESOP also may be a non-tax-qualified plan; the corporation simply receives no tax benefits as a result. Attraction or retention of key, highly compensated individuals often involves the use of non-tax-qualified ESOPs.

An ESOP is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA) and is consequently subject to the rules and regulations promulgated by the Department of Labor.

ESOPs provide the following benefits:

- Employees can acquire stock ownership in their employer without having to invest their own funds.
- The employer can use the ESOP to generate additional capital with tax deductible dollars.
- Shareholders of a closely held corporation may benefit from creation of a larger market for their stock.

Federal savings associations have the implied authority to establish ESOPs, as they have the authority to compensate their employees. State-chartered savings associations also appear to possess the implied authority to establish ESOPs. This question, however, is a matter of state law. This also holds true for holding companies.

A savings association must establish and operate an ESOP in a safe and sound manner. Section 563.47 requires savings associations establishing employee pension plans to satisfy requirements. Such requirements concern funding, amendments for cost of living increases, and termination. In addition there are record-keeping requirements for plans not subject to the record-keeping and reporting requirements of ERISA and the Internal Revenue Code. The rule is applicable to ESOPs formed by service corporations as well.

A savings association, another financial institution with trust powers, or a service corporation may administer or act as a trustee for an ESOP. Some savings associations have service corporations that are separate trust companies; when this is the case, ESOPs are typically trusteed by those service corporations.

Regulatory Restrictions and Issues

Creation and structuring of ESOPs as an anti-takeover device frequently occurs during conver-

sions. Discussion of three issues of particular interest relating to ESOPs follows:

- An ESOP may purchase no more than ten percent of the stock offered in a conversion.
- Limitations exist in a conversion as to the amount of stock that an individual may purchase and as to the amount of stock that management as a group may purchase. An individual's stock purchase limitations do not include stock held in an ESOP. There is no aggregation of the individual and ESOP stock holdings. Stock held in an ESOP that is a management recognition or retention plan (MRP) is non-tax-qualified. Include stock held in a non-tax-qualified ESOP in determining the overall limitation for management purchases of conversion stock.
- OTS continues to prohibit a savings association, during a conversion, from extending its own credit to finance the funding of any employee stock benefit plan. OTS also prohibits a converting savings association from guaranteeing the debt incurred by the ESOP when it borrows from another lending institution. The major objective of the conversion process is to raise new capital. To permit a savings association to extend financing or to guarantee debt of the ESOP would be inconsistent with that objective. OTS requires a savings association to service the debt of the ESOP and reserves the right to disapprove a plan that is unrealistic in view of historical performance. In addition, substantial conversions could involve violations of ERISA if not done properly.

Transactions with Affiliates

Savings associations are subject to §§ 563.4 1 and 563.42. These rules restrict and prohibit certain transactions with affiliates. In many cases, ESOPs are affiliates because the trustees are also directors, partners, or trustees of the savings association or its holding company. In some cases, an ESOP is an affiliate as a result of other control. For example, the ESOP may own, control, or have the power to vote 25 percent of a class of voting securities of the holding company or savings association. If the ESOP is an affiliate, the savings association may not make a loan, guarantee, or other extension of credit to the ESOP. This is because the collateral requirements of § 563.41(c) would be difficult, if not impossible, to meet. The securities issued by an affiliate of the association are not acceptable as collateral for a loan or extension of credit to, or guarantee, acceptance, or letter of credit issued on behalf of the affiliate.

Despite this limitation, the funding of most ESOPs does not raise concerns. Typically, most ESOPs receive funding by a loan or guarantee from the holding company, as opposed to the savings association itself. A loan by the holding company is not a covered transaction under the affiliate regulations. Refer to Handbook Section 380 for further details on Transactions with Affiliates.

Compliance with ERISA

ERISA imposes complex requirements upon savings associations acting as trustee or in other fiduciary capacities for ESOPs, and severe penalties can result from statutory violations. In addition, the savings association, as the employer or plan sponsor of its own employees' retirement plan, is a party in interest pursuant to ERISA. This is the case whether or not the savings association is the trustee. Almost without exception, all transactions involving the purchase or sale of an asset of the plan to or from the savings association, any affiliate, officer, or employee are subject to the provisions of ERISA. There are only certain narrowly defined exemptions. The plan sponsor or its administrative committee may be subject to reporting, disclosure, and plan design requirements. There are also a number of other responsibilities under ERISA if the savings association is acting as trustee or in a fiduciary or similar capacity.

Risk to Savings Association as Employer or When Acting as Trustee

Most of the responsibility for administration lies with the trustee, and there consequently is little risk to the savings association when it uses an

outside trustee. However, the plan and trust establishing the ESOP stipulate the respective rights, duties, and obligations of the employer and trustee. For example, the employer normally keeps records on the number of persons employed. The employer may be subject to liability under ERISA if it violates any of its duties or obligations.

Acquisition of Control

No company, including an ESOP trust, may acquire control of a savings association or holding company without the prior written approval of OTS.

Valuation of Savings Association Stock

Shares of a publicly held savings association where fair market value is recognizable in an actively traded market generally do not raise problems. Difficulties may arise with closely held savings associations; the stock is not marketable and the ESOP creates but a limited market. IRS Ruling 59-60 outlines major principles of stock valuation; one of the principles requires the use of an independent appraiser.

Repurchase Liability

At separation or retirement, employees generally want cash for their shares of stock. The law requires an employer to redeem the shares if there is no readily available market for them. The issue of cash availability can become a critical one for a small, privately held savings association. The ESOP repurchase liability is the savings association's continuing obligation to repurchase its stock from former ESOP participants and their beneficiaries. The savings association should perform a careful analysis of the magnitude of the obligation and include it in the financial planning process if necessary to ensure that enough cash is available.

Accounting

The present accounting for ESOPs comes from a project undertaken by the Accounting Standards Executive Committee (AcSEC), which resulted in Statement of Position 93-6 (SOP 93-6, Employers' Accounting for Employee Stock Ownership Plans). This SOP provides guidance on employers' accounting for ESOPs. The SOP applies to all employers with ESOPs (both leveraged and nonleveraged). It does not address reporting by ESOPs. There is a discussion of financial reporting by ESOPs in the AICPA Audit and Accounting Guide: Audits of Employee Benefit Plans.

The necessity for SOP 93-6 is due to the great expansion in the number of ESOPs, their increased complexity, plus revised laws by Congress concerning ESOPs. In addition, the Internal Revenue Service (IRS) and the U.S. Department of Labor (DOL) issued many regulations covering the operation of plans. These actions caused changes in the way ESOPs operate and the reasons for their establishment.

SOP 93-6 brought significant changes in the way employers report transactions with leveraged ESOPs. Although SOP 93-6 did not change how employers with nonleveraged ESOPs account for ESOP transactions, it contains guidance for nonleveraged ESOPs.

The following paragraphs summarize significant accounting rules applicable to employer's accounting for ESOPs.

Leveraged ESOPs

- Employers should report the issuance of new shares or the sale of treasury shares to the ESOP when the issuance or sale occurs. Also, employers should report a corresponding charge to unearned ESOP shares, a contra-equity account.
- For ESOP shares committed for release in a period to compensate employees directly, employers should recognize compensation cost equal to the fair value of the shares committed for release.
- For ESOP shares committed for release in a period to settle or fund liabilities for other employee benefits, employers should report satisfaction of the liabilities when the employer commits to release the shares to settle the liabilities. Other employee benefits include an employer's match of employees' 40 l(k) con-

tributions or an employer's obligation under a formula profit-sharing plan. The use of an ESOP has no bearing on the recognition of compensation cost and liabilities associated with providing such benefits to employees.

- For ESOP shares committed for release to replace dividends on allocated shares used for debt service, employers should report satisfaction of the liability to pay dividends when the ESOP commits for the release of shares for that purpose.

- Employers should credit unearned ESOP shares as they commit shares for release based on the cost of the shares to the ESOP. Employers should charge or credit to additional paid-in capital the difference between the fair value of the shares committed for release and the cost of those shares to the ESOP.

- Employers should report dividends on unallocated shares as a reduction of debt or accrued interest payable or as compensation cost. The use of the dividend for either debt service or payment to participants determines the form of accounting entry. Employers should charge dividends on allocated shares to retained earnings. They should make satisfaction of dividends payable either by contributing cash to the participant accounts, by contributing additional shares to participant accounts, or by releasing shares from the ESOP's suspense account to participant accounts.

- Employers should report redemptions of ESOP shares as purchases of treasury stock. Employers should also report redemption of shares of leveraged and nonleveraged ESOPs as purchases of treasury stock. Employers must give a put option to participants holding ESOP shares that are not readily tradable. When participants exercise a put option, employers must repurchase the shares at fair value. The put option requirement applies to both leveraged and nonleveraged ESOPs.

- Employers that sponsor an ESOP with a *direct loan* (a loan made by a lender other than the employer to the ESOP) should report the obligations of the ESOP to the outside lender as liabilities. Employers should accrue interest cost on the debt. They should report cash payments made to the ESOP to service debt as reductions of debt and accrued interest payable when the ESOP makes payments to the outside lender. Apply this rule regardless of whether the source of cash is employer contributions or dividends.

  Employers that sponsor an ESOP with an *indirect loan* (loan made by the employer to the ESOP with a related outside loan to the employer) should report the outside loan as a liability. Employers should not report a loan receivable from the ESOP as an asset and should, therefore, not recognize interest income on such receivable. Employers should accrue interest cost on the outside loan and should report loan payments as reductions of the principal and accrued interest payable. Employers do not recognize in the financial statements contributions to the ESOP or the concurrent payments from the ESOP to the employer for debt service.

  Employers that sponsor an ESOP with an *employer loan* (no related outside loan) should not report the ESOP's note payable and the employer's note receivable in the employer's balance sheet. Accordingly, employers should not recognize interest cost or interest income on an employer loan.

- For earnings per share computations, consider ESOP shares committed for release as outstanding. ESOP shares are not outstanding if there is no commitment for release.

Nonleveraged ESOPs

- Employers with nonleveraged ESOPs should report compensation cost equal to the contribution called for in the period under the plan. Measure compensation cost as the fair value of shares contributed to or committed for contri-

bution to the ESOP as appropriate under the terms of the plan.

- Employers with nonleveraged ESOPs should charge dividends on shares held by the ESOPs to retained earnings. An exception is that employers should account for suspense account shares of a pension reversion ESOP in the manner described in SOP 93-6 for leveraged ESOPs.
- Account for the redemption of shares of a nonleveraged ESOP in the same manner as that required for a leveraged ESOP. Employers must give a put option to participants holding ESOP shares that are not readily tradable, which on exercise requires employers to repurchase the shares at fair value. The put option requirement applies to both leveraged and nonleveraged ESOPs. Employers should report the satisfaction of such option exercises as purchases of treasury stock. (See the prior discussion of redemptions in the leveraged ESOPs section.)
- Treat all shares held by a nonleveraged ESOP as outstanding in computing the employer's earnings per share, except suspense shares of a pension reversion ESOP. Treat shares of a pension reversion ESOP as outstanding until making commitment for release for allocation to participant accounts. Different rules also apply if a nonleveraged ESOP holds convertible preferred stock.

Consult SOP 93-6 for a comprehensive discussion of rules applicable to employers' accounting for ESOPs.

FOREIGN OWNERSHIP

The Federal Reserve requests that OTS provide information on foreign ownership of savings associations and savings and loan holding companies. You have special responsibilities regarding the foreign ownership of savings associations. These responsibilities include completion of the foreign investment form in Appendix A. Do not include ownership by foreign citizens who have maintained at least five years of permanent U.S. residency. Determine the country of ownership from the highest tier of ownership.

REFERENCES

United States Code (12 USC)

Federal Reserve System

§371c(23A)	Banking Affiliates
§371c-1(23B)	Restrictions on Transactions with Affiliates

Home Owners' Loan Act

§1464(i)	Conversions
§1464(o)	Conversion of State Savings Banks
§1464(p)	Conversions
§1467a(10)	Regulation of Holding Companies
§1468(11)	Transactions with Affiliates

Federal Deposit Insurance Act

§1817(j)	Change in Control of Depository Institutions

United States Code (15 USC)

Securities Exchange Act of I934

§12	Registration Requirements
§13	Periodical and Other Reports
§14	Proxies
§16	Insiders

United States Code (29 USC)

$1001	Employee Retirement Income Security Act of 1974

Code of Federal Regulations (12 CFR)

FDIC Rules

Part *303* Subpart E	Change in Bank Control

Office of Thrift Supervision Rules

Part 543	Federal Mutual Associations
Part 552	Federal Stock Associations
§561.4	Affiliate
§561.5	Affiliated Person
§563.41	Loans and other Transactions with Affiliates and Subsidiaries
$563.43	Loans to Executive Officers, Directors and Principal Shareholders
$563.47	Pension Plans
$563.81	Issuance of Subordinated Debt Securities and Mandatorily Redeemable Preferred Stock
Part 563 Subpart E	Capital Distributions
$563.181	Reports of Change in Control of Mutual Savings Associations
$563.183	Reports of Change in CEO or Director
Part 563b	Conversions from Mutual to Stock Form
Part 563d	Securities of Savings Associations
Part 563g	Securities Offerings
§565.4	Capital Measures and Capital Category Definitions
$567.5	Components of Capital
$567.13	Obligations of Acquirors of Savings Associations to Maintain Capital
Part 569	Proxies
Part 574	Acquisition of Control of Savings Associations
$584.1	Registration, Examination, and Reports

Code of Federal Regulations (17 CFR)

Securities and Exchange Commission Rules

§240.1 Ob-5	Insider Trading
§240.12b	Registration under the Exchange Act
$240.13	Shareholder and Periodic Reporting
§240.14a	Proxies
§240.14c	Distribution of Information
§240.14e	Tender Offer Rules
§240.16a-1	Reports by Insiders
§240.17f-2	Fingerprinting of Transfer Agent Personnel
§240.17Ad-2	Turnaround of Items by Transfer Agents
§240.17Ad-4	Exempt Transfer Agents
§240.17Ad-11	Reports of Record Differences

OTS Application Processing Handbook

Section 440	Stock Conversions

OTS Trust Activities Handbook

Section 620	Employee Benefit Accounts

Financial Accounting Standards Board, Statement of Financial Accounting Standards

No. 47	Disclosure of Long-term Obligations
No. 89	Financial Reporting and Changing Prices

Internal Revenue Service

Revenue Ruling 59-60 Stock Valuation

American Institute of Certified Public Accountants (AICPA) Statement of Position

No. 93-6	Employers' Accounting for Employee Stock Ownership Plans

Capital Stock and Ownership Program

Examination Objectives

Identify and determine the nature of ownership and control of the savings association.

Determine whether any individual has exerted a detrimental influence through ownership or control of the savings association's capital stock or other voting rights.

Determine if adequate physical safeguards for stock certificates and ownership records are in place.

Determine compliance with applicable laws, rulings, regulations, and any expressed agreements with OTS, FDIC, or state regulators.

Determine the adequacy of the savings association's policies, procedures, and controls related to capital stock.

Review securities filings for information of a supervisory interest and report results of the review to Business Transactions Division (BTD). Include the OTS number in all correspondence.

Determine if a savings association prudently administers an Employee Stock Ownership Plan (ESOP).

Initiate corrective action when deficiencies exist that could affect safety and soundness, or when you note significant violations of laws or regulations other than securities violations.

Examination Procedures

Wkp.Ref.

Level I

1. Summarize information from securities offering filings, directors' minutes, audit reports, and other sources pertaining to any new issuance of capital stock (including the payment of stock dividends), notes, subordinated debentures, and other capital instruments. File the information within the continuing examination file (CEF), if applicable.

_____ _____

2. Either you or the regional office should make a brief review of the Forms 10-K, 10-Q, 10-KSB, 10-QSB and any other Exchange Act reports. (See Appendix B.) Compare the Exchange Act reports to TFRs, other reports, information, and documents relating to the savings association that are available. Immediately report any material discrepancies between the disclosures contained in the Exchange Act reports and information known to the regional office. The regional office should inform BTD and the Accounting Policy Division (APD) by e-mail.

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Reviewed By: _____
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3. Carefully review all transactions involving Treasury stock. Determine whether board of directors' actions adequately support Treasury stock transactions. Consider whether transactions have a detrimental effect.

_____ _____

4. Update the CEF, if applicable, with the Schedule of Stockholders (PERK 014). Alternatively, summarize the following information for each director and director's interests, officer, attorney, partner, and all other stockholders who own or control five percent or more of the savings association's stock:

   - Number of shares.
   - Percent to total outstanding.
   - Stock certificate number (optional).
   - Issuing price (optional).
   - Date of issue (optional).
   - Confirm the timely reporting of changes in ownership on Forms 3, 4, 5 or Schedules 13D or 13G by companies subject to the Exchange Act.

   Determine stock concentration by noting the total number of shareholders along with the number of shares outstanding. Report foreign ownership to the Board of Governors of the Federal Reserve System. Use the form for Foreign Ownership in U.S. Savings and Loan Associations and Savings and Loan Holding Companies, Appendix A.

_____ _____

5. If the savings association elected S Corporation status since the last examination, perform the following procedures:

   - Review the association's eligibility for the election.
   - Review shareholder agreements regarding stock transfers which management will use to maintain compliance with the eligibility requirements.
   - Verify that management has a method for monitoring ongoing compliance with S Corporation eligibility requirements.

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- Confirm that management periodically test and review the method for monitoring compliance.

6. Review whether the institution has realistic expectations about its ability to increase its capital while maintaining its S Corporation status.

7. Determine whether the association's management and shareholders understand that limitations may exist on the ability of an S Corporation to pay dividends.

8. Determine whether management understands the overall effect of any potential dividend distribution limitations on an S Corporation.

9. Review proxy records from the last election of the directors. Identify anyone who has controlled the election of the board through proxies.

10. On the basis of information obtained in procedure No. 4 and review of shareholder and related information, consider:

    - Whether there was a change in control in the association. If yes, determine if BTD received the information, and if not reported, provide details to BTD for a determination of needed disclosures.
    - Whether ownership, or change in control, of the savings association has significantly affected the savings association's operating policies or mode of operations to the detriment of the savings association.

11. ERISA and IRS rules and regulations are complex. Accordingly, you should request the ESOP administrator in the savings association to provide evidence that specialist legal counsel assists in helping to maintain the plan in compliance with all applicable

Exam Date: _____
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rules and regulations. You should request the ESOP administrator to provide evidence that the savings association is able to meet its repurchase liability. The ESOP administrator also should support the stock valuation of closely held savings associations.

12. From a review of plan documents or other appropriate sources, determine the duties and responsibilities of the savings association regarding its ESOP. Ascertain whether the savings association is satisfactorily performing its duties and responsibilities. If the need for expert advice is apparent, you should recommend that the savings association obtain the advice of an ESOP legal specialist. (*Note:* Section 620 of the Trust Activities Handbook contains additional examination procedures if the savings association or its service corporation is acting as trustee, or serving in a fiduciary or similar capacity.)

13. If the savings association established an ESOP in conjunction with a conversion, determine if the ESOP purchased ten percent or more of the stock offered in the conversion.

14. Determine if the savings association aggregates stock held in the ESOP with an individual's purchase limitations.

15. Determine if during a conversion the savings association extended its own credit to finance the funding of the ESOP. Also determine if during a conversion the savings association guaranteed the debt incurred by the ESOP when borrowing from another savings association.

16. Determine if the ESOP is an affiliate or an affiliated person. If so, verify that transactions such as loans and other financing arrangements with the savings association are consistent with OTS and FRB restrictions and prohibitions. (12 CFR §§ 561.5 and 563.43 and Federal Reserve Act §§ 23A and 23B)

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17. Determine if an ESOP trust acquired control of the savings association or an S&L holding company. If so, verify OTS approval of the acquisition of control, as required by § 574.3.

18. Summarize pertinent information relating to stock option plans and ESOPs and file in the CEF, if applicable.

19. Review Level II procedures and perform those necessary to test, support, and present conclusions derived from performance of Level I procedures.

Level II

20. Ensure that capital distributions are of the type and in the amount permitted by Part 563, Subpart E—Capital Distributions.

21. For savings associations subject to the Exchange Act, determine whether the savings association makes timely required filings. If not, contact the regional office or BTD.

22. If the savings association acts as its own transfer agent or registrar, examine the records pertaining to stock certificates to ensure controls are adequate to prevent over-issuance of stock.

23. Ensure that your review meets the *Objectives* of this Handbook Section. State your findings and conclusions, and recommendations for any necessary corrective measures, on appropriate work papers and report pages.

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Reviewed By: _____
Docket #: _____

Foreign Ownership in U.S. Savings and Loan Associations and Holding Companies

Circle one: Announced Applied Approved Consummated

S&L/S&LHC Name & Docket Number: _____

Address _____

Date of Acquisition: _____

Citizenship or Country of Incorporation of Investor: _____

Investor Name (company number), Address (City and Country) _____

_____

Ownership percent (*if controlling ownership)/percent of ownership added:

_____/_____

Source of Information: (circle one)

Securities filing S&LHC Application Change of Control Notice

Stockholder Register Newspaper (send a copy) Other (identify)

Please attach any additional pertinent information.

This form was prepared by

Name _____ Telephone _____

OTS Region _____ Date Prepared _____

Send this form to:
Brenda Harris, Stop N-401
Micro Statistics Section
Division of Research and Statistics
Board of Governors of the Federal Reserve System
20” St. and Constitution Ave., N.W.
Washington, D.C. 2055 1

File a copy in the examination workpapers and send a copy to the OTS Director for Financial Reporting, Research and Analysis.

WASHINGTON AND REGIONAL PROCESSING OF EXCHANGE ACT FILINGS

Background

Savings associations must provide full, fair, accurate and complete information regarding their business and financial condition to the investing public to avoid potential liability under the anti-fraud rules of the federal securities laws. It is essential to the supervisory efforts of the regional offices that regulators be aware of critical information disclosed in filings.

The Business Transactions Division (BTD) of the Office of Chief Counsel and the Accounting Policy Division (APD) of the Office of Supervision review Exchange Act and securities offering filings of savings associations for compliance with the Exchange Act and OTS regulations. Also, BTD, upon request, assists the SEC by reviewing filings of savings and loan holding companies referred by the SEC.

Coordination between regional and Washington staff is essential to ensure that savings associations fulfill their obligations to make full, fair, accurate, and complete representations to the public about their financial condition and operations. Reliable public disclosure and market integrity for saving association's securities are key to the savings association industry's capital-raising process.

General Procedures

Each quarter BTD furnishes to the regional offices a list of savings associations registered under the Exchange Act, and the BTD attorney assigned to each association. The specific BTD attorney reviews and examines all of that savings association's Exchange Act reports and any offering circulars it may file.

The regional office should contact the appropriate BTD attorney or an APD accountant whenever questions arise with respect to a particular savings association's disclosure obligations. Also, the regional office should contact BTD by telephone or e-mail whenever information comes to their attention that potentially affects such obligations.

The responsibility for reviewing disclosure documents filed by savings associations for compliance with the Exchange Act and the OTS securities offerings regulations rests with BTD. BTD also is responsible for issuing comment letters relating to a particular filing. Further, BTD is responsible for resolving legal, disclosure, and accounting questions that may arise under the Exchange Act and 12 CFR Parts 563b, 563d, and 563g.

APD performs accounting reviews for the non-transactional Exchange Act filings that contain financial statements. APD is primarily responsible for accounting reviews of the following forms: 8-K, 10, 10-SB, 10-K, IO-KSB, 10-Q, 10-QSB, 12b-25, G-l 2, applications for conversions, applications for conversions with mergers, and applications for mutual holding company conversions. The BTD staff is primarily responsible for accounting reviews for secondary offering circulars, mergers, and subordinated debt.

Both APD and BTD closely review examination reports and other supervisory communications in connection with their review of securities filings to ensure appropriate disclosures in the filings. APD and the appropriate BTD attorney or supervisor coordinate to secure resolution of novel and precedential accounting issues.

The APD generally issues accounting comments in conjunction with comments issued by BTD on the Exchange Act filings for which it has primary responsibility. Otherwise, BTD provides to the savings association or other filing party all comments relating to the accuracy, adequacy, and timeliness of Exchange Act filings made with OTS. APD and the regional office receive copies of all comments and responses to com-

ments BTD issues. BTD and the regional offices receive copies of all comments the APD issues and reviews.

The APD maintains a shared electronic file of all comments on filings that is accessible by BTD and each regional accountant or a designee. The shared file ensures that each office is aware of each other's findings and can determine if there is a need for a supervisory response. BTD, APD, and the regional office must be aware of problems that require disclosure in filings. The latter must also be aware of BTD and APD comments, and responses to those comments.

BTD (and APD as appropriate) will resolve all issues regarding a savings association's compliance with BTD and APD comments. Also, BTD will resolve any necessary enforcement or other actions regarding compliance with filing requirements. In some instances, BTD or APD may seek the assistance of a regional office in obtaining savings association compliance with comments.

BTD and APD must rely on regional regulators to observe and report events that may affect Exchange Act disclosures, particularly events raising significant supervisory concerns. Regional regulators, therefore, must have a general knowledge of the content of a savings association's securities filings.

Time Requirements

For a report to be timely, OTS must receive a properly filed report by the required date. The mailing or postmarking of a report on the last day on which a report is to be filed does not constitute a timely filing.

A savings association may receive an extension of time to file a report if the savings association follows the procedures described in the regulations and satisfies all of the requirements of an extension. Exchange Act Rule (17 CFR § 240) 12b-25 contains general provisions to follow if a savings association fails to file within a prescribed time frame all or portion of an Exchange Act periodic report. If a savings association fails to submit a complete required Exchange Act periodic report within the prescribed time period it must file a Form 12b-25. The savings association must file Form 12b-25 no later than one business day after the due date of such report. The association must disclose its inability to file the report on a timely basis and the reasons why in reasonable detail, and otherwise comply with all other requirements of Rule 12b-25. Among other things, the savings association must represent in the Form 12b-25 that it cannot eliminate the reasons for the delay without unreasonable effort or expense. The savings association also must represent that it will make the filing within the period of the extension.

Rule 12b-25 provides for a 15-day extension for a Form 1 O-K or 10-KSB and a 5-day extension for a Form 10-Q or 1 0-QSB. Such extensions are available only upon an appropriate filing with BTD. They are available only for one 15- or 5-day period as appropriate for the type of filing and, as such, no additional extensions of time are available under the regulations.

If appropriate, a savings association may represent its failure to file a timely prescribed report because it is unable to file the report without unreasonable effort or expense. Generally, late reports satisfy prescribed due dates only if the savings association meets all conditions of the rules.

When a savings association is unable to file a report on time, it should promptly consider its general public disclosure obligations. The savings association should determine whether it is appropriate to issue a press release to advise its stockholders and the public markets of material information pertaining to the savings association. The savings association should file late material under cover of Form 8-K. In this regard, savings associations may wish to contact BTD or submit a written statement of the reasons for the delinquency. The statement should include a description of the steps the savings association is taking to come into compliance with the reporting requirements.

Regional Procedures

Securities oversight of savings associations is critically important. Regional regulators must alert the BTD attorney responsible for the particular savings association in question, to all supervisory or other regulatory information that affects or may potentially affect securities law disclosure obligations. This reporting may be through e-mail. The use of e-mail provides more time for both the regional and BTD reviews. Also e-mail facilitates the maintenance of the comments in a shared electronic file that is available to the regions, BTD, and APD.

The regional office should provide to the appropriate BTD attorney and APD copies of all nonroutine correspondence to and from the savings association. Further, the regional office should provide copies of documents and internal memoranda that may contain information relevant to a savings association's disclosure obligations. The BTD attorneys and APD review this information to ensure that savings associations promptly comply with all disclosure obligations.

Achievement of successful supervision of savings association securities responsibilities requires uniformity and consistency of action. Regional personnel and BTD shall coordinate supervisory approach prior to initiating discussions with savings associations regarding requests for additional information or requiring corrective action under the Exchange Act. Should it become necessary, BTD will inform Enforcement of Exchange Act or securities offering problems needing enforcement attention.

Regional office personnel are responsible for contacting holding companies that are not filing Form H-(b) 11 as required. The inclusion of SEC filings in Form H-(b) 11 does not mean that OTS necessarily has a role in performing disclosure review of those documents. Regional regulators should provide any comments to BTD for all securities filings that the holding companies provide and send BTD related correspondence and examination reports upon request.

Regional personnel also should refer all comments or discovery of material information regarding savings and loan holding companies that are subject to Exchange Act filing requirements to BTD. BTD and APD will assess the materiality of the information for purposes of securities law obligations and will work with the regional personnel in deciding an appropriate response under the circumstances. BTD and APD also will assess the information to determine whether a referral to the SEC is appropriate.

You should report information concerning accounting or reporting problems that may affect the Thrift Financial Report (TFR) to the Financial Reporting Division (FRD), Dallas, TX. The staff of the FRD in Washington, DC can answer questions and provide advice concerning the correct completion of TFRs. Institutions may correct TFRs that are less than five months old.

The regional office should determine if savings associations provide timely periodic Exchange Act filings. The regional office should maintain a schedule for each regional Exchange Act registered savings association indicating the due dates of all Exchange Act filings. This Handbook Section lists all common required filings and their respective time requirements. Regional offices should use this information to set up the schedules. BTD and the APD maintain similar schedules and may assist the regional offices in setting up these schedules.

Savings associations must file required reports within prescribed time frames. Before the regional office contacts a savings association to inquire about a missing filing they should first check with the assigned BTD attorney to determine if BTD has the filing. In certain instances a savings association may explain a late filing by filing Form 12b-25. Depending on circumstances, this filing may allow a short extension of time to file certain reports. In addition, a savings association may inadvertently file reports with either BTD or the region, but not both. In such a case, BTD will direct the savings association to immediately file reports as required by the regulations, including Parts 563d and 563g.

Failure to file required reports on a timely basis may indicate deeper problems at a savings association. When regional regulators become aware of serious problems with a registrant savings association, they should immediately alert the BTD attorney and the APD by e-mail.

Regional staff should quickly and promptly review all filings related to savings associations and holding companies to discover any information of supervisory interest. Regional staff should not rely on BTD for this supervisory review. Further, regional staff should not duplicate the work of BTD in reviewing filings for compliance with the Exchange Act and Parts 563b, 563d, and 563g of the OTS regulations. If regulators read the filings promptly they may find serious problems disclosed in filings months before they would otherwise find them. A quick and timely review of filings may result in more timely initiation of a supervisory response that may require a restatement of earnings and financial position. In addition, the timely review of filings may lead to enforcement action such as cease and desist, removal and prohibition, or receivership.

After a review of any filing, regional personnel should prepare a brief memorandum to BTD and the APD describing the review and any related problems. The regional office should promptly provide this memorandum via e-mail to BTD and APD who will include the information in the shared electronic file. If necessary, BTD and APD will prepare and issue a comment letter concerning disclosure problems to the savings association.

The regional office prepares a memorandum to inform BTD and APD that a review is complete. Also, if pertinent, the memorandum discloses the possible existence of supervisory concerns and corrective actions that the regional office recommends. If the regional office notes problems, the filing will receive high priority. In the absence of problems noted, the filing will likely receive a lower review priority.

When a savings association files an offering circular pursuant to Part 563g, BTD generally issues an initial comment letter on the filing within 14 calendar days of the filing date. This comment letter will generally include comments from the BTD attorney assigned to the savings association. Accordingly, regional staff should review offering circulars and provide any relevant information via e-mail to BTD within ten calendar days of filing. Satisfying this time frame will allow BTD to consider such information within the initial review period.

Critical to an effective OTS oversight role is the certainty that regional personnel are thoroughly familiar with the current financial and operational condition of savings associations. Knowledgeable regional personnel promptly review filings for supervisory concerns, and communicate any concerns to BTD and APD. A critical component in BTD's Exchange Act oversight role is ensuring correction, as soon as possible, of any information in a public filing that is inaccurate, misleading, or incomplete. For this reason, regional regulators should promptly review upon receipt-Exchange Act filings, offering circulars, and applications for conversion. Regional personnel should provide relevant supervisory information to BTD and the APD when practicable, rather than wait until completion of the next examination report.

Regional regulators also should be aware of significant events that have occurred requiring the filing of a current report on Form 8-K. The regional directors also should determine if the filing is timely. Consult with a BTD attorney if there is question regarding the necessity of making a filing.

Filers must properly file and receive BTD clearance of proxy-soliciting materials, (or information statements, when applicable), before distribution to stockholders. Regional regulators should note these required steps. In addition, while not necessary, regional regulators may review proxy materials. If they do review proxy material, they should notify BTD and APD immediately by e-mail if they believe any proxy documents contain a material misstatement or omit any material information.

Regional regulators should also be alert to changes in the majority of a savings association's board of directors resulting from actions other than a meeting of the stockholders. Regional regulators should promptly

consult with BTD if questions arise regarding a change in the majority of a board of directors. Also, regional regulators should immediately notify BTD should problems arise.

Regional regulators should identify any savings associations with assets of more than $5 million that have 300 or more shareholders and a class of stock not registered under the Exchange Act. Also, regional regulators should identify formerly registered savings associations. Interpretive questions sometimes arise as to the meaning of "held of record" or "class" and regional regulators should refer these questions to BTD. If it appears that a savings association should have registered its stock under the Exchange Act, the regional office should advise BTD. The trigger for this inquiry is 300 shareholders because:

- Although 500 shareholders triggers registration under the Exchange Act, the number of shareholders may have increased to 500 or more since the last verification.
- Three hundred shareholders triggers deregistration.

Finally, regional regulators should notify savings association officers and directors of their responsibilities to file reports (with BTD in Washington and the regional office) relating to their ownership in the savings association's securities. The rules in this area can be extremely complex and there is a large body of judicial precedent dealing with this area. Refer questions regarding interpretation to BTD. Savings association officers, directors and five percent or greater shareholders have ownership and transaction reporting requirements under the Exchange Act. The Exchange Act requires this information on Forms 3, 4, or 5 and Schedule 13D or 14G. Regional regulators should encourage those under obligation to file to consult with their own counsel regarding their filing responsibilities.

A critical component to the implementation of a quality securities oversight function is that any material information on a particular savings association be transmitted to BTD as soon as possible. Regional regulators should contact the appropriate BTD attorney and APD accountant to report information or discuss disclosure issues as needed. Initiate contact while an examination is ongoing, or anytime, not just at the completion of the examination report.

Section 563d.2 of the OTS regulations requires savings associations to file with BTD six copies of certain reports and related correspondence. Savings associations must also file one copy of the report and related correspondence with the appropriate regional office. BTD provides a copy of the reports to the APD.

INTRODUCTION

Cash flow management is the process of obtaining and allocating cash over time. Liquidity management is the process of allocating assets and structuring liabilities to provide sufficient cash (or items readily convertible into cash) to meet, on an ongoing basis, an association's daily operating needs.

Funds Management Perspective

Prudent funds management requires an association to monitor its cash flow and to manage its liquidity risk. Liquidity risk is the risk that funds may not be available to meet cash outflow requirements when they arise. Such risk occurs when an association is unable to liquidate assets or obtain adequate funding to continue to operate profitably. This may occur when an association cannot easily unwind or offset specific exposures without significantly lowering market prices because of inadequate market depth or market disruptions.

MANAGEMENT'S RESPONSIBILITIES

You must evaluate an association's cash flow and liquidity management to ensure that management does the following:

- Prepare reports that measure the anticipated cash position of the association relative to regulatory requirements and customer needs.
- Prepare a business plan with pro forma financial statements showing that adequate liquidity will be available.
- Develop policies that address how an association expects to manage its liquidity position.

CASH MANAGEMENT POLICY

A sound cash flow management policy is essential. You should review the written policy as well as review the association's actual practice to determine that management is giving sufficient consideration to cash flow management.

Associations with a cash management policy typically will outline desired procedures to control the inflow and outflow of cash balances. Such a policy may dictate that cash levels be minimized to that required by regulation and likely needed for customer service. Because excess cash carries a opportunity cost, savings associations usually seek to minimize cash balances.

Some larger savings associations may adopt a savings and borrowed money policy as part of its cash management policy. Such a policy might address or identify the following issues:

- The importance of short-term versus long-term liabilities.
- The distinction between core savings and wholesale or volatile deposits.
- The operating costs attributed to obtaining funds from deposits versus borrowed money.
- The overall growth of the association.

CASH FLOW

Profitability

There is a relationship between cash flow and profitability, but one does not lead to the other. A savings association, for example, may be profitable but have little cash inflow, or it may have considerable cash inflow but not be profitable.

Accounting accmals do not coincide with cash flow. Several examples illustrate this:

First, an association may purchase a zero-coupon or original-issue discount security to generate a yield. Although the accounting system may periodically accrete the discount to maturity as

income, the association does not receive cash. The association, however, will receive substantial cash inflow at maturity of the security that is far in excess of the instrument's yield. Interest income and cash inflow are not synonymous.

Second, an association pays interest on savings accounts. If the association credits the interest monthly, cash disbursements will be substantially less than interest expense accrued. The association will experience a significantly greater cash outflow than interest expense when the savings account holder withdraws his or her funds. Interest expense and cash outflow differ.

Third, an association might receive a loan fee today that will accrete into income (net of direct expense) over the anticipated life of the loan. Likewise, an association might buy a fixed asset, such as a computer system, today but allocate the depreciation expense over the useful life of the asset. Non-interest income and expense is not synonymous with cash flow. Some income fees and operating expenses have accounting accruals with a time pattern distinct from cash flow.

Interest Rate Risk

There is also a relationship between cash flow and interest rate risk management. Management must be aware, however, that an asset/liability structure capable of controlling interest rate risk does not necessarily generate an adequate cash flow. The potential repricing of an asset or liability does not imply the asset or liability is maturing. Similar to cash flow and profitability, there is a relationship between cash flow and interest rate risk factors, but one does not require the other. Several examples illustrate the difference:

First, a savings association might originate or purchase adjustable-rate mortgage (ARM) loans with a one-year repricing interval. If the ARMs' interest rate index increases, the monthly cash inflow from the loans will increase up to the ceiling that annual and lifetime rate caps impose. The savings association, however, still has its funds invested in ARMs. It does not have the same asset flexibility as if the borrower repaid the loans or if it called the loans at the end of the year.

Second, most mortgage loans include a prepayment option. Mortgagors are much more (or less) likely to exercise that option when interest rates decrease (or increase). Consequently, associations receive back relatively more cash when prepayment activity is high and reinvestment alternatives are lacking, yet receive relatively less cash when prepayments slow down and reinvestment alternatives are good. Cash flow can move in a direction contrary to what an association may desire in managing its interest rate risk.

Third, fixed-rate depositors are more likely to withdraw accounts and incur substantial early withdrawal penalties if interest rates increase sufficiently to make it profitable for them to reinvest funds elsewhere. By contrast, depositors rarely withdraw high-rate savings early when interest rates drop.

Credit Risk

Cash flow also relates to credit risk exposure and asset quality. Loans and securities that carry additional repayment uncertainty must provide higher yields. As long as the assets perform, the additional income provides associations with extra cash inflow. Once the assets become delinquent, troubled, or require collateral repossession, the increased credit risk sharply limits or eliminates cash inflow. Indeed, problem assets may precipitate cash outflows as managers seek voluntary or judicial resolutions and incur additional legal and administrative costs. Credit risk and cash flow often have a high correlation.

Prepayments

The anticipated life of mortgage loans and mortgage-backed securities (MBSs) must concern savings associations that originate, trade, or sell such instruments. The period to prepayment affects the investment life, pricing, profitability, and value of loans as well as cash flow. For example, loan prepayments accelerate cash flows.

Associations can trace prepayments to a variety of factors, including the following:

- Seasoning - This is when mortgagors have paid their mortgage for several years and are

now more likely to seek a new home or refinancing.

- Refinancings - This is when mortgagors are able to obtain a new loan at lower interest rates than their existing contract rate.
- Default - This is when mortgagors do not repay their loan and the association must repossess. Defaults on fixed payment loans tend to remain high until the borrower makes three or more years of satisfactory payments.
- Disaster - This includes a variety of scenarios such as destruction of the property by fire or flood, or the death or disability of the owner.

Other Factors Affecting Prepayments

Legal, geographic, and seasonal factors also affect prepayments. For example, GNMA securities backed by FHA or VA loans tend to prepay slower than other agency pass-through securities because the underlying loans do not include a due-on-sale clause. Similarly, certain geographic areas that experience growth, high professional employment mobility, or retirement migration patterns also prepay more quickly. Variations in a region's economic base can change prepayment activity. Finally, the peak housing activity during the spring and summer months translates directly to prepayment seasonality.

Long-term corporate bonds are also subject to optional prepayments. A call option allows a bond's issuer to retire a bond prior to maturity. Bond issuers often exercise calls when interest rates decline. This allows them to refinance the debt prior to maturity at a lower coupon than currently being paid. A put option allows an investor to sell the bond back to the issuer at par prior to maturity when interest rates increase. Calls are very similar to prepayment of MBSs; a savings association receives back cash when it least wants to reinvest cash, such as in a low interest-rate environment.

Capital Management

Finally, cash flow relates to capital management. Associations operating with significant levels of equity capital, retained earnings, and general reserves do not have the same cash flow pressure as highly leveraged associations.

Capital accounts generally do not have a stated maturity. They do not require a return of capital and dividend payments and repurchase of stock are discretionary. Capital is, however, not a free source of funds. Management and shareholders expect an acceptable return on equity, either through share value appreciation or by cash dividends. The return need not necessarily result in a cash outflow needed to pay interest on debt and principal at maturity. Some shareholders prefer to have management retain earnings if the association is able to generate a high return on equity.

Asset/Liability Structure and Cash Flow

Statement of Financial Change

You may request that the association prepare a Statement of Financial Change that compares key balance sheet items between two points in time. Sources of funds include:

- Increasing deposits and borrowed money.
- Increasing equity or net income.
- Noncash expenses.
- Decreasing assets.

By contrast, uses of funds include:

- Increasing assets.
- Decreasing deposits and borrowed money.
- Repurchases of equity.
- Net losses.
- Dividend payments.

The association may analyze the balance sheet to construct a Statement of Financial Change. In the example, the association obtained funds from deposit growth and loan payoffs and sales, and used the funds principally to buy securities.

The Statement of Financial Change in Table 1 does not fully reflect cash flow. (Funds in the statement are not the same as cash.)

The first reason is that the statement reflects net changes during the year rather than gross flows. The Statement of Financial Change shows the association invested $14 million in securities. The fund flows mask actual cash flows within the year. For example, $2 million of the securities owned at the beginning of the year matured and the association sold $3 million. Consequently, management actually invested $19 million in securities during the year, which equals the sum of the net purchases, sales, and maturing securities. Similarly, the Statement of Financial Change shows deposits grew by $10 million during the year. However, savers withdrew $8 million of deposits during the year. The association credited $2 million of interest income. Consequently, new deposits equaled $16 million, yet net deposit growth equaled $8 million. The association originated $14 million of new loans while borrowers repaid $9 million.

Table 1
Statement of Financial Change Worksheet
Balance Sheet

	Beginning of Year	End of Year	Source	Use
Cash	$ 1	$ 2	$	$ 1
Securities	8	22		14
Loans	90	85	5	
Fixed Assets	1	1		
Total	$ 100	$ 110		
Deposits	70	80	10	
Borrowed Money	25	24		1
Stock	1	1		
Retained Earnings	4	5	1	
Total	$ 100	$ 110	$ 16	$ 16

The second reason is that accounting accruals rather than cash flow is the basis for the Statement of Financial Change. For example, the association showed a net income of $1 million. The net income equals cash only if all receipts and expenses resulted in a cash flow. We already know that the association credited $2 million of the interest expense, as opposed to writing checks. Had there been other expenses of a noncash basis (for example, goodwill amortization), the cash flow from operations would have exceeded $3 million. Had income included a noncash basis (for example, accretion of discounts), the cash flow from operations would have been less. The Statement of Financial Change allows readers an opportunity to identify where management is obtaining and allocating funds. Do not confuse a Statement of Financial Change with a Cash Flow Statement or a pro forma cash budget.

Cash Budget

The association may construct a cash budget by adjusting the Statement of Financial Change for the effects of accounting accruals and gross cash flow adjustments. Table 2 Cash Flow reflects the effect of these adjustments.

The cash flow schedule identifies, more precisely than the Statement of Financial Change does, where a savings association chooses to obtain and allocate funds. Savings associations should develop pro forma cash budgets to ensure cash or liquidity will be available in the future. The uncertainty that mortgage loan prepayments, fixed-rate commitments and deposit withdrawals create reduce the confidence of a projected cash budget. You should determine how management anticipates cash flows in the future.

Pro Forma Financial Statements

Business plans should include pro forma financial statements to support the financial consequence of recommended funds management strategies. You should address the following cash flow questions when analyzing a savings association's business plan pro forma statements:

- Is cash sufficient to meet customers' financial services and regulatory reserves?
- Is liquidity sufficient to fulfill regulatory and safety and soundness requirements?
- Is the liquidity ratio sufficient to back less marketable, long-term assets or short-term volatile liabilities?

- Do sensitivity analyses under different interest-rate environments reflect varying loan prepayment and deposit withdrawal levels?

Table 2
Cash Flow

Cash Inflow	
Operations:	
Net Income	$100
Plus:	
Accrued Interest Savings	200
Depreciation and Amortization	30
Provision for Loss	20
Less:	
Stock Dividend	10
Discount Accretion	30
Equity in Subsidiaries	10
Operating Cash Flow	$300
Financial:	
Principal Repayment and Prepayment	$900
Maturing Securities	200
Loan and Security Sales	300
Net New Savings	800
Net New Borrowed Money	(100)
Financial Cash Inflow	$2100
Total Cash Inflow	$2400
Cash Outflow	
Loan Disbursements	400
Security Purchases	1900
Financial Cash Outflow	$2300
Net Change in Cash	100
Initial Cash	100
Ending Cash	$200

- Does hedging activity reflect cash flows?
- Is the interest income of securities consistent with their maturity, marketability, and default risk?
- Is the interest cost of deposits and borrowed money consistent with their maturity and credit rating?
- Does borrowed money growth reflect likely over-collateralization levels and a change in collateral or cash flow with shifts in interest rates?

Pro forma financial statements are only as good as the assumptions used to develop them. You should question the assumptions.

LIQUIDITY MANAGEMENT

Liquidity management goes beyond meeting the minimum statutory liquidity requirement. You must determine and evaluate how management measures, monitors, and plans for its liquidity position. An association may manage the risk of running out of cash in some of the following ways:

- Lessen its lending.
- Invest more in short-term highly marketable securities.
- Enter into more forward commitments to sell rather than to purchase loans or securities.
- Attract funds through long-term debt or permanent equity capital.

An association may enhance its liquidity by making loans that can be sold into the secondary market, by maintaining continuous access to borrowed money, or by a combination of both these strategies.

Customers' Role in Liquidity Management

Differences in the rate of growth of deposits and loans may precipitate liquidity problems. When loan accounts grow more quickly than deposits, an association must shift its burden of liquidity management to the investment and funding operations that it conducts in open financial markets. The association must draw down cash, sell securities, or borrow money. These actions may reduce visible liquidity (such as cash and short-term marketable securities) and invisible liquidity (such as remaining borrowing capacity). By contrast, when deposits are growing more quickly than loans, an association is generating excess funds. The association may then replenish

its cash, invest in securities, and/or repay borrowed money.

Assets and Liquidity

Measurement

Associations may measure asset liquidity using either of two methods. The first method is to determine cash flows that an asset will generate. The second method is to determine how easily the association can convert the asset to cash either by selling it in a secondary market or by using it as collateral to borrow money.

Maturity and Duration

Maturity is a key attribute of the relative liquidity of an asset. A short-term asset is inherently more liquid than a long-term one. For example, the secondary market for U.S. Treasury securities is deep, broad, and resilient. Longer-term U.S. Treasury Bonds, however, carry a risk of a larger loss than short-term U.S. Treasury Bills when interest rates increase. Table 3, Security Price Change and Interest Rate Shift: Maturity, illustrates how the price of several bonds of different maturities might react to an interest-rate change. Short-term securities are liquid because they either mature quickly or an association may sell them with little loss given a minimal increase in required yields.

Table 3
Security Price Change and Interest
Rate Shift: Maturity

($1000 Par, 8% Coupon Security)

Maturity	$ Price @ a%	$ Price @ 9%	% Price Change
1 Year	$1000	$990	1.0%
5 Years	$1000	$960	4.0%
20 Years	$1000	$908	9.2%

While the time remaining to maturity of a security influences its potential price change, the price change more closely relates to the duration of the security. Duration measures the present value-weighted average time to receipt of a security's cash flow. If all else is equal, a security will have a shorter duration if it has one or more of the following characteristics:

- A shorter maturity
- A higher coupon
- More frequent cash flows
- Higher principal receipts.

Table 4, Security Price Change and Interest Rate Shift: Duration, shows how the percentage price change of three bonds might react to a one percent increase in market interest rates.

Table 4
Security Price Change and Interest
Rate Shift: Duration

($1000 Par)

Maturity	Coupon	$ Price @ a%	$ Price @ 9%	% Price Change
7 Years	0%	$ 534	$ 494	7.5%
10 Years	8%	$ 1000	$ 935	6.5%
12 Years	15%	$ 1534	$ 1435	6.4%

Fixed-rate assets with long maturities will have long durations, and will exhibit more price volatility than fixed-rate assets with short maturities. Adjustable-rate instruments, with long maturities, however, may have short durations, depending on their reset frequency, type of index used, and their periodic and lifetime caps.

Credit Risk

Another factor affecting liquidity management is the default risk of an asset. Assets with more predictable cash flows enhance liquidity since management is more certain of timely payment receipts. For this reason, the market views as default free securities issued or guaranteed with the full faith and credit of the U.S. Treasury. These securities include U.S. Treasury bills, notes, and bonds and Government National Mortgage Association (GNMA) securities. The market views as default remote securities issued or guaranteed by quasi-agencies of the U.S. Government. These

agencies include the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac), and the Federal Home Loan Banks (FHLBs).

Investors must individually evaluate the credit risk obligations of financial institutions, corporations and state and local governments. For financial institutions these obligations include federal funds, certificates of deposit, and bankers acceptances. For corporations they include commercial paper and corporate bonds. For state and local governments they include general obligation and revenue bonds.

An investment-grade bond suitable for providing liquidity means that the security has a low market and credit risk. Moody's and Standard & Poor's investment services assign letter grades to indicate a level of credit risk. The top four grades disclose an acceptable credit quality and limited default risk. See Table 5, Credit Quality and Rating Grades.

Table 5
Credit Quality and Rating Grades

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

The most pronounced differential in yield and risk is between the third and fourth grades. When an investment rating service downgrades a medium-grade bond to Ba or BB, the market no longer considers the bond to be investment quality. Management must set limits on the credit-risk exposure of its assets. Loans and securities with high credit risk may reduce cash flow problems as long as the assets continue to perform.

A simple method of managing credit risk when doing business with commercial banks is to restrict investments to the insured portion. Such a strategy, however, may not be practical for larger savings associations. Uneven profitability is the key factor influencing the riskiness of a commercial bank. The association should analyze the risks based on financial ratios and maintain an approved list of acceptable commercial banks.

Each association with uninsured bank deposit exposure should establish, monitor, and update an approved list of accepted commercial banks. Associations may develop the list internally or purchase them. Associations should review and update them at least annually, but more frequently (such as quarterly) where large demand deposits, federal funds sold, or certificate of deposit exposure exists.

Associations must also consider credit risk when evaluating non-securitized assets, such as single-family mortgages. Associations can more easily use whole loans that conform to Fannie Mae or Freddie Mac underwriting standards as collateral for FHLB advances than non-conforming mortgages. This is an important consideration for savings associations that are expanding their subprime, or B- and C-rated mortgage portfolios. Such assets require more due-diligence than the conforming kind, and will require a larger haircut when being used as collateral.

Marketability

The speed at which an association can sell a security at a price near its last trade affects its liquidity. An asset's market depth, breadth, and resiliency influence the liquidity of the asset. Deep, broad, and resilient markets are liquid.

The existence of orders above and below the price at which a security is trading illustrates depth. Prompt communication of quotations and prompt execution of orders are a precondition of a deep market.

The existence of a substantial volume of potential investors illustrates breadth. Broad markets lead to greater stability when transitory order imbalances occur.

The speed at which new orders occur from a price change or order imbalance illustrates resiliency.

The market that an asset trades in and the size of the posted bid/asked spread determines the liquidity of the asset. Marketability allows a

savings association to obtain cash prior to an asset's maturity.

The market in which an association buys and sells an asset affects asset liquidity (depth, breadth, and resiliency). Assets tend to be most liquid in auction and dealer markets, less liquid in broker markets, and least liquid in a direct-search market. You should evaluate how management selects and monitors assets according to the market in which they trade.

Management Considerations

A savings association should consider committing relatively more funds to liquid assets whenever the following occur:

- The association's long-duration assets (such as zero-coupon bonds) increase.
- High credit-risk loans (such as ADC loans) or commitments to purchase or fund such assets increase.
- Real estate owned increases.
- Fixed assets (such as equipment, furnishings, or real estate) increase.
- Assets trading in a broker market (such as derivative MBSs) increase.
- Lines of credit or standby letters of credit issued increase.
- Assets available for pledging against a liability are few.
- Capital is low and economic conditions threaten the market and/or customer confidence.
- Funding by short-term brokered CDs or uninsured CDs increases.
- Funding by repurchase agreements or dollar rolls increase.
- Funding by collateralized borrowed money increases.
- Hedging with interest-rate futures increases.
- Interest rate risk increases.
- A large portion of the association's assets have distant cash flows or are less marketable.
- Liabilities or deposits are subject to disintermediation.
- Significant commitments to purchase securities or originate loans are outstanding.
- Little additional access to the financial markets is likely.

The higher yields that assets with long duration, little marketability, or high credit-risk exposure often carry will partially offset the profit penalty that investing in liquid assets incurs. Further, short-term liabilities and wholesale deposits often cost less than longer-term accounts and partially offset the profit penalty from the additional investment in liquid assets.

Asset liquidity carries a cost of lower interest income. The following are some strategies that an association can consider to enhance its liquidity position, instead of investing in less profitable short-term, marketable, default-free liquid instruments:

- Emphasize investments in loans and securities with monthly payments that include interest and principal (for example, mortgage loans, installment loans, and MBSs), or those with intermediate-term maturities (for example, consumer loans and 15-year mortgage loans).
- Emphasize investments in loans and securities that are similar to products trading in dealer markets (for example, MBSs or public agencies), or those that have predictable, consistent, and homogeneous prepayment or call risk.
- Swap mortgage loans for mortgage-backed securities (for example, Freddie Mac Participation Certificates).
- Sell and lease back the association's office building.

- Arrange workouts of troubled loans rather than undertaking foreclosures.
- Arrange to sell repossessed assets quickly by offering loans to facilitate.
- Maintain an unused line of credit with a commercial bank or a FHLB.
- Maintain assets suitable for pledging against a FHLB advance or a reverse repurchase agreement.
- Emphasize core customer accounts and intermediate-term deposits.
- Encourage depositors to accept credit for interest income rather than a check.
- Convert from mutual to stock or issue additional common or preferred stock.

Liabilities and Liquidity

Measurement

A savings association has a number of alternatives to raise cash through liability management. For example, a savings association can issue securities or seek more deposits. Also, an operating subsidiary can issue securities and upstream the cash to a parent savings association, or a holding company can issue securities and downstream the cash to the savings association. Management must consider the advantages and risks associated with each funding source.

Deposits

Accountholders may withdraw some savings accounts on demand, yet such withdrawals do not necessarily cause an increase in liquidity risk. These deposit accounts in total provide a savings association with a long-term source of funds because depositors generally maintain such accounts as a safe, convenient, and immediately available liquidity reserve. Depositors may not only have earnings credited, but may make net deposit additions each month. Associations may consider such accounts core deposits, an important factor when measuring liquidity risk. A savings association will likely, however, lose core deposits over time if the interest rates that it pays become noncompetitive. Core deposits may include regular savings, CDs, and various types of special purpose accounts (such as retirement accounts and school savings accounts).

By contrast, other deposits require more liquidity because depositors have selected a specific account and a specific association because the account pays the highest available market rate of interest. When management posts a lower rate, hot and volatile wholesale funds disappear. Such funds approximate the amount of uninsured deposits and brokered deposits that a savings association has on deposit. Volatile liabilities increase liquidity risk. A savings association, however, at times may meet liquidity needs by posting a high interest rate or using brokers to raise desired amounts of cash quickly. Management and regulators must, for liquidity analysis purposes, distinguish core deposits from volatile deposits.

An association pays for the lower liquidity risk that core deposits provide, even though the interest rate paid on such accounts might be lower than rates paid on other accounts. Table 6, Deposit Account Characteristics, show the percentage of direct and indirect operating expenses that a sample of commercial banks and thrifts incurred to initiate, maintain, and close various types of deposit accounts.

Table 6
Deposit Account Characteristics

	Assets < 150 M		Assets > 150 M	
Deposit Account	*Expense %*	*$ Balance*	*Expense %*	*$ Balance*
Interest-Bearing Checking	3.97%	$ 8,525	5.09%	$ 5,495
Regular Savings	3.18%	$ 3,468	2.47%	$ 3,417
Retirement Accounts	**2.45%**	**$ 9,679**	1.25%	**$10,802**
Time Deposits	**1.99%**	**$ 17,240**	**1.36%**	**$ 17,287**

Source: Federal Reserve Bank System, 1997 Commercial Banks Product Comparisons, "Functional Cost and Profit Analysis."

Core deposits typically have lower account balances than non-core deposits, and higher direct

and indirect operating expenses. Rather than obtaining core deposits, an association in some instances may more quickly and less expensively raise desired amounts of funds through the wholesale deposit market or by borrowing money.

Borrowed Money

A savings association incurs a variety of expenses to obtain funds by borrowing money. Generally, savings associations pursuing a business strategy of moderate growth find borrowed money an attractive funding alternative to retail deposits. Even when the borrowed money carries higher interest rates than deposits, the interest expense applies only to the incremental funds raised, not total funds. The following example illustrates the difference: Assume a savings association wants to grow quickly by 10 percent. In order to acquire the new funds, the association believes it must post higher interest rates for all of its deposit products by 1/8 of 1 percent. For each $10 million of total deposits, interest expense thereby increases $12,500 annually. The incremental interest incurred amounts to 1.25 percent for the desired $1 million (10 percent of the $10 million deposits) growth. The association will more cheaply obtain this desired growth by borrowed money if its cost were no more expensive than 1.25 percent of the current deposit rate. Table 7, Borrowed Money Break-Even Analysis, illustrates various combinations of incremental interest rates needed to attract deposit funds and desired deposit growth. The indicated values show how much extra a savings association could pay for borrowed money than deposits and break even. To generate profit improvement, associations can often issue debt at sufficiently lower spreads than the table indicates. Associations should view borrowed money as a source of incremental funds to meet liquidity needs.

Table 7
Borrowed Money Break-Even Analysis

Incremental Deposit Rate Increase to Obtain Growth	Funding Growth 5%	10%	15%
1/8 of 1%	2.50%	1.25%	.83%
¼ of 1%	5.00%	2.50%	1.67%
½ of 1%	10.00%	5.00%	3.33%

In addition to deposits and borrowed money, there is a variety of other types of financing that a savings association may use to generate cash flow and manage liquidity. These financing vehicles include the following:

- Short-term reverse repurchase agreements
- Issuing securities on a tap basis
- Issuing single-class securities
- Issuing multiclass securities.

Short-Term Reverse Repurchase Agreements

By selling securities through a reverse repurchase agreement or a dollar roll a savings association sells a security and simultaneously agrees to repurchase it or a similar security at a later date.

Tap Basis

By issuing securities on a tap basis a savings association is able to obtain a specific amount of funds for the specific time that it needs the funds. A savings association may tap an entire issue at one time, such as $100 million, or it may borrow in smaller increments as needed, such as $10 million. Savings associations have issued commercial paper and term debt on a tap basis. The issuing of commercial paper assists seasonal cash needs that arise from, for example, mortgage banking activities while the issuing of term debt facilitates funding investments intended for the portfolio.

Single-Class Securities

By issuing single-class securities a savings association is pricing an instrument off a point of the yield curve or some other index. For example, savings associations sometimes issue floating-rate notes with intermediate terms. Associations index the interest rates to T-bills, London Interbank's Offered Rate (LIBOR), or the Eleventh FHLB District's monthly cost of funds index. Other issued instruments have included mortgage-backed securities with intermediate terms and semiannual payments. A few savings associations have even issued long-term Eurobonds denominated in U.S. dollars and foreign bonds denominated in other currencies. Longer maturities and less frequent

interest payments facilitate liquidity management by extending the time until cash is due.

Multiclass Securities

By issuing multiclass securities a savings association divides its liability into a number of investor classes. This way the association can price classes of bonds off short-term, intermediate-term, and/or long-term maturity and thereby save interest expense in the face of an upward sloping yield curve. The Collateralized Mortgage Obligation (CMO) and Real Estate Mortgage Investment Conduit (REMIC) are two examples of such securities that have short-term, intermediate term, long-term, and residual classes. Associations may further refine the classes, also known as tranches, by issuing them with floating rates, reverse floating rates, or specific planned amortizations.

SUPERVISORY CONCERNS

Mortgage Banking Activity

If an association forms a mortgage banking affiliate, cash flow and liquidity represent critical components. The savings association must ensure that adequate lines of credit are available to meet warehousing needs and that there are adequate forward commitments to sell the minimum amount of loans that the affiliate expects to close.

Commitments and Liquidity

Savings associations often own assets, make loan commitments, and acquire deposits with options that complicate cash flow planning. Table 8, Cash Flow and Interest Rate Change, illustrates the cash flow consequence of a change in interest rates for these accounts.

Note that rising interest rates affect assets, commitments, and liabilities. A savings association may have to search for more sources of cash when it least wants to, such as in a period of high rates. Options made available to customers greatly complicate cash flow planning.

Funds managers may partially offset interest rate risk and some of the liquidity risk incurred by hedging. Hedging may affect the cash flows of an association. For example, hedging may increase the liquidity of an asset because the transaction reduces the association's reluctance to sell an asset at a loss. The hedge should provide an approximate offsetting gain.

Table 8
Cash Flow and Interest Rate Change

Account	Option	Effect	
		Rising Rates	Falling Rates
Mortgage Loan	Prepayments	Fewer (-)	More (+)
Corporate Bond	Call Feature	No Call	Call (+)
Loan Commitment	Closure risk	More Loans Closed (-)	Fewer Loans Closed (t)
Term Deposit	Early Withdrawal	Withdrawn (-)	No Change
Mortgage-Backed Bond	Put Feature	Exercise (-)	No Change

Federal Home Loan Bank (FHLB) Membership and Liquidity Concerns

FHLB advances are a traditional source of borrowings for savings associations. The FHLB system has consistently played an important role in assisting the thrift industry to manage its short- and longer-term liquidity needs.

While federal law requires federal savings associations to maintain FHLB membership, the law does not require state-chartered savings associations to obtain and maintain such membership. An association that voluntarily withdraws from FHLB membership is, however, subject to a prohibition on re-entry into membership for ten years. When examining a savings association that is not a FHLB member, you should review the association's balance sheet and its exposure to liquidity risk. You should also determine if the association's strategic plans, policies, procedures, and ability to borrow funds adequately address any liquidity concerns. As part of this determination you should review written plans, analyze the association's access to sources of funds, and assess management's evaluation of near-term and longer-term anticipated funding needs.

Liquid Asset Requirements

Section 6 of the Home Owners' Loan Act (12 USC § 1465) requires savings associations to maintain a minimum amount of liquid assets. The Section requires the OTS Director to prescribe the amount to be not less than four percent or more than ten percent of an association's liquidity base. Liquidity base consists of withdrawable accounts and short term borrowings.

Effective November 24, 1997, OTS amended the liquidity regulation, 12 CFR Part 566. The regulation now requires savings associations to maintain in each calendar quarter an average daily balance of liquid assets of not less than four percent of their liquidity base. More importantly, the regulation also requires savings associations to maintain sufficient liquidity to ensure their safe and sound operations.

See Appendix A, Liquidity Regulation Interpretative Guidance. The appendix summarizes some of the guidance that OTS has provided to both its regulatory staff and savings associations to assist them in determining compliance with liquidity requirements.

Troubled Institutions

There are restrictions on funding sources for troubled and undercapitalized institutions. These restrictions serve to reduce the ability of troubled or undercapitalized institutions to obtain credit. Two of the restrictions include limited access to brokered deposits and restrictions on the amount of permissible credit exposure to a correspondent institution. In addition, there are certain restrictions on Federal Reserve discount window borrowing. These restrictions, in connection with prompt corrective action provisions, effectively force faster resolutions of undercapitalized institutions.

Brokered Deposits

The FDICIA significantly reduced the availability of brokered deposits as a source of liquidity by mandating restrictions on such deposits. The FDIC's implementing regulations, at 12 CFR § 337.6, set forth the following provisions:

- Well-capitalized institutions may accept brokered deposits without restriction.
- Adequately capitalized institutions must receive prior FDIC approval.
- Undercapitalized institutions may not accept brokered deposits.

See Handbook Section 560, Deposits/Borrowed Funds, for a detailed discussion of brokered deposit restrictions.

Limitations on Interbank Liabilities

Under FRB regulation 12 CFR Part 206, Limitations on Interbank Liabilities (Regulation F), savings associations must establish and maintain written policies and procedures to prevent excessive exposure to any individual correspondent. The prevention of excessive risk exposure relates to the condition of the correspondent. Specifically, the regulation requires savings associations to establish policies and procedures that take into account credit and liquidity risks, including operational risks, in selecting correspondents and terminating those relationships.

REFERENCES

United States Code (12 USC)

§ 1465	Liquid Asset Requirements

Code of Federal Regulations (12 CFR)

Part 206	Limitations on Interbank Liabilities
§ 337.6	Brokered Deposits
§ 561.31	Nonwithdrawable Account
§ 563.84	Transfer and Repurchase of Government Securities
§ 563.172	Financial Derivatives
§ 563.176	Interest Rate Risk Management Procedures
§ 563c.102	Financial Statement Presentation
§ 563d. 1	Requirements Under Certain Sections of the Securities Exchange Act of 1934
Part 563g	Securities Offerings

Part 566 Liquidity

FFIEC Policy Statement

Supervisory Policy Statement on Investment Securities and End-User Derivatives Activities (April 23, 1998)

Cash Flow and Liquidity Management Program

Examination Objectives

To determine if the association's established policies, procedures, and strategic plans regarding cash flow and liquidity management adequately address safety and soundness, profitability, and compliance with laws and regulations.

To determine if the association has complied with the regulatory liquidity requirements.

To determine if the association's officers and employees are operating in compliance with established guidelines.

To determine if financial records and management reports provide accurate and necessary information to assist management and the directors in fulfilling their cash flow and liquidity management responsibilities.

To summarize findings and to initiate corrective action when there are deficiencies that could affect safety and soundness, or when you note violations of laws or regulations.

Examination Procedures

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Level I

1. Review scoping materials applicable to this program. Specifically request liquidity worksheets, deficiency lists, financial policies, and indentures of new borrowed money issues.

_____ _____

2. Determine, through discussions and other appropriate verification methods, if the savings association corrected problems related to the following:

   - Prior examination report comments and prior examination exceptions.
   - Independent audit exceptions.
   - Any enforcement or supervisory actions and directives.

_____ _____

3. Obtain and review the adequacy of written policies, procedures, and strategic plans governing cash flow and liquidity management. These guidelines should adequately address safety and soundness (including internal controls), profitability, and compliance with laws and regulations. Review business plans, pro forma financial

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statements, investment policies, and savings and borrowed money policies for liquidity and cash management implications.

4. Obtain pertinent financial records and management reports applicable to cash flow and liquidity management. Review the reports to make a determination as to the adequacy of the reports for providing management and the directors with information needed to carry out their responsibilities.

5. Determine whether the association met liquidity requirements since the last examination.

6. Determine whether management has provided for sufficient liquidity in relation to the following:

- The overall maturity, cash flow, prepayment risk, and credit risk of the association's assets.
- The withdrawal risk and customer mix of its liabilities.
- The level of commitments outstanding.

For example, has management developed a strategic cash flow and liquidity management plan to respond to a two percent increase in asset and liability interest rates?

7. Review the adequacy of the association's cash budgeting system.

8. Assess the adequacy of the association's immediate-, near-, and intermediate-term access to cash. What contingency plans are available to raise cash?

9. Review Level II procedures and perform those necessary to test, support, and present conclusions derived from performance of Level I procedures.

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Cash Flow and Liquidity Management Program

Level II

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10. Review the association's liquidity calculations. Ensure that they are correct and that the association only uses assets eligible for liquidity purposes to determine liquidity.

11. Review the contractual terms of recent borrowing to assess any liquidity implications

12. Identify the amount of mortgage-backed securities or conforming loans available for pledging but not yet used as collateral against liabilities.

13. Estimate the proportion of deposits generated by core customers and wholesale or volatile liabilities.

14. Determine the ability of the association to perform under mandatory agreements to buy loans or securities.

15. Review the adequacy of the association's pipeline report for fixed-rate commitments and assess the adequacy of liquidity.

16. Ensure that your review meets the *Objectives* of this Handbook Section. Present on the appropriate work papers and report pages your findings, conclusions, and appropriate recommendations for any necessary corrective measures.

Level III

17. Develop audit procedures, detail testing, and scheduling that you are to do when work in Level II is insufficient to draw conclusions on the adequacy of cash flow policies and liquidity management performance.

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18. Estimate the liquidity that the association could create by selling marketable assets not needed for regulatory requirements or pledging. Estimate the gain or loss should the securities be sold. Would the savings association remain profitable or solvent?

19. Estimate the consequence of a one percent to two percent increase of interest rates on the collateral requirements for borrowed money. Ensure that sufficient funds are available. Prepare or review a cash budget during the next year under assumptions of stable, declining, and increasing interest rates. Ensure sufficient cash flow is available.

20. Estimate the effect of a ten percent deposit run on the association or the loss of access to the reverse repurchase and dollar roll market.

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LIQUIDITY REGULATION — INTERPRETIVE GUIDANCE

The following text summarizes some of the guidance that OTS provides to both its regulatory staff and thrift institution personnel to assist them in determining compliance with liquidity requirements.

Agency and Private Issuances

The term agency refers to the federal agencies and government-sponsored entities listed in 12 CFR § 566.1 (g)(3). Obligations, such as mortgage backed securities (MBS), including collateralized mortgage obligations (CMO s), that these agencies issue or fully guarantee as to principal and interest are liquid assets, regardless of the time remaining until their maturity. Prior to the November 24, 1997, amendment to the liquidity regulation, the required time remaining to maturity of agency obligations to qualify as liquidity was five years or less.

Corporate debt obligations, such as MBS, including CMOs, that non-government-sponsored companies issue (private issuances) are liquid assets if they meet the regulatory provisions of 12 CFR § 566.1 (g)(9)(i). In summary, these provisions require that the obligations must:

- Be rated in the four highest categories.
- Be marketable.
- Mature within three years.
- Not be convertible to common stock.

Savings association investments in non-agency, corporate debt obligations are subject to the loans-to-one borrower limitations.

Banker's Acceptances Issued by Edge Act Corporations

Banker's acceptances that an Edge Act corporation issues, and that the parent FDIC-insured bank guarantees, are eligible as liquid assets. (Edge Act corporations are subsidiaries of commercial banks created to carry on international banking operations.)

Generally, a banker's acceptance that an Edge Act corporation issues is an unconditional guarantee of payment on a draft with a specified maturity drawn on itself. The banker's acceptance constitutes the corporation's unconditional promise to pay the draft at maturity. The parent FDIC-insured commercial bank substitutes its creditworthiness for that of the drawer Edge Act corporation. By guaranteeing a banker's acceptance that its Edge Act subsidiary issues an insured bank undertakes a collateral obligation to pay the draft at maturity. Upon failure of the subsidiary to honor the draft on presentation, the parent bank's obligation requires it to pay the banker's acceptance as if it were its own. Because of this, the instruments are eligible for inclusion as liquidity.

Excess Pledged Assets

Securities pledged in excess of the indebtedness that they secure may qualify as liquidity if the pledging institution has the right, on notice of not more than 48 hours, to substitute smaller denominated pledged securities.

The extent to which excess pledged securities may qualify as liquidity is dependent on the denominational makeup of the securities. An example of this is where an institution pledges a $500,000 security to secure a loan requiring $350,000 in pledged collateral. If the pledged security were reissuable in $100,000 denominations, $100,000 would be eligible for liquidity. If the pledged security were reissuable in $50,000 denominations, $150,000 would be eligible for liquidity.

Escrow Accounts

For liquidity purposes, OTS includes escrow accounts as withdrawable accounts.

Eurodollar Deposits

Eurodollar deposits (both time deposits and certificates of deposit) in a foreign branch of an FDIC-insured bank are eligible for liquidity provided they meet the liquidity regulation maturity and priority-of-claims requirements.

FHLB Stock

FHLB stock that a thrift owns in excess of the amount required for membership in a FHLB counts as liquidity.

Held-to-Maturity Investments

The designation of investments in accordance with FASB 115 as held-to-maturity does not affect the eligibility of those investments to be regulatory liquidity.

Lending of Securities

A lending-of-securities transaction involves a loan made on the security of government obligations with the obligations being lent instead of cash. A securities broker or dealer (or financial institution) may want to borrow, normally for a short period of time, a certain type of investment security that an institution owns. As collateral, the borrower pledges government obligations at least equal in market value to the market value of the securities loaned. The institution (lender) and the securities broker or dealer (borrower) continue to receive interest earned on their own securities (the borrower pays a standard fee). At the expiration of the transaction the borrower returns the securities, or more likely other securities of the same principal amounts of the same issue, to the institution. The institution returns the securities that it held as collateral.

The lending of securities will not affect an institution's liquidity position if the securities loaned are returnable or replaceable either on demand or, at the lender's option, on not more than 48 hours notice. Also, the collateral must be as liquid under the liquidity regulations as the securities being loaned.

Mortgage-Related Securities

The Securities Exchange Act of 1934 § 3(a)(41)[15 USC 78c(a)(41)] definition of mortgage-related security means a security that is rated in one of the two highest rating categories by at least one nationally recognized statistical rating organization, and either:

- represents ownership of one or more promissory notes or certificates of interest or participation in such notes (including any rights designed to assure servicing of, or the receipt or timeliness of receipt by the holders of such notes, certificates, or participations of amounts payable under, such notes, certifications, or participations), which notes:

  — are directly secured by a first lien on a single parcel of real estate, including stock allocated to a dwelling unit in a residential cooperative housing corporation, upon which is located a dwelling or mixed residential and commercial structure, on a residential manufactured home as defined in section 5402(6) of Title 42, whether such manufactured home is considered real or personal property under the laws of the State in which it is to be located or on one or more parcels of real estate upon which is located one or more commercial structure: and

— were originated by a savings and loan association, savings bank, commercial bank, credit union, insurance company, or similar institution which is supervised and examined by a Federal or State authority, or by a mortgagee approved by the State of Housing and Urban Development pursuant to sections 1709 and 17 15b of Title 12, or, where such notes involve a lien on the manufactured home, by any such institution or by any financial institution approved for insurance by the Secretary of Housing and Urban Development pursuant to section 1703 of Title 12; or

- is secured by one or more promissory notes or certificates of interest or participations in such notes (with or without recourse to the issuer thereof) and, by its terms, provides for payments of principle in relation to payments, or reasonable projections of payments, on notes meeting the requirements of subparagraphs (A)(i) and (ii) or certificates of interest or participations in promissory notes meeting such requirements. For the purpose of this paragraph, the term "promissory note," when used in connection with a manufactured home, shall also include a loan, advance, or credit sale as evidenced by a retail installment sales contract or other instrument.

OTS regulation 12 CFR § 566.1 (g)(12) provides that subject to the provisions of §(6)(b)(1)(C)(vi) of the HOLA, mortgage-related securities may count as liquid assets. One such HOLA provision requires that the securities have one year or less remaining until maturity, or be subject to an agreement that requires another person or institution to purchase them within a year.

Agency and non-agency MBS, including CMOs, that meet the provisions of the Securities Exchange Act definition, and of §(6)(b)(1)(C)(vi) of the HOLA, qualify as liquid assets.

Mutual Funds Investments

Mutual funds investments count as liquid assets to the extent that OTS regulation 12 CFR § 566.1 (g)(8) allows. The investments count regardless of the remaining maturities of the portfolio of such funds, and whether the mutual fund company holds the portfolio directly or indirectly through another registered mutual fund company.

Pledged Bank Deposits

Savings association deposits in banks that are collateral for loans do not qualify as liquid assets.

Reverse Repurchase Agreement Transactions Treated as Borrowed Money

A reverse repurchase agreement transaction is the selling of a security subject to a repurchase agreement. While such transactions may take various forms, the essence is the sale of a security with an agreement that the selling institution will repurchase the security at a later date. The institution receives funds from the purchaser at an agreed upon rate of interest. As such, the transaction constitutes a borrowing, and if the borrowing is due for payment in one year or less an institution must include the amount of the borrowed funds in its liquidity base. Regardless of the length of time of the agreement, the securities that an association sells are not includable as liquid assets.

Short-Term Borrowings

Consignment Items

In addition, amounts due under consignment or remittance agreements for items such as travelers' checks, money orders, and Series E bonds constitute short-term borrowings and are includable in an institution's liquidity base.

Draft Instruments

Some savings institutions enter into remittance service agreements with financial institutions that serve as intermediaries for the processing of draft instruments that the savings institution issues. The draft instruments, however, draw funds from the servicing institution. Generally, servicing institutions provide savings institutions with blank payment instruments that they either sell or use to disburse funds. The servicing agreement usually gives the savings institution from one to seven days between the time the institution issues the instruments and the time it must transfer funds to cover issued drafts. Because the drafts do not draw funds directly from an institution's account they do not reduce the institution's liquid assets. However, due to the specific terms of such service agreements, the amount of all remitted funds for issued drafts constitutes a borrowing of the institution. Accordingly, an institution must include this amount as short-term borrowings for determining its liquidity requirements, rather than treating the issued drafts as accounts payable or other liabilities and not including them in the liquidity base.

Installment Payments on Long-Term FHLB Advances

Any amortized portion of a long-term FHLB advance, which is due and payable in the current fiscal period, is considered a short-term borrowing. An institution must include such due and payable amount in its liquidity base.

The phrase "borrowings with unexpired maturities of one year or less" includes that portion of a longer-term borrowing that is contractually due in the current year. For example, the annual principal installment of a five-year advance requiring a 20 percent principal payment each year is a short-term borrowing for the fiscal year in which it falls due. Conversely, if there is no contractually prescribed amortization of long-term advances, the principal would be includable in liquidity base calculations only in the fiscal year that such advances mature.

The effective maturity date of portions of the principal amount of long-term advances realistically depends on when installment payments are due. This interpretation of short-term borrowings assures a more accurate calculation of true liquidity requirements and provides a better representation of that portion of liquidity that an institution maintains in support of outstanding advances.

Overdrafts on Demand Accounts

OTS determined that a thrift's formal overdraft credit arrangement with a drawee bank was a method to borrow funds. The bank paid the overdrafts on presentation, and the thrift had a fixed period of time in which to remit funds to cover them. OTS determined that the overdrafts are borrowings, whether or not the thrift pays interest on the overdraft funds.

A short-term borrowing occurs (assuming that the overdraft is payable in one year or less) whenever the thrift's book balance for its demand deposit account, subject to an overdraft agreement, falls below zero. The thrift may consider a short-term borrowing paid when subsequent deposits bring the balance back to zero. This applies whether or not an actual overdraft occurs at the drawee institution. However, in order to classify the overdrafts as borrowings, the agreement must specify a fixed time period for repayment. Absence such an agreement, or when payable on demand, overdrafts constitute an immediate obligation and are deductible from liquid assets when determining liquidity.

INTRODUCTION

Sensitivity to market risk reflects the degree to which changes in interest rates, foreign exchange rates, commodity prices, or equity prices can adversely affect a financial institution's earnings or economic capital.[1]

In this section, we discuss interest rate risk (IRR) only, as IRR is the primary component of market risk that affects savings institutions.

Thrift Bulletin (TB) 13a, *Management of Interest Rate Risk, Investment Securities, and Derivatives Activities,* provides guidance to boards of directors and managers on IRR, investment securities, and derivatives activities. Because TB 13a discusses management of all of these activities, there is overlap between this Handbook Section on IRR, the Investment Securities Section, and the Off-Balance-Sheet Derivatives and Hedging Section.

We define IRR as the sensitivity of a depository institution's earnings and net portfolio value (NPV) to changes in interest rates. IRR results from the differences in the way interest rate changes affect the values of assets, liabilities, and off-balance-sheet instruments. IRR poses repricing risk, yield curve risk, basis risk, and options risk.

The interest rate sensitivity of an institution's portfolio depends on the characteristics of the financial instruments that make up the portfolio. Because deposit liabilities typically reprice faster than mortgage assets, rising interest rates adversely affect most thrift institutions. This means their NPV and earnings decline when interest rates rise and increase when interest rates fall. Due to their portfolio composition, there are some institutions, however, that experience both decreased earnings and net worth when interest rates fall.

The interest rate sensitivity of a financial instrument depends on many factors including the following:

- Maturity (generally, of two otherwise identical instruments, the one with the longer maturity will be more interest rate sensitive).
- Repricing characteristics (instruments such as adjustable-rate loans that reprice frequently to market interest rates are typically less interest rate sensitive than fixed-rate instruments).
- The presence of embedded options, such as loan prepayments, interest rate caps, and deposit withdrawal options that affect the timing of the cash flows generated by the instruments.

To evaluate properly the IRR exposure of a thrift institution, we must analyze the effect of interest rate changes on the entire portfolio. It can be misleading to conclude that an institution has high IRR exposure based on a few very rate sensitive instruments. In fact, the institution can offset the interest rate sensitivity of those instruments with other instruments in the portfolio that are less rate sensitive, or that are inversely affected by rate changes.

Both the board of directors and senior management of a thrift institution are responsible for the management of IRR. See 12 CFR § 563.176. We summarize below IRR management responsibilities. We describe these responsibilities more fully in Appendix B of TB 13a.

This Handbook Section includes the following topics:

- Sound practices for IRR management.
- OTS's minimum guidelines for IRR.
- OTS's guidelines for assessing sensitivity to market risk, primarily IRR (the S component rating).

[1] 61 Fed. Reg. 67029 (1996).

- Examination objectives.

Appendix A describes four types of IRR models used by thrifts, and Appendix B discusses reconciliation of the OTS NPV sensitivity estimates with the institutions' own estimates.

SOUND PRACTICES

The objective of IRR management is to control an institution's exposure to changes in interest rates. Management can then maintain adequate levels of earnings and capital over a range of possible interest rate environments. Section 563.176 establishes requirements for the management of IRR.

Management Strategy

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

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

There can be circumstances in which the steps taken to manage IRR conflict with other business goals. To minimize such conflicts, management should develop an IRR strategy in conjunction with the creation of a comprehensive business plan for the institution.

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

Policy and Procedures

The board's policy statement should include established limits and controls on IRR exposure. The board's policy statement should clearly define the delegation of responsibility for managing the institution's exposure to IRR. The policy statement should provide specific authorizations and restrictions regarding the institution's investment and trading activities, the use of derivatives and synthetic instruments, and hedging strategies.

It is senior management's responsibility to successfully implement the policy by establishing adequate guidelines and procedures. Further, senior management is responsible for reporting on the implementation and monitoring of such policy to the board on a periodic basis. The board shall review the results of operations at least quarterly (§ 563.176(e)) and make adjustments to the policy as needed.

Risk Measurement, Monitoring, and Control Functions

Institutions should:

- Have IRR measurement systems that capture all significant sources of IRR. Measurement systems should use accepted financial concepts and risk measurement techniques and should incorporate sound assumptions and parameter values. Management should understand the assumptions underlying their systems. Ideally, institutions should have IRR measurement systems that assess the effects of interest rate changes on both earnings and economic value.
- Establish and enforce risk limits that maintain exposures within prudent levels. A system of IRR limits should set prudent boundaries for the level of IRR for the institution. Management should ensure that it maintains the institution's IRR exposure within the board's self-imposed limits. Where appropriate, the institution should also set limits for individual portfolios, activities, or business units.
- Measure their risk exposure under a number of different scenarios and consider the results

when establishing and reviewing their policies and limits for IRR.

- Have accurate, informative, and timely management information systems, both to inform management and to support compliance with board policy.

Besides monitoring institutions, there should be internal controls over the IRR management process. Systems should include regular independent reviews by outside parties and evaluations of the effectiveness of the system itself, at least annually.

Analysis and Stress Testing of Investments and Financial Derivatives

Management should undertake a thorough analysis of the various risks associated with investment securities and derivative instruments before making an investment or taking a significant position in financial derivatives and periodically thereafter. The board of directors or a committee of the board should approve, in advance, major initiatives involving investments and derivative transactions.

Evaluation of New Products, Activities, and Financial Instruments

Involvement in new products, activities, and financial instruments (assets, liabilities, or off-balance-sheet contracts) can entail significant risk, sometimes from unexpected sources. Senior management should evaluate the risks inherent in new products, activities, and instruments to ensure that they are subject to adequate review procedures and controls.

MINIMUM GUIDELINES REGARDING INTEREST RATE RISK

Interest Rate Risk Limits

TB 13a requires that the board's policy statement contain limits on the following measures:

- Changes in NPV. All institutions should establish and demonstrate quarterly compliance with board-approved limits on IRR, in terms of NPV. These limits should specify the minimum NPV Ratio[2] the board is willing to allow under current interest rates and for a range of six hypothetical interest rate scenarios.

- Earnings sensitivity. Earnings-based limits can provide a useful supplement to the NPV-based limits. OTS does not require institutions to establish limits and conduct earnings sensitivity analysis. OTS does, however, consider it a good management practice for institutions to estimate the interest rate sensitivity of their earnings and to incorporate this analysis into their business plan and budgeting process.

IRR limits reflect the board of directors' risk tolerance, and should be prudently set. The board should periodically reevaluate the appropriateness of the institution's IRR limits, particularly after a significant change in market interest rates. Any changes should receive careful consideration and be documented in the minutes of the board meeting.

Systems for Measuring Interest Rate Risk

Key elements in managing market risk are identifying, measuring, and monitoring IRR. To ensure compliance with its board's IRR limits and to comply with OTS regulation $563.176, each institution must have a way to measure its IRR. OTS guidelines for IRR measurement systems are as follows, although you have broad discretion to require more rigorous systems.

Institutions Below $1 Billion In Assets

These institutions can usually rely on the quarterly NPV estimates produced by OTS and distributed in the *Interest Rate Risk Exposure Report.* The institution should be able to measure, or have access to measures of, the economic value of complex securities under the range of interest rate

[2] To calculate and express an institution's NPV Ratio for a given interest rate scenario, the institution should divide the net portfolio value that would result in that scenario by the present value of the institution's assets in that same scenario. The NPV ratio is analogous to the capital-to-assets ratio used to measure regulatory capital, but NPV is measured in terms of economic values (or present values) in a particular rate scenario.

scenarios as described in TB 13a, Part II.A.1, *Limits on Change in Net Portfolio Value.* The institution can use OTS estimates for the other financial instruments in its portfolio, although you may direct otherwise, if necessary.

Institutions With More Than $1 Billion In Assets

These institutions should measure their own NPV and its interest rate sensitivity. TB 13a gives guidance on desirable methodological features in evaluating the quality of such institutions' NPV measurement systems.

You may determine that an institution should use more sophisticated measurement techniques for individual financial instruments or categories of instruments because of the following considerations:

- The volume and price sensitivity of a group of financial instruments.
- Concern that the institution's results may materially misstate the level of risk.
- The combination of a low post-shock NPV ratio and high sensitivity measure.

In any case, the institution should be familiar with the details of the assumptions, term structure of interest rates, and logic used in performing the measurements. Therefore, measures obtained from financial screens or vendors may not always be adequate.

In addition to the interest rate scenarios described above, OTS recommends that institutions evaluate the effects of other stressful market conditions.

As part of your assessment of the quality of an institution's risk management practices, you should consider the extent to which management integrates the institution's risk measurement process with its decisionmaking. Institutions may do this by using an earnings sensitivity approach, an NPV sensitivity approach, or any other reasonable approach. The institution has discretion over all aspects of such analysis, but it should not be merely *pro forma* in nature. If evidence of such integration is not apparent, you should consider written criticism in the report or an adverse rating.

OTS MEASUREMENT OF INTEREST RATE RISK

Schedule CMR of the Thrift Financial Report collects consolidated data on the interest rates and maturities of thrifts' assets, liabilities, and off-balance-sheet contracts. OTS requires all institutions with assets in excess of $1 billion or with risk-based capital ratios below 12 percent to file Schedule CMR. All others may do so at their option.

OTS calculates quarterly estimates of NPV sensitivity for all institutions that file Schedule CMR and provides them with an Interest Rate Risk Exposure Report. This report lists OTS estimates of the institution's NPV in seven interest rate scenarios. The report provides ratios that you can use to assess an institution's IRR exposure and to compare it with other institutions.

Evaluating Interest Rate Risk Exposure

To make meaningful judgments about an institution's exposure to changes in interest rates, it is helpful to measure and compare its exposure with that of other institutions under a standardized framework. The framework adopted by OTS for this purpose is to examine exposure in the context of how an instantaneous, adverse shift in interest rates of plus or minus 200 basis points affects an institution's NPV.

OTS views the effect on NPV of an adverse rate shock relative to the size of the estimated present value of the institution's assets. An institution's NPV ratio is its NPV divided by the present value of its assets (PVA) both measured in the same interest rate scenario, or:

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

It is important to determine both the level to which an institution's NPV ratio declines as a result of an adverse change in interest rates, as well as the magnitude of the decline in the ratio.

Two measures help detect excessive exposure:

- The post-shock NPV ratio.

- The sensitivity measure.

Post-shock NPV Ratio

The post-shock NPV ratio is an institution's NPV ratio after an adverse interest rate shock of 200 basis points.

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

$$= \frac{NPV_{+200} \text{ or } NPV_{-200}}{PVA_{+200} \text{ or } PVA_{-200}}, \text{ whichever is lower.}$$

Table 1 illustrates the calculation of the post-shock NPV ratio. This table shows the estimated change in the present value of the assets, liabilities, and NPV of XYZ Savings Association resulting from a 200 basis point increase and decrease in interest rates.

TABLE 1

	Interest Rate Scenario		
	-200 Basis Point Change	Base Case	+200 Basis Point Change
Present Value of Assets	$105	$100	$80
Present Value of Liabilities	-99	-95	-77
NPV	6	5	3
NPV Ratio	5.7%	5%	3.8%

In Table 1, the adverse scenario is the one in which rates increase 200 basis points. Under that scenario, XYZ's NPV ratio declines to 3.8 percent. Thus, XYZ's post-shock NPV ratio is 3.8 percent.

Again, the post-shock NPV ratio is simply the NPV ratio that results from the more adverse 200 basis point shift in rates. This ratio indicates the cushion of economic capital an association would retain should an adverse change in interest rates occur.

The post-shock NPV ratio is a function of the sensitivity of NPV to changes in rates and the size of the NPV cushion in the base case scenario.

Thus, an institution's post-shock NPV ratio could be low for one of two reasons:

- Its portfolio is very sensitive to changes in interest rates, causing it to lose a large portion of its NPV in an adverse interest rate move.
- Its base case NPV is low.

Thus, a low post-shock NPV ratio does not necessarily indicate high IRR. It may only indicate that the institution's base case NPV ratio is low.

Sensitivity Measure

The sensitivity measure gauges the magnitude of loss that an institution would suffer from the adverse move in interest rates. More specifically, it is the decline in the NPV ratio that will result from a hypothetical 200 basis point change in interest rates. In the example above, XYZ's NPV ratio declines 120 basis points from the base case level of 5.0 percent to 3.8 percent as a result of a 200 basis point increase in rates. The decline in the NPV ratio is simply the difference, expressed in basis points, between an institution's base case NPV ratio and its post-shock NPV ratio.

Taken alone, a large decline in the NPV ratio does not necessarily indicate excessive risk. An institution with a strong capital position could experience a sharp decline in its NPV ratio, as a result of a 200 basis point rate shock, and still be left with a substantial capital cushion.

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

Guidelines for the Sensitivity to Market Risk Component Rating

Consistent with the interagency CAMELS rating system, you must base the Sensitivity to Market Risk component rating (S Rating) on your conclusions about two dimensions:

- An institution's level of market risk.

- The quality of its practices for managing market risk.

Assessing the Level of IRR

Assess the level of IRR by using the post-shock NPV ratio and the interest rate sensitivity measure. You should base your conclusions about an institution's level of interest rate risk – the first dimension for determining the S component rating – primarily on the interest rate sensitivity of the institution's net portfolio value.

OTS uses risk measures based on NPV for several reasons:

- The NPV measures are more readily comparable across institutions than internally generated measures of earnings sensitivity.
- NPV focuses on a longer-term analytical horizon than institutions' internally generated earnings sensitivity measures. The interest rate sensitivity of earnings is usually measured over a short-term horizon such as a year, while NPV is based on all future cash flows anticipated from an institution's existing assets, liabilities, and off-balance-sheet contracts.
- The NPV-based measures take better account of the embedded options present in the typical thrift institution's portfolio.

Guidelines for Determining the Level of IRR

In describing the five levels of the S component rating, the interagency uniform ratings system established several broad, descriptive levels of risk:

- Minimal
- Moderate
- Significant
- High
- Imminent threat.

Table 2 indicates IRR levels ordinarily assigned for OTS-regulated institutions, based on the combination of each institution's post-shock NPV ratio and interest rate sensitivity measure.

These risk levels are for guidance, they are not mandatory. You should use them as starting points in your ratings assessments, but you have broad discretion to exercise judgment. See the discussion under Examiner Judgment later in this section.

TABLE 2

SUMMARY OF GUIDELINES FOR THE LEVEL OF INTEREST RATE RISK

POST SHOCK NPV RATIO	INTEREST RATE SENSITIVITY MEASURE			
	0 - 100 B.P.	100-200 B.P.	200-400 B.P.	OVER 400 B.P.
OVER 10%	MINIMAL RISK (1)	MINIMAL RISK (1)	MINIMAL RISK (1)	MODERATE RISK (2)
6% TO 10%	MINIMAL RISK (1)	MINIMAL RISK (1)	MODERATE RISK (2)	SIGNIFICANT RISK (3)
4% TO 6%	MINIMAL RISK (1)	MODERATE RISK (2)	SIGNIFICANT RISK (3)	HIGH RISK (4)
BELOW 4%	MODERATE RISK (2)	SIGNIFICANT RISK (3)	HIGH RISK (4)	HIGH RISK (4)

OTS characterizes an institution with a post-shock NPV ratio below four percent and an interest rate sensitivity measure of:

- More than 200 basis points as having high risk. Such an institution will typically receive a 4 or 5 rating for the S component.[3]
- 100 to 200 basis points as having significant risk. Such an institution will typically receive a 3 rating for the S component.

[3] According to the interagency uniform CAMELS ratings system, the level of market risk at a 4-rated institution is high, while that at a 5-rated institution is so high as to pose an imminent threat to its viability. Under the Prompt Corrective Action regulation supervisory action is tied to regulatory capital. See12 CFR Part 565. An institution's viability is, therefore, directly dependent on regulatory capital, not on economic capital. Because regulatory capital can remain positive for an extended period of time after economic capital has become zero or negative, the NPV measures are not by themselves indicators of near-term viability. For an institution's level of interest rate risk to constitute an imminent threat to viability, the institution will typically have a high level of interest rate risk ***and*** will have other serious financial problems that place it in imminent danger of closure.

- 0 to 100 basis points as having moderate risk. Such an institution will typically receive a rating of 2 for the S component. If the institution's sensitivity is extremely low, a rating of 1 may be supportable unless the institution is likely to incur larger losses under rate shocks other than the parallel shocks depicted in OTS's NPV Model.

OTS characterizes an institution with a post-shock NPV ratio of between four percent and six percent and an interest rate sensitivity measure of:

- More than 400 basis points as having high risk. Such an institution will typically receive a 4 or 5 rating for the S component.
- 200 to 400 basis points as having significant risk. Such an institution will typically receive a 3 rating for the S component.
- 100 to 200 basis points as having moderate risk. Such an institution will typically receive a 2 rating for the S component.
- 0 to 100 basis points as having minimal risk. Such an institution will typically receive a rating of 1 for the S component.

OTS characterizes an institution with a post-shock NPV ratio of between six percent and ten percent and an interest rate sensitivity measure of:

More than 400 basis points as having significant risk. Such an institution will typically receive a 3 rating for the S component.

200 to 400 basis as having moderate risk. Such an institution will typically receive a 2 rating for the S component.

Less than 200 basis points as having minimal risk. Such an institution will typically receive a rating of 1 for the S component.

OTS characterizes an institution with a post-shock NPV ratio of more than ten percent and an interest rate sensitivity measure of:

- More than 400 basis points as having moderate risk. Such an institution will typically receive a 2 rating for the S component.
- Less than 400 basis points as having minimal risk. Such an institution will typically receive a rating of 1 for the S component.

In Table 2 the numbers in parentheses represent the S component ratings that you would typically use as starting points in your analysis, assuming there are no deficiencies in the institution's risk management practices.

You *may assign a different rating based on interpretation of the facts and circumstances at each institution.*

Internal vs. OTS Risk Measures

In applying the guidelines described above, you will encounter three general types of situations regarding the availability of risk measures.

- If the institution does not have internal NPV measures, but does file Schedule CMR, use the NPV measures produced by OTS. In such instances, you must be aware of the importance of accurate reporting by the institution on Schedule CMR. This is important particularly for items for which the institution provides its own market value estimates in the various interest rate scenarios, such as for mortgage derivative securities. You must also be aware of circumstances in which OTS measures may overstate or understate the sensitivity of an institution's financial instruments.
- If the institution does produce its own NPV measures, you will have to decide whether to use the institution's or OTS's risk measures.
  - If the institution's own measures and those produced by OTS are broadly consistent and result in the same risk category (for example, minimal risk, moderate risk), the choice between using the institution's measures or OTS estimates probably does not matter. However, you should attempt to ascertain the reasons for any major discrepancies between the two sets of results.
  - If the institution's NPV measures place it in a different risk category than OTS

measures, you should determine which financial instruments are the source of that discrepancy and consult with the Regional Capital Markets group or the Washington Risk Management Division. If you judge that the institution's valuations for those instruments are more reliable than OTS's, use the institution's results rather than OTS's for those financial instruments in calculating NPV in the various interest rate scenarios.

— If you have reason to doubt both the institution's own measures and those produced by OTS, you may modify either or both measures to arrive at reasonable NPV measures. You should do this only after consultation with the Regional Capital Markets group or the Washington Risk Management Division. In deciding whether to rely on an institution's internal NPV measures, you must ensure that the institution's measures are calculated in a way that is broadly consistent with OTS calculations. OTS describes the major methodological points to consider in TB 13a, Part II. B, *Systems for Measuring Interest Rate Risk.*

- The institution does not calculate internal NPV measures and does not report on Schedule CMR. Because no NPV results will be available in such cases, the guidelines are not directly applicable. In addition to reviewing the institution's balance sheet structure in such cases, you will review whatever IRR measurement and management tools the institution uses to comply with § 563.176. Depending on your findings regarding the institution's general level of risk and its risk management practices, you might reconsider the appropriateness of the institution's continued exemption from filing Schedule CMR.

Assessing the Quality of Risk Management

In drawing conclusions about the quality of an institution's risk management practices – the second dimension of the S component rating – you must assess all significant facets of the institution's risk management process. To aid in that assessment, refer to Appendix B of TB 13a, Sound Practices for Market Risk Management. These sound practices suggest the style of management practices institutions of varying levels of sophistication may use. Because there is no formula for determining the adequacy of such systems, you must make that determination on a case-by-case basis. You must consider the following eight factors, among others, in assessing the quality of an institution's risk management practices.

- Oversight by Board and Senior Management. Assess the quality of oversight provided by the institution's board and senior management. That assessment may have many facets, as described in TB 13a, Appendix B, Sound Practices for Market Risk Management.

- Prudence of Limits. Assess the prudence of the institution's board approved IRR limits. Ordinarily, a set of IRR limits should concern you if the limits permit the institution to have a post-shock NPV ratio and interest rate sensitivity measure that would ordinarily warrant an S component rating of 3 or worse. Depending on the level of concern, such limits may deserve criticism or an adverse S component rating.

- Adherence to Limits. Assess the degree to which the institution adheres to its IRR limits. Frequent exceptions to the board's limits may indicate weak IRR management practices. Similarly, recurrent changes to the institution's limits to accommodate exceptions to the limits may reflect ineffective board oversight.

- Quality of System for Measuring NPV Sensitivity. Consider whether the quality of the institution's risk measurement and monitoring system is commensurate with the institution's size, the complexity of its financial instruments, and its level of IRR.

- Quality of System for Measuring Earnings Sensitivity. OTS places considerable reliance on NPV analysis to assess an institution's IRR. You should consider other types of measures in evaluating an institution's risk management practices. In particular, you may view use of a well-supported earnings sensitivity analysis as a favorable factor in

determining an institution's component rating. In fact, you should encourage all institutions to measure the interest rate sensitivity of projected earnings. Despite inherent limitations,[4] such analyses can provide useful information to an institution's management.

Methodologies used in measuring earnings sensitivity vary considerably among different institutions. Institutions should have clear descriptions of the methodologies and assumptions used in their models. The type of rate scenario used is of particular importance. Examples are instantaneous shock or gradual movements, consistent with forward yield curve. Also important are assumptions regarding new business (that is, type of assets, dollar amounts, and interest rates). In addition, institutions should clearly describe formulas for projecting interest rate changes on existing business (for example, ARMs, transaction deposits). Institutions should also explain and support any major differences from analogous formulas used in OTS's NPV Model.

- Integration of Risk Management with Decision Making. Consider the extent to which management uses the results of an institution's risk measurement system in making operational decisions. Examples are changes in portfolio structure, investments, derivatives activities, business planning, funding decisions, and pricing decisions. This is of particular significance if the institution's post-shock NPV ratio is relatively low, and thus provides less of an economic buffer against loss.

  Evaluate whether management considers the effect of significant operational decisions on the institution's level of IRR. The form of analysis used for measuring that effect (earnings sensitivity, NPV sensitivity, or any other reasonable approach) and all details of the measurement are up to the institution. That analysis should be an active factor in management's decisionmaking and not be generated solely to avoid examiner criticism. In the absence of such a decision-making process, criticism in the report or an adverse rating may be appropriate.

- Investments and Derivatives. Consider the adequacy of the institution's risk management policies and procedures regarding investment and derivatives activities. See Part III of TB 13a, Investment Securities and Financial Derivatives, for a detailed discussion.

- Size, Complexity, and Risk Profile. Under the interagency uniform ratings descriptions, evaluate an institution's risk management practices relative to the institution's size, complexity, and risk profile. A small institution with a simple portfolio and a consistently low level of risk may receive an S rating of 1 even if its risk management practices are fairly rudimentary. A large institution with the same characteristics should have more rigorous risk management practices. However, OTS would not hold it to the same risk management standards as a similarly sized institution with either a higher level of risk or a portfolio containing complex securities or financial derivatives. An institution making a conscious business decision to maintain a low risk profile by investing in low risk products or maintaining a high level of capital may not require elaborate and costly risk management systems.

Combining Assessments of the Level of Risk and Risk Management Practices

Use the guidelines described in the two previous sections to assess an institution's level of risk and the quality of its risk management practices. This section provides guidelines for combining these two assessments into an S component rating for the institution.

The interagency uniform ratings descriptions specify the criteria for the S component ratings in terms of the level of risk and the quality of risk management practices. For example:

> "A rating of 1 indicates that market risk sensitivity is well *controlled*

"The effectiveness of an earnings sensitivity model to identify interest rate risk depends on the composition of an institution's portfolio. In particular, management should recognize that such models generally do not fully take account of longer term risk factors.

> and that there is *minimal* potential that the earnings performance or capital position will be adversely affected.. . ." *[emphasis added]*

Thus, if market risk is less than well-controlled (that is, adequately controlled, in need of improvement, or unacceptable), the institution does not qualify for a component rating of 1. Likewise, if the level of market risk is more than minimal (that is, moderate, significant, or high), the institution similarly does not qualify for a rating of 1.

Applying the same logic to the descriptions of the 2, 3, 4, and 5 levels of the S component rating results in the ratings guidelines shown in Table 3. That table summarizes how various combinations of assessments about an institution's level of IRR and quality of risk management practices translate into a suggested rating.[5]

Note two important caveats about this table. First, the two dimensions are not totally independent of one another, because we evaluate the quality of risk management practices relative to an institution's level of risk (among other things). Thus, for example, you are more likely to assess an institution's risk management practices as well-controlled if the institution has minimal risk than if it has a higher level of risk. Second, the ratings shown in Table 3 provide a starting point, but you have broad discretion to exercise judgment and deviate from them.

Examiner Judgment

Blind adherence to the guidelines is undesirable. You have a responsibility to exercise judgment in assigning ratings based on the facts you encounter at each institution. This section provides a nonexhaustive list of factors you might consider in applying the S rating guidelines to a particular institution.

Judgment in Assessing the Level of Risk

In assessing the level of IRR, the likelihood that you will deviate from the guidelines in Table 2 increases in cases where the post-shock NPV ratio and the interest rate sensitivity measure are both near cell boundaries. For example, there is no material difference between an institution whose post-shock ratio and sensitivity measure are, respectively, 4.01 percent and 199 basis points and one where they are 3.99 percent and 201 basis points. The guidelines in Table 2, however, suggest a 2 rating for the former and a 4 for the latter. Clearly, you must interpret the row and column boundaries of the cells in the table as transition zones or gray areas, rather than as precise cut-off points, between suggested ratings. As such, you will more commonly deviate from the stated guidelines in the vicinity of cell borders than in their interior. Open-ended cells are another instance where you will more commonly deviate from the guidelines. For example, in assessing an institution whose sensitivity measure is well beyond 400 basis points, you might very well determine that its level of risk is higher than the guidelines in the rightmost column of Table 2.

TABLE 3
S COMPONENT RATING GUIDELINES IN MATRIX FORM

Quality of Risk Management Practices'	Level of Interest Rate Risk			
	Minimal Risk	Moderate Risk	Significant Risk	High Risk"*
Well Controlled	S=1	S=2	S=3	S=4 or 5
Adequately Controlled	S=2	S=2	S=3	S=4 or 5
Needs Improvement	S=3	S=3	S=3	S=4 or 5
Unacceptable	S=4	S=4	S=4	S=4 or 5

'Evaluate quality of risk management practices relative to an institution's size, complexity, and level of IRR.

**To receive a component rating of 5, an institution's level of IRR must be an imminent threat to its viability. Such an institution will typically have a high level of IRR *and* will have other serious financial problems that place it in imminent danger of closure.

In applying the guidelines in Table 2, many considerations may cause you to reach a different conclusion than suggested by the guidelines. Such considerations include the following:

[5] You will rarely, if ever, encounter some of the combinations of risk management quality and level of risk shown in the table (for example, an institution with unacceptable risk management practices, but a minimal level of risk). For the sake of completeness, however, **OTS** shows all ceils of the matrix.

- The trend in the institution's risk measures during recent quarters.
- The trend in the institution's risk measures compared with those of the rest of the industry in recent quarters. (Comparison with the results for the industry as a whole often provides a useful backdrop for evaluating an institution's results, particularly during a period of volatile interest rates.)
- Your level of comfort with the overall accuracy of the available risk measures as applied to the particular products of the institution.
- The existence of items with particularly volatile or uncertain interest rate sensitivity for which you want to allow an added margin for possible error.
- The effect of any restructuring that may have occurred since the most recently available risk measures.
- Other available evidence that causes you to favor a higher or lower risk assessment than that suggested by the guidelines.

Judgment in Assessing the Quality of Risk Management Practices

Base conclusions about the quality of risk management practices, in part, on the institution's level of risk, with less risky institutions requiring less rigorous risk management practices. Considerations listed in the previous section, Judgment in Assessing the Level of Risk, may therefore cause you to modify your assessment of the institution's risk management practices. In addition, if changes have occurred in the institution's level of risk since the last evaluation, you may wish to reassess the quality of the institution's risk management practices considering these changes.

Supervisory Action

If you need to take supervisory action to address IRR, discuss the problem with management and obtain their commitment to correct the problem as quickly as practicable.

If deemed necessary, request a written plan from the board and management to reduce interest rate sensitivity, increase capital, or both. The plan should include specific risk measure targets. If the initial plan is inadequate, require amendment and resubmission. Document the corrective strategy and results and review progress at case review meetings.

For institutions with composite ratings of 4 or 5, the presumption of formal enforcement action generally requires a supervisory agreement, cease and desist order, prompt corrective action directive, or other formal supervisory action.

If an institution's IRR increases between examinations, consider whether the increase warrants a downgrade of the S component rating or the composite rating. Require quarterly progress reports, if necessary (more frequently if the situation is severe). Where appropriate, require the institution to develop the capacity to conduct its own modeling.

Validation of OTS's NPV Estimates

If the post-shock NPV ratio and the decline in the NPV ratio indicate that an association may have excessive IRR, you should take steps to ensure the accuracy of OTS's NPV estimates.

You should check the data reported on Schedule CMR for reporting errors that can invalidate the NPV estimates. If you detect errors, the institution should correct the Schedule and recalculate NPV estimates.

Methods to Reduce Interest Rate Risk

Institutions that project declines in earnings and net portfolio value when interest rates increase may lower exposure by increasing the duration of liabilities or decreasing the duration of assets. The institution can accomplish this through portfolio restructuring or hedging. Examples of measures such institutions might undertake include the following:

- Increase the proportion of short term and adjustable-rate loans in the portfolio.
- Replace short-term funding with longer-term deposits and borrowings.

- Retain core deposits, which are typically less interest rate sensitive than CDs.
- Use derivative instruments, such as futures, options, interest rate swaps, and caps, to lower exposure to IRR. Management should have a thorough understanding of these instruments before using them.

Although the majority of thrift institutions are exposed to rising interest rates, there are a number of institutions that are exposed to falling rates. These institutions could lower their exposure by restructuring their portfolios to lengthen the duration of their assets or decrease the duration of their liabilities.

OTS publishes *Selected Asset and Liability Pricing Tables* on a quarterly basis. The tables provide estimated economic values of selected assets and liabilities as calculated by OTS's Net Portfolio Value Model in each of the interest rate scenarios described in TB 13a. Use the data in the tables to estimate the effect on the association's NPV sensitivity of buying or selling a particular asset or liability.

Evaluating Prudence of Interest Rate Risk Limits

The basic principle to use in evaluating the prudence of an institution's risk limits is whether they permit NPV to drop to a level where the post-shock NPV ratio and sensitivity measure would suggest an S component rating of 3 or worse under the guidelines for the Level of Interest Rate Risk. Refer to Table 2.

Examples of Evaluating the Prudence of Interest Rate Risk Limits

The following examples illustrate how to evaluate an institution's IRR limits. In each example column [b] shows the IRR limits approved by the institution's board of directors. These specify a minimum NPV Ratio for each of the interest rate scenarios shown in column [a]. Column [c] shows the NPV Ratios currently estimated for the institution for each rate scenario.

Institution A has a detailed set of IRR limits for which the board of directors specifies a minimum NPV ratio for each of the seven rate shock scenarios described in Part II.A.1 of TB 13a.

To assess the prudence of Institution A's IRR limits, evaluate the risk measures permitted under those limits relative to the guidelines for the Level of Interest Rate Risk in Table 2. The post-shock NPV ratio permitted by the institution's board limits is 7.00 percent (from the +200 basis points scenario in column [b], Institution A). The sensitivity measure permitted by the limits is not known. It depends on the *actual* level of the base case NPV ratio, which will probably be higher than the *limit* for the base case scenario.

Institution A
Limits and Current NPV Ratios

[a]	[b]	[c]
Rate Shock (in basis points)	Board Limits (Minimum NPV Ratios)	Institution's Current NPV Ratios
+300	6.00%	10.00%
+200	7.00	11.50
+100	8.00	12.50
0	9.00	13.00
-100	10.00	13.25
-200	11.00	13.50
-300	12.00	13.75

Therefore, use the institution's *current* sensitivity measure (based on OTS's results or those of the institution) in performing their evaluation. Institution A's current sensitivity measure is 150 basis points (13.00% - 11.50%). This is the difference between the NPV ratios in the 0 basis points and +200 basis points scenarios in column [c].

Referring to Table 2, the post-shock NPV ratio allowed by the institution's limits falls into the 6% to 10% row, and its current sensitivity measure falls into the 100 to 200 basis points column. The rating suggested by Table 2 is, therefore, a 1, and you can probably consider Institution A's risk limits prudent.[6]

Institution B has identical IRR limits as Institution A, but is considerably more interest rate sensitive

[6] This example assumes there are no significant deficiencies in the institution's risk management practices.

than Institution A at the present time. Institution B's sensitivity measure is 450 basis points (13.00% - 8.50%).

Institution B
Limits and Current NPV Ratios

[a]	[b]	[c]
Rate Shock (in basis points)	**Board Limits (Minimum** NPV Ratios)	**Institution's Current** NPV Ratios
+300	6.00%	6.00%
+200	7.00	8.50
+100	8.00	11.00
0	9.00	13.00
-100	10.00	14.00
-200	11.00	14.50
-300	12.00	15.00

For purposes of applying the guidelines in Table 2 to the limits, the post-shock NPV ratio of 7.00 percent permitted by the institution's board limits falls into the 6% to 10% row. Its current sensitivity measure, however, falls into the Over 400 B.P. column of Table 2. The rating suggested by the guidelines is therefore a 3, and you can consider Institution B's risk limits not sufficiently prudent. Even though its limits are identical to those of Institution A, its much higher *current* sensitivity measure requires the support of a higher post-shock NPV ratio than the minimum permitted by the board limits.

Institution C
Limits and Current NPV Ratios

[a]	[b]	[c]
Rate Shock (in basis points)	**Board Limits (Minimum** NPV Ratios)	**Institution's Current** NPV Ratios
+300	**6.00%**	**6.00%**
+200	**6.00**	**8.50**
+100	6.00	11.00
0	6.00	13.00
-100	6.00	14.00
-200	6.00	14.50
-300	6.00	15.00

Institution C has the same current NPV ratios as Institution B. Its board of directors established the institution's IRR limits as a single minimum NPV Ratio of six percent that applies to all seven rate shock scenarios. In assessing the prudence of those limits, therefore, the post-shock NPV ratio permitted by the limits is six percent. The *current* sensitivity measure, like that of Institution B, is 450 basis points.

In applying the Table 2 guidelines to the limits, Institution C's post-shock NPV ratio is in either the 4% to 6% or the 6% to 10% row. Its sensitivity measure is in the Over 400 B.P. column of Table 2. The rating suggested by the table is, therefore, a 3 or a 4, and so you can consider Institution C's risk limits *not* sufficiently prudent.

Institution D
Limits and Current NPV Ratios

[a]	[b]	[c]
Rate Shock (in basis points)	**Board Limits (Minimum** NPV Ratios)	**Institution's Current** NPV Ratios
+300	3.50%	2.50%
+200	3.50	3.25
+100	3.50	3.75
0	3.50	4.00
-100	3.50	4.25
-200	3.50	4.50
-300	3.50	4.75

Institution D has quite a low base case level of economic capital, and its board limits recognize that fact by permitting low NPV ratios. Furthermore, the institution's level of IRR currently exceeds the board limits. The current NPV ratios in the +200 and +300 scenarios are below the board's 3.50 percent minimum. While you would very likely express concern about that aspect of the institution's risk management process, you might still view the limits themselves as prudent.

To determine whether the institution's limits are prudent, use the post-shock NPV ratio of 3.50 percent permitted by the limits and the institution's current sensitivity measure of 75 basis points (4.00% - 3.25%). In applying Table 2, the post-shock NPV ratio permitted by the limits falls into the Below 4% row and the *current* sensitivity measure falls into the 0 to 100 basis points column. The rating suggested by Table 2 is therefore a 2, and if Institution D's sensitivity measure has been consistently low, you might view its risk limits prudent. Because of the critical importance of the sensitivity measure in this determination, you might well arrive at a different conclusion if

you lack assurance that the institution can maintain that measure at its current, low level.

Thus, if the sensitivity measure has been volatile in the past or if you have concerns about the quality of the institution's risk management practices, you might well conclude that the risk limits are not sufficiently prudent.

REFERENCES

Code of Federal Regulations (12 CFR)

§ 563.176 Interest Rate Risk Management Procedures

Office of Thrift Supervision Bulletins

TB 13a Interest Rate Risk, Investment Securities, and Derivatives Activities

Other References

The OTS Net Portfolio Value Model

Selected Asset and Liability Price Tables

Interest Rate Risk Exposure Report

Interest Rate Risk Management Program

Examination Objectives

To determine compliance with TB 13a.

To determine if the interest rate risk (IRR) exposure limits set by the institution are prudent and if the institution is operating within those limits.

To identify weaknesses in the IRR measurement systems, internal management reporting, or internal controls.

To determine if the level of IRR is excessive.

To evaluate plans for reducing excessive IRR.

To summarize findings and initiate corrective action as necessary.

Examination Procedures

Wkp.Ref.

Level I

1. Review scoping materials applicable to IRR, including the NPV sensitivity analysis in the most recent IRR Exposure Report. If other examiners performed the review of these scoping materials, obtain a written or oral summary of the review(s). Review any monitoring information. Obtain the modeling folder (if any) from previous analyses performed on the institution. _____

2. Obtain and review the institution's written policies, procedures, and strategic plans governing IRR, along with the institution's overall business plan.

   - Briefly describe the general philosophy of the IRR policy. Is it consistent with the business plan?
   - Ensure that the policy contains the authorizations described in TB 13a. Specifically, ensure that the policy:
     - Delegates responsibility for the management of IRR.
     - Contains the authorizations and restrictions governing the following items:
       - Trading activities
       - Use of derivative and synthetic instruments
       - Hedging strategies.

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— Specifies both the contents of management's report to the board on IRR and the frequency with which the board receives the report.

- Does the policy contain IRR exposure limits in terms of changes in NPV in the six alternate interest rate scenarios (+/- 100, 200, and 300 basis points)? What are those limits?

- Are the exposure limits prudent given the institution's capital level, NPV ratio, management ability, and the exposure norms exhibited by similar institutions and the rest of the industry? (If you do not consider these limits prudent, you should work with management and the region's IRR contact to determine appropriate limits. Present revised limits to the board and use them to evaluate the association's level of IRR.)

3. Determine if the institution's IRR exposure (as measured either by OTS or internally) is in compliance with the limits set by the board. (If the institution has assets in excess of $1 billion or holds high-risk mortgage-derivative products, it is responsible for generating its own estimates of NPV sensitivity.)

   - What action did the institution take when it discovered noncompliance with the exposure limits?

   - Has OTS previously recommended corrective action? If so, has management corrected the problems?

4. If the association uses its own model to generate NPV sensitivity estimates, it must make an effort to explain differences between those estimates and the estimates of OTS's model if the:

   - Differences between the two are substantial.

   - OTS estimates exceed the exposure limits, but the internal estimates do not. See Appendix B for a discussion of reasons for differences between OTS estimates and internal estimates.

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5. Does management report to the board of directors at the frequency specified in their IRR policy (at least quarterly) regarding the sensitivity of NPV to changes in interest rates? Do these reports contain all information required by the IRR policy?

_____ _____

6. Complete Level II procedures if :

- IRR exposure is high.
- More than two years have passed since a Level II exam.
- Level I procedures raise some concern about IRR management.

_____ _____

Level II

7. Assess the soundness of the association's measurement of IRR relative to the size of the association and the complexity of its balance sheet.

Note: If the association has at least $1 billion in assets or holds high-risk mortgage-derivative products, it must produce its own measure of NPV sensitivity. It may supplement these measures with other measures of IRR. (If TB 13a requires the institution to establish its own measurement system, and it has not done so, inform your IRR contact immediately and highlight this failing in your examination comment.)

If the association has less than $1 billion in assets and does not hold high-risk mortgage-derivative products, it may rely solely on the measure of NPV sensitivity produced by OTS Washington for IRR measurement.

- For measures of IRR generated by the association:
  - Does the method used include all appropriate assets, liabilities, and off-balance-sheet items? Is the information accurate?
  - Are there any material comments about the quality of the model used to estimate IRR (that is, comments about the methodology, data, or assumptions used)? Specifically:

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* Is the model adequate given the size of the association and the complexity of its balance sheet? See Requirements for TB 13a NPV Models in this Section of the Handbook.

* Is management able to explain satisfactorily any major differences between its results and those of OTS's model? (If questions arise regarding the reasonableness of the assumptions or methodology used, contact your region's IRR contact to ensure proper review of the adequacy of the institution's measurement system.)

- For associations using only OTS's model results:

  — Validate OTS's NPV sensitivity estimates. Are there any material comments about the appropriateness of the assumptions made in OTS's model to the association? Does OTS's analysis appear to be a reasonable depiction of the institution's IRR?

8. In view of the now-validated estimates of IRR, do you view this risk excessive? See the Measurement of IRR discussion in this Section for guidance.

9. Review management's IRR strategy.

   - What are the goals of the strategy? Are they consistent with board policy?
   - Does management have sufficient expertise to implement its strategy?

10. Review the system of limits and controls over operations, and internal reporting used by management to ensure compliance with the board's limitations on IRR exposure.

    - Does management place specific controls on capital market activities? Have there been violations of these controls?
    - Are internal IRR reporting systems sufficiently clear, comprehensive, and timely to permit effective management of IRR and to ensure compliance with board policies?
    - Does management demonstrate the reasonableness of assumptions used in IRR analysis?

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11. Assess management's ability to control the institution's exposure to IRR.

    - Does management have the knowledge and expertise necessary to develop and implement effective asset and liability strategies?

12. Has IRR increased since the last examination? What were the primary sources of the increase? Was this activity consistent with board policy and management's stated strategy on IRR?

    - Based on a review of pro-forma financial statements, assess whether the institution plans any major changes in activities and, if so, what is the effect on the institution's risk profile?

13. Review Schedule CMR to determine that the institution reports assets, liabilities, and off-balance-sheet instruments properly. Conduct an analysis of all instruments for which OTS's NPV estimates may be deficient or for which you believe the institution has more accurate estimates, and make adjustments where necessary.

14. Conduct the Level III procedure if:

    - You are considering supervisory action for excessive IRR.
    - The institution is appealing your supervisory action.

15. Ensure that your review meets the *Objectives* of this Handbook Section. State your findings and conclusions, as well as appropriate recommendations for any necessary corrective measures, on the appropriate work papers and report pages.

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Level III **Wkp.Ref.**

16. Where you deem the level of IRR is excessive, present findings to management or the board of directors, along with any criticisms of management's ability to measure or manage IRR. Instruct management to provide OTS with a board authorized plan to reduce the level of IRR to an acceptable level and to remedy deficiencies in IRR measurement or management.

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MODELS OF INTEREST RATE RISK

Analysis of Net Interest Income Sensitivity

Measures of interest rate risk (IRR) require reliable information on the amount and timing of the cash flows generated by an institution's assets, liabilities, and off-balance-sheet instruments. Because we do not always know this information with certainty, we make assumptions to perform the analysis. Depending on the type of analysis, these assumptions may include how:

- Market interest rates will change (over the period of analysis).
- Mortgage prepayment rates, deposit decay rates, and mortgage commitment "fallout rates" vary with interest rate changes.
- Management will administer interest rates that are under its control (such as loan rates and rates on retail deposits), when the general level of interest rates changes.
- Management will reinvest interest and principal cash flows.

Institutions commonly use two types of models to estimate the interest rate sensitivity of net interest income (NII): maturity gap models and NII simulation models. Likewise, there are two types of models commonly used to estimate the sensitivity of net portfolio value (NPV):

- Duration gap models.
- NPV simulation models.

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

NII and NPV simulation models, on the other hand, permit these assumptions to vary, but necessarily rely more heavily on the analyst to make choices about certain behavioral relationships incorporated into the model. Even though these models rely more heavily on parameters set by analysts, NII and NPV simulation models can be much more accurate than their less sophisticated counterparts, if we use appropriate assumptions. When assessing any measure of the IRR of an association, you should carefully evaluate the reasonableness of the assumptions used in the analysis.

Maturity Gap Models

Maturity gap is relatively easy to calculate, compared with other measures of IRR. During the 1980s, "gap" was the most commonly used measure of IRR in the thrift industry.

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

To calculate the maturity gap, principal balances of interest-earning assets and interest-bearing liabilities are categorized by maturity/repricing intervals or "buckets" (for example, under one year, one-to-three years), depending on when the institution receives the principal cash flows or when they adjust the interest rate. In more sophisticated gap models, the institutions adjust timing of the principal cash flows by incorporating the effects of loan amortization, mortgage prepayments, core deposit decay, and the effects of off-balance-sheet hedging instruments.

As an example of a maturity gap calculation, assume that an association with $10 million in assets estimates that $3 million of those assets will "reprice" during the next year (by having principal mature, prepay, amortize, or having the coupon adjust). Further, the model estimates that $6 million of liabilities will reprice during this time. This institution has a "one-year gap" equal to negative 30% [($3m - $6m) / $10m].

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

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

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

- Maturity gap models typically focus exclusively on near term NII. This focus hides the risk to NII of longer term repricing mismatches.
- The repricing intervals chosen for analysis are arbitrary, and there may be significant mismatches within a repricing interval that will be ignored in the analysis. The most common repricing intervals analyzed by thrift institutions are the one-year gap and the one- to three-year gap. A cash flow to be received in one year should have a different effect on interest rate exposure of an institution than an identical cash flow received in two and one-half years. Yet the one- to three-year gap model would treat these two cash flows as equivalent in terms of their effect on the IRR of the institution.
- Using maturity gaps to estimate the change in NII resulting from a change in interest rates assumes all interest rates change by the same amount – an unlikely occurrence. When the general level of interest rates increases by one percent, for example, some interest rates, such as those paid on passbook savings accounts, typically increase by a smaller amount, if at all.
- It is not possible to properly incorporate the effect of exchange-traded options or the options embedded in many financial instruments, such as early withdrawal options on CDs, the caps and floors in ARMs, and mortgage prepayment options. These options have a significant effect however, on the rate sensitivity of a financial instrument; neglecting to incorporate them into the analysis will misstate the IRR of an institution.

NII Simulation Models

NII simulation models project interest related cash flows of all assets, liabilities, and off-balance-sheet instruments in an institution's portfolio to estimate future net interest earnings over some chosen period of time. Analysts often refer to these models as "dynamic" NII simulation models. This is because you can build into the model changes in operating strategies, relative interest rates, early withdrawal of deposits, and prepayments.

Analysts calculate NII sensitivity as follows:

- Project base case NII for the current interest rate environment.
- Project cash flows for each instrument using assumptions about amortization characteristics, prepayment rates on mortgages, and deposit decay rates.
- Make assumptions about how to reinvest the principal and interest cash flows received during the period.

Next, run various simulations under alternative interest rate scenarios. For example, many models estimate the value of NII over the next year, if interest rates were to increase or decrease by one, two or three percent. As in the base case scenario, interest cash flows are projected over the period of analysis, and will depend on assumptions about deposit decay rates, prepayment rates, and on how

we assume rates on adjustable-rate loans and deposits change in each interest rate scenario. To project how the coupons on adjustable-rate assets will change, analysts need information on the time to first reset, reset frequency, and the presence of any rate caps or floors.

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

NII Simulation offers the following advantages:

- NII simulation models can provide more accurate estimates of the effect of changing interest rates on the future interest income of instruments with embedded options by varying prepayment rates according to the interest rate scenario being simulated. We similarly assess the value of other embedded options (for example, lifetime caps on ARMs) and off-balance-sheet instruments in institutions' portfolios.
- We can assume interest rates on different instruments change by different amounts when there is a change in the general level of interest rates. For example, we can assume changes in rates on core deposits lag behind changes in other rates.

Simulation analysis also has this disadvantage:

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

Analysis of the Sensitivity of Net Portfolio Value

The net portfolio value N, equals the estimated present value (or economic value) of assets, A, less the present value of liabilities, L, plus or minus the present value of all off-balance-sheet items, 0.

Net Portfolio Value
$N = A - L + O$

Analysts commonly use two types of models to analyze the sensitivity of net portfolio value, the duration gap model, and the NPV sensitivity model. Both models require detailed information on the amount and timing of all future cash flows deriving from all financial instruments in the portfolio as well as the specification of appropriate discount rates.

Duration Gap Analysis

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

To calculate the duration gap, analysts separately calculate the duration of each item in the portfolio. Analysts weight the duration, D, of each instrument by the ratio of its market value to the net value of the portfolio, and net the weighted durations of all assets, liabilities, and off-balance-sheet instruments as follows:

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

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

Simple Duration

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

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

Modified Duration

Modified duration is a measure of the interest rate sensitivity of an instrument, and obtained by multiplying simple duration by -l/(l+r). Modified duration indicates the expected percentage change in an instrument's price for a given change in the required yield of the instrument.

$$\% \Delta P = (-D/1+r) \times \Delta r$$

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

For example, if a liability had a modified duration of 4, we could expect the price of the liability to decline by .04 percent (.0004) for each basis point increase in interest rates. After calculating the duration of each item in the portfolio each instrument's duration is weighted by the ratio of the market value of that instrument to the NPV, and netted.

Drawbacks of duration gap analysis include the following:

- Duration gap can be difficult to calculate. The problem lies in obtaining economic values for each instrument. If the analyst cannot obtain market price quotes, they may calculate the economic values using present value analysis, described in the next section on the NPV sensitivity model. Sometimes analysts use book values to calculate the duration gap when they cannot get or easily estimate market values. When economic values diverge significantly from book values, the use of book values may result in significant error in the estimation of the interest rate sensitivity of portfolio value.

- Duration gap analysis provides accurate estimates of price sensitivities of instruments only for small changes in interest rates, say, less than 100 basis points. Modified duration assumes the percentage price change due to a rate change of a given magnitude will be the same when rates rise or fall (although opposite in sign). This is not true, however, when rates change by a large amount.

  For a simple bond with no embedded options (such as a noncallable Treasury security), a large decrease in rates will result in a larger percentage increase in price than the percentage decrease in price that would result from an equal increase in rates. We call this phenomenon convexity. The analysis is further complicated when analyzing financial instruments with embedded options such as mortgage loans. Because borrowers tend to prepay their loans when refinancing rates fall below the coupon on the loans, the value of the loan will not rise as much as it would have had borrowers not prepaid (negative convexity).

- Duration does not take the shape of the yield curve into account. Analysts usually calculate the present values in the modified duration computation using the same discount rate (the required yield) for each future cash flow irrespective of when that cash flow will occur. This causes the model to overvalue long maturity cash flows and undervalue short maturity cash flows, biasing the estimated duration.

NPV Sensitivity Analysis

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

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

We devote the remainder of this section to a brief overview of NPV sensitivity analysis. In particular, we discuss two methods of measuring the economic value of financial instruments. For more details on this type of analysis, see *The OTS Net Portfolio Value Model* manual.

Items Included in the NPV Measure

NPV should include the estimated present value (or economic value) of all existing assets, liabilities, and off-balance-sheet items in an institution's portfolio. For example, it does not include the value of new loans the management estimates it would make under the various interest rate environments, or the value of new deposit accounts they believe they would attract. It does include, however, the value of all existing off-balance-sheet instruments.[1]

For their internal use, institutions can produce estimates of the interest rate sensitivity of their portfolios on a going concern basis, taking into account future business. For TB 13a purposes, however, NPV should include only the value of existing instruments.

Measuring NPV: Static Discounted Cash Flow Approach

We estimate the value of a financial instrument by projecting the amount and timing of the future net cash flows generated by the instrument, and discounting those cash flows by appropriate discount rates. We commonly refer to this procedure as discounted cash flow analysis, or present value analysis. The basic formula for the present value of a financial instrument is as follows:

$$PV = CF_1/(1+i_1) \text{ t } CF_2/(1+i_2)^2 + \ldots + CF_m/(1+i_m)^m$$

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

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

1. Estimating Cash Flows

The institution must estimate cash flows of all instruments separately for each interest rate scenario. The cash flows of many financial instruments held by institutions change depending on the course of interest rates. It is not acceptable for institutions to estimate the cash flows of these instruments for the base case and assume the instruments will realize those same cash flows in the alternate interest rate environments. NPV models should take account of the fact that coupons on adjustable-rate loans and deposits, mortgage prepayment rates, and core deposit decay rates will change depending on the interest rate scenario. Institutions should document the mortgage prepayment rates and deposit decay rates assumed in each interest rate scenario.

[1] Most off-balance-sheet instruments will be included on the balance sheet in the future with the adoption of FASB 133.

To the extent possible given their data systems, institutions should use disaggregated data to estimate the market value of the instruments in their portfolio. If sufficient information were available, institutions could value each loan, deposit, etc., separately by using information on amortization, coupon, maturity, and any options embedded in the instrument to estimate future cash flows. While it is usually not practical or necessary for institutions to disaggregate to the level of individual loans and deposit accounts, institutions should disaggregate instruments to the extent practical, grouping similar instruments together. OTS's NPV model and Schedule CMR guides the institution as to the minimum acceptable level of disaggregation.

Examples:

- Stratify fixed-rate mortgages into several coupon ranges (for example, seven to eight percent, eight to nine percent, etc.).
- Segregate adjustable-rate mortgages by index type, adjustment frequency, and distance to the lifetime cap. For example, value loans very close to their lifetime cap separately from loans with rates two percent from their cap.
- Segregate deposits by type, such as fixed-maturity deposits, MMDAs, transaction accounts, and passbook accounts. This stratification permits the application of appropriate parameters (prepayment rates, decay rates, etc.) to each type of instrument and will result in more accurate economic value estimates.

Under each interest rate scenario, we assume a single path of future interest rates based on future rates implied by the current term structure of interest rates. (In fact, analysts refer to this analysis as "static" cash flow analysis, because each scenario depicts a single hypothetical path of interest rates, as opposed to the numerous paths used in the option-adjusted spread [OAS] analysis described below.) The model calculates cash flows within each scenario based upon the assumed path of interest rates depicted in that scenario.

Cash flows may differ across scenarios for two reasons. First, loan prepayment and deposit attrition rates will differ, since borrowers and depositors will make different decisions about these actions under different interest rate environments. We model such differences in customer behavior by specifying a relationship between the interest rate scenario and the rates of prepayment and attrition, thereby changing the magnitude and timing of principal and interest cash flows. Second, the magnitude of interest cash flows differs across scenarios as adjustable-rate instruments (such as ARMs or MMDAs) reprice in future periods and receive different future coupon rates under different scenarios.

2. Discount Rates

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

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

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

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

Measuring NPV: Option-Based Pricing

An option-based pricing approach is a more sophisticated approach to valuing assets (and, less frequently, liabilities) that contain embedded options. OTS uses this approach in the Net Portfolio Value Model to value mortgages and related assets.

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

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

Option-based pricing models use an interest rate simulation program to generate numerous (hundreds or thousands) random interest rate paths that, in conjunction with a prepayment model, are used to estimate mortgage cash flows along each path. The model then discounts these cash flows and averages to arrive at a single mortgage price.

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

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

OTS developed a computer model, called the Net Portfolio Value Model, that produces estimates of NPV sensitivity for each institution on a quarterly basis, as part of their Interest Rate Risk Exposure Report. Institutions with less than $1 billion in assets may use these estimates to comply with TB 13a. In addition, OTS uses these estimates to assess an association's IRR and to determine their compliance with TB 13a. For more detail on OTS's Net Portfolio Value Model or NPV sensitivity analysis in general, see *The OTS Net Portfolio Value Model* manual, or call the IRR contact person in your region.

Reconciliation of the OTS NPV Sensitivity Estimates and Thrifts' TB 13a Estimates with Institution's Own Estimates

TB 13a requires that institutions with more than $1 billion in assets and smaller institutions that invest in high-risk mortgage-derivative products produce quarterly estimates of the interest rate sensitivity of their NPV. Institutions should be able to explain differences between the OTS estimates of NPV sensitivity and their own estimates if:

- There are substantial differences between the two sets of estimates.
- OTS's estimates exceed the institution's internal exposure limits, even though the institution's own estimates do not.

Some institutions that have attempted to reconcile their own estimates and the OTS estimates found that the differences are often the result of inconsistencies in input data for the two models. Institutions often have separate systems for gathering data for TFR reporting and for input into their own NPV models. The input data formats and levels of aggregation required for a given institution's model are likely to differ from those required by Schedule CMR. Institutions should, at a minimum, ensure consistency between the two models regarding the input data for totals of broad categories of assets and liabilities (for example, total current-index ARMs or total transaction accounts).

In addition to inconsistencies in input data, differences in methodologies for valuing financial instruments can cause significant differences between an institution's estimates and those of OTS. Two areas where differing methodologies can have a large effect are in the valuation of mortgages and core deposits. The manner in which the valuation methodology treats the mortgage prepayment option, and especially the interest rate caps in ARMs, can have a significant effect on the estimated price sensitivity of mortgages and the resulting NPV sensitivity estimates.

On the liability side, core deposit values can vary significantly depending on how fast the rate paid on deposits changes with changes in market rates and how fast existing balances shrink (decay) over time. Models that assume different decay rates (from those used by the OTS Model) result in different economic value estimates for core deposits. Some have argued that their core deposits do not decay; that new accounts replace those that are closed. The OTS estimate of NPV includes only existing assets, liabilities, and off-balance-sheet instruments. The assumption that any maturing asset or liability is replaced may result in NPV sensitivity estimates significantly different from the OTS estimates. Further, the OTS estimates include only those assets, liabilities, and off-balance-sheet activities that result in identifiable cash flows and, therefore, do not include the value of goodwill.

To help institutions determine the source of differences between OTS's NPV sensitivity estimates and their own, OTS publishes quarterly the *Selected Asset and Liability Price Tables.* These tables list the estimated economic values of various financial instruments calculated by the OTS model in each of seven interest rate environments described in TB 13a. For example, an institution could use the tables to compare the value estimated by the OTS model for a fixed-rate mortgage loan with a remaining maturity of 300 months and a coupon of 8 percent, in each of the interest rate environments, with the value calculated by its own model. (Consult *The OTS Net Portfolio Value Model* manual for a detailed description of the valuation of individual classes of assets and liabilities and a full description of what OTS includes in the NPV measure.)

You may determine that the methodologies and assumptions, for example, on mortgage prepayment rates and deposit decay rates, used by an institution's model are more appropriate for that particular institution than those used by OTS's model. You may accept the association's estimates as the more accurate estimate of the institution's NPV sensitivity. If you determine that the institution uses inappropriate methodologies or assumptions, you may rely solely on OTS estimates.