

## TYPES OF INVESTMENT SECURITIES AND ASSOCIATED RISKS

First, investments must be permissible. The primary regulations that set for the permissibility of investments for savings associations are in Part 560. In addition, OTS has some specific guidance relating to particular investments, such as trust preferred securities, outlined below.

There are investment opportunities for savings associations in each of the three major areas that make up the money and capital markets:

- Money Market
- Fixed-Income Market
- Equity Market.

### Money Market

The money market is the arena where financial institutions and other businesses adjust their liquidity positions. This primarily consists of debt instruments with a remaining maturity of one year or less. Money market securities generally have a high degree of liquidity and low risk to principal. The money market operates through dealers, money center banks, and the Open Market Trading Desk of the New York Federal Reserve Bank.

#### *Federal Funds*

Federal funds are balances at the Federal Reserve that financial institutions lend to one another and are not subject to reserve requirements. The purchasing institution uses these funds to meet reserve requirements or for a special arbitrage funding arrangement. Federal funds sold are subject to default risk, as with any unsecured loan. The shorter the term of the transaction, the less default risk is a primary concern. The majority of federal funds transactions are for overnight or over weekends. Term federal funds, however, are not uncommon. They transact at a fixed rate for a period longer than one day, typically 30, 60, or 90 days. Term federal funds are subject to loans-to-one-borrower and other lending limitations.

#### *Negotiable Certificates of Deposit*

Money center or large regional banks usually issue these certificates in denominations of \$1M or more and the issuing institution may issue them at face value with a stated rate of interest, or at a discount similar to U.S. Treasury bills. These certificates are widely traded and offer substantial liquidity.

### *Eurodollar Time Deposits*

Eurodollar time deposits are certificates of deposit issued by banks in Europe, with interest and principal paid in dollars. Such certificates of deposit usually have minimum denominations of \$100,000 and short-term maturities of less than two years. Usually they have interest rates pegged to LIBOR.

### *Certificates of Deposit*

Certificates of deposit are time deposits in banks or savings associations with maturities longer than 30 days. Most certificates of deposit have an original maturity of one to three months. Variable-rate certificates of deposit are also available, typically either six-months with a 30-day roll, or one year with a three-month roll. In general, certificates of deposit have a slightly higher return, are slightly riskier, and are slightly less liquid than Treasury bills. A prudent investment manager should limit holdings in any depository institution to amounts covered by federal deposit insurance.

### *Repurchase Agreements*

In a repurchase transaction, an institution loans funds and, in effect, buys securities from a counterparty. They also commit to resell the same securities back to the counterparty at a later date at a specified price. In a reverse repurchase transaction an institution receives funds from and sells securities to a counterparty. They also promise to repurchase the same securities at a specified price and date. Repurchase agreements are short-term in nature; therefore, the transaction takes place in the money market.

### *Municipal Notes*

Short-term municipal bond with a maturity of one year or less.

### *Municipal Bonds*

Municipal bonds have a fairly simple structure. Municipal bonds are based on the general taxing authority of the issuer or general obligation. Many municipal bonds also have insurance that protects bondholders in the event of default. If an association has a significant portfolio of municipal bonds, consider geographic concentration. For example, municipalities in the same state may be subject to similar economic conditions and changes in the political and legal environment that could affect their ability to repay the bonds.

There are two main considerations in evaluating these bonds.

- Bond rating

Bond insurers have experienced financial difficulties recently, and some risk losing (or have already lost) their AAA ratings. In those instances, the rating agencies look toward the issuer's underlying financial strength. For example, if the issuer would have received a AAA rating even without the insurance, it could retain that rating. If, however, the rating depended on the insurance, the insurer's downgrade would also result in a downgrade on the bond.

- Source of repayment

A general obligation (G.O.) bond is backed by the full faith and credit (that is, taxing authority) of the state or local government. Municipalities issue revenue bonds (see below) to finance public works, such as bridges or tunnels and the project's revenues, such as tolls, pay for the project.

Municipal bonds have certain factors that may adversely affect their creditworthiness. These factors include the following:

Declining property values and an increasing number of delinquent taxpayers.

- Increasing tax burden relative to other regions.
- Increasing property tax rate in conjunction with declining population.
- Actual general fund revenues consistently falling below budgeted amounts.
- Budget expenditures increasing annually in excess of inflation rate.
- General obligation debt increasing while property values remain static.
- Declining economy as measured by increased unemployment and declining population.
- Investment activities that involve excessive leveraging to achieve enhanced yields.

Floating-rate notes usually have a maturity of five to seven years, and interest payments periodically adjust, often every six months. A money market index, usually Treasury bills or Eurodollar rates determine the interest rate. State, municipal, and other political subdivisions, including independent school districts, issue municipal bonds that are usually dependent upon the general taxing authority of the locality or on specific revenue generating projects for repayment. Interest income generated by state and municipal obligations is not subject to federal income taxes and is usually exempt from taxation by the issuing state and local authorities. Other state and municipal obligations include Bond Anticipation Notes (BANs), Tax Anticipation Notes (TANs), and Revenue Anticipation Notes (RANs). These notes are short-term obligations to finance current expenditures pending receipt of proceeds from expected bond offerings or revenues.

Section 560.42 permits savings associations to invest in obligations of state or political subdivisions. The obligations must meet the following requirements:

- Rated in one of the four highest grades.
- Issued by a public housing agency.
- Backed by the full faith and credit of the United States.

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The regulation limits investments in state or political subdivisions ten percent of capital for any one issuer, excluding general obligations of any one issuer. A savings association may invest, in the aggregate, up to one percent of its assets outside of the rating requirements and guarantee provisions within the state or political subdivision where the savings association's home or branch office is located.

### *Revenue Bonds*

Revenue bonds are dependent upon the income generated by specific projects established by government authority. A type of revenue bond often held by savings associations are public housing authority revenue bonds. Although they have corporate debt characteristics, the FDIC does not consider such public entity issues to be corporate debt securities and are not subject to the FDIC divestiture requirements. The credit quality of these issues varies greatly and is dependent upon the revenue source, any guarantees, sinking funds, and market value of collateral, if any.

Because the taxing authority does not support revenue bonds, unless rated, you should classify them the same as other commercial credits. Other factors that negatively affect their creditworthiness include:

- Decreasing coverage of debt service by net revenues.
- Regular use of debt reserves and other reserves by the issuer.
- Growing financial dependence of the issuer on unpredictable federal and state aid appropriations for meeting operating budget expenses.
- Unanticipated cost overruns and schedule delays on capital construction projects.
- Frequent or significant user rates increases.
- Deferred capital plant maintenance and improvement.
- Shrinking customer base.
- New and unanticipated competition.

### *Commercial Paper*

Top-rated corporations issue commercial paper with 2- to 270-day maturities. Commercial paper is unsecured, usually discounted and possibly backed by bank lines of credit. Standard and Poor's rates commercial paper ranging from A, the highest quality, to D, the lowest quality. Moody's uses designations of Prime-1 to Prime-3, and Not Prime (issuers that do not fall within any of the Prime rating categories).

### *Banker's Acceptances*

Banker's acceptances arise mostly out of foreign trade transactions and are similar to commercial paper in form. They are noninterest-bearing notes sold at a discount and redeemed by the accepting bank at maturity for full face value. Banker's acceptances are short-term instruments with maturities of nine months or less. Most banker's acceptances are for very large amounts, although some are available for as low as \$5,000. Liquidity risk varies considerably based on the size of the security. There is no secondary market for the very low denomination instruments. Banker's acceptances have very low credit risk since the accepting bank and the ultimate borrower both guarantee payment.

### *Federal Agency Discount Notes and Coupon Securities*

Although they are only a small portion of the money market, federal agency securities are second highest in credit quality. The purposes, maturities, and types of agency securities issued vary widely. Typically, the government backs these issues with collateral such as cash, U.S. Government securities, and debt obligations the issuing agency acquires through its lending activities. The more common types of federal agency securities include obligations of the following agencies:

- Federal Home Loan Banks (FHLBs)
- Farm Credit System (FCS)
- Federal National Mortgage Association (Fannie Mae)
- Federal Home Loan Mortgage Corporation (Freddie Mac)
- Government National Mortgage Association (GNMA)
- Student Loan Marketing Association (SLMA).

Obligations of the U.S. Government and federal agencies are safe and liquid. Federal agency securities (except for GNMA) generally do not bear the full faith and credit of the U.S. Government. They do bear the full faith and credit of the U.S. Government agency or government sponsored enterprise that sponsors them.

### *Structured Notes*

Federal agency notes include structured notes that are securities with derivative-like characteristics. Structured notes are fixed-income securities with embedded options where the bond's coupon, average life, or redemption value are dependent on a reference rate, an index, or formula. Fannie Mae, Freddie Mac, and the FHLBs are the primary issuers of structured notes. OTS considers structured notes a complex security and they require a price sensitivity analysis. See [TB 13a-2](#) for more information.

Structured notes take various forms. The term structured notes includes the following securities:

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- Dual-indexed floaters
  - De-leveraged floaters
  - Inverse floaters
  - Leveraged inverse floaters
  - Ratchet floaters
  - Range floaters
  - Leveraged cap floaters
  - Stepped cap/floor floaters
  - Capped callable floaters
  - Stepped spread floaters
  - Multi-step bonds
  - Indexed amortization notes.

The major type of structured note owned by financial institutions is step-up bonds. These bonds have successively higher coupons over their life and the issuer may call them. Institutions should carefully evaluate the purchase of a step-up bond. See the explanation of the call feature of step up bonds immediately below in the description of corporate bonds.

OTS does not consider standard, nonleveraged, floating rate securities (where the interest rate is not based on a multiple of the index) to be structured notes.

### *Shares in Money Market Funds*

Money market funds are the combined money of many entities jointly invested in high yield financial instruments including U.S. government securities, certificates of deposits, and commercial paper. A money market fund is a mutual fund that makes its profit by buying and selling various forms of money rather than buying and selling shares of ownership in corporations.

### Fixed-Income Investments

The bond (or debt) market represents debt instruments with maturities of longer than one year and includes longer-term U.S. Government and federal agency bonds and notes, corporate debt securities, and municipal bonds.

### *Bond Ratings*

Bond ratings are good threshold indicators of the probability of default, but savings associations should conduct a thorough credit analysis of the security issuer before buying a security. Savings associations should also monitor the security after the purchase. The issuer should have the capacity to meet principal and interest payments as they become due. Failure to do so results in a default. Credit analysis should, at a minimum, encompass a review of the issuing entity's financial statement, level of capitalization, management, earnings, business reputation, and other relevant factors. Other relevant factors may include adequacy of sinking funds, collateralization, refinancing needs, and callability.

Besides performing the very basic credit analysis, each type of bond or industry has a unique set of factors. The institution should also review these factors when performing a credit review.

### Rated Securities

We identify Moody's ratings first, and Standard & Poor's ratings in parentheses.

#### *Investment Grade*

- Aaa (AAA): Bonds judged to be of the best quality that carry the smallest degree of risk. The capacity to pay interest and repay principal is extremely strong.
- Aa (AA): Bonds judged to be of high quality by all standards. These securities have a very strong capacity to pay interest and repay principal. They differ from the higher-rated issues only in a small degree.
- A (A): Bonds of upper-medium-grade obligation with many favorable investment attributes. These securities have a strong capacity to pay interest and principal. However, they are somewhat more susceptible to the adverse effects of changes in circumstance and economic conditions than debt in higher-rated categories.
- Baa (BBB): Bonds of medium-grade obligation. They are not highly protected or poorly secured. These securities have an adequate capacity to pay interest and repay principal. Normally, debt in this category exhibits adequate protection limits. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity to pay interest and repay principal than in higher-rated categories.

#### *Below Investment Grade*

- Ba (BB): Bonds judged to have speculative elements. Often the protection of interest and principal payments may be moderate and thereby not well safeguarded.
- B (B): These bonds generally lack the characteristics of a desirable investment. Assurance of principal and interest payments or maintenance of other contract terms over a long period may be suspect.

- Caa, Ca, C (D): These bonds are of poor standing. Such issues may be in default or have other shortcomings.

The rating agencies (Moody's or Standard & Poor's) may append a designation of Provisional (Moody's) or Conditional (Standard & Poor's) to a rating. For example, the provisional or conditional description is when the issuer does not specify an offering date. Associations should be aware that ratings on seasoned corporate paper are lagging indicators. For example, the rating agencies did not downgrade Enron's corporate paper to junk status until four days before the company entered bankruptcy, although the risk premium for its paper was growing for a substantial period of time prior to that point. The gap between the yield of the specific instrument and the average yield for similar rated paper with similar maturities is the risk premium. The greater the gap, the higher the underlying risk of the issue. The risk premium is a moving target, fluctuating with corporate performance and market conditions, and associations should evaluate each on a regular basis. Evaluating the risk premium does not substitute for detailed analysis, but it is a tool to facilitate evaluation of risk in the portfolio.

Subquality debt is, on balance, predominantly speculative regarding capacity to pay interest and repay principal according to the terms of the obligation. Large uncertainties on major risk exposures to adverse conditions outweigh any quality and protective characteristics. Debt rated D is in payment default. Rating companies use the D rating category when issuers do not make interest or principal payments on the date due. They assign the D rating even if the applicable grace period has not expired, unless the rating agency believes that the issuer will make such payments during the grace period.

Institutions should obtain current bond ratings or credit analysis before any purchase. Associations invested in corporate bonds should regularly review the current ratings of their holdings for any adverse changes, and management should report the result of these credit reviews to the board of directors.

## Nonrated Securities

Nonrated securities are generally not permissible investments for savings associations. Institutions should establish guidelines to ensure that their securities meet legal requirements and that the institution fully understands the risk involved. Institutions should establish limits on individual counterparty exposures. Policies should also provide credit risk and concentration limits. Such limits may define concentrations relating to a single or related issuer or counterparty, a geographical area, or obligations with similar characteristics.

### *U.S. Treasury Securities*

#### Treasury Bills

A U.S. government short-term security, sold to the public by auction, and having a maturity of 28, 91, or 182 days. Bills are discounted at purchase, so the interest received is front-loaded. The government issues them in minimum denominations of \$1,000. They are exempt from state and local taxation, and are backed by the full faith and credit of the U.S. Government.



Treasury Notes

A U.S. government long-term security, sold to the public and having a maturity of one to ten years.

Treasury Bonds

A U.S. government long-term security, sold to the public and having a maturity longer than ten years.

Zero-Coupon Treasuries or STRIPS

Zero-coupon bonds, although they can be U.S. Government or agency securities, are most frequently corporate bonds. The market sells zero-coupon bonds at a deep discount from par value. They accumulate and compound interest and pay full face value at maturity. Zero-coupon bonds are highly sensitive to interest rates and tend to exacerbate interest rate risk in the majority of savings associations. As a result, it may be an unsafe and unsound practice for savings associations with excessive exposure to interest rate risk to invest in zero-coupon bonds. Moreover, taxable zero-coupon securities receive unfavorable tax treatment. Even though the savings association receives no cash, thrifts must pay taxes annually on accrued interest.

*Corporate Bonds*

Corporate bonds can consist of subordinated debentures, collateralized or mortgage bonds, and floating-rate notes. Corporate debt securities face the same risks as loans to a business entity. Section 560.40 restricts investments in corporate obligations and sets forth requirements for minimum credit quality and loan-to-one-borrower limitations. Federal institutions may only invest in investment grade corporate bonds. Investment grade corporate debt securities are those that, at the time of their purchase, were in one of the four highest rating categories by at least one nationally recognized statistical rating organization. The recourse regulation establishes capital requirements based on these ratings as well.

Corporate bonds typically have much less complex structures than Collateralized Mortgage Obligations (CMO), Asset-Backed Securities (ABS), and Collateralized Debt Obligations (CDO). A bond may be senior or subordinate to other bonds by the same issuer, but the bond's rating directly reflects its seniority. The rating process for corporate bonds is less complex and has a longer track record than the process for rating structured debt such as CMOs, ABSs, and CDOs. There are two important items worth considering when evaluating corporate bonds. For any significant bond portfolio, consider the concentration of bonds within a particular industry or in industries affected by similar macroeconomic factors. Also, consider concentrations within lower investment grades (that is, A and especially BBB). While bonds in these categories are usually more likely to receive upgrades than downgrades, a downgrade (particularly to "junk" status) has a much bigger impact on market value.

Collateralized Bonds

Corporate bonds come in many varieties with differing features and characteristics such as being secured or unsecured. The real estate mortgage or capital equipment that the bond money purchases usually collateralizes the bond. The bondholder can sell the collateral to satisfy a claim if the bond issuer

fails to pay principal and interest when due. The full faith and credit of the issuer, but not any specific collateral, backs an unsecured bond or debenture.

### Debenture Bonds

A bond that has no specific security set aside or allocated for repayment of the principal. A debenture bond is secured only by the general credit of the issuer.

### Callable Bonds

Institutions should carefully evaluate provisions that permit the issuer to modify the maturity of a bond. Many corporate bonds contain call privileges that permit the issuer to redeem the bond, either fully or partially, before the scheduled maturity. Call provisions are generally detrimental to investors since they run the risk of losing a high-coupon bond when rates begin to fall. Call provisions also tend to limit the price appreciation of the bond that might otherwise occur when interest rates decline. The presence of call protection, however, limits the right of the issuer to call the bond to a specified number of years early in the life of the bond.

### Sinking Fund Bonds

Sinking fund provisions are a form of maturity modification most often found in industrial bonds but increasingly found in other types of bonds as well. A sinking fund provision can take either of two forms. In one form, the issuer makes periodic payments to a segregated fund that is sufficient to retire the bonds upon maturity.

The other form mandates the issuer to retire some portion of the debt in a prearranged schedule during its life and before the stated maturity. Sinking funds are beneficial because they assure an orderly retirement of debt and enhance liquidity. Sinking funds can also be disadvantageous to investors. In particular, those investors holding one of the early bonds to be called for a sinking fund are disadvantageous to the investor.

### *Risk Associated with Bonds in General*

In assessing the risk of an investment in bonds, the association should consider reinvestment rate risk as well as interest rate risk. These risks generally work inversely to one another.

Long-term bonds are more sensitive to interest rate changes; the loss potential is greater the longer term the bond. Long-term bonds tend to command a higher premium, known as the maturity risk premium. Interest rates fluctuate over time, and an increase in interest rates leads to a reduction in value of an outstanding bond. For example, a 5% bond with a value of \$1000.00 would lose value if interest rates were to increase to 7.5%, exposing the holder to a loss. If the interest rate falls to 2.5%, the bond may gain in value, but may only be redeemable at par. The issuing entity may exercise a call option, denying the holder the benefits of additional interest payments, as well as any differential from the par value.

Short-term bonds are exposed to investment rate risk. When short-term bonds or bills mature and the funds “roll over” or are reinvested, declining interest rates would result in the funds being reinvested at

lower rates. Investing in short-term bonds preserves the value of the principle. Reinvestment rate risk is related to the income the bond produces as it matures and rolls over.

Therefore, investors cannot consider fixed-rate bonds to be totally without risk. Associations can minimize, or balance the risks associated with owning bonds by holding a mixture of short- and long-term issues.

## Equity Instruments

The equity markets are the primary exchanges for the trading of stocks. The shares of common stock and preferred stock bought and sold in these markets represent actual ownership interest in a corporate entity. The major markets are the New York Stock Exchange, the American Stock Exchange, and the over-the-counter market. Savings associations may not generally invest in or retain equity securities. The Home Owners' Loan Act permits the following investments:

### *Mutual Funds*

Investing in mutual funds is permissible, so long as investing in the underlying assets is permissible. Simply stated, if investing in the underlying securities is permissible, the institution can invest in the fund. See the Pass-through Investment Regulation, § 560.32 in [Appendix C](#), General Lending and Investment Powers of Federal Savings Associations. Institutions should be aware of and avoid concentrating capital in one fund or a group of funds investing in the same underlying assets.

Many savings associations invest in mortgage-related mutual funds. Some of these funds have run into problems. Redemption in-kind is payment of the redemption value, in whole or in part, by distribution of a fund's portfolio securities. Although funds usually pay share redemption proceeds in cash, often funds reserve the right to pay the redemption value, in whole or in part, by a distribution of the fund's portfolio securities.

Prior to purchase Management should:

- Evaluate the fund based on anticipated and historical yield, net of expenses.
- Evaluate the risk profile of the underlying assets.

Evaluate the suitability of the position in relation to the institution's overall portfolio.

### *Secondary Mortgage Market*

Through this market, original lenders are able to sell loans in their portfolios to build liquidity to support additional lending. Mortgage agencies, such as Freddie Mac, Fannie Mae, and investment bankers buy mortgage loans. In turn, these agencies and investment bankers create pools of mortgages that they repackage as mortgage-backed securities (MBS), which they sell to investors. MBSs or mortgage pass-through certificates provide investors with payments of interest and principal on the underlying mort-

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gages. Since the underlying issuer guarantees the mortgage pass-through certificate, the default risk is low for this type of security.

The buying, selling, and trading of existing mortgage loans and MBSs constitutes the secondary mortgage market. This has become a significant activity for many savings associations.

The payments for MBSs resemble mortgage payments but without delinquencies. Principal and interest payments, less guarantee and servicing fees, pass through to the investor whether or not the issuer collects them. The servicer advances the delinquencies to the investor until the mortgage either becomes current or foreclosure is complete. Prepayments pass through to the investor as received.

The servicer collects mortgage payments on a monthly basis from the mortgagor and remits those funds less its servicing fee to a central collection point, or directly to the investors for GNMA I. Fannie Mae, Freddie Mac, and GNMA II collect their guarantee fee directly from the payments that they pass through or from the servicer.

Fannie Mae and GNMA have always guaranteed the timely payment of both principal and interest to investors for their MBSs, requiring the servicer to advance its own funds to the investor to make up for delinquencies. Freddie Mac only guaranteed the timely payment of principal until they developed their Gold PC and now it, too, guarantees the timely payment of both principal and interest. The following characteristics determine the structure of an MBS:

- Types of mortgages in the pool.
- Weighted-average coupon on the pool of underlying mortgages.
- Pass-through rate on the MBS.
- Weighted-average remaining maturities of the mortgages.
- Number and size of the mortgages.
- Geographic distribution of mortgages.

#### Weighted-Average Coupon and Pass-Through Rate

The weighted-average coupon (WAC) of the mortgage pool is an important factor in determining prepayment speeds. In general, higher WACs relative to current mortgage rates result in faster prepayments because homeowners have an incentive to refinance at lower market rates. Lower WACs relative to current mortgage rates lead to slower prepayments because lower refinancing rates are not readily available.

The average interest rate on the underlying mortgages of an MBS usually exceeds the pass-through rate. The spread between the WAC and the pass-through rate represents guarantee fees and servicing fees. A savings association that originates and packages loans for securitization can set limits on the permissible

range of interest rates in a pool. These limits must be within the guidelines established by the guarantor of the MBS for each specific program.

#### Original Term and Weighted-Average Remaining Maturity

The original term and the weighted-average remaining maturity (WARM) also affect the rate of repayment. Longer terms to maturity mean that amortization of principal will spread out over a longer period. This means the security passes through less principal during the early years of the security. In addition, prepayment patterns vary by original terms such as 30 years or 15 years. Loan age, which represents the difference between original and remaining maturity, also affects the rate of repayment. Payments on older mortgages allocate more to principal than to interest. Prepayments on a mortgage pool also tend to increase as the mortgages age, or become more seasoned. Eventually, prepayments slow down, or burn out. This occurs when most of the mortgages remaining in the pool are either unwilling or unable to prepay. The maturity date of an MBS is generally the date on which the last mortgage in the pool repays in full. Each guarantor of an MBS sets limits on the permissible range of interest rates and maturities for each specific program.

#### Geographic Distribution

The location of the mortgages comprising the pool affects the likelihood and predictability of prepayments. Different areas of the country prepay at much different rates. Geographical diversity permits greater predictability of cash flows as the mortgage pool is less subject to regional economic conditions and other local influences. More mortgages in a given pool tend to diversify risks and make cash flows more regular and predictable.

#### *Federal Agency Securities*

Savings association may invest in certain equity securities of FHLBs, Freddie Mac, Fannie Mae, SLMA and GNMA. The cash flows of mortgage pass-through securities generally mimic those of the underlying mortgages. The mortgages themselves are usually homogeneous. The securities consist of a pool of residential loans and principal and interest on those loans (less a guarantee fee) that the security “passes through” to investors. These securities have minimal credit risk.

#### *Nonagency securities*

MBSs not issued by the GSE’s such as Fannie Mae, Freddie Mac, and GNMA. The cash flows of these securities also generally mimic the cash flows of the underlying mortgages. Their structures are somewhat more complex than an agency pass-through, however. Because these securities lack an agency guarantee, the overall deal may include some credit support in the form of subordinated (first loss) and second loss (mezzanine) tranches. (We describe subordinated tranches as “first loss” classes for purposes of simplicity. Issuers of nonagency MBS, CMOs, ABS, and CDOs usually retain some interest in the securitization. This retained interest, known as a residual or equity interest, absorbs losses even before the subordinated tranches.) The quality and performance of the underlying loans and the level of credit support both affect the overall credit risk of these securities.

### *Banker's Banks*

A federal savings association may purchase for its own account shares of stock of a bankers' bank, provided it meets the following conditions:

- The institution is insured by the Federal Deposit Insurance Corporation or a holding company that owns or controls such an insured institution, if the stock of such institution or company is owned exclusively by depository institutions or depository institution holding companies.
- Such bank or company and all subsidiaries engage exclusively in providing services to or for other depository institutions, their holding companies, and the officers, directors, and employees of such institutions and companies, and in providing correspondent banking services at the request of other depository institutions or their holding companies.
- The total amount of such stock held by the association in any bank or holding company must not exceed at any time ten percent of the association's capital stock and paid in and unimpaired surplus.
- The purchase of such stock must not result in an association's acquiring more than five percent of any class of voting securities of such bank or company.

### *Asset-Backed Securities*

Any asset can back this type of debt security. The security represents pools of assets, collateralized by the cash flows from a specified pool of underlying assets. Assets are pooled to make otherwise minor and uneconomical investments worthwhile, while also reducing risk by diversifying the underlying assets. Securitization makes these assets available for investment to a broad set of investors. These asset pools can be made of any type of receivable like credit card payments, auto loans, and mortgages.

There are two primary risks in this market: credit risk and liquidity risk. Credit risk speaks to the payment performance of the collateral supporting the security. If the loans suffer losses, issuers will incur a loss and security holders may not receive payment at maturity. Liquidity risk is measured by the ability of the program to raise funds to retire the maturing security.

ABS is also a general term that also covers CMOs and CDOs. As with CMOs, ABS often have a senior/subordinated structure. Excess spread also provides an important form of credit support for ABS. For example, the underlying loans in a credit card securitization may have a yield of 12 percent but the weighted average yield on the ABS is only 7 percent. The difference between the two (5 percent) will be available to absorb credit losses (the excess spread is occasionally placed in a separate reserve account). ABS and other types of investment securities can have many different types of credit support. They may include overcollateralization (the amount of the collateral exceeds the amount of the securities that it backs), letters of credit, and cash collateral accounts.

### Mortgage-Backed Securities

An issuer creates a mortgage-backed security (MBS) by pooling mortgage loans and using the pool as collateral for the security. The three main types of MBS are:

- Mortgage pass-through securities
- Collateralized mortgage obligation
- Stripped MBS

Cash flows from any MBS are dependent on the underlying pool of individual mortgages, and consist of interest, scheduled principal repayments, and payments in excess of scheduled principal repayment. Interest and scheduled principal repayment can be determined in advance, while excess (early) payments are a component of risk (prepayment risk).

### Limits on MBS Trading Activity

Savings associations may buy and sell securities to manage risk or to improve profitability. Active management of an MBS portfolio may presume an ability to anticipate changes in market interest rates. In practice, interest rates are notoriously difficult to predict. Active portfolio management requires out-guessing the market consensus sufficiently to cover transaction costs. Historical data suggests that very few investment professionals can outperform a passive fixed income indexing strategy with active portfolio management.

OTS allows savings associations to use an MBS portfolio for trading purposes only in limited cases and subject to certain safeguards. The association should have the core earnings and capital to absorb potential trading losses. The savings association should also possess the financial expertise and management information systems to monitor and evaluate trading activity effectively.

You should determine the amount of MBS trading activity by reviewing the volume of trades transacted since the previous examination. You should quantify the volume and compare it with the change in portfolio balances since the previous examination. Calculate portfolio turnover ratio by comparing the dollar amount of securities sold, by type, with the balance of the portfolio at the beginning of a period. For example, if the savings association sold \$10 million of MBS all with the same coupon rate during the quarter, compared with the balance of \$10 million of this coupon rate at the beginning of the quarter, the turnover ratio would be 100 percent. You can make these comparisons on a monthly or annual basis.

There is no bright line that automatically indicates that the MBS portfolio is part of a trading portfolio. You should review the composition of the trades and determine the rationale for the transactions.

While designating certain assets for trading can be consistent with prudent portfolio management, you may consider certain practices speculative or otherwise abusive.

### Mortgage Pass-through Securities

An issuer creates a pass-through security by pooling a group of mortgages and using the mortgages as collateral for the security. The cash flow of the security reflects the cash flow of the underlying mortgages. The issuer sells interest in the pool as “units” and the holder of a unit receives a fraction of the cash flow commensurate with the number of units owned. Simply put, if a pass-through security has 50 units, each unit is entitled to 1/50th of the cash flow. The industry calls the process of creating the pass-through securitization of mortgage loans.

A government-related entity, such as the Fannie Mae, or the Freddie Mac, GNMA, or the FHLBs, (collectively called agency securities) guarantees most pass-throughs, but private entities may also issue pass-throughs. Agency securities generally have the highest credit ratings, as the entities that issue these securities are agencies of the federal government. Savings association management should be aware of the difference between agency securities and nonagency securities when contemplating purchase. The credit risk assessment of a nonagency CMO involves the risk of default and loss from the underlying collateral and of the levels of credit support for the CMO.

The pooling process is more efficient for than purchasing individual mortgages for investors and marketers.

### Stripped MBS

Stripped MBS (strips) divide the proceeds of the security into principal only (PO) and interest only (IO) bond classes. The risk/return characteristics of strips may make them attractive as a hedge for a portfolio of pass-throughs, or servicing rights. Stripped MBS are complex investment securities.

### Collateralized Mortgage Obligations (CMOs)

A CMO changes the method of distributing the proceeds of the cash flow. Pass-throughs distribute cash flow on a pro-rata basis, while CMOs distribute cash flow by rules, according to class of bonds. This has the effect of redistributing the prepayment risk. Each CMO class has a different effective maturity date due to the rules governing the distribution of cash flows. These differing effective maturities make the tranches attractive to various associational investors for differing reasons. Cash flow rules mitigate the uncertainty about the maturity dates of each class of CMO.

Some savings associations issue CMOs. The issuer may retain a subordinate interest in the CMO as a credit enhancement to outside investors. The gain recognized on the sale depends on the relative fair values assigned to the sold and retained tranches. The higher the value assigned to the retained pieces, the lower the cost basis for the securitized assets, and the larger the recognized gain on sale. There is often no liquid market for the retained securities, so their fair values may be difficult to verify. You must analyze the savings association’s valuation assumptions to ensure that the savings association bases its gain on sale upon the economics of the transaction rather than merely an inflated value assigned to retained tranches. Particularly important variables include the assumed prepayment rate, loss rate on the underlying mortgages, and required rate of return (discount rate).



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CMOs redistribute, rather than mirror the cash flows of the underlying mortgages. The mortgages generate cash flows. The issuer then segments the cash flows into different classes or tranches. Tranching accommodates varying interest rate risk preferences of investors. Suppose, for example, the underlying loans in a CMO deal have a weighted average life (WAL) of seven years. Rather than having a single tranche also with a WAL of seven years, the issuer can divide the cash flows into tranches with shorter and longer WALs. Mortgage prepayments can also make the cash flows of the underlying mortgages volatile. The issuer can redirect cash flows generated by the mortgages to create securities with more stable cash flows (for example, planned amortization class securities (PACs)) or more volatile cash flows (for example, support tranches). Savings associations can also use CMOs to segment credit risk. Subordinate and (sometimes) mezzanine tranches carry more credit risk (and offer higher returns) than the underlying mortgages while senior tranches carry less credit risk. As with nonagency pass-throughs, the quality and performance of the underlying mortgages and the level of credit support both affect the overall credit risk of these securities.

#### Collateralized Loan or Bond Obligations

Savings associations may invest in collateralized loan obligations, CLOs, (backed by commercial loans) and collateralized bond obligations, CBOs, (backed by corporate bonds) through the pass-through authority to invest in the underlying assets of the collateralized pool (12 CFR 560.32) or through their authority to invest in corporate debt securities under HOLA (12 CFR 560.40). In either case, the savings association must meet the requirements of the respective regulation. Therefore, to use the pass-through authority for a CBO backed by corporate bonds, each underlying bond must meet the requirements of §560.40. If commercial loans back the issue, the underlying loans must be underwritten in a safe and sound manner. If the association makes the investment using the corporate debt security authority, the issue must be investment grade and meet the marketability requirements as discussed above. CLOs and CBOs are typically issued as structured notes, meaning the cash flows of the underlying collateral are divided into several separate tranches, each having yield, term, and other characteristics designed to appeal to different investors. For example, an issuer can split a CBO into three different tranches: a senior note, a mezzanine (or junior) note, and a residual interest or “equity” certificate. The senior notes typically are over-collateralized by 10 to 25 percent and have repayment priority over the other notes in the issue with respect to both principal and interest. Issuers often overcollateralize the mezzanine note at 100 to 105 percent of its initial value and has repayment priority over the equity certificates but is subordinate to the senior notes. The equity certificate is only a claim on the remaining cash flows and has no claim on the collateral until all the security repays obligations due to both the senior and mezzanine notes. CLOs typically have a revolving period and an amortization period. During the revolving period, the issuer reinvests principal payments in additional assets in accordance with the terms of the agreement. During the amortization period, any principal payments first go to repay the senior note holders in full, and then any remaining principal goes to repay the mezzanine tranche investors. Typically, the senior note receives the highest investment rating. The mezzanine notes generally receive a lower investment grade. The residual interest certificates do not receive a rating and are usually subordinate, not only to senior tranches, but also to expenses of the issuing trust. These residual tranches are difficult to value and are generally illiquid investments.

### *Split Ratings*

While it is unusual, some securities may have a split rating, meaning that the principal may receive an investment grade rating, while the interest portion of the investment may be unrated or rated below investment grade. To make the residual tranche more marketable, the CLO issuer or trustee may swap the residual interest certificate for certificates guaranteed by a AAA-rated counterparty as to the principal amount at maturity. While the swap creates a guarantee of the principal at maturity, the amount guaranteed may be discounted to its present value if terminated early. In that respect, the guaranteed portion of the security is similar to a zero-coupon bond. Therefore, the credit support provided by the guarantor may only cover a fraction of the face amount of the certificate at purchase. Unlike zero-coupon bonds, which sell at a discount, these certificates generally sell at par. To receive any interest on the certificates, investors must rely on the performance of the swapped asset (the residual certificates), which is not guaranteed. Apparently, the motivation to purchase such certificates is the high yield projected if the CLO collateral pool (and thereby the reference asset) performs well. However, there is no guarantee of residual cash flows. Moreover, the certificates will not be in default if it pays no cash flows to the investors. These investments are highly speculative, and are clearly not intended to hedge interest rate risk or credit risk. Based on the general lack of supporting cash flow analysis for these investments, it is difficult to assess the likelihood of achieving a particular return. In essence, associations should be wary of split ratings where only a part of the security is either guaranteed or rated investment grade. Therefore, investments that do not receive ratings as to both principal and interest do not meet OTS regulatory requirements.

### Collateralized Debt Obligation (CDO)

A general inclusive term that covers collateralized bond obligations, collateralized loan obligations and collateralized mortgage obligations. Invented in 1987, CDOs became an important funding vehicle for many markets, including mortgage market.

Consisting of fixed-income assets, the issuer divides CDOs into different tranches:

- Senior tranches (generally rated AAA)
- Mezzanine tranches (generally rated AA to BB)
- Equity tranches (generally unrated).

Losses flow in reverse order of seniority and so junior tranches offer higher interest rates to compensate for the additional risk of default.

CDOs represent a securitized pool of debt instruments, usually secured bonds, rather than loans. A CDO involves the issuance of multiple tranches of securities based on their credit risk (subordinated/mezzanine/senior). A cash flow CDO involves the actual transfer of loans to a special purpose entity (SPE). A synthetic CDO treats the loans as a reference pool (avoiding sale treatment under GAAP). Synthetic CDOs do not own cash assets like bonds or loans. Instead, synthetic CDOs gain credit exposure on the loans or bonds without owning those assets by using credit default swaps (CDS). Under such a swap, the credit protection seller, the CDO, receives periodic cash payments, or premi-

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ums, in exchange for agreeing to assume the risk of loss on a specific asset in the event that asset experiences a default or other credit event.) Synthetic CDOs may also involve credit-linked notes (CLNs), which are bonds whose performance depends on the performance of the reference assets (for example, a pool of loans). CLNs and CDOs are often part of the same CDO deal. A CDO-Squared is a CDO that consists of other CDOs.

The assets underlying a CDO are not necessarily homogeneous. In fact, the initial appeal of CDOs derives from, in part, a presumed diversification benefit. Some of the assets underlying a CDO might default, but not at the same time and gains in some parts of the portfolio will be available to offset losses in other parts. (See details below on the effect of this correlation assumption.)

The credit risk of a CDO depends on the underlying assets, the correlation of those underlying assets with each other, and the structure of the CDO. All but the most senior tranches of a CDO have “attachment” and “detachment” points. The attachment point represents the minimum level of losses on the underlying assets required for a particular tranche to first experience a loss. The detachment point represents the level of losses that will wipe the tranche out.

Indentures and other documents governing a CDO can provide a third source credit risk. CDO documents specify events of default. Events of default include obvious items such as failure to pay principal and interest when due and bankruptcy. Some CDOs also include as an event of default failure to maintain a defined amount of overcollateralization. For example, a senior tranche of a CDO may get a AAA rating because the underlying assets far exceed the amount necessary to pay off that particular tranche. Not all assets provide equal protection. Treasury bills are better collateral than junk bonds. As a result, some transactions discount the value (apply a haircut) of lower quality assets when making the overcollateralization calculation. The haircutting begins at the cusp between investment and noninvestment grade (BBB and BB) and assets are valued at lower of market value or recovery rate for ratings CC or below. Poor performance of subprime mortgages led to a record number of downgrades of the mortgage-related securities that make up CDOs. Lower ratings resulted in bigger haircuts on the collateral, moving overcollateralization ratios closer to event of default thresholds. This domino effect is even more exaggerated for a CDO-squared, a CDO made up of other CDOs.

If an event of default does occur, the controlling class (that is, the noteholders of the most senior tranche) has the right to enforce a revised priority of payments. The definition of a controlling class depends on the particular CDO deal and can include holders of some lower priority tranches or even of financial guarantors. The decision to accelerate payment and/or liquidate is an option of the controlling interest, not a requirement. The CDO pays super senior tranches first, stopping principal and interest payments to everyone else, although this also depends on the particular deal. Some suspend principal payments but continue payments of interest.

### Risks of CDOs

Some CDOs, initially rated investment grade, sometimes even AAA, received severe downgrades and wound up trading at pennies to the dollar. Even many of those securities that have maintained high credit ratings are now trading at deep discounts to par. Part of the problem stems from the evaporation of liquidity in the market. In addition, however, there are certain characteristics of these securities and

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certain aspects (and limitations) of the ratings process that can result in a sharp reversal of fortune. As a result, the NRSROs are revisiting their methodologies for rating structured securities, particularly CDOs.

Consider the following example of securities that remain highly rated but are currently trading at deep discounts. The portfolio consists of roughly 125 corporate bonds. The underlying bonds are rated BBB. The CDO has an attachment point of 6 percent and a detachment point of 7 percent. Historically, the probability that a BBB security will default in the next year is 0.2 percent. Assume also an expected recovery rate of 30 percent (a loss given default of 70 percent). The expected loss over the next year would be 0.14 percent. If defaults of the underlying loans were completely uncorrelated with one another, the focus is on the probability that there will be a loss and not on the severity of the loss, should it occur.

Also, as noted above, bond indentures, such as failing an OC threshold, can trigger an event of default, which adversely affects all but the most senior tranches of a CDO.

### *Trust-Preferred Securities*

Savings associations may invest in trust-preferred securities (TPSs) in accordance with the limitations established in 12 CFR § 560.40. TPSs are nonperpetual cumulative preferred stock issued by a wholly owned trust subsidiary of a corporation (typically insurance companies and bank or savings and loan holding companies). Revenue from the sale of the TPSs is exchanged for junior subordinated debentures issued by the parent corporation. These debentures feature coupon payment and term to maturity identical to those of TPSs. Coupon payments on the TPSs have a specific dollar amount and term (typically 30 years). A unique feature of TPSs is the option of the issuer to defer any payments that come due to a future date (typically up to five years). Most issues provide that the issuer must pay a contractual rate of interest on any deferred payment as long as it is outstanding.

TPSs have some similarities to other investments and activities permissible for federal savings associations. Federal savings associations may invest in high quality corporate debt securities under section 5(c)(2)(D) of the Home Owners' Loan Act in compliance with 12 CFR 560.40. The junior subordinated debentures supporting TPSs may meet these requirements. Moreover, federal savings associations may make pass-through, equity-type investments in entities such as limited partnerships, trusts, and similar entities so long as the underlying investments are permissible for federal savings associations. See 12 CFR 560.32. The TPS structure has characteristics that may satisfy the pass-through requirements.

### Unique Risks of TPSs

TPSs and similar instruments display some characteristics that may present higher levels of risks than those traditionally associated with corporate debt securities or pass-through investments:

- The deferral option would allow an issuer to defer payments for up to five years without being in default, thus preventing holders from taking action against the issuer.

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- For some 30-year issues, the issuer has the ability to extend the maturity of the issue for an additional 20 years without approval of the TPS holders.
  - An association may issue the securities, count them toward capital, then use the proceeds of the sale to purchase similar securities from other issuers—in effect, raising capital without substantively changing its financial condition.
  - Many issuers of TPSs are bank holding companies, that, when rated, are rated in one of the two lower investment grades. This leaves little cushion should the financial capacity of the issuer decline.
  - Little data is available on the performance of TPSs over time, yet the securities have long maturities.

#### Investment Authority and Limits for TPSs

In general, federal saving associations may invest in TPSs that otherwise meet the requirements of corporate debt securities set forth at 12 CFR 560.40. Savings associations may not invest in TPSs or any other type of security from their parent holding company or any other affiliate. Because of the considerable differences among these issues, and because their complex and varied nature, particularly the deferral option, poses higher risk than traditional corporate debt securities, savings associations that invest in these or similar securities should ensure that such investments meet the following limitations and requirements.

- Limit their aggregate investment in TPSs and securities with similar attributes, 3 to 15 percent of the association's total capital.
- Not enter into a formal or informal reciprocal agreement or understanding with another issuer or broker to purchase the securities of another issuer (also, 12 CFR 563.81(d)(3) prohibits an association from selling subordinated debt directly or indirectly to another association unless the sale is approved by OTS).
- Not invest in a security if the issuer can unilaterally extend maturity beyond 30 years.
- In addition, an association's investment in such securities must:
  - Be able to be sold with reasonable promptness at a price that corresponds reasonably to their fair value.
  - Be rated in one of the four highest categories by a nationally recognized investment rating service at its most recently published rating before the date of purchase of the security.
  - Meet the general lending limits of 560.93(c).

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Similar attribute means a security with the same risk characteristics as a TPS, such as a payment deferral option by the issuer and a subordinated debt status. A CBO backed by TPSs is also covered by the investment restrictions in this guidance unless the association can demonstrate that the credit support and rating afforded by the issuer remove the payment deferral and other concerns OTS has with respect to TPSs. TPS CDOs (also known as pooled TPS) are not liquid and a number of mezzanine tranches have been downgraded to below investment grade. In addition, these securities can be difficult to evaluate and monitor since information on the underlying issuers is often lacking.

Only purchase TPSs that the association can sell with reasonable promptness at a price that reasonably reflects fair value. This means that a ready market must exist for the securities. While publicly offered securities will generally meet these requirements, some private placement issues may not. As with other types of corporate debt securities, OTS requires that associations risk weight TPSs at 100 percent for risk-based capital purposes.

TPSs are subject to all other requirements or guidelines applicable to investment securities. This means associations should ensure that their investment in TPSs is consistent with the association's risk management and investment policies. Specifically, management should consider the overall effect of any investment in TPSs on the association's levels of market, credit, liquidity, legal, operational, and other risks of investment securities. Refer to [Thrift Bulletin 13a](#), Management of Interest Rate Risk, Investment Securities, and Derivatives Activities, and the Federal Financial Associations Examination Council Supervisory Policy Statement on Investment Securities and End-User Derivatives Activities for additional guidance.

**Approval for additional investment.** If a savings association wants to invest more than 15 percent of their capital in trust preferred or similar securities, they must obtain approval from the OTS Regional Office prior to purchase or commitment. The Region will approve the request if it determines that the proposed investment poses no greater risk than an investment in a nonsubordinated, investment-grade, corporate debt security.

The Region will base its determination on the following facts:

- Current rating of the security.
- Date of the rating.
- Whether other rating agencies have recently issued lower ratings.

The Region will also consider the adequacy of information concerning the financial strength of the issuer, the due-diligence performed by the association and the effect of the investment on the overall level of interest rate risk. OTS regional offices will carefully scrutinize TPSs with unusual characteristics. Examples include:

- Securities rated in the lowest investment grade.

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- Thinly traded securities (where the association has not demonstrated that a viable resale market exists).