

STATE OF COLORADO

Department of Regulatory Agencies

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TO: Division of Banking Staff

FROM: Barbara M. A. Walker, State Bank Commissioner

DATE: March 31, 1992

RE: Mortgage Derivative Products, Other Asset Backed Products,
and Zero-Coupon Bonds

The following Operating Memo parallels the policy statement developed by the Federal Financial Institutions Examination Council and adopted by the Federal Deposit Insurance Corporation, The Board of Governors of the Federal Reserve System, and the Office of the Comptroller of the Currency, effective February 10, 1992.

SUMMARY

Mortgage derivative products include Collateralized Mortgage Obligations ("CMOs"), Real Estate Mortgage Investment Conduits ("REMICs"), CMO and REMIC residuals, and Stripped Mortgage-Backed Securities ("SMBs"). The cash flows from the mortgages underlying these securities are redirected to create two or more classes with different maturity or risk characteristics designed to meet a variety of investor needs and preferences.

Some mortgage derivative products exhibit considerably more price volatility than mortgages or ordinary mortgage pass-through securities and can expose investors to significant risk of loss if not managed in a safe and sound manner. This price volatility is caused in part by the uncertain cash flows that result from changes in the prepayment rates of the underlying mortgages.

In addition, because these products are complex, a high degree of technical expertise is required to understand how their prices and cash flows may behave in various interest rate and prepayment environments. Moreover, because the secondary market for some of these products is relatively thin, they may be difficult to liquidate should the need arise. Finally, there is additional uncertainty because new variants of these instruments continue to be introduced and their price performance under varying market and economic conditions has not been tested.

A general principle underlying this Operating Memo is that mortgage derivative products possessing average life or price volatility in excess of a benchmark fixed rate 30-year mortgage-backed pass-through security are "high-risk mortgage securities" and are not suitable investments. All high-risk mortgage securities, as defined in detail below, acquired by depository institutions after March 31, 1992, must be carried in the institutions' trading account

or as assets held for sale. On the other hand, mortgage derivative products that do not meet the definition of a high-risk mortgage security at the time of purchase should be reported as investments, held-for-sale assets, or trading assets, as appropriate. Institutions must ascertain no less frequently than annually that such products remain outside the high risk category.

Institutions that hold mortgage derivative products that meet the definition of a high-risk mortgage security must do so to reduce interest rate risk in accordance with safe and sound practices. (Notwithstanding the provisions of this Operating Memo requiring the use of high-risk mortgage securities to reduce interest rate risk, this Operating Memo is not meant to preclude an institution with strong capital and earnings and adequate liquidity that has a closely supervised trading department from acquiring high-risk mortgage securities for trading purposes. The trading department must operate in conformance with well-developed policies, procedures, and internal controls, including detailed plans prescribing specific position limits and control arrangements for enforcing these limits.) Furthermore, depository institutions that purchase high-risk mortgage securities must demonstrate that they understand and are effectively managing the risks associated with these instruments. Levels of activity involving high-risk mortgage securities should be reasonably related to an institution's capital, capacity to absorb losses, and level of in-house management sophistication and expertise. Appropriate managerial and financial controls must be in place and the institution must analyze, monitor, and prudently adjust its holdings of high-risk mortgage securities in an environment of changing price and maturity expectations.

Prior to taking a position in any high-risk mortgage security, an institution should conduct an analysis to ensure that the position will reduce the institution's overall interest rate risk. An institution should also consider the liquidity and price volatility of these products prior to purchasing them. Circumstances in which the purchase or retention of high-risk mortgage securities is deemed by the Division of Banking to be contrary to safe and sound practices for depository institutions will result in criticism by examiners, who may require the orderly divestiture of high-risk mortgage securities. Purchases of high-risk mortgage securities prior to March 31, 1992, generally will be reviewed in accordance with previously-existing supervisory practices.

Securities and other products, whether carried on or off the balance sheet (such as CMO swaps, but excluding servicing assets), having risk characteristics similar to high-risk mortgage securities will be subject to the same supervisory treatment as high-risk securities.

Long-term zero coupon bonds also exhibit significant price volatility and may expose an institution to considerable risk. Disproportionately large holdings of these instruments may be considered an imprudent investment practice, which will be subject to criticism by examiners. In such instances, examiners may seek the orderly disposal of some or all of these securities. Assets slated for disposal are reported as assets held for sale at the lower of cost or market value.

OVERVIEW OF THE SECURITIES

- A) SMBSs consist of two classes of securities with each class receiving a different portion of the monthly interest and principal cash flows from the underlying mortgage-backed securities ("MBS"). In its purest form, an MBS is converted into an interest-only ("IO") strip, where the investor receives all of the interest cash flows and none of the principal,

and a principal-only ("PO") strip, where the investor receives all of the principal cash flows and none of the interest. IOs and POs have highly volatile price characteristics based, in part, on the prepayment variability of the underlying mortgages. Therefore, IOs and POs will nearly always meet the definition of high risk in this policy.

From a market perspective, IOs and POs have relatively wide bid/ask spreads compared to mortgage-backed securities. This decreases the effectiveness of SMBs as interest rate risk reduction tools from a price sensitivity perspective because interest rates and prepayments need to change by a significant amount before the price at which the security can be sold (i.e., the bid price) will exceed the price at which the security was purchased (i.e., the ask price).

- B) CMOs and REMICS, hereinafter called CMOS, have been developed in response to investor concerns regarding the uncertainty of cash flows associated with the prepayment option of the underlying mortgagor. A CMO can be collateralized directly by mortgages, but more often is collateralized by MBSs issued or guaranteed by the Government National Mortgage Association (GNMA), Federal National Mortgage Association (FNMA), or Federal Home Loan Mortgage Corporation (FHLMC) and held in trust for CMO investors. In contrast to MBSs in which cash flow is received pro rata by all security holders, the cash flow from the mortgages underlying a CMO is segmented and paid in accordance with a predetermined priority to investors holding various CMO tranches. By allocating the principal and interest cash flows from the underlying collateral among the separate CMO tranches, different classes of bonds are created, each with its own stated maturity, estimated average life, coupon rate, and prepayment characteristics. Notwithstanding the importance of the CMO structure to an evaluation of the timing and amount of cash flows, it is essential to understand the coupon rates on the mortgages underlying the CMO to assess the prepayment sensitivity of the CMO tranches.
- C) Residuals, in the traditional sense, are claims on any excess cash flows from a CMO issue or other asset-backed security remaining after the payments due to the holders of the other classes and after trust administrative expenses have been met. The economic value of a residual is a function of the present value of the anticipated excess cash flows. These cash flows are highly sensitive to prepayments and existing levels of market interest rates, and the mortgages underlying the CMO must be understood in order to assess this sensitivity. Accordingly, most of these residuals meet the definition of high-risk in this policy. Other factors affecting the market value of residuals include a lack of liquidity and a wide bid-ask price spread.

In addition, the 1986 legislation creating the REMIC structure requires that one class of each REMIC issue be designated the residual interest for tax purposes. Some of these REMIC residuals are not residuals in the traditional sense.

However, these REMIC residuals also are subject to this Operating Memo.

DEFINITION OF "HIGH-RISK MORTGAGE SECURITY"

In general, any mortgage derivative product that exhibits greater price volatility than a benchmark fixed rate thirty-year mortgage-backed pass-through security will be deemed to be high risk. For purposes of this policy statement, a "high-risk mortgage security" is defined as any mortgage derivative product that at the time of purchase, or at a subsequent testing date,

meets any of the following tests. (When the characteristics of a mortgage derivative product are such that the first two tests cannot be applied (such as with IOs), the mortgage derivative product remains subject to the third test). In general, a mortgage derivative product that does not meet any of the three tests below will be considered to be a "nonhigh-risk mortgage security."

- (1) Average Life Test. The mortgage derivative product has an expected weighted average life greater than 10.0 years.
- (2) Average Life Sensitivity Test. The expected weighted average life of the mortgage derivative product:
 - a. Extends by more than 4.0 years, assuming an immediate and sustained parallel shift in the yield curve of plus 300 basis points, or
 - b. Shortens by more than 6.0 years, assuming an immediate and sustained parallel shift in the yield curve of minus 300 basis points.
- (3) Price Sensitivity Test. The estimated change in the price of the mortgage derivative product is more than 17 percent, due to an immediate and sustained parallel shift in the yield curve of plus or minus 300 basis points.

When performing the price sensitivity test, the same prepayment assumptions and same cash flows that were used to estimate average life sensitivity must be used. The only additional assumption is the discount rate assumption. First, assume that the discount rate for security equals the yield on a comparable average life U.S. Treasury security plus a constant spread. Then, calculate the spread over Treasury rates from the bid side of the market for the mortgage derivative product. Finally, assume the spread remains constant when the Treasury curve shifts up or down 300 basis points. Discounting the aforementioned cash flows by their respective discount rates estimates a price in the plus and minus 300 basis point environments. The initial price will be determined by the offer side of the market and used as the base price from which the 17 percent price sensitivity test will be measured.

In applying any of the above tests, all of the underlying assumptions (including prepayment assumptions) for the underlying collateral must be reasonable. All of the assumptions underlying the analysis must be available for examiner review. For example, if an institution's prepayment assumptions differ significantly from the median prepayment assumptions of several major dealers as selected by examiners, the examiners may use these median prepayment assumptions in determining if a particular mortgage derivative product is high risk.

The above tests may be adjusted in the event of a significant movement in market interest rates or to fairly measure the risk characteristics of new mortgage-backed products. Furthermore, the Division of Banking reserves the right to take such action as it deems appropriate to prevent circumvention of the definition of a high-risk mortgage security and other standards set forth in this policy statement.

Generally, a CMO floating-rate debt class will not be subject to the average life and average life sensitivity tests described above if it bears a rate that, at the time of purchase or at a subsequent testing date, is below the contractual cap on the instrument. (An institution may purchase interest rate contracts that effectively uncapped the instrument.) For purposes of this

Operating Memo, a CMO floating-rate debt class is a debt class whose rate adjusts at least annually on a one-for-one basis with the debt class's index. The index must be a conventional, widely-used market interest rate index such as the London Interbank Offered Rate (LIBOR). Inverse floating rate debt classes are not included in the definition of a floating rate debt class.

SUPERVISORY POLICY FOR MORTGAGE DERIVATIVE PRODUCTS

Prior to purchase, a depository institution must determine whether a mortgage derivative product is high-risk, as defined above. A prospectus supplement or other supporting analysis that fully details the cash flows covering each of the securities held by the institution should be obtained and analyzed prior to purchase and retained for examiner review. In any event, a prospectus supplement should be obtained as soon as it becomes available.

NONHIGH-RISK MORTGAGE SECURITIES

Mortgage derivative products that do not meet the definition of high-risk mortgage securities, at the time of purchase should be reported as investments, held-for-sale assets, or trading assets, as appropriate.

Institutions must ascertain and document prior to purchase and no less frequently than annually thereafter that nonhigh-risk mortgage securities that are held for investment remain outside the high-risk category. If an institution is unable to make these determinations through internal analysis, it must use information derived from a source that is independent of the party from whom the product is being purchased. Standard industry calculators used in the mortgage-related securities marketplace are acceptable and are considered independent sources. In order to rely on such independent analysis, institutions are responsible for ensuring that the assumptions underlying the analysis and the resulting calculation are reasonable. Such documentation will be subject to examiner review.

A mortgage derivative product that was not a high-risk mortgage security when it was purchased as an investment may later fall into the high-risk category. If this occurs, the mortgage derivative product must be redesignated as held for sale or trading. Once a mortgage derivative product has been designated as high-risk, it may be redesignated as nonhigh-risk only if, at the end of two consecutive quarters, it does not meet the definition of a high-risk mortgage security. Upon redesignation as a nonhigh-risk security, it does not need to be tested for another year.

HIGH-RISK MORTGAGE SECURITIES

An institution may only acquire a high-risk mortgage derivative product to reduce its overall interest risk. (Institutions meeting the guidance established in the beginning Summary may also purchase these securities for trading purposes.) An institution that has acquired high-risk mortgage securities to reduce interest rate risk needs to manage its holdings of these securities because of their substantial prepayment and average life variability. Such management implies that the institution does not have both the intent and ability to hold high-risk mortgage securities for long-term investment purposes. Accordingly, high-risk mortgage securities that are being used to reduce interest rate risk should not be reported as investments at amortized cost, but must be reported as trading assets at market value or as held-for-sale assets at the lower of cost or market value.

In appropriate circumstances, examiners may seek the orderly divestiture of high-risk mortgage securities that do not reduce interest rate risk. These securities must be reported as held-for-sale assets at the lower of cost or market value.

An institution that owns or plans to acquire high-risk mortgage securities must have a monitoring and reporting system in place to evaluate the expected and actual performance of such securities. The institution must conduct an analysis that shows that the proposed acquisition of a high-risk mortgage security will reduce the institution's overall interest rate risk. Subsequent to purchase, the institution must evaluate at least quarterly whether this high-risk mortgage security has actually reduced interest rate risk.

The institution's analyses performed prior to the purchase of high-risk mortgage securities and subsequently thereafter must be fully documented and will be subject to examiner review. This review will include an analysis of all assumptions used by management regarding the interest rate risk associated with the institution's assets, liabilities and off-balance sheet positions. Analyses performed and records constructed to justify purchases on a post-acquisition basis are unacceptable and will be subject to examiner criticism. Reliance on analyses and documentation obtained from a securities dealer or other outside party without internal analyses by the institution are unacceptable and reliance on such third-party analyses will be subject to criticism.

Management should also maintain documentation demonstrating that it took reasonable steps to assure that the prices paid for high-risk mortgage securities represented fair market value. Generally, price quotes should be obtained from at least two brokers prior to executing a trade. If, because of the unique or proprietary nature of the transaction or product, or for other legitimate reasons, price quotes cannot be obtained from more than one broker, management should document the reasons for not obtaining such quotes.

In addition, a depository institution that owns high-risk mortgage securities must demonstrate that it has established the following:

- (1) A board-approved portfolio policy which addresses the goals and objectives the institution expects to achieve through its securities activities, including interest rate risk reduction objectives with respect to high-risk mortgage securities;
- (2) Limits on the amounts of funds that may be committed to high-risk mortgage securities;
- (3) Specific financial officer responsibility for and authority over securities activities involving high-risk mortgage securities;
- (4) Adequate information systems;
- (5) Procedure for periodic evaluation of high-risk mortgage securities and their actual performance in reducing interest rate risk; and
- (6) Appropriate internal controls.

The board of directors, or an appropriate committee thereof, and the institution's senior management should at least quarterly review all high-risk mortgage securities to determine whether these instruments are adequately satisfying the interest rate risk reduction objectives set forth in the portfolio policy. The depository institution's senior management should be fully knowledgeable about the risks associated with prepayments and their subsequent impact on its high-risk mortgage securities.

Failure to comply with this policy will be viewed as an unsafe and unsound practice.

Purchase of high-risk mortgage securities prior to March 31, 1992, generally will be reviewed in accordance with previously-existing supervisory practices.

Securities and other products, whether carried on or off the balance sheet (such as CMO swaps, but excluding servicing assets), having characteristics similar to those of high-risk mortgage securities will be subject to the same supervisory treatment as high-risk mortgage securities.

SUPERVISORY POLICY FOR OTHER ZERO-COUPON, STRIPPED OR ORIGINAL ISSUE DISCOUNT ("OID") PRODUCTS

Zero-coupon, "stripped" and certain Original Issue Discount ("OID") securities are priced at large discounts to their face value prior to maturity and exhibit significant price volatility. "Stripped" securities are the interest or principal portions of U.S. Government obligations (which are separated and sold to depository institutions in the form of stripped coupons or stripped bonds (principal), STRIPS, and such proprietary products as CATs or TIGRs. Strips (Separate Trading or Registered and Principal of Securities) is the U.S. Treasury program that permits separate trading and ownership of the interest and principal payments on certain long-term U.S. Treasury note and bond issues that are maintained in the book-entry system operated by the Federal Reserve Banks. CATs (Certificates of Accrual on Treasury Securities) and TIGRs (Treasury Investment Growth Receipts) are proprietary names for a form of coupon stripping that has been developed by securities firms. The securities firm purchases U.S. Treasury securities, delivers them to a trustee, and sells receipts representing the right to future interest and/or principal payments from the U.S. Treasury securities held by the trustee. Also, deep discount OID bonds have been issued by a number of municipal entities. Although considered free from credit risk if issued directly by the U.S. Government, longer maturities of zero coupon, stripped, and deep discount OID products (generally, remaining maturities exceeding ten years) have displayed extreme price volatility. Therefore, disproportionately large long-maturity holdings of these instruments, in relation to the total investment portfolio or total capital of the depository institution, are considered an imprudent investment practice. Such holdings will be subject to criticism by examiners who may seek the orderly disposal of some or all of these securities. Securities slated for disposal must be reported as held-for-sale assets at the lower of cost or market value.

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Commercial Banks Yes No Industrial Banks Yes No
Trust Companies Yes No FDIC Yes No FRB Yes No

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