

## 5. General Description of Mortgage Securities and Other Related Products

## Chapter 5

# General Description of Mortgage Securities and Other Related Products

The purpose of this section is to provide a brief overview of the various mortgage-backed securities (MBS) and asset-backed securities (ABS) that are the subject of these *Uniform Practices*. This section also briefly describes “To-Be-Announced” (TBAs) - the form in which mortgage-backed pools are frequently traded in today’s marketplace. Because the characteristics of TBA trades differ significantly from other types of securities, the industry suggests settlement guidelines specifically for TBAs, described in detail in other sections of these *Uniform Practices*.

### A. Residential Mortgage Pass-Through Securities

As the name suggests, the issuer or servicer of mortgage pass-through securities collects monthly payments from the mortgagees whose loans are in a given pool and “passes through” the cash flow to investors in monthly payments that represent both interest and repayment of principal.

The payments of principal and interest on agency pass-throughs are considered secure because of the “guaranty” they receive from their securitizing agency (Fannie Mae, Freddie Mac or Ginnie Mae) and the collateral (homes) that ultimately backs the mortgages. However, the cash flow on these investments may vary from month to month depending on the actual prepayment rate of the underlying mortgage loans. A critical feature of the mortgage pass-through security is that the principal on individual mortgages in the pool can usually be prepaid without penalty in whole or in part at any time before the stated maturity of the security.

Normally, the mortgages backing a pass-through security are of the same loan type and are sufficiently similar with respect to maturity and interest rate to permit cash flows to be projected. At issuance, the stated maturity of most fixed-rate residential pass-through securities is generally 30 years, although an increasing number may have 25-, 20- or 15-year maturities. While most pass-throughs are collateralized by fixed-rate mortgage loans, adjustable-rate mortgage loans (ARMs) may also be pooled to create securities. Most ARMs have caps and floors limiting the extent of interest-rate changes, and these option-like characteristics require that pass-throughs collateralized by ARMs have higher yields than pure floating-rate debt securities.

More recently, a market for Hybrid ARMs has developed. As the name implies, Hybrid ARMs combine attributes from both the fixed rate and adjustable rate markets. In general, Hybrid ARMs have a fixed coupon for a specified period of time (typically 3, 5, 7, or 10 years) before resetting periodically over a specified index. Hybrid ARMs that include an interest-only (IO) period are also popular.

### 1. Agency Pass-Through Securities

The vast majority of regularly traded pass-throughs are issued and/or guaranteed by Fannie Mae, Freddie Mac or Ginnie Mae. Ginnie Mae securitizes Federal Housing Administration-insured (FHA), Veterans Administration-guaranteed (VA) mortgages and Rural Housing Service-guaranteed (RHS) mortgages. As a government entity within the Department of Housing and Urban Development (HUD), timely payment of principal and interest on Ginnie Mae securities is guaranteed by the full faith and credit of the U.S. Government. Fannie Mae and Freddie Mac are private companies chartered by the federal government and are often referred to as Government-Sponsored Enterprises (GSEs). Fannie Mae and Freddie Mac securitize conventional mortgages that conform to certain size and underwriting criteria, and each agency provides its individual guarantee relating to timely payment of interest and principal for the securities it issues. For more information regarding Fannie Mae, Freddie Mac or Ginnie Mae refer to Chapter 3, “U.S. Federal Agencies.”

### 2. Private Pass-Through Securities

Mortgage pass-throughs are also issued by private entities such as commercial banks, thrifts, homebuilders and private conduits. These issues are referred to as conventional pass-throughs or private label. These securities are not guaranteed or insured by a government agency or GSE. Instead, their credit is normally enhanced by pool insurance, letters of credit, guarantees or subordinated interests. Many of the private pass-throughs that are issued have received a rating of “AA” or better, but there is also a large market for lower-rated securities that are collateralized by subprime or “Alt-A” loans.

## B. “To-Be-Announced” Trading of Agency Mortgage-Backed Securities

Much of the volume in the agency MBS market today is in the form of “To-Be-Announced” (TBA) trading. A TBA is a contract for the purchase or sale of mortgage-backed securities to be delivered at a future agreed-upon date; however, the actual pool numbers or the number of pools that will be delivered to fulfill the trade obligation or terms of the contract are unknown at the time of the trade. Actual mortgage pools (including fixed rate or variable rate mortgages) guaranteed by Ginnie Mae, Fannie Mae or Freddie Mac are subsequently “allocated” to the TBA transactions to be delivered upon settlement.

The practice of TBA trading adds great liquidity to the mortgage markets. The agencies enable mortgage lenders to sell product forward through primary originations by securitizing the mortgages for purchase in the secondary market. To allow mortgage lenders to hedge or fund their origination pipelines, TBA settlements are often scheduled significantly ahead (for example, one month ahead) of the date on which the transaction is negotiated (trade date). This permits the lenders to lock in a price for the mortgages they are in the process of originating. Monthly settlement date calendars for the TBA market are published one year in advance by The Securities Industry and Financial Markets Association on a rolling 12-month basis.

### 1. TBAs with Stipulations

Pools delivered to settle a TBA obligation may be either newly issued or “seasoned”. There are circumstances in trading TBAs where counterparties agree that the pools to be delivered must meet certain stipulations or “stips”. In that case, when pools are being allocated for settlement,

the individual pools assigned must meet the criteria agreed at the time of the trade. Examples of “strips” may include: date of issuance year and/or month; minimum or maximum percent in a particular geographic state or region; Gross WAC including servicing spread; Weighted Average Coupon (WAC); Weighted Average Loan Age (WALA) range in months; Weighted Average Maturity (WAM) range in months; or others.

## 2. Trading “Specified Pools”

If a specific security is viewed as having one or more characteristics that make it more valuable than the average, it can be traded as CUSIP “specified.” In this way, a specified pool is differentiated from a TBA trade. A pool that has been traded as “specified” is no longer considered “TBA”, as the particular security to be delivered at settlement has been identified.

## 3. Allocation of Pools to Settle TBA Trades

Market participants with a net balance to be settled must be notified of the pools that have been allocated to fulfill their balance by 3PM, 48-hours prior to delivery. Participants have an opportunity to reject (DK) pools for specific reasons, including that all pre-agreed stipulations have not been met by the pools allocated. Assuming that pool allocations have been accepted, the pools must be settled at the Federal Reserve Bank. Settlement details including what constitutes “good delivery” are described in other sections of these *Uniform Practices*.

# C. Commercial Mortgage-Backed Securities

Commercial Mortgage-Backed Securities are securities backed by one or more mortgage loans on commercial real estate. Multifamily homes, hotels, malls, office buildings and hospitals are some examples of commercial mortgage loan property types. Cash flows from the loans support payments to investors and may be either passed-through directly or restructured to create tranches of different maturities. Commercial MBS are a specific type of MBS and, like MBS, the underlying loans are subject to default risk. Commercial MBS are similarly credit enhanced through guarantees, senior/subordinated structures, cross-collateralization, over-collateralization and excess servicing.

# D. Structured Products

1. **Stripped Mortgage-Backed Securities** - Stripped Mortgage-Backed Securities (Mortgage Strips) are mortgage-backed securities that have principal and interest payments split or allocated among classes of securities. Mortgage strips can be pure IO/POs, i.e., interest payments to IO (interest only) holders and principal payments to PO (principal-only) holders, or they can be proportioned, i.e., 70% interest and 50% principal to the premium strip holder and 30% interest and 50% principal to the discount strip holder.

The different types of existing IOs/POs are as follows:

- a. **Proportioned Mortgage Strips** - These were the first stripped MBS issued. These securities are not pure IO/POs but are considered stripped MBS since the principal and interest payments have been split according to different proportions.
- b. **IO/POs** - These securities have an IO class, which receives only interest payments based upon a notional principal balance, and a PO class, which receives only principal payments.

## 2. Collateralized Mortgage Obligations (CMOs)

- a. **General Description of Collateralized Mortgage Obligations** - Collateralized Mortgage Obligations are multiclass structures that give investors a choice of short-, intermediate and long-term maturities, while allowing issuers to reach a wider range of investors than normally possible with a standard pass-through. CMOs may be collateralized by FHA insured or VA-guaranteed mortgages, conventional mortgages, whole loans, Ginnie Mae, Fannie Mae or Freddie Mac pass-through mortgage-backed securities, AA pass-throughs, other CMOs, callable MBS or combinations of these instruments. The cash flows generated by the underlying mortgage loans are used to pay principal and interest to the CMO holders. Unlike standard pass-throughs, which typically pay monthly, CMO bonds may pay monthly, quarterly, semi-annually or as specified in the related offering materials. A related term often associated with CMOs is Real Estate Mortgage Investment Conduit (REMIC). In practice, the terms CMOs and REMICs have almost become interchangeable. As used in this chapter, CMOs encompass REMICs.
- b. **General Description of Real Estate Mortgage Investment Conduits** - The Real Estate Mortgage Investment Conduit provisions are a set of federal tax amendments included in the Tax Reform Act of 1986. These provisions create a new entity, the REMIC, which can hold qualifying mortgages secured by certain types of real property and issue multiple-class securities backed by the mortgages. Multiple-class securities include CMOs, stripped coupon securities and securities carrying different payment priorities upon default (i.e., senior/subordinated classes of ABS securities).

By eliminating certain tax law constraints that previously dictated certain structures for mortgage-backed securities, the REMIC provisions significantly increased flexibility in structuring. Multiple-class securities may be treated as either financings or sales of assets for accounting purposes. A REMIC is generally exempt from federal income tax as a separate entity, and income from the mortgages held by the REMIC flows through to the holders of interests issued by the REMIC. REMICs may be a segregated pool of assets or organized as corporations, trusts or partnerships that hold fixed pools of mortgages and issue REMIC interests to investors. Any segregated mortgage pool may qualify for REMIC treatment, provided that REMIC status is elected and the appropriate requirements are satisfied.

All of the interests in a REMIC must be either “regular” interests or “residual” interests. Regular interests (i.e., debt, pass-through interests) offer a fixed principal amount and periodic payments of interest on the outstanding principal balance based upon terms that are fixed at the outset of the transaction. REMICs may have any number of classes of regular interests. Residual interests represent the equity and tax liability of the REMIC trust.

The REMIC structure permits not only multiclass regular interests but also single-class regular interests, such as single-class pass-through offerings. For purposes of these *Uniform Practices*, REMICs do not affect the clearance and settlement process. That is, securities issued by a REMIC settle in the same manner as if they were issued by a non-REMIC entity.

- c. **CMO Bond Types**

- (i) **Sequentials** - Sequential-pay classes, usually called sequentials, were among the first and most simple CMO structures created. Sequentials divide pass-through cash flows into multiple classes with different average lives and durations. A typical CMO sequential deal consists of three or more tranches carved out of the underlying collateral. Both scheduled amortization and prepayments from the collateral go to the holder of the first tranche until that tranche pays down completely. Principal then goes to the second tranche until that pays down. Then principal flows to each remaining class sequentially until each is retired and all pool principal has repaid. Monthly interest from the pass-through goes to each class based on its principal outstanding.
- (ii) **Planned Amortization Classes** - Planned Amortization Classes, also known as PACs, return an investor's principal according to a specific schedule as long as prepayments stay within a specific range, which is often referred to as a PAC collar or PAC band. They allow different initial average lives but keep those average lives stable over a range of prepayment rates. Depending on details of their structure, interest rates may rise or fall by small or large amounts but a PAC will still return principal on a predetermined schedule. A PAC bond may not only fit more closely to an investor's liabilities but also may significantly reduce portfolio prepayment risk.
- (iii) **Targeted Amortization Classes** - Like PACs, TACs repay principal according to a schedule. Unlike PACs, however, the TAC redemption schedule is created from a single prepayment speed rather than the minimum of two speeds. TACs provide protection against faster but not slower prepayments.
- (iv) **Companion Classes** - In structuring stable cash flows for both PACs and TACs, the monthly instability from prepayments shifts to the companion bonds. At fast prepayment speeds, the companion classes absorb any principal in excess of that needed to keep the PACs or TACs on schedule. Because of the instability of their cash flows, companion classes offer more yield than typical mortgage bonds.
- (v) **Z Bonds** - Z bonds attempt to meet the needs of investors looking for long duration and yield and deliver some of the highest levels of both that the mortgage market offers. Investors can find some duration and yield in long sequentials or PACs or other structures. But Z bonds create duration and yield by initially deferring payment of their coupon. This is the origin of their name, since they often get compared to zero-coupon Treasuries and other bonds.
- (vi) **VADMs** - Very Accurately Determined Maturity classes or VADMs address an entirely different concern - extension risk. VADMs can provide a guaranteed final date for receipt of MBS principal and a maximum weighted average life even if prepayments drop to zero. For investors that need certainty around final return of principal this structure can have significant value.
- (vii) **CMO Floaters** - Not all investors want to take the interest rate risk associated with a security that has a fixed coupon, and for those investors the CMO market has developed floating-rate classes. Floating-rate CMOs have coupons that reset periodically to reflect changing interest rates - at least as long as rates remain below a

predetermined maximum or cap. The floating coupon tends to keep the price of the security around par, although this becomes more difficult or even impossible as interest rates approach or exceed the cap. This structure can have tremendous value for investors that want to limit volatility in the price of their MBS, or for investors that finance their MBS using floating-rate funds.

- (viii) **Inverse Floaters** - The coupon on inverse floaters varies inversely with interest rates. When rates rise, interest payments on inverses fall-when rates fall, interest payments rise. Investing in inverse floaters is identical to buying a financed position in an underlying fixed-rate MBS. Consequently, investors come to this part of the market for potentially advantageous funding.

### 3. Residuals

#### a. General Description of Residuals

Residuals represent the equity interest in a structured product offering. The majority of residual cash flows are derived from the difference between cash flow and reinvestment income generated by the collateral versus payments due to bondholders. Additional considerations are the potential for releases from reserve funds and the impact of administrative expenses.

- (i) Residual cash flows result from the positive spread between the two types of cash flow required to serve the bonds collateralized by those assets. The cash flow from the underlying collateral includes the amortization, interest and prepayments, as well as any reinvestment income. The cash flows include the bond's debt service plus administrative expenses.
- (ii) These cash flows are not explicitly divisible into principal and interest components. Some interest from the collateral, for example, may be used to pay down the principal of bonds. As ABS equity, residuals represent the ownership of the stream of excess cash flows generated by the trust.
- (iii) All investments in residuals assign to the investor an expected (but uncertain) stream of future cash flows. Initially, the level of cash flow is high. It begins to drop rapidly with the amortization of the collateral. Residuals typically have a final cash flow corresponding to the final maturity of the collateral, but the expected cash flow duration of the investment is very short.

#### b. Components of Residual Cash Flows

The basic factors affecting residual cash flows can be broken down into known and variable components. The behavior of these components will vary depending upon the type of collateral, the types of bonds and other details specific to the financing structure, as well as the general state of the economy and conditions in the financial markets. The components of residual cash flow are:

- Collateral Principal Payments;
- Collateral Interest Payments;
- Reinvestment Income on Monthly Collateral Cash Flow;

- Bond Interest Payments;
  - Bond Principal Retirements;
  - Bond Administration Expenses;
  - Reserve Fund Releases;
  - Income Earned on Reserve Account; and
  - Option Redemption.
- (i) Collateral principal payments consist of scheduled amortization and unscheduled prepayments. Because the majority of principal paid from a pool of mortgages in a given period is comprised of unscheduled principal, the amount of cash flow available to the residuals will vary substantially with the rate of prepayments. The impact of prepayment changes on a residual's cash flows and total returns will be significant. Over-collateralization of an ABS can also affect residual holders. Where faster prepayments typically reduce the value of the residual, over-collateralization of an ABS creates a tendency for increased cash flow to residual holders when prepayments increase. When the collateral, initially valued at a discount, prepays at par, the excess cash flow benefits the residual holders.
- (ii) Collateral interest payments vary in both timing and total amount with prepayments. As prepayment rates increase, the total amount of collateral interest payments that will be received decreases, and vice versa. Because the spread between collateral and bond average interest rates is often largest at the outset of a deal, fast prepayments in a deal's early stages are particularly damaging to a residual holder's return.
- (iii) Reinvestment interest earned on collateral cash flow awaiting payment to bondholders benefits residual holders. While collateral pays monthly, the structured classes of an ABS pay less frequently; the collateral payments are reinvested until the cash flows are needed to make debt service payments on the bonds. The amount of reinvestment interest payable to the residual holders depends largely upon money market rates available, increasing as interest rates rise. Some residuals may eliminate this interest-rate risk (both upside and downside) by structuring the bond in a way that requires that all collateral cash flows be deposited into a fixed-rate Guaranteed Investment Contract (GIC) account until paid out to bondholders and residual holders.
- (iv) Bond interest payments vary directly with the remaining amount of bond principal and, in the case of floating-rate tranches, with the level of the bond's coupon index rate. Increases in these interest payments always reduce the amount of cash flow available to residual holders.
- (v) Bond principal retirements absorb collateral cash flow and its reinvestment interest. The minimum number of bonds that must be retired is always in an amount that leaves the remainder fully collateralized. Rapid amortization of the bonds

almost always occurs when the collateral prepays rapidly. Similarly, if the collateral prepayment slows down, so will that of the bonds. Because the size of the residual cash flows is a function of the amount of bonds outstanding, rapid retirements of bond principal tend to hurt residual holders, while slow retirements tend to help them. Securitized REMIC residuals, unlike unsecuritized residuals, have a stated principal amount and receive principal payments. Typically, the principal amount is nominal in size.

- (vi) Bond administration expenses are typically the smallest category to which collateral cash flows must be applied. To the extent that these bond expenses increase, the returns to the residual holders decrease. These fees may include expenses for the indenture trustee, accountants, rating agencies and legal counsel. Some of these expenses will increase over time because of inflation. Thus, bond administration expenses, as a percentage of residual cash flow, will have a tendency to rise, since the compounding effects of expense inflation occur simultaneously with the amortization of both the collateral and the bonds.
- (vii) Reserve funds may augment a residual's cash flow. A reserve fund is sometimes used to cover potential cash shortfalls that may result from extremely adverse economic scenarios. If such scenarios do not occur, the residual investors are entitled to all cash remaining after the bonds and administrative expenses have been paid in full. In recent deals, reserve funds have been designed to cover all potential bond administration expenses. This removes any potential for contingent liability of the residual investor.
- (viii) Residual holders may also have the right to execute an "optional redemption" of the outstanding bonds, often at a stated date or outstanding principal balance (such as 10% remaining principal balance of the outstanding bonds). This usually gives the residual holder an opportunity to receive the underlying collateral for par and removes the cash flows from bond administration expenses. The details of these "optional redemption" specifications vary widely.

## E. Asset-Backed Securities

Asset-Backed Securities are securities backed by a pool of financial assets, such as short-term loans or receivables. Issues backed by credit card receivables, automobile loans, mortgage loans and home-equity loans currently dominate the market, but ABS have been supported by collateral as diverse as aircraft-lease receivables and student loans. Cash flows from the assets support payments to investors and may be either directly passed-through, as in a grantor trust structure, or restructured to create tranches of different maturities, as in a paythrough or bullet-payment structure.

Since the underlying loans or receivables are subject to default risk, ABS are credit-enhanced to protect investors against losses due to defaults on the collateral or delays in the cash flows due to delinquent payments. Credit enhancement can be internal or external to the deal structure. External forms of credit enhancement can be in the form of letters of credit, seller guarantees or

surety bonds. Some typical forms of internal credit enhancement are the senior/subordinated tranche structure, cash-collateral accounts, over collateralization and excess servicing.

The ABS market continues to grow by the securitization of new-asset types, including more non-dollar-denominated and global issues, and by attracting new investors by offering longer-term tranches in deal structures.