Basics of Fannie Mae Single-Family MBS

MBS Overview

Creating a single-family MBS begins with a mortgage loan. The loan is made by a financial institution or other lender to a borrower in order to finance or refinance the purchase of a home or other property consisting of one to four residential units. These loans are made under varying terms (e.g., 15-year, 30-year, fixed-rate, adjustable-rate, etc.). During the life of the loan, the balance is generally amortized, or reduced, until it is paid off. The borrower usually repays the loan in monthly installments that typically include both principal and interest.

The direct lending of funds to mortgage borrowers and the creation of loans is known as the primary mortgage market. In the secondary mortgage market, lenders exchange those loans for mortgage-backed securities (MBS). As a secondary market participant in MBS, Fannie Mae does not lend directly to borrowers. We are a government-sponsored enterprise (GSE) chartered by Congress to provide liquidity, increase stability, and promote affordability in the residential mortgage market. The founding Congressional charter, passed in 1954, allows Fannie Mae to accomplish this by charging a fee to guarantee the creditworthiness of certain mortgage loans that meet specific GSE requirements. Fannie Mae ensures that the loans it acquires meet its guidelines for credit quality and maximum loan size (or “conforming-balance limit”) and then converts, or securitizes, them into a pool of mortgages. The resulting Fannie Mae MBS (also referred to as Agency MBS) carries a guaranty of timely payment of principal and interest to the investor by Fannie Mae, whether or not there is sufficient cash flow from the underlying group of mortgages.

To provide even more liquidity to the mortgage investment market, Fannie Mae began securitizing loans and issuing mortgage-backed securities in the 1980s. Our participation in the mortgage market enables consumers to attain more favorable rates to buy homes, refinance their existing mortgages, or access affordable rental housing.

Securitization of Loans

Fannie Mae currently securitizes a substantial majority of the mortgage loans we acquire. The securitization transactions primarily fall within three broad categories: lender swap transactions, portfolio securitizations, and structured securitizations.

1. It should be noted that Fannie Mae’s obligation under this guaranty is solely Fannie Mae’s and is not backed by the full faith and credit of the U.S. government.
Lender Swap Transactions

Lender swap transactions are the most common type of securitization for Fannie Mae. Let’s look at an example:

- In a single-family lender swap transaction, an approved mortgage lender delivers a pool of mortgage loans to us in exchange for Fannie Mae MBS backed by these loans. Lenders may hold the Fannie Mae MBS they receive from us or sell the MBS to investors.
- After receiving the mortgage loans in a lender swap transaction, we place them in a trust for which we serve as trustee. This trust is established for the sole purpose of holding the mortgage loans separate and apart from our corporate assets.
- We deliver to the lender a Fannie Mae MBS or a proportional share of a Fannie Majors pool — a large MBS consisting of loans contributed by more than one lender. This transaction is commonly referred to as a “swap.”
- The MBS is backed by the pool of mortgage loans in the trust and represents an undivided beneficial ownership in each of the mortgage loans.
- We guarantee to each MBS trust that we will supplement the amounts received to ensure timely payment of principal and interest on the related Fannie Mae MBS. We retain a portion of the interest payment as a fee for providing our guaranty.
- The mortgage servicer also retains a portion of the interest payment as a fee for servicing the loan. Then, on behalf of the trust, we make monthly distributions to the Fannie Mae MBS certificate-holders from the principal and interest payments on the underlying mortgage loans.
Portfolio Securitization Transaction

In contrast to lender swap transactions, our portfolio securitization transactions involve creating and issuing Fannie Mae MBS using mortgage loans and mortgage-related securities that we hold in our retained mortgage portfolio. Most of our portfolio securitization transactions are driven by our single-family Whole Loan Conduit activities. Here, we purchase single-family whole loans directly from over 1,200 — typically smaller — lenders and securitize them into Fannie Mae MBS or deliver them into a Fannie Majors® pool, which may then be sold to dealers and investors in the secondary market.

Single-Family Green MBS
Fannie Mae issued its first Single-Family Green MBS on April 22, 2020, to commemorate the 50th anniversary of Earth Day, and has issued more than $2.0 billion as of Q4 2022. These transactions include either purchase money or refinance mortgage loans backed by newly constructed single-family residential homes receiving approved green building certifications within the last five years.

The program received a Light Green Second Opinion from CICERO Shades of Green, a leading global provider of green ratings for bonds. CICERO Second Opinions are independent, research-based evaluations of green bond investment frameworks to determine the environmental robustness of green bonds and offer investors better insight into the environmental quality of these bonds.

For more information, visit our Single-Family Green MBS webpage as well as our first annual ESG Report.
Structured Securitizations

In a structured securitization transaction, we create structured Fannie Mae MBS in exchange for a transaction fee. In these transactions, the customer “swaps” a mortgage-related asset that they own (typically a mortgage security) in exchange for a structured Fannie Mae MBS that we issue.

For these types of securitizations, Fannie Mae issues MBS and assumes the default risk on the mortgages underlying the security, while guaranteeing to an MBS trust the timely payments of principal and interest, even if the borrower defaults on the mortgage payments. Fannie Mae accomplishes this by remitting payments directly to the MBS trust to supplement any cash flow shortfalls to the investor. In the event of a default, Fannie Mae will typically repurchase a defaulted mortgage loan after 24 consecutive months of delinquency, unless such mortgage loan has already been repurchased due to the occurrence of one of the following events: (i) The mortgage loan has been paid in full, the related lien has been released, and/or the mortgage loan has been satisfied or forgiven; (ii) The mortgage loan is repurchased by a seller or servicer in connection with a breach of selling or servicing requirements; (iii) The mortgage loan is permanently modified; (iv) The mortgage loan becomes subject to a short sale or deed-in-lieu of foreclosure; or, (v) The mortgage loan is referred to foreclosure. Fannie Mae will repurchase the loan out of the trust at a “par” dollar price ($100-00, or 100 cents per $1 of principal balance) and place it on our balance sheet. Fannie Mae then works with the loan’s servicer to address the delinquency through a number of loss mitigation options with the borrower.

Credit quality and the Fannie Mae guaranty

The quality and value of Fannie Mae MBS depend on several major considerations:

- Fannie Mae’s guaranty to the MBS trust of full and timely payment of both principal and interest.
- The investment quality of the underlying mortgages.
- The financial strength behind the guaranty.

The guaranty is important to investors because it reduces risk and increases the marketability of the MBS. The certificates and payments of principal and interest on the certificates are not guaranteed by the United States and do not constitute a debt or obligation of the United States or any of its agencies or instrumentalities other than Fannie Mae. Thus, it is important that Fannie Mae uses prudent underwriting guidelines to evaluate the credit quality of the loans it guarantees to minimize losses to its investors.

Fannie Mae MBS offer investors high-quality assets with attractive yields to fit their portfolio needs or investment strategies. Investors should exercise care to fully understand the value of any mortgage investment and diligently review the applicable disclosure documents. Furthermore, they may wish to discuss the potential risks versus rewards of investing in MBS with their investment advisors.

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2. Fannie Mae anticipates that, in most cases, a defaulted mortgage loan will be repurchased due to one of these exceptions well before it reaches 24 months of delinquency.
**MBS Risk Considerations**

**Prepayment risk** is the risk that borrowers may prepay their mortgages more quickly or slowly than expected, thereby affecting the investment’s average life and perhaps its yield. Most mortgages can be prepaid in whole or in part at any time without penalty, and borrowers are most likely to exercise the prepayment option at a time when it is least advantageous to investors.

**Interest rate risk** is the risk that the price of the security may fluctuate over time. For MBS, prepayment risk and interest rate risk are closely intertwined. The price of any bond, including MBS, is a function of several factors, such as prevailing interest rates, the coupon rate, the length of time the security is expected to be outstanding, and the liquidity of the issuance — all of which can fluctuate with market conditions. Interest rate movements have a greater impact on MBS than traditional fixed-income investments because of the borrower’s prepayment option. This can affect the average life and yield of MBS as well as the returns from reinvesting principal.

**Credit risk** is the risk that the investor may not receive all or part of the principal invested because the borrower(s) of the underlying mortgage loan(s) defaulted on their financial obligations. Fannie Mae MBS have reduced credit risk because they carry a guaranty of timely payment of both principal and interest. Fannie Mae’s obligations under this guaranty are based on the financial health of the corporation and are not backed by the full faith and credit of the U.S. government.
Mortgage Pass-Through Certificates

MBS are commonly referred to as “mortgage pass-through certificates.” This is because the security passes through to investors at a specific coupon, scheduled principal, and interest each month on the outstanding balance of the loans backing the security, along with any unscheduled prepayments. As a Fannie Mae MBS investor, the certificate-holder receives a pro-rata distribution of the scheduled principal and interest payments on the distribution date: the 25th day of each month, or, if the 25th day is not a business day, on the first business day following the 25th day of the month. Fannie Mae will make the first payment for newly issued certificates on the distribution date in the month following the month in which the certificates are issued. Fannie Mae’s central paying agent, the Federal Reserve Bank of New York, is responsible for wiring monthly payments to depository institutions on behalf of the registered security-holders.

Fixed-Rate Mortgage (FRM) MBS

Fannie Mae’s fixed-rate MBS are securities backed by pools of mortgages with interest rates that are fixed for the entire term of the mortgage. Certificates for fixed-rate MBS are normally issued in 50-basis-point increments (e.g., 4.0%, 4.5%, 5.0%, etc.). The coupon that is paid to the investor is known as the “pass-through” rate and is lower than the interest rate paid by the borrower on the underlying loans. It is calculated based on the “net” coupon of the underlying loans, which is the interest rate paid by the borrower, minus a servicing fee paid to the servicer for collecting payments and a guaranty fee paid to Fannie Mae.

Fannie Mae allows the interest rates on the underlying mortgages in a pool to vary. The interest rates on the underlying mortgages generally fall within a 87.5 basis point range. The minimum interest rate allowed on an underlying mortgage in the pool is typically 25 basis points above the pool pass-through rate, while the maximum interest rate allowed on an underlying mortgage in the pool is typically 112.5 basis points above the pool pass-through rate. Any additional interest spread retained by the servicer beyond the minimum servicing fee is called “excess servicing.”

Excess servicing reflects any interest paid by the borrower that remains after paying the following:

- Minimum servicing fee
- Fannie Mae guaranty fee
- MBS coupon rate

As applicable, lender-paid mortgage insurance (LPMI) or enterprise-paid mortgage insurance (EPMI) may also be excluded from the servicing fee.
Fixed-Rate TBA (To-Be-Announced) and Specified MBS

In the secondary mortgage market, fixed-rate MBS can trade on either a to-be-announced (“TBA”) or a specified pool basis. Dealers provide dollar-price quotes for TBA MBS typically as far as three months forward. An investor who trades TBA MBS is given limited information about the security at the time of the trade. The maturity, coupon, face value, price, and settlement date are known, but the actual pool number and unique security identifier (CUSIP) are not. Two days before the settlement date (called “48-hour day”), the seller of the TBA must provide CUSIP information to the purchaser of the TBA contract. Pools must meet specific settlement requirements, but the collateral delivered at settlement is at the discretion of the seller and is typically adversely selected to fulfill the “cheapest to deliver” obligation at the executed TBA price.

The TBA mortgage market is highly liquid and transparent and plays a vital role in serving different purposes for a variety of market participants. Lenders use TBAs to hedge their mortgage pipelines, various trading desks use TBAs to hedge their pool investments, and money managers use TBAs to express their views on prepayment speeds and to finance alternative short-term investments. The TBA market is one of the most dynamic and liquid markets of all fixed-rate products.

Pools that have additional value above TBA securities are often traded as Specified MBS. In the Specified MBS pool market, the pool number and CUSIP of the pass-through MBS are known at the time of the trade. While the pool may typically be delivered into an open TBA position of the same term and coupon at settlement, the collateral characteristics of the pool may make the collateral more valuable than a TBA MBS. Specified pools comprise similar loans that typically have more desirable prepayment characteristics and protect the investor from call risk in a declining interest rate environment or extension risk in a rising interest rate environment. These pools will thus trade at a higher price, or at “pay up,” versus the current TBA dollar price. A few examples of these pools are 100% investor properties, with loan sizes less than $85,000 or loan terms less than 10 years.

Fannie Majors

Fannie Majors are typically multi-lender Fannie Mae MBS comprising current-production 30-, 20-, 15-, or 10-year fixed-rate mortgages. Each Majors pool can include loans with no more than 12 months of seasoning. While lenders may choose to deliver as few as one loan into a Fannie Majors, its issuance size can range from $1 million to well in excess of $1 billion. Majors may offer investors a more diversified pool of loans, since lenders nationwide can participate. Fannie Majors pools are identified by the same prefixes assigned to their single-issuer pool counterparts.

Adjustable Rate Mortgages (ARM) MBS

Fannie Mae’s ARM MBS are securities backed by pools of mortgages with adjustable interest rates. The most popular type of ARM product is the hybrid ARM, which features an extended fixed-rate interest period ranging from three to ten years. At the end of the initial fixed period, the ARM periodically resets based on the movement of a specified index, typically on a semi-annual basis (common indices are discussed further in this section). A common type of hybrid ARM is a 5/6, which has a fixed-interest payment for five years and resets semi-annually thereafter. At issuance, Fannie Mae ARM MBS are assigned a pool prefix, which corresponds to the general characteristics of the underlying mortgage loans, and a subtype that will provide further detail about the ARM structure.
At reset the interest rate paid by a borrower on an ARM loan is determined by adding a spread (referred to as the “gross margin”) to a specified index. The sum of the gross margin plus the index is then generally rounded to the nearest 1/8th of a point, which is known as the “fully-indexed” interest rate. The gross margin is ordinarily constant over the life of the mortgage, while the specified index can fluctuate over time. Contractual features of ARMs — such as caps and floors — can restrict the ARM’s resetting rate, which could cause it to fall short of the fully-indexed interest rate at any adjustment.

### Caps and Floors
Fannie Mae ARM loans typically contain caps and floors that set maximum and minimum allowable adjustments to the interest rate at each reset date. Mortgages that have reached their periodic or lifetime caps at any adjustment date are considered “capped out.” The most common caps are:

<table>
<thead>
<tr>
<th>INITIAL ADJUSTMENT RATE CAP</th>
<th>PERIODIC ADJUSTMENT RATE CAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>This cap restricts maximum upward or downward movement of the interest rate at the first reset date.</td>
<td>This cap restricts the maximum upward or downward movement of the interest rate at each subsequent interest rate reset date.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIFETIME ADJUSTMENT CAP</th>
<th>LIFETIME ADJUSTMENT FLOOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>This cap defines the maximum interest rate allowable of an ARM over the entire life of the loan, regardless of any other caps.</td>
<td>This floor restricts the interest rate from adjusting below a pre-determined level over the life of the loan, which is typically the gross margin.</td>
</tr>
</tbody>
</table>

These caps constitute a “cap structure” of an ARM and are generally represented in the investor community in the same order: initial cap, periodic cap, lifetime cap, and stated life floor. The most common types of cap structures are 2/1/5 for 5/6 hybrid ARMs and 5/1/5 for 7/6 and 10/6 hybrid ARMs. Below is an example of a loan’s typical cap structure.

### Hybrid ARM rate cap adjustments example for a 5/6 hybrid ARM with a 2/1/5 cap structure and a 3% initial rate:

<table>
<thead>
<tr>
<th>Time (months)</th>
<th>Maximum borrower</th>
<th>Maximum lifetime rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>60</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>66</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>72</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>78</td>
<td>8%</td>
<td>8%</td>
</tr>
</tbody>
</table>

The rate will remain fixed at 3% for 60 months. At the end of month 60, the rate to the borrower cannot reset higher than 2% (initial cap) above the initial rate, or 5%. At the end of each subsequent six months, the rate cannot reset higher by more than 1% (periodic cap) over the then-current rate. Furthermore, it can never reset to more than 5% higher than the initial rate of 3%, or 8% (lifetime cap). Thus, if this loan were to get capped out at every reset date, the rate paid by the borrower would cap out at 8% in month 78.
Common Indices

**LIBOR:** The LIBOR methodology is designed to produce an average rate that's representative of the rates at which large, leading, internationally active banks with access to the wholesale, unsecured funding market could fund themselves in such a market in particular currencies for certain terms to maturity.  

**SOFR:** The Secured Overnight Financing Rate is based on actual transactions in the Treasury repurchase (repo) market, the market where investors offer borrowers overnight loans backed by their U.S. Treasury bond assets.

**Treasury:** A common Treasury-based ARM index is the One-Year CMT (Constant Maturity Treasury) index. One-Year CMT is the average yield of all Treasury securities with one year remaining until maturity. The index is calculated weekly or monthly using market reports by five leading government securities dealers. ARMs using a one-year Treasury index typically have annual adjustment dates after the initial reset date.

Similar to fixed-rate MBS, the coupon that is paid to the investor of an ARM MBS is known as the “pass-through” rate and is lower than the interest rate paid by the borrower on the underlying loans. It is equal to the weighted average of the “pass-through” rate of each loan in the pool. This rate equals the gross-note rate paid by the borrower minus a servicing fee paid to the servicer for collecting payments and a guaranty fee paid to Fannie Mae. As loans within an ARM MBS reset or pay off, the pass-through rate is recalculated, so the interest payments paid to the investor can vary from month to month.

**Lookback**

ARMs ordinarily employ a lookback to calculate the applicable interest rate. A lookback refers to the number of days prior to the loan’s reset date and is used to count backward from that date to determine the new interest accrual rate for the forthcoming period. The published rate of the specified index on that date (e.g., Refinitiv USD IBOR Consumer Cash Fallback 12-Month or one-year CMT) becomes the new value to which the gross margin is added to determine the borrower’s new payment. Typical lookbacks are 45 days.

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3. Fannie Mae ceased Single-Family purchases of LIBOR-based ARMs and delivery of MBS LIBOR pools at the end of 2020. Legacy LIBOR-indexed Single-Family ARMs and related MBS will transition to the relevant tenor of CME Term SOFR + applicable Tenor Spread Adjustment (Transition Tenor Spread Adjustment during the first year) the day after June 30, 2023 the last date on which the Intercontinental Exchange, Inc. (ICE) Benchmark Administration Limited will publish a representative rate for all remaining tenors of USD LIBOR. For more information, visit Fannie Mae’s LIBOR Transition webpage.

4. Fannie Mae uses the 30-day Compound Average SOFR for newly issued Single-Family SOFR ARMs. Please see footnote #3 for the treatment of legacy LIBOR-indexed Single-Family ARMs.

5. Under FHFA guidance, Fannie Mae will no longer acquire Single-Family CMT-indexed ARM loans after September 30, 2021. Specific delivery deadlines can be found in Lender Letter LL-2021-05, Retirement of CMT Adjustable-Rate Mortgage Products.
MBS Valuations

MBS Pricing
The interest rate, or coupon, of an MBS is the annual rate at which interest is paid on the security. Generally, current production MBS bear a coupon rate close to the prevailing interest rates for similar investments at the time of issue. The MBS price is determined by several factors:

- Type of mortgage backing the security
- Level of market interest rates
- Coupon rate on the security
- Liquidity
- Prepayment assumptions used
- Overall demand for MBS

Price changes of an MBS will affect its yield. Yield is generally the rate of return on an investment over a given period of time, expressed as an annual percentage rate. Yield-to-maturity is generally the annual percentage rate of return on an investment, assuming it is held to maturity. In addition to price, yield is affected by the timing of the security’s cash flows, which will vary based on how quickly the underlying loans prepay and return principal payments back to the investor.

Cash Flow Analysis
The cash flows of an MBS consist of scheduled principal payments, accrued interest payments, and unscheduled payments of all or part of the outstanding principal (prepayments). Investors typically use complex mortgage models that make interest rate and prepayment speed assumptions to evaluate the cash flows. The models analyze those mortgage repayment expectations along with the price of the MBS to calculate yield. The major difference among mortgage models is the methodology used to forecast how quickly principal will be returned. Regardless of the approach, there can be no assurance that the rate of return for any particular MBS will conform to past experience or traditional assumptions. Purchase or refinance activity may vary with interest rate changes, economic events, and demographic changes, so prepayments may fluctuate greatly over the life of an MBS.

Prepayment Speeds
Prepayment speed assumptions are an important factor to consider when evaluating the returns on an MBS. Because mortgage borrowers have the option to prepay their loans at any time, the timing and rate at which principal repayment occurs are critical in determining an MBS yield. Whereas a traditional bond typically repays the entire principal amount at maturity, an MBS repays principal throughout the life of the investment. Generally, as interest rates decline, borrowers have more incentive to refinance into a lower rate, so prepayments will rise. Conversely, as interest rates increase, prepayments will decline. These types of prepayments are considered voluntary. Involuntary prepayments, on the other hand, occur when borrowers are unable to make their mortgage payments and go into default. The responsibility then lies with Fannie Mae to purchase these delinquent loans out of the MBS Trust. Although the MBS Trust allows such repurchase to occur after as few as four consecutive monthly payments, Fannie Mae’s current policy provides that it will wait for twenty-four consecutive delinquent monthly payments before removing such loan from the MBS Trust. Finally, prepayments may occur under certain circumstances when loans are repurchased by Fannie Mae where there has been a material breach of representation with respect to such loans. Since principal is returned to an investor at a par dollar price, an earlier-than-expected return of principal may increase the yield on securities purchased at a discount. However, when an MBS is purchased at a premium, an earlier-than-expected return of principal reduces yield.
Thus, due to the relationship between interest rates and prepayments, actual returns to an investor over time may be difficult to predict with certainty. The Constant Prepayment Rate (CPR) and the Securities Industry and Financial Markets Association’s Standard Prepayment Model (PSA curve) are the most popular models used to measure prepayments. CPR represents the annualized constant rate of principal repayment in excess of scheduled principal amortization. The PSA curve is a schedule of prepayments that assumes that prepayments will occur at a rate of 0.2% CPR in the first month, will increase an additional 0.2% CPR each month until the 30th month, and will prepay at a rate of 6% CPR thereafter (“100% PSA”). PSA prepayment speeds are expressed as a multiple of this base scenario. For example, 200% PSA assumes annual prepayment rates will be twice as fast in each of these periods — 0.4% in the first month, 0.8% in the second month, reaching 12% in the 30th month, and remaining at 12% after that. A 0% PSA assumes no prepayments.

### Yield-to-maturity for current coupon, 30-year fixed-rate MBS example:

<table>
<thead>
<tr>
<th>Coupon</th>
<th>Price paid</th>
<th>0% PSA no prepayments</th>
<th>100% PSA</th>
<th>300% PSA</th>
<th>500% PSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5</td>
<td>99-22</td>
<td>3.532</td>
<td>3.536</td>
<td>3.544</td>
<td>3.553</td>
</tr>
<tr>
<td>4</td>
<td>101-24</td>
<td>3.867</td>
<td>3.779</td>
<td>3.582</td>
<td>3.383</td>
</tr>
<tr>
<td>4.5</td>
<td>103-13</td>
<td>4.231</td>
<td>4.071</td>
<td>3.713</td>
<td>3.351</td>
</tr>
<tr>
<td>5</td>
<td>104-21</td>
<td>4.625</td>
<td>4.412</td>
<td>3.943</td>
<td>3.475</td>
</tr>
</tbody>
</table>

The table above shows that if an investor pays a premium for a 30-year fixed-rate MBS (e.g., $103-13, or 103.41% of the face amount of the security), the yield will increase if the pool prepays slower than expected at the time the investment was priced. The yield will decrease if the pool prepays faster than expected at the time the security was priced.

The reverse is true for a security purchased at a discount (e.g., $99-22, or 99.69% of the face amount of the security). For such a security, yield increases when the pool pays off faster than expected and decreases when prepayments are slower.
Prepayment Factors
On the fourth business day of every month, Fannie Mae releases loan-level data showing actual principal paydown factors for the prior month. The factor represents the percentage of the original balance that is outstanding for a Fannie Mae MBS. Factors are used by Fannie Mae MBS investors to calculate cash flows and principal balances, which reflect both scheduled and unscheduled principal payments. Until the factors for the prior month are released, investors must use estimated factors that must be adjusted from month to month, as cash flows fluctuate from the estimates. Because the yield of a Fannie Mae MBS can be highly sensitive to prepayments, investors may use models to forecast prepayments and value potential future cash flows.

MBS factor calculation example:

<table>
<thead>
<tr>
<th>Factor month</th>
<th>Factor</th>
<th>Balance using $1,000,000 original UPB</th>
</tr>
</thead>
<tbody>
<tr>
<td>September</td>
<td>0.929</td>
<td>$1,000,000 * 0.929 ... = $928,511.52</td>
</tr>
<tr>
<td>October</td>
<td>0.928</td>
<td>$927,562.15</td>
</tr>
<tr>
<td>November</td>
<td>0.926</td>
<td>$926,468.35</td>
</tr>
<tr>
<td>December</td>
<td>0.812</td>
<td>$812,323.44</td>
</tr>
<tr>
<td>January</td>
<td>0.811</td>
<td>$811,372.01</td>
</tr>
<tr>
<td>February</td>
<td>0.810</td>
<td>$810,470.51</td>
</tr>
<tr>
<td>March</td>
<td>0.809</td>
<td>$809,415.92</td>
</tr>
</tbody>
</table>

Weighted Average Life
The length of time before the principal is returned is an important consideration in analyzing a potential MBS investment. Because the principal is paid throughout the life of the security, fluctuations in interest rates may affect the borrower's prepayment behavior and, thus, an investor's reinvestment opportunities. Weighted average life (WAL) measures the average length of time in years that passes until the principal is fully repaid. The WAL of an MBS is useful in comparing a potential MBS investment to alternative investments with comparable average lives.
Selecting an MBS Investment

Fannie Mae MBS may appeal to a wide variety of investors because of their ability to fit unique needs. Fannie Mae aims to be responsive to the investment strategies of investors and to current market conditions in order to develop new securities, thus offering investors a variety of products. Before making any investment, prospective investors may wish to consider:

- Cash flow requirements balanced against liabilities.
- Expectations of the interest rate environment and economic factors that can lead to prepayments.
- Average investment-life requirements to match their asset/liability strategy.
- Other factors affecting their portfolio-hedging strategies.

Single Security Evolution

Under the direction of our regulator and conservator, the Federal Housing Finance Agency (FHFA), Fannie Mae and Freddie Mac worked together to create TBA-eligible MBS issued and guaranteed by either Fannie Mae or Freddie Mac and backed by 30-, 20-, 15-, and 10-year fixed-rate single-family mortgages. This new MBS is termed Uniform Mortgage-Backed Security, or UMBS™. The Single Security initiative allows Fannie Mae UMBS and Freddie Mac UMBS to be fungible for deliveries into a single TBA market. In this contract, the maturity, coupon, face value, price, and settlement date of an MBS are known, but the issuer (Fannie Mae or Freddie Mac), the actual pool number, and the unique security identifier (CUSIP) are not yet known.

Single-class re-securitizations are called Supers. Supers permit the commingling of Fannie Mae UMBS and Freddie Mac UMBS so the enterprise that issues, or wraps, the re-securitization is the guarantor. The non-TBA-eligible product is referred to as Megas for Fannie Mae and Giants for Freddie Mac.
Fannie Mae MBS Prospectuses and Related Documents

Periodically, Fannie Mae updates certain information for all fixed-rate and ARM securities. Investors in Fannie Mae MBS have the advantage of being able to assess the value and performance of their securities over time. Updated data is available through Fannie Mae’s PoolTalk® and other resources. For a particular Fannie Mae MBS, the disclosure documents include:

- The relevant MBS Prospectus, which contains general information about pools issued during its effective period. The information includes the nature of the guaranty, yield considerations, and the mortgage purchase programs.

- The relevant Prospectus Supplement, which contains information about a specific issuance, the mortgage loans, and information about the security. A pool’s prospectus supplement is generally available two business days before the settlement date of the Fannie Mae MBS pool.

- The most recent Annual Report on Form 10-K, which describes the business and operations of Fannie Mae and our financial condition as of a specified date. It contains audited financial information and is filed with the SEC annually.

- Disclosure documents, which also include certain other reports filed with the SEC subsequent thereto (including, for example, the quarterly 10-Q reports and 8-K reports filed from time to time).

- Certain Trust Documents published by Fannie Mae that relate to its MBS, including the Master Trust Agreements (also known as Trust Indentures). These create the trust holding the assets backing MBS. The Master Trust Agreement — including its exhibits and supplements — generally sets forth the terms relating to an issuance of MBS, the loans or participation interests in the pool, and the payment terms on the MBS.
Helpful Resources
The following documents provide general underlying characteristics for the mortgage loans underlying the security in an MBS pool:

- The Pool Prefix Glossary provides access to the pool prefixes for each individual issue of Fannie Mae MBS. The prefix is a two-character prefix that identifies the type of mortgage loans in that pool and the basic terms of the certificates.
- The Single-Family ARM MBS Subtypes are alphanumeric codes that identify ARM product characteristics, such as index, initial fixed-rate period, rate and payment adjustment frequency, caps, convertibility, and other features.
- The Basics of Structured Transactions provides more information on Megas, Real Estate Mortgage Investment Conduit (REMIC), Grantor Trusts, and Stripped Mortgage-Backed Securities (SMBS).
- The Basics of Fannie Mae’s Whole Loan Conduit describes the liquidity and diversity objectives the conduit meets by purchasing and packaging loans.
- The LIBOR Transition Website serves as the centralized location for information, updates, and resources to assist stakeholders in preparing for the transition from LIBOR to an alternative reference rate. It includes FAQs and a Playbook for Single-Family ARMs.

MBS Business Applications
Fannie Mae offers an online business application that provides specific pool, or CUSIP, disclosure information for MBS when they are issued (“at-issuance” disclosure) and on a monthly basis (“ongoing” disclosure). PoolTalk allows users to retrieve pool-level information on Single-Family MBS, SMBS, and REMIC securities. PoolTalk is the single repository for Fannie Mae MBS data.

Contact us
For additional information or assistance, please call the Fannie Mae Investor Marketing Helpline at 1-800-2FANNIE or via email. The Helpline is available from 8:30 a.m. to 5:30 p.m. ET every business day. Investors can also obtain Single-Family MBS documents from our website at capitalmarkets.fanniemae.com.