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The Ins and Outs of Agency Mortgage-Backed Securities

Mortgage-backed securities (MBS) are created by repackaging residential or commercial mortgage loans into securities that can be purchased by institutional and other investors. In this piece, we will introduce agency MBS created from residential mortgages. These high-credit quality instruments can play an important role in a client's investment portfolios from both a diversification and a yield perspective.

Agency MBS

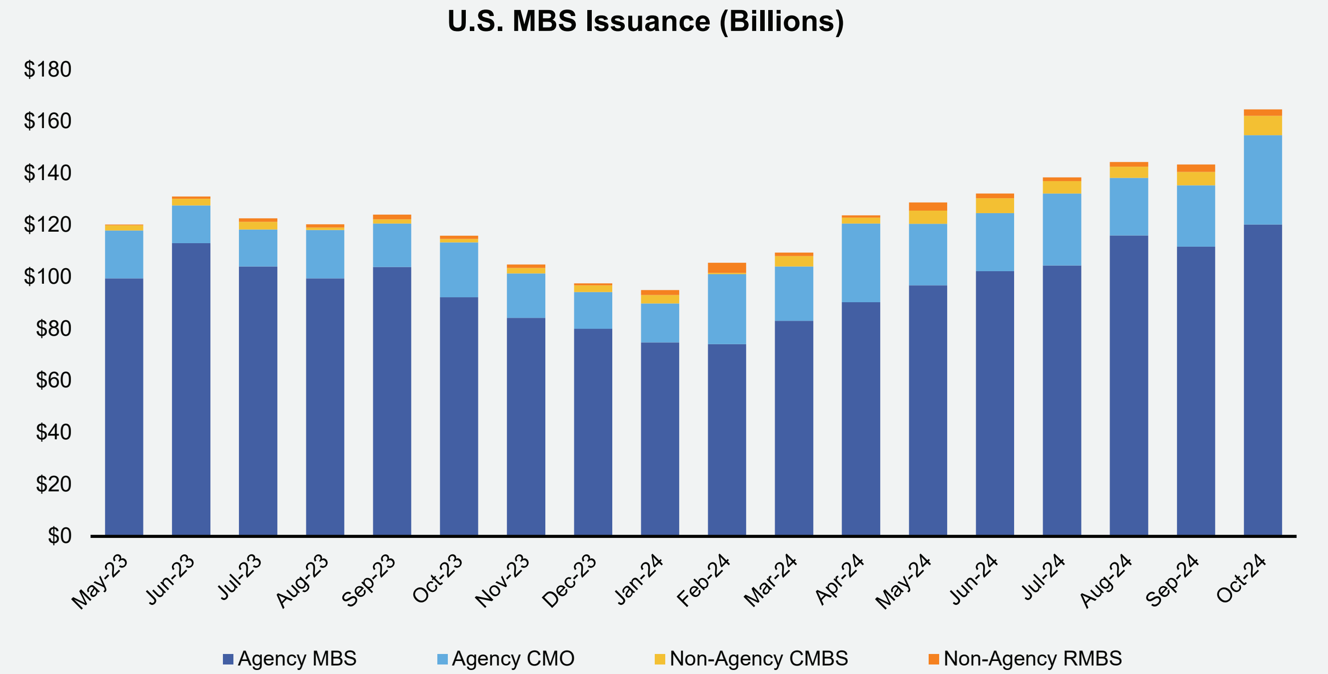
Agency MBS can contain either residential mortgages or commercial mortgages. These instruments are issued by the Government National Mortgage Association (Ginnie Mae), a government-owned corporation, as well as government-sponsored enterprises (GSEs) including the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac).

All three agencies have a mandate to promote liquidity, stability and affordability to the U.S. housing market. Their function is to purchase residential or commercial mortgages originated by banks and non-bank mortgage to free up their balance sheet. Lenders in turn take those proceeds to originate new loans.

Size of the Agency MBS Market

Agency MBS have become a large segment of the fixed-income investment universe. As of end of October 2024, Agency MBS accounted for approximately 26% of the Bloomberg U.S. Aggregate Index

The market is also highly liquid, with over $950 billion of securities issued through October 2024 and around $350 billion in average daily trading volume.



Source: SIFMA.

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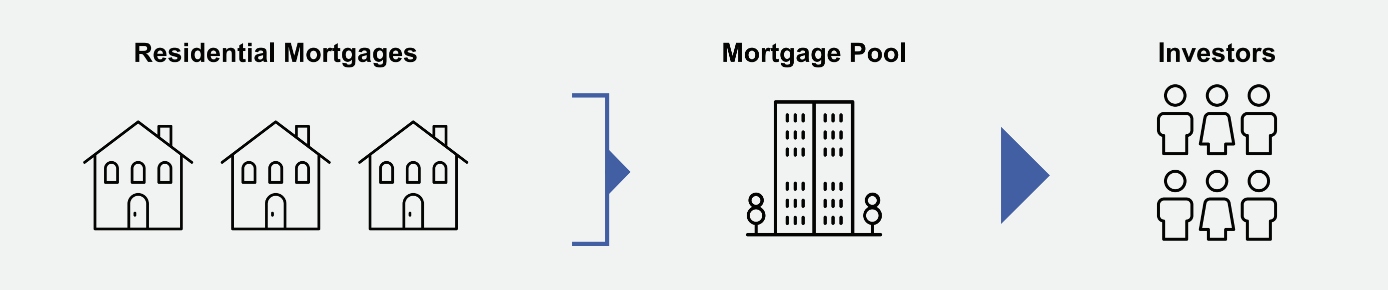
Structure of the Agency MBS Market

Mortgages with similar characteristics are packaged together into MBS and are commonly structured as pass-throughs.[1] With agency MBS, the principal and interest payments made by the homeowners, less servicing and guarantee fees, are passed through to the bondholders monthly. This structure differs from most corporate, municipal or government bonds that pay periodic interest (typically semi-annually) with the entire principal repaid upon maturity.

Importantly, the issuing agency guarantees timely principal and interest payments of these pass-through bonds, mitigating the credit risk of the underlying mortgages to the bondholder.

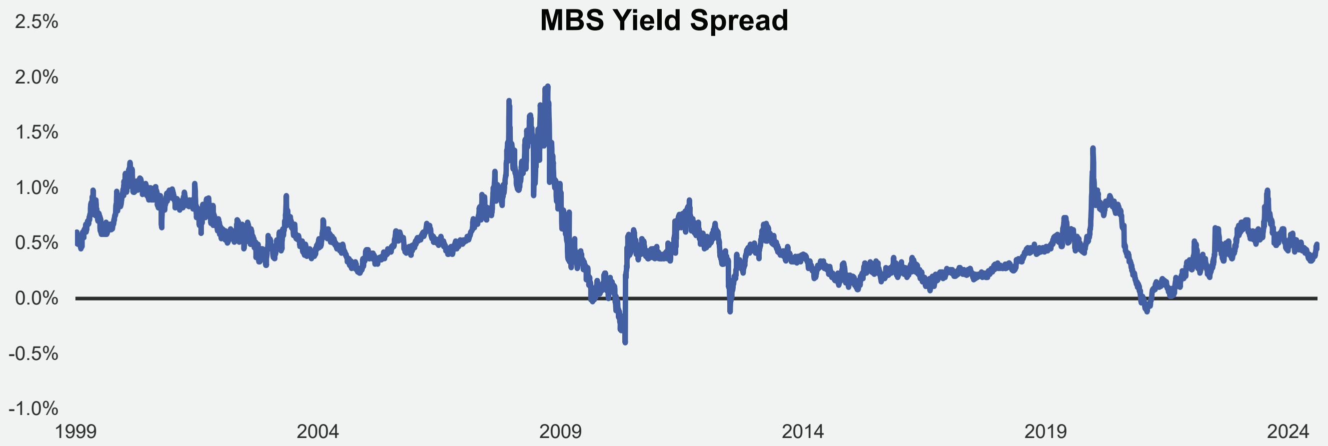


Key Benefits to Agency MBS

MBS can provide a variety of benefits to a client's investment portfolio, including potentially providing diversification and returns in excess of other governmental securities.

Enhanced Yields	High Credit Quality (AAA-rated)	Liquidity	Diversification

For example, for the period beginning June 1, 1999, through January 1, 2022, the ICE BofA U.S. Mortgage-Backed Securities Index outperformed comparable-duration Treasuries by an annualized 29.5 basis points (bps) (0.295%). Even though MBS significantly underperformed comparable-duration Treasuries in 2022, the sector has still produced 17 bps (0.17%) of excess return for the period beginning June 1, 1999, and ending November 1, 2024. This excess returns is a reason why investors may find MBS attractive.



Source: ICE BofA Indices as of November 1, 2024.

1 *MBS, including CMOs, may have lower-rated, subordinated and/or unguaranteed tranches.*

Key Risks for Agency MBS

Prepayment Risk

Agency MBS typically offer higher yields than other agency bonds, in part because of the variability of their cash flows and credit complexity.

These securities have a unique risk profile because homeowners of the underlying mortgages can pay off all or a portion of their loans at any time, generally without penalty. This is referred to as "prepayment risk." The result is the owner of an agency MBS may receive principal payments sooner than anticipated, which also results in less interest being paid on the reduced principal amount.

Principal prepayments can occur for a variety of reasons, including:

1. Sale of the home
2. Refinancing of the mortgage, typically to reduce the interest rate
3. Early repayment of the loan in part or in full, or making additional principal payments through time(also known as curtailment)
4. Default

In the first three instances, the original mortgage is completely paid off. Also, if a homeowner fully or partially pays their remaining principal balance early, those payments flow to the MBS holder when the payments occur. However, the fourth reason, default, is somewhat counterintuitive. If a homeowner defaults on their mortgage, the agency pays investors the entire unpaid principal balance on the mortgage (potentially with a lag). This payment upon homeowner default reflects the benefit of the government guarantee.

Prepayments generally increase when yields are lower because this provides homeowners with an increased economic benefit to refinance. The inverse relationship between yields and prices means that in this scenario, most fixed-rate securities will appreciate in value. However, for MBS, lower mortgage rates shorten the weighted average life on the security, which reduces the benefit of price appreciation on the security relative to securities that do not have prepayment features. This feature is referred to as negative convexity.

As an example, the effective duration of the ICE BofA U.S. Mortgage-Backed Security Index on January 1, 2020 was 3.54. On April 1, 2020, after the yield of the 2-year Treasury fell by over 100 bps, the effective duration of the benchmark shortened to 2.23.[2]

Extension Risk

While prepayments generally result in the owner of an agency MBS receiving principal payments sooner than anticipated, it is also possible for the owner of an agency MBS to receive principal payments later than originally anticipated. This is the opposite of prepayment risk and is called extension risk. This typically occurs when interest rates rise because homeowners are typically less likely to (1) refinance existing mortgages for savings, and/or (2) make additional principal payments. This behavior defers the average payment cycle for MBS investors and results in the life of the investment extending and its duration increasing.

On the surface, this may sound like a benefit to MBS investors because more income is received over a longer period of time. However, as prepayments decline and cashflows are shifted out into the future, the security will generally now have a longer average life, which causes MBS to experience a larger price depreciation.

As an example, on December 31, 2021, the duration of the ICE BofA U.S. Mortgage-Backed Security Index was 3.82. By December 31, 2022, the duration of the index had increased to 5.75. This is because interest rates rose by over 300 bps across the yield curve in response to the Federal Reserve increasing the overnight rate. This extension of duration in a rising interest rate environment is one of the main reasons MBS performed poorly versus comparable-duration Treasuries in 2022.[2]

2 *ICE BofA Indices.*

Premium vs. Discount MBS

Whenever agency MBS investors receive a principal prepayment, it is paid at par (100 cents on the dollar for each dollar of par received). Owners of discount bonds, or securities trading below par, prefer MBS pools that prepay faster. This is because the owner of the security receives the cash flow at a value of 100 even though they paid less than 100 for it.

Conversely, owners of premium bonds, that is, securities trading above par or 100, prefer MBS pools that prepay slowly. This is because slower prepayments result in more interest being received, which compensates the bondholder for buying the security at a price above 100.

In theory, investors should prefer discount MBS pools with characteristics that increase the likelihood they prepay fast and buy premium MBS pools with characteristics that increase the likelihood they prepay slow.

However, because this is a widely accepted viewpoint, those pools with attractive characteristics are more valuable and, as a result, trade at a higher price than those pools without such characteristics.

As such, investors can benefit through MBS collateral analysis is by uncovering pools misperceived by the market.

Collateral Analysis

A key determinant of value in the MBS sector is understanding and estimating prepayments. To decipher prepayments, investors analyze the underlying collateral characteristics. Some of the most common characteristics are listed below along with their impact on prepayments:

- **Average Loan Balance:** The lower the loan balance, the lower the economic benefit the borrower receives from refinancing. As a result, lower loan balance mortgages typically prepay slower than higher loan balance mortgages.
- **Average Loan Rate:** The lower the mortgage rate, the less likely the borrower will refinance because the economic benefit from refinancing is likely lower.
- **Average Loan-to-Value (LTV) Ratio:** The LTV is the ratio of the outstanding loan relative to the value of the property secured by the loan. A higher LTV potentially means more risk for the mortgage lender because there is less equity in the house. If the homeowner were to default and the mortgage lender foreclosed on the underlying property, a higher LTV means the mortgage lender needs a higher sales price on the property to make itself whole. As such, the higher the LTV, the more difficult it is for the borrower to refinance because of this risk.
- **Average FICO Score:** Borrowers with a low FICO score are more likely to default and less likely to refinance.
- **Average Debt-to-Income (DTI) Ratio:** Borrowers with a high DTI are more likely to default and less likely to refinance.

Our Approach

PFMAM only purchases AAA-rated, senior, fully guaranteed MBS and CMOs. This additional total return benefit is why we analyze and invest in the MBS sector for our clients. At PFMAM, we review valuations regularly and seek to add allocations when yield spreads are wide and market risks appear low and avoid MBS or reduce allocations when spreads are narrow or market risks are perceived to be high. If implemented successfully, MBS has the potential to add value over a full market cycle.

As we formulate and implement our MBS allocations, we start with a top-down approach by assessing our outlook for the economy, possible changes in interest rates and the slope of the yield curve. We consider sector spread differentials within the context of current and projected future market conditions.

Our analysis includes a high-level, total rate of return scenario analysis, where we identify areas within the MBS market that we believe have the greatest likelihood of outperforming and which areas pose greater risk. After taking market sentiment and technical factors into consideration, we employ a bottom-up approach to selecting each security.

Adding MBS to a Portfolio

We purchase securities that provide competitive spreads and favorable cash flow characteristics. We pay careful attention to the volatility of cash flows, which are sensitive to interest rate changes and therefore inherently less predictable.

We analyze each individual security by evaluating its underlying characteristics (e.g., coupon, seasoning, number of loans, geographic distribution, loan sizes and outstanding balances, prepayment trends), followed by stress testing and horizon return analyses across a wide range of rate and economic scenarios. We scrutinize securities at various prepayment speeds to determine the sensitivity of their duration, yield and expected return.

Our portfolio managers generally find value in two categories of Agency MBS:

- Premium-priced pools (above 100) that the market believes will prepay fast in the future, but in reality, prepay at a slow rate, producing more cashflows for the investor; or
- Discount priced pools that the market believes will prepay slow in the future, but in reality, prepay at a fast pace, allowing the investor who purchased cash flows at a discount to receive them at par.