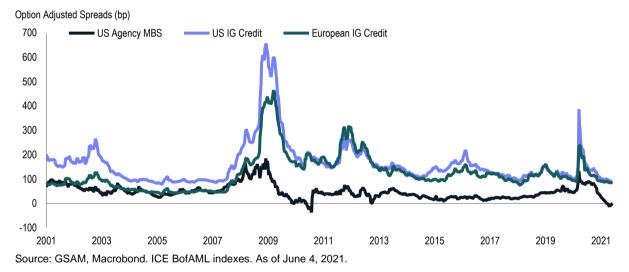
AGENCY MBS: ABNORMALLY TIGHT, WHAT NEXT?

AGENCY MBS SPREADS ARE THE TIGHTEST IN A DECADE

Agency mortgage-backed securities (MBS) spreads are at a decade low and appear tight on an outright basis. Spreads are also tight relative to other fixed income sectors such as investment grade (IG) corporate credit (Exhibit 1). While it is true that spreads have compressed to below pre-pandemic levels in most corners of the fixed income market, we think certain segments of fixed income such as <u>IG</u> and high yield (HY) corporate bonds provide attractive <u>carry and roll</u> potential. We are therefore underweight Agency MBS and overweight corporate credit in our clients' fixed income portfolios¹.

Exhibit 1: Agency MBS spreads are tight on an outright basis and relative to corporate credit



In this piece we discuss:

- How the US Federal Reserve's (Fed) quantitative easing (QE) policy is directly and indirectly leading to tighter MBS spreads.
- Key considerations for investors, including the large weights of agency MBS in fixed income benchmarks, tapering scenarios, convexity risk from rising rates and a potential decrease in bank demand.
- Our dynamic asset allocation, which is now underweight agency MBS positioning in our fixed income
 portfolios and rotating to areas with more value, such as corporate credit.

This financial promotion is provided by Goldman Sachs Bank Europe SE.

¹ See "Do Bonds Still Belong?" (April 2021).

TIGHT AGENCY MBS SPREADS ARE LARGELY A FUNCTION OF THE FED'S QE

Much like prior periods of QE, the Fed is using the agency MBS market – and by extension the US housing sector – as a policy tool to stimulate the economy. By adding substantial MBS to its balance sheet, the Fed helps ease financial conditions in two ways. First, as agency MBS become expensive, market participants rotate to other types of bonds, pushing down yields in those sectors and ultimately lowering the cost of credit generally (the so-called portfolio balance channel). Second, mortgage rates in the US are reduced, prompting consumers to refinance their mortgage debt, which lowers their monthly payments and increases disposable income.

The Fed's most recent purchases have driven MBS spreads to abnormally low, or tight, levels versus US Treasuries and other high-grade assets such as IG corporate bonds. Fed purchases have far outpaced the new supply of agency MBS over the last year, crowding out other investors and driving spreads to abnormally low levels. The Fed's ownership of the Agency MBS market grew 7% in 2020 to over 28% and is expected to expand further to more than 32% by year-end (Exhibit 2).

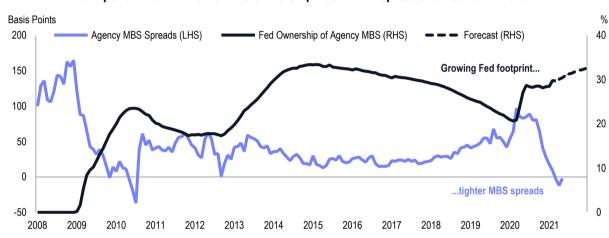


Exhibit 2: The expansion of the Fed's MBS ownership has driven spreads to near all-time lows

Source: GSAM, Macrobond, ICE BofAML, J.P. Morgan. As of May 2021.

The COVID-19 round of QE has also created a rapid expansion of excess reserves in the banking system at a time when loan growth has been modest. As a result, US banks are aggressively buying high-quality liquid assets, like MBS, which provide a capital-efficient way for banks to deploy these deposits (Exhibit 3). This incremental demand from US banks has created an additional force pushing MBS spreads even tighter, to levels not seen in prior QE episodes.

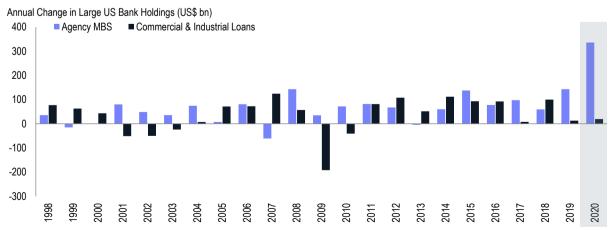


Exhibit 3: Low loan growth has contributed to high bank investments in MBS

Source: GSAM, Macrobond, Fed Assets & Liabilities of Commercial Banks in the United States (H.8). Large bank defined as the top 25 by balance sheet. As of 2020.

KEY CONSIDERATIONS FOR FIXED INCOME INVESTORS

After the Fed and US banks, bond funds are another major holder of agency MBS – but as investors, they have different motivations than the other market participants. Currently, we believe long-term investors in agency MBS are being paid an attractive premium to reposition away from agency MBS and into other high-quality alternatives. The current tight spreads are one issue for MBS investors to consider, but there are several other factors that can affect the MBS market, including the large weightings in major bond indices, the tapering of Fed asset purchases, the risk from rising interest rates and bank buying trends.

Benchmark implications

Agency MBS is a \$7.5 trillion asset class that accounts for nearly 28% of the Bloomberg Barclays US Aggregate Bond Index and more than 10% of the Bloomberg Barclays Global Aggregate Index (data as of May 31, 2021). That means the impact of tight spreads in the sector will be felt by multi-asset and core bond investors worldwide, and especially in the US, as portfolio managers adjust positioning.

Size, speed and mix of Fed tapering

With market liquidity restored, the economic recovery gaining traction, and Fed Chair Jerome Powell confirming the central bank is "talking about talking about tapering", investor focus is squarely on the timing of tapering. We think the current pace of Fed purchases – \$40 billion a month – will continue through year-end and we don't expect the Fed to taper any of its US Treasury or MBS purchases until early 2022. That said, risks are skewed toward earlier than anticipated tapering – or rising concerns over tapering – serving as a catalyst for spread widening later this year.

In any case, as the Fed tapers its purchases of agency MBS, spreads will widen. Our base case shows the Fed tapering both MBS and Treasury purchases simultaneously, in a similar fashion to QE3. However, tapering could be altered in three potential ways:

- Keep total asset purchases unchanged but tilt buying away from MBS and toward Treasuries
- Begin tapering MBS purchases sooner than Treasuries
- · Begin tapering the Treasury and MBS purchases at the same time, but taper MBS to zero more quickly

If the Fed were to signal its intention to taper MBS at a faster pace than Treasuries in 2022, MBS spreads would likely widen, though this will be mitigated somewhat by continued bank demand. If the Fed progresses in its tapering schedule and reduces both Treasury and MBS buying, bank deposit growth would slow, meaning bank demand for MBS may also slow, reinforcing MBS spread widening.

The median primary dealer projection is that the Fed would begin tapering US Treasury and Agency MBS purchases in Q1 2022 and that purchases would conclude by the end of 2022 (Exhibit 4).

Median Expectations of Fed Purchases (US\$ bn) ■ US Treasuries MBS 80 **Expected tapered pace of Fed** monthly MBS purchases through 2022 60 40 20 13 3Q22 1Q22 2022 4Q22 May-21 Jun-21 Jul-21 Aug-21 Sep-21 4Q21 1Q23

Exhibit 4: Fed tapering is expected to commence and conclude in 2022

Source: Federal Reserve Bank of New York Survey of Primary Dealers (April 2021).

Rising rates and convexity risk

But beyond tapered asset purchases there are additional risk factors. For example, agency MBS durations can extend rapidly as interest rates move higher, leading to significant underperformance. We refer to this as convexity risk – as rates and volatility move higher, investors demand additional compensation for the added costs of hedging MBS durations, which manifests in MBS underperformance. We saw this clearly during the taper tantrum of 2013 – MBS underperforming as US rates moved rapidly higher – and we could see similar underperformance given today's abnormally tight valuations as a starting point.

In addition, the compensation for bearing convexity risk is at multi-decade lows. As discussed, mortgage spreads have been compressed by Fed and commercial bank demand. Relative to 2020, faster prepayments coupled with duration extension – and resultant increased hedging costs – have further diminished the realized carry and total return profile associated with MBS. At the same time, a steeper yield curve increases the potential carry and roll associated with intermediate maturity corporate bonds which makes MBS even less attractive on a relative basis.

Bank demand

The incremental demand from banks for agency MBS has been a key driver of the current tight spreads. But will banks continue to buy at this level? Yield compression will begin to make Treasuries more attractive on relative rates and banks may start to favor Treasuries over agency MBS, which could further contribute to wider agency MBS spreads.

WE ARE UNDERWEIGHT AGENCY MBS IN FIXED INCOME PORTFOLIOS

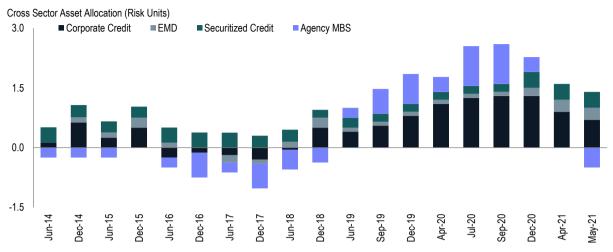
Expensive valuations combined with refinance and convexity risks have led us to be underweight agency MBS in dedicated MBS and multi-sector fixed income portfolios. We see greater potential for more pro-cyclical pockets of the fixed income opportunity set such as IG and HY corporate credit, to benefit from an improving economy. We consider underweight exposure to MBS to be an attractive hedge for tail scenarios due to an overall improvement in portfolio convexity. In other words, our relative exposures across fixed income spread sectors allow us to create more balanced portfolios.

Within single-sector securitized portfolios, we have rotated into areas where we see more value, namely collateralized loan obligations (CLO) and commercial mortgage-backed securities (CMBS), or even US Treasuries, depending on client investment guidelines. In multi-sector fixed income portfolios, we are reducing and potentially eliminating all exposure to agency MBS, expressing a preference for IG and HY corporate bonds, CMBS and CLOs, or even US Treasuries for those constrained portfolios where alternative investment options may be more limited.

The extreme MBS valuation situation highlights the benefits of dynamic asset allocation across fixed income sectors. This allocation is informed by our Cross Sector investment strategy, which seeks to optimize carry and roll potential to build balanced and resilient fixed income portfolios. Using our history of agency MBS positioning as an example (Exhibit 5), we were underweight agency MBS from 2012 to 2018, when Fed QE previously led to historically tight spreads in the sector. We then swung to overweight in 2019 as the Fed unwound its balance sheet and valuations became attractive. In 2020, we remained overweight despite high new issuance because the Fed was still increasing its holdings of MBS and valuations were attractive. As discussed, in 2021, we are once again moving to a material underweight in our clients' multi-sector fixed income portfolios.

For our clients with a strategic allocation to agency MBS, we are focused on finding value for their portfolios through security selection and are therefore selectively positioned in higher-coupon mortgages that the Fed has not been buying. Looking ahead, our positioning will depend on an array of factors including our assessment of valuations and the evolving market environment.

Exhibit 5: Our dynamic asset allocation across fixed income portfolios



Source: GSAM. As of May 19, 2021. Emerging Market Debt (EMD).

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Risk Considerations

All investing involves some degree of risk, whether it is associated with market volatility, purchasing power or a specific security. Fixed income investing entails credit risk and interest rate risk. When interest rates rise, bond prices generally fall.

Unlike stocks and bonds, U.S. Treasuries securities are quaranteed as to payment of principal and interest if held to maturity.

High-yield, lower-rated securities involve greater price volatility and present greater credit risks than higher-rated fixed income securities.

Emerging markets securities may be less liquid and more volatile and are subject to a number of additional risks, including but not limited to currency fluctuations and political instability.

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Mortgage-related and other asset-backed securities are subject to certain additional risks. Generally, rising interest rates tend to extend the duration of fixed rate mortgage-backed securities, making them more sensitive to changes in interest rates. As a result, in a period of rising interest rates, mortgage-backed securities may exhibit additional volatility. This is known as extension risk. In addition, adjustable and fixed rate mortgage-backed securities are subject to prepayment risk. When interest rates decline, borrowers may pay off their mortgages sooner than expected.

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Diversification does not protect an investor from market risk and does not ensure a profit.

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