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Q3 2020

Agency MBS:

Managing Volatility in an Uncertain World

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Executive Summary

Since the Global Financial Crisis ('GFC') and certainly as a result of the current COVID-19 ('CV-19') situation, we have witnessed an active and ongoing rotation of capital from traditional fixed income strategies to alternative credit strategies that deliver higher risk-adjusted returns and more durable income. Within alternative credit, allocations to subsectors such as real estate credit have been increasing at a feverish pace given investors' desire to diversify away from existing corporate credit risk and gain exposure to niche areas in which credit underwriting standards remain robust and reliable.

While the CV-19 pandemic initially resulted in a meaningful dislocation in both public equities and fixed income markets in March of 2020, the Dow and S&P 500 have now retraced values back to the beginning of the year. However, significant uncertainty exists around whether a second wave of CV-19 will give way to another bout of market volatility, liquidity challenges and Federal Reserve intervention.

We expect interest rates to be lower-for-longer, likely through 2022 at least, and expect returns across the liquid and traditional fixed income landscape to continue to be muted. Investors will need to look for reliable areas within the US credit markets that deliver reliable yield in a risk mitigated fashion. One such area within the alternative credit markets that continues to grow in attractiveness is structured Agency Mortgage Backed Securities ('AMBS'). AMBS delivers attractive risk-adjusted returns and durable yield with minimal credit risk, as these assets are guaranteed by the Government Sponsored Enterprises or GSEs (Fannie Mae, Freddie Mac, Ginnie Mae). AMBS trade at a meaningful spread to U.S. Treasuries, offer liquidity and serve to diversify existing fixed income exposure and underlying corporate credit risk. Structured and executed properly, an AMBS investment has the potential to offer investors an appealing, differentiated opportunity.

Today's Barren Fixed Income Landscape

Capital markets continue to experience uncertainty and consequent volatility as CV-19 and ongoing geopolitical events impact market movements and influence investment returns and investor appetite for certain sectors. The 10-year U.S. Treasury has settled well below 1.0%, down from approximately 3.0% just two years prior, as shown in Figure 1. The Federal Reserve ('Fed') has taken aggressive steps to provide liquidity and to ensure broad market stability across all sectors. While the Fed's purchasing of Treasuries has restored what was a flat yield curve, it has also resumed the active purchase of AMBS to support the smooth functioning of the U.S. housing market. This in itself provides meaningful reassurance that the AMBS market is well supported and driven by strong underlying credits.

Figure 1: Historical 10-Year U.S. Treasury Yields[i]

With the effective federal funds rate near zero and continued low spreads associated with both investment grade and many high yield credits, alternative fixed income such as AMBS continue to look increasingly attractive to investors.

Investment grade corporate credit and high yield bonds are now delivering lower overall returns but with greater credit risk, while AMBS has emerged as a leader in providing investors with durable yield, diversification, and low correlation to traditional asset classes as illustrated in Figure 2. The liquidity of the AMBS market is another attractive feature of this asset class, with only the U.S. Treasuries market having greater liquidity.

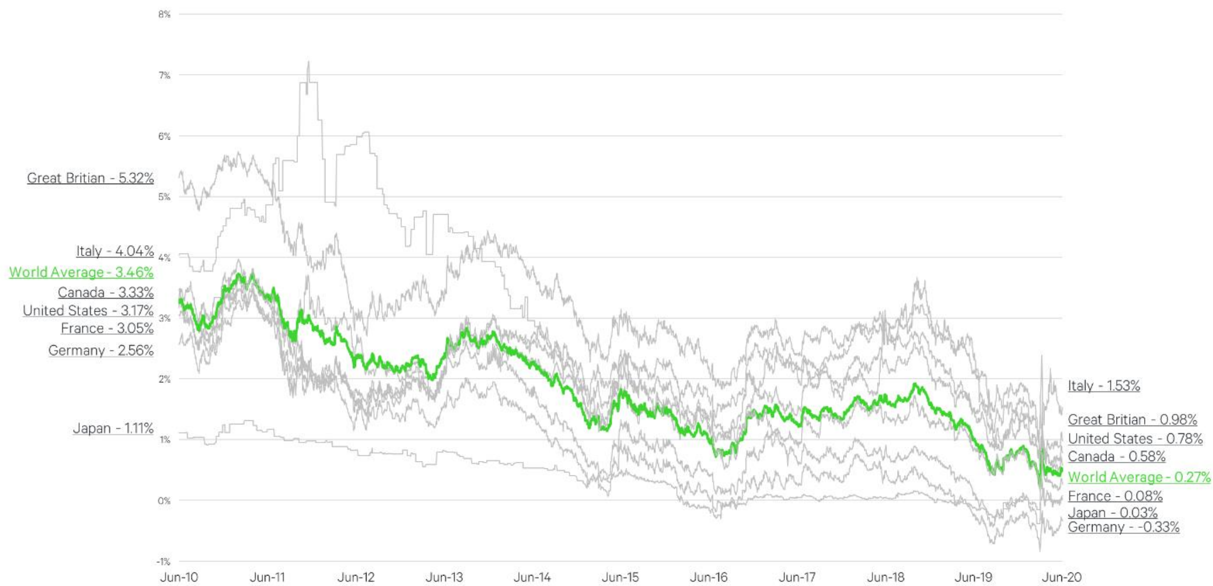
Figure 2: Correlation of MBS Excess Returns to Fixed Income Asset Classes[ii]

(2014-2019)	Correlation
vs. US Treasury:	-0.50
vs. US Corp:	-0.20
vs. Commodities:	0.26
vs. S&P 500:	0.44

AMBS Stands Tall in a Structurally Low Interest Rate Environment

Today's structurally low interest rate environment has created a dilemma for thoughtful, yield seeking fixed income investors. Over the past ten years, global yields have come in substantially. On average, they have decreased by over 90%, settling in around 0.27% in mid-2020, as shown in Figure 3. The muted returns associated with traditional fixed income options essentially present a Hobson's choice—take what little yield is available or take nothing at all, with little difference between the two.

Figure 3: Global 10-Year Bond Yields[iii]



This dilemma has driven the rotation of capital from traditional fixed income and even illiquid corporate credit or private credit to real assets backed debt. Figure 4 below illustrates the relative attractiveness of Agency Mortgage Backed Securities versus other fixed income options. During the peak of the most recent market dislocation in April 2020, AMBS sustained a 10-year Sharpe Ratio of 1.10 while investment grade corporate debt remained at 0.91. A high degree of volatility has made corporate credit a sub-optimal fixed-income option in today's uncertain environment, despite investment grade corporate credit returning 8.2% on average over the last ten years. The 10-year standard deviation of returns for investment grade corporate credit is nearly 5.0%, which is more than double the volatility of AMBS. The disparity with U.S. High Yield debt is even more pronounced with a 10-year Sharpe Ratio of only 0.72 with a 10-year standard deviation of returns at 7.0%—more than triple the implied volatility of Agency MBS. Making AMBS even more attractive is the fact that these securities effectively hold no credit risk given their implicit backing by the U.S. government through the guarantee of principal and interest by the GSEs.

Figures 4: Sharpe Ratios Across Major Fixed Income Classes as of April 2020[iv]

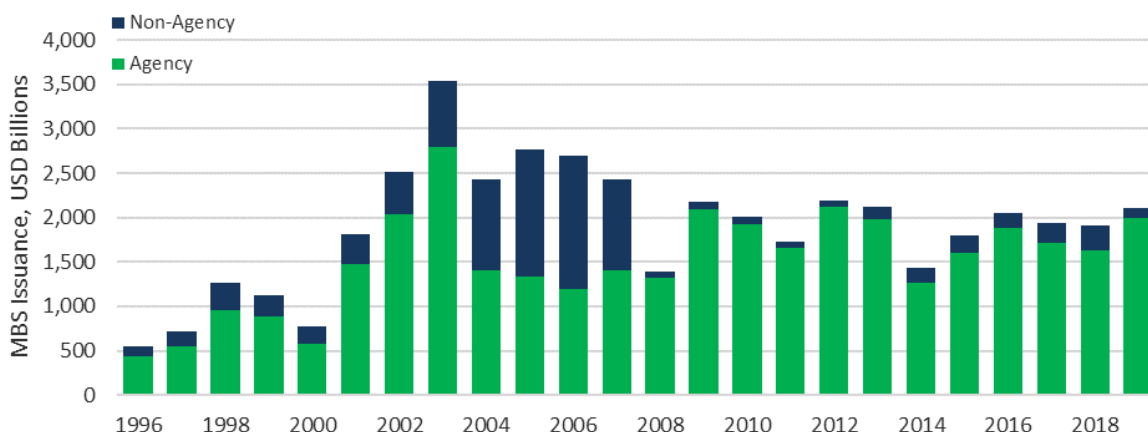
Why AMBS Is a Differentiated Asset Class

AMBS offers to investors a unique value proposition given that it is grounded in healthy real estate fundamentals and is bolstered by one of the largest components of the US economy and US consumer spending sectors: Housing. Further, as discussed above, the commitment of the Fed to the US housing market through challenging times has been confirmed and provides confidence in the resiliency and durability of the AMBS market.

In assessing the Mortgage Backed Securities ('MBS') market, it is important to understand the distinction between Agency versus non-Agency MBS. Agency MBS are securities whose principal and interest ('P&I') are guaranteed by Fannie Mae, Freddie Mac and Ginnie Mae. This means that even if a borrower were to default on her/his mortgage payment, the investor in the AMBS security would still receive the expected payment. Non-Agency MBS, also referred to as private label MBS, consist of pools of loans that are not guaranteed by the Agencies. Non-Agency MBS include subprime loans, such as those that contributed to the 2008 financial crisis. These securities tend to pay higher interest rates than their Agency guaranteed counterparts but are subject to default risk.

The composition of the MBS market has evolved meaningfully since the GFC. At the time of the previous crisis, Agency MBS comprised less than 50% of the total MBS market, while today it represents 95% of the broader MBS market and is defined by some of the most stringent underwriting standards. Figure 5 below illustrates the changing nature of the AMBS market over the past two decades.

Figure 5: Volume and Composition of the MBS Market[v]

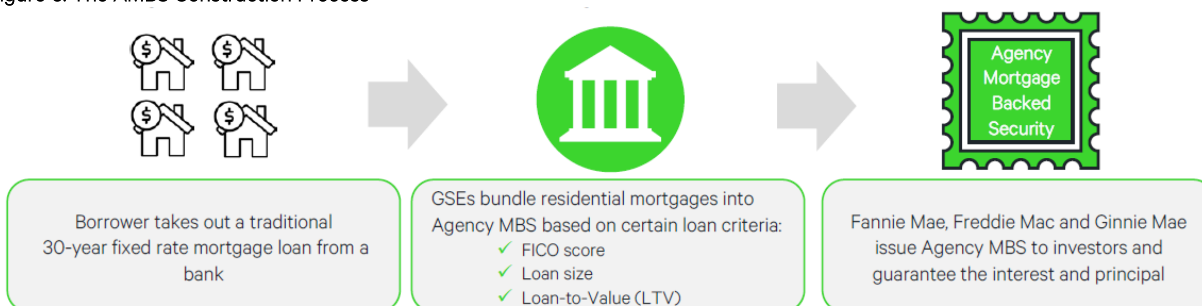


Also worth noting is the fact that the profile of the underlying borrower in AMBS has evolved significantly since the GFC. Today, these borrowers tend to have higher FICO scores, lower loan-to-value ratios, and a lower weighted average cost of capital—each contributing to a lower overall risk profile.

The Mechanics Behind AMBS Pools

The construction of AMBS pools begins with a homebuyer taking out a mortgage provided by a bank in order to purchase a single-family home. Each GSE reviews and purchases those loans or mortgages that meet a pre-established set of criteria. They then aggregate a series of loans in order to form a pool of AMBS. These bonds are then sold on the secondary market or through auctions. This securitization process creates a pass-through mechanism such that AMBS investors are effectively providing the capital for the homeowners' mortgages and as such receive the monthly principal and interest payments as well as final payment at reversion. Figure 6 below provides a detailed illustration of the AMBS construction process.

Figure 6: The AMBS Construction Process



As discussed above, the change in the composition of MBS post GFC is meaningful, as in addition to robust underwriting standards, the GSEs only purchase loans that meet very specific standards. Of the newly originated AMBS, nearly 100% are fixed-rate and do not contain Alt-A tranches, Option ARM and Subprime loans, all of which were popular prior to the GFC.

Figure 7: Loans Excluded from AMBS Pools

Loan Type	Characteristics	GSE Gating Criteria
Alternative-A (Alt-A)	Borrowers typically fall between prime and subprime tranches. Dodd-Frank regulations improved structure but did not remove substantial risk.	Compared to prime loans, Alt-A often have average FICO scores and looser loan documentation or large loan balances.
Option Adjustable Rate Mortgage (Option ARM)	Nonuniform loan structures as borrowers have options in terms of types and size of payments.	Loans of this type were problematic prior to the GFC. Often Option ARMs have an attractive initial teaser rate but can shift to interest only or negative amortization schedules.
Subprime	Borrowers typically have FICO scores below 600, which is well below the weighted average of approximately 750 for Fannie Mae and Freddie Mac.[vi vii]	Borrowers are unable to secure conventional prime loans and typically have damaged credit, limited credit history, and limited income and asset verification.

Making Good Yields Great: Why Structure Matters

AMBS is a reliable source of yield as investors look to insulate portfolios from further economic fluctuations. As shown in Figure 8, relative to other real estate asset-backed securities, AMBS is differentiated in its ability to perform during weakened economic conditions. AMBS is advantageous in stable interest rate environments and even more so in structurally low interest rate environment, which we expect to see through at least 2022.

Figure 8: Comparison of Real Estate Asset-backed Securities

Sector	Relative Yield to 10YUST	Market Liquidity	Underlying Risk	Conditions for Outperformance	Conditions for Underperformance
AMBS	50-150 bps	High	Interest Rate Risk Prepayment Risk	Stable interest rates	Interest rate volatility
CRTs	200-900 bps (float)	Low to Medium	Mortgage pool defaults pass through to investors	Strong economy and solid fundamentals	Recessions and weak fundamentals
Non-Agency RMBS	350-500 bps	Medium to High	Mortgage pool defaults	Strong economy and solid fundamentals	Recessions and weak fundamentals
CMBS	400-800 bps	Low for riskier tranches High for low risk tranches	Mortgage pool defaults	Strong economy and solid commercial real estate fundamentals	Recessions and weak commercial real estate fundamentals

On their own, AMBS presents investors with durable yield and downside protection in periods of economic dislocation, but the structure of an AMBS strategy is critical in generating strong yield while mitigating risk, specifically interest rate risk and prepayment risk.

We believe that a thoughtful and effective approach to AMBS investing must include three key components: (i) systematic asset selection, (ii) effective interest rate hedging, and (iii) the prudent use of leverage. It is the combination of these pieces, working in harmony, that allows investors to maximize the opportunity within the Agency Mortgage Backed Securities sector.

I. Asset Selection

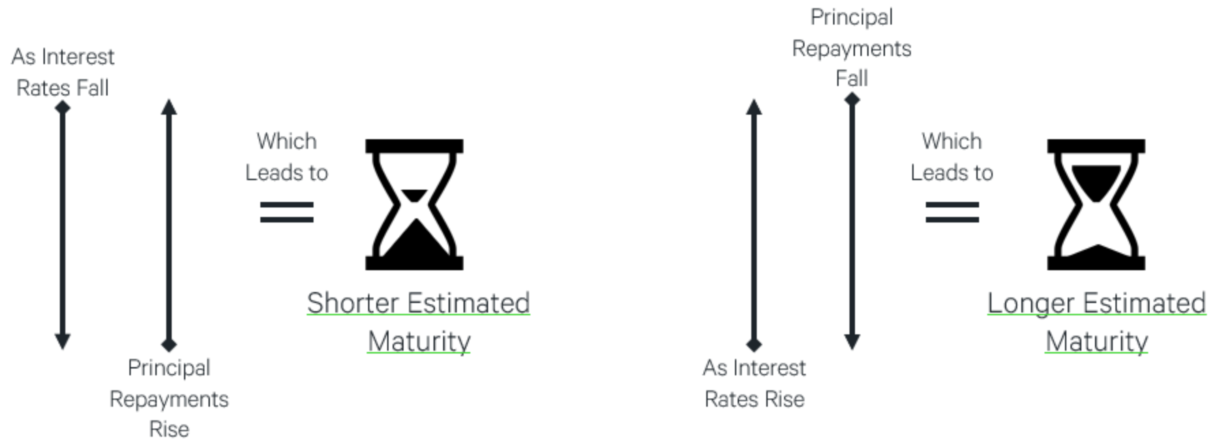
The first factor, systematic asset selection, requires a keen ability to curate a portfolio of securities or series of cash flows that are less sensitive to prepayment. Understanding and dissecting the three main drivers of prepayment (refinancing, default, and relocation) requires an experienced investor who has the ability to roll up his or her sleeves in order to analyze all loan and borrower level details, including loan amount, FICO score, coupon, amortization term and asset location among a series of other factors.

Also critical to asset selection and risk mitigation is the ability to appropriately diversify exposure to traditional AMBS with an allocation to other AMBS types or loan structures, including Reperforming Loans or RPL Mortgage Backed Securities. These are securities that are comprised of once-delinquent loans, which are reperforming typically due to loan modifications encouraging longer loan duration (typically 40 year mortgage vs. the standard 30 year mortgage) and, as such, have a lower likelihood of prepayment risk.

II. Effective Interest Rate Hedging

The second critical factor in successfully investing in AMBS is mitigating all associated interest rate risk. An effective and thoughtful hedging program is key and should make use of swaps, swaptions and U.S. Treasury futures as tools to hedge across the yield curve and match the projected cashflow profiles of the given securities.

Figure 9: Comparison of Interest Rate Environments for Underlying Loan Maturities



III. Prudent Use of Leverage

The third leg of the stool or key factor in successfully investing in AMBS is the prudent use of leverage through the term repo market. First, a distinction must be made between the overnight repo market and the term repo market. The overnight repo market is short term, as the name suggests, and is susceptible to greater volatility. The term repo market allows for longer borrowing terms (3 to 12 months). Second, the optimal leverage level must be carefully examined. While the available leverage for AMBS may be as high as 20x, a thoughtful manager must carefully consider the appropriate level of leverage based on the strategy's ultimate objective and risk profile.

In deriving the optimal leverage multiple, there are two main factors to consider:(i) the initial margin required to establish a portfolio and (ii) the safety cushion required to withstand adverse market conditions. The initial margin for a portfolio of MBS and associated interest rate hedges should ideally be between 5.0% to 6.0% of equity. Second, it is advisable to maintain a capital cushion to withstand adverse market conditions similar to the GFC or the CV-19 crisis. Our analysis supports the thesis that an equity cushion of 5.0-6.0% should be sufficient to sustain more than 1.5x the market stress experienced during these challenging periods. The aggregate of the two components, approximately 11.0% of equity, should be held in order to safely achieve strong returns while taking minimal risk. This resulting leverage, borrowing 89.0% of debt capital, or 8:1 debt/equity leverage delivers the strongest reward for the least risk.

Why is Now the Optimal Time to Invest in AMBS?

The current market environment creates an ideal entry point for investors looking to access the AMBS market. The combination of near zero interest rates, lower funding costs and wider AMBS spreads resulting from market volatility and forced liquidations has created a unique opportunity for investors to capture significant value. As MBS spreads revert to the mean and we see spread normalization, an investment in AMBS will deliver to investors a unique degree of capital appreciation in addition to the standard capital preservation and durable yield.

While the current environment creates a unique opportunity to enter the AMBS market, it is also important for investors to remember that an investment in AMBS should not be considered tactical nor an exercise in market timing. Rather, AMBS delivers long term, consistent and reliable returns and serves as an alternative

source of yield that is better insulated from economic fluctuations than most other liquid and illiquid fixed income assets.

Conclusion

As capital markets continue to experience uncertainty and volatility amidst CV-19 and ongoing geopolitical events, investors are actively seeking better ways in which to achieve strong risk-adjusted returns and durable yield in a risk mitigated fashion. Agency Mortgage Backed securities in a carefully and conservatively structured vehicle serve as an alternative fixed income source that deliver long-term, consistent returns and predictable yield. The US Housing market has and will continue to remain on solid ground given the commitment of the US government and the FED to the smooth functioning of this critical piece of the economy.

The current market backdrop has created the optimal opportunity for investors to step into an AMBS investment and capture additional capital appreciation as spreads revert to the mean in the short term. In the longer term, an AMBS investment will deliver predictable yield and portfolio diversification while holding no credit risk and while offering much valued liquidity.

The rotation of capital to alternative fixed income and in particular, to real estate backed fixed income, will continue, as both individual investors and large institutional investors seek to re-orient themselves and their portfolios. Agency Mortgage Backed Securities have the ability to serve as a meaningful tool in helping investors to reliably achieve their desired portfolio needs and objectives as we forge ahead in a new post-COVID environment.

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[i] Bridge Investment Group Research. Source data: Bloomberg, July 16, 2020.
[ii] Bridge Investment Group. Source data: Bloomberg. As of year-end 2019.
[iii] Bridge Investment Group Research. Source data: Koyfin as of market close June 9, 2020.
[iv] Bridge Investment Group Research. Note: All Sharpe ratios are ten-year ratios as of 04.02.20 Source: Morningstar; U.S. Treasuries: Bloomberg Barclays Intermediate US Govt/Credit; Emerging Markets: JPMorgan EMBI Global Core Index; U.S. High Yield: ICE BofA US High Yield Index; IG Corporates: Bloomberg Barclays US Corporate Bond Index; Leveraged Loans: S&P/LSTA Leveraged Loan Index; U.S. AMBS: S&P U.S. Mortgage-Backed Securities Index
[v] Bridge Investment Group Research. SIFMA US Mortgage-Related Issuance and Outstanding as of 13 January 2020. Data sourced from Federal Agencies (FHLMC, FNMA, GNMA, NCUA, and FDIC), Bloomberg, Dealogic, Thomson Reuters.
[vi] Fannie Mae. February 13, 2020. Financial Supplement Q4 and Full Year 2019.
[vii] Freddie Mac. February 13, 2020. Financial Results Press Release, Fourth Quarter and Full Year 2019 Financial Results.