Agency Mortgage-Backed Securities Update

October 2023

Since the DoubleLine Agency Mortgage-Backed Securities team published our last update on the Agency mortgage-backed securities (MBS) market in May (The Case for Agency MBS), spreads experienced year-to-date wides with the current-coupon Agency MBS spread to five-year and 10-year U.S. Treasury yields reaching a high of 194 basis points (bps) on May 29. Subsequently, Agency MBS tightened in June and July, with the current-coupon spread narrowing to around 155 bps. The Bloomberg US MBS Index marked positive excess return of 45 bps and 28 bps in June and July, respectively. *(Figure 1)* Rate volatility reared its head, however, in August and September, causing mortgages to widen again, as the Bloomberg US MBS Index gave back the positive excess return of June and July, falling 33 bps in August and 81 bps in September, the second worst month of the year after March.

Returns for the Bloomberg US MBS Index | June 2023 through September 2023

	US MBS Index Returns (06/30/2023 MTD)						US MBS Index Returns (07/31/2023 MTD)				
30YR UMBS COUP	Price	Coupon	Other	Total	Excess	30YR UMBS COUP	Price	Coupon	Other	Total	Excess
1.50	-0.87	0.16	0.15	-0.56	0.37	1.50	-0.68	0.16	0.16	-0.35	0.40
2.00	-0.84	0.20	0.13	-0.52	0.42	2.00	-0.71	0.20	0.14	-0.37	0.29
2.50	-0.81	0.24	0.11	-0.45	0.48	2.50	-0.52	0.24	0.12	-0.15	0.41
3.00	-0.78	0.28	0.09	-0.41	0.51	3.00	-0.47	0.28	0.10	-0.10	0.30
3.50	-0.67	0.31	0.06	-0.30	0.60	3.50	-0.48	0.31	0.07	-0.09	0.21
4.00	-0.65	0.34	0.04	-0.27	0.60	4.00	-0.45	0.35	0.04	-0.06	0.18
4.50	-0.62	0.38	0.02	-0.22	0.59	4.50	-0.39	0.38	0.02	0.01	0.17
5.00	-0.61	0.42	0.00	-0.19	0.55	5.00	-0.24	0.42	0.01	0.19	0.24
5.50	-0.55	0.45	-0.01	-0.11	0.51	5.50	-0.18	0.45	0.00	0.27	0.21
6.00	-0.31	0.48	-0.02	0.15	0.68	6.00	-0.30	0.48	-0.02	0.17	0.04
6.50	-0.27	0.52	-0.04	0.21	0.65	6.50	-0.17	0.52	-0.03	0.32	0.12
7.00	-0.70	0.55	-0.06	-0.22	0.16	7.00	0.30	0.55	-0.05	0.80	0.60
30YR UMBS	**-0.76**	**0.27**	**0.09**	**-0.40**	**0.49**	**30YR UMBS**	**-0.53**	**0.27**	**0.10**	**-0.16**	**0.29**
US MBS Index	**-0.78**	**0.26**	**0.09**	**-0.43**	**0.45**	**US MBS Index**	**-0.44**	**0.27**	**0.10**	**-0.07**	**0.28**

	US MBS Index Returns (08/31/2023 MTD)						US MBS Index Returns (09/29/2023 MTD)				
30YR UMBS COUP	Price	Coupon	Other	Total	Excess	30YR UMBS COUP	Price	Coupon	Other	Total	Excess
1.50	-1.68	0.16	0.16	-1.36	-0.42	1.50	-4.59	0.16	0.17	-4.26	-0.82
2.00	-1.56	0.20	0.13	-1.22	-0.38	2.00	-4.42	0.21	0.15	-4.06	-0.80
2.50	-1.50	0.24	0.12	-1.14	-0.40	2.50	-4.23	0.25	0.13	-3.85	-0.83
3.00	-1.44	0.28	0.09	-1.07	-0.52	3.00	-3.84	0.28	0.11	-3.44	-0.90
3.50	-1.20	0.31	0.07	-0.82	-0.38	3.50	-3.72	0.32	0.08	-3.32	-1.03
4.00	-1.10	0.35	0.04	-0.71	-0.34	4.00	-3.39	0.35	0.06	-2.99	-0.87
4.50	-0.97	0.38	0.02	-0.56	-0.28	4.50	-3.10	0.39	0.03	-2.68	-0.76
5.00	-0.77	0.42	0.01	-0.34	-0.18	5.00	-2.67	0.42	0.02	-2.23	-0.60
5.50	-0.51	0.45	0.00	-0.06	-0.04	5.50	-2.21	0.46	0.00	-1.75	-0.49
6.00	-0.36	0.49	-0.01	0.12	0.05	6.00	-1.58	0.49	-0.01	-1.10	-0.11
6.50	-0.39	0.52	-0.02	0.11	-0.04	6.50	-1.09	0.52	-0.02	-0.58	0.18
7.00	0.00	0.55	-0.06	0.49	0.33	7.00	-0.77	0.55	-0.05	-0.26	0.41
30YR UMBS	**-1.33**	**0.28**	**0.09**	**-0.96**	**-0.36**	**30YR UMBS**	**-3.83**	**0.28**	**0.11**	**-3.44**	**-0.80**
US MBS Index	**-1.19**	**0.27**	**0.09**	**-0.82**	**-0.33**	**US MBS Index**	**-3.57**	**0.28**	**0.11**	**-3.19**	**-0.81**

Figure 1
Source: DoubleLine, Bloomberg

While the Treasury yield curve inverted significantly in June, with the differential of two-year and 10-year yields (2s10s) reaching negative 108 bps in early July, the curve subsequently bear steepened, with the 2s10s ending at about negative 48 bps in September. This de-inversion was fueled by higher volatility, as short- and longer-dated volatility increased in August and September. *(Figure 2)* Mortgage spreads returned once again to their highs, with the current-coupon spread reaching 181 bps as of the end of September, and widening more recently. *(Figure 3)*

SOFR Swaption Volatility
May 31, 2023 through September 30, 2023

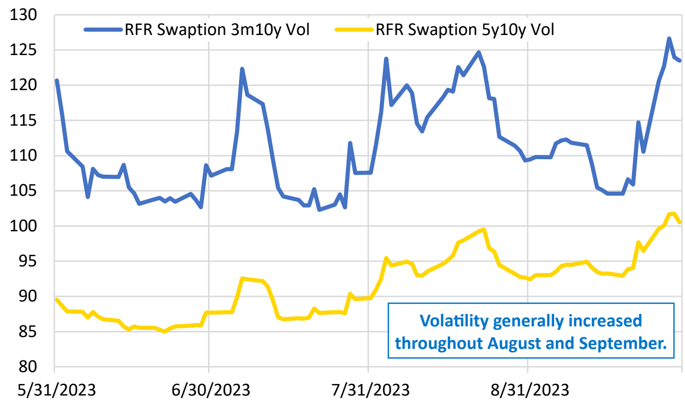

Figure 2
Source: DoubleLine, Bloomberg
RFR = risk-free rate of return (SOFR), 3m10y = three month into 10-year SOFR swaption volatility, 5y10y = five-year into 10-year SOFR swaption volatility

Agency MBS CC Spread (5/10 UST)
December 31, 2021 through October 11, 2023

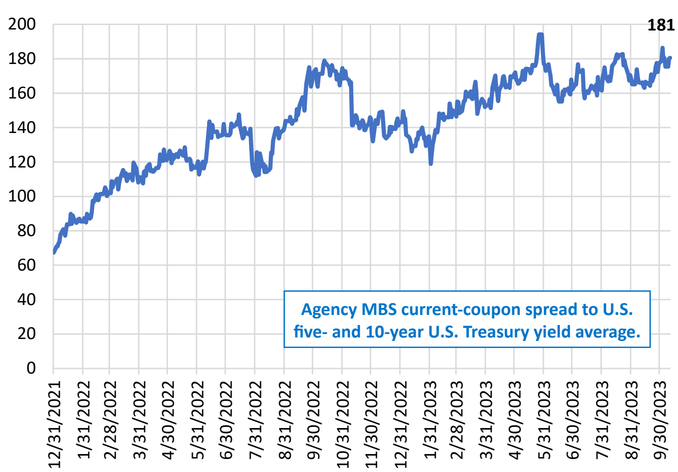

Figure 3
Source: DoubleLine, Bloomberg

As the curve de-inverts, mortgage spread direction is more tightly coupled to overall level of volatility. While previous bouts of volatility have been primarily driven by uncertainty about upcoming Federal Reserve hikes of the federal funds rate, the narrative has somewhat shifted over the past few weeks to concerns about a higher-for-longer policy stance, as reflected in the Federal Open Market Committee's updated September Summary of Economic Projections; fiscal deficits; and Treasury supply-demand dynamics. As we write this update, rate volatility could be impacted by geopolitical events in the Middle East. While we note that equity volatility, as measured by the Volatility Index, does not seem to indicate geopolitical distress spilling over to markets as of now, this is a possibility we are closely monitoring.

In terms of technical factors, the Federal Deposit Insurance Corp. concluded the sales of Silicon Valley Bank and Signature Bank Agency MBS pass-through securities on Aug. 30 and had $3.7 billion Agency collateralized mortgage obligations (CMOs) left to sell as of Sept. 28. We expect that these Agency CMO sales will be completed by December. While we await third quarter data for bank Agency MBS demand, we continue to expect softness as volatility remains elevated. While August CMO issuance was up 82% month-over-month to $14.5 billion, Ginnie Mae was responsible for 70% of that total.

Agency MBS has continued to serve as a mirror for overall rate volatility. In fact, if we decompose current-coupon spread to volatility, curve and residual factors, we observe that spreads are increasingly driven by volatility and residual factors. As the residual component increases, spreads widen by more than what volatility fundamentals would imply. Conversely, corporate credit spreads have not moved much and have only recently started to marginally widen. We saw the Bloomberg US Corporate Bond Index spread tighten to a yearly low of 112 bps at the end of July. The index spread stood at 121 bps at the end of September, in line with its five-year average. Excess return for the index was positive in June, July and September, and only slightly negative (-8 bps) in August. We do not believe the corporate bond market is reflective of either the overall rate climb – 10- and 30-year Treasury yields rose 93 bps and 84 bps, respectively, across the third quarter – or increased rate volatility. While terming out debt at low rates has certainly been a stabilizing force for corporate credit spreads, we continue to think we are in the later stages of the cycle and would not be surprised to see significant widening over time.

We remain of the view that Agency MBS are attractive on a historical and relative value basis. While the Fed's quantitative tightening, bank demand and regional bank stress have been technical headwinds for Agency MBS since early 2022, we don't believe these factors represent a permanent structural shift that dislocates Agency MBS from other spread markets going forward. In fact, we believe that Agency MBS have "gotten the message" first and are poised to offer an advantageous relative risk-reward dynamic going forward. ■

Definition of Terms and Indexes Used in this Piece

2s10s – Shorthand term used in tracking the spread between the two-year U.S. Treasury note (2s) and the 10-year Treasury bond (10s). The inversion of the yields, when the two-year is higher than the 10-year, is seen by some economists as an indicator of impending recession.

Agency – Refers to mortgage-backed securities (MBS) whose principal and interest are guaranteed by a U.S. government agency such as Fannie Mae (FNMA) or Freddie Mac (FHLMC).

Basis Points (bps) – Basis points (or basis point (bp)) refer to a common unit of measure for interest rates and other percentages in finance. One basis point is equal to 1/100th of 1%, or 0.01% or 0.0001, and is used to denote the percentage change in a financial instrument. The relationship between percentage changes and basis points can be summarized as: 1% change = 100 basis points; 0.01% = 1 basis point.

Bloomberg US Corporate Bond Index – This index measures the investment grade, fixed-rate taxable corporate bond market. It includes U.S. dollar-denominated securities publicly issued by U.S. and non-U.S. industrial, utility and financial issuers.

Bloomberg US Mortgage-Backed Securities (MBS) Index – This index measures the performance of investment grade, fixed-rate, mortgage-backed, pass-through securities of the government-sponsored enterprises (GSEs): Federal Home Loan Mortgage Corp. (Freddie Mac), Federal National Mortgage Association (Fannie Mae) and Government National Mortgage Association (Ginnie Mae).

CBOE Volatility Index (VIX) – This real-time market index represents the market's expectation of 30-day forward-looking volatility and is derived from the price inputs of S&P 500 Index options. Calculated and published by the Chicago Board Options Exchange (CBOE), the index is also known by such names as the "Fear Gauge" or "Fear Index."

Collateralized Mortgage Obligation (CMO) – Refers to a type of mortgage-backed security that contains a pool of mortgages bundled together and sold as an investment. Organized by maturity and level of risk, CMOs receive cash flows as borrowers repay the mortgages that act as collateral on these securities. In turn, CMOs distribute principal and interest payments to investors based on predetermined rules and agreements.

Excess Return – Return achieved above and beyond the return of a proxy such as a benchmark index. In the context of the Bloomberg US Corporate Bond Index or the Bloomberg US MBS Index, the benchmark is a duration-matched U.S. Treasury security or portfolio.

Federal Funds Rate – Target interest rate, set by the Federal Reserve at its Federal Open Market Committee (FOMC) meetings, at which commercial banks borrow and lend their excess reserves to each other overnight. The Fed sets a target federal funds rate eight times a year, based on prevailing economic conditions.

Mortgage-Backed Securities (MBS) – Investment similar to a bond that is made up of a bundle of home loans bought from the banks that issued them. Investors in MBS receive periodic payments similar to bond coupon payments.

Pass-Through Security – Pool of fixed income securities backed by a package of assets. A servicing intermediary collects the monthly payments from issuers and, after deducting a fee, remits or passes them through to the holders of the pass-through security (that is, people or entities who have invested in it).

Risk-Free Rate of Return – The theoretical rate of return of an investment with zero risk. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time.

Secured Overnight Financing Rate (SOFR) – Benchmark interest rate for U.S. dollar-denominated derivatives and loans that replaced the London Interbank Offered Rate (LIBOR). Interest rate swaps on more than $80 trillion in notional debt switched to the SOFR in October 2020. This transition is expected to increase long-term liquidity but also result in substantial short-term trading volatility in derivatives.

Spread – Difference between yields on differing debt instruments, calculated by deducting the yield of one instrument from another. The higher the yield spread, the greater the difference between the yields offered by each instrument. The spread can be measured between debt instruments of differing maturities, credit ratings or risk.

Summary of Economic Projections (SEP) – Four times a year, the Federal Reserve releases a summary of Federal Open Market Committee (FOMC) participants' projections for gross domestic product (GDP) growth, the unemployment rate, inflation and the appropriate policy interest rate. The summary also provides information regarding policymakers' views on the uncertainty and risks attending the outlook. The projections provide information on the values that participants view as the most likely to prevail in the current year and the subsequent two years as well as over the longer run. The FOMC chair presents information about these projections in the press conference following the FOMC meeting for which they were prepared.

Swaption Volatility – A measure of the market price of swaptions, which are options on interest rate swaps. A call swaption, also known as a receiver, gives the holder the right, but not the obligation, to enter into an interest rate swap paying a floating rate while receiving a fixed rate. A put swaption, also known as a payer, gives the holder the right, but not the obligation, to enter into an interest rate swap paying fixed rate while receiving a floating rate. Dollar prices on these swaptions are converted into a volatility measure, which can be used as a market gauge on expected interest rate volatility.

You cannot invest directly in an index.

Important Information Regarding This Material

Issue selection processes and tools illustrated throughout this presentation are samples and may be modified periodically. These are not the only tools used by the investment teams, are extremely sophisticated, may not always produce the intended results and are not intended for use by non-professionals.

DoubleLine has no obligation to provide revised assessments in the event of changed circumstances. While we have gathered this information from sources believed to be reliable, DoubleLine cannot guarantee the accuracy of the information provided. Securities discussed are not recommendations and are presented as examples of issue selection or portfolio management processes. They have been picked for comparison or illustration purposes only. No security presented within is either offered for sale or purchase. DoubleLine reserves the right to change its investment perspective and outlook without notice as market conditions dictate or as additional information becomes available. This material may include statements that constitute "forward-looking statements" under the U.S. securities laws. Forward-looking statements include, among other things, projections, estimates, and information about possible or future results related to a client's account, or market or regulatory developments.

Important Information Regarding Risk Factors

Investment strategies may not achieve the desired results due to implementation lag, other timing factors, portfolio management decision-making, economic or market conditions or other unanticipated factors. The views and forecasts expressed in this material are as of the date indicated, are subject to change without notice, may not come to pass and do not represent a recommendation or offer of any particular security, strategy, or investment. All investments involve risks. Please request a copy of DoubleLine's Form ADV Part 2A to review the material risks involved in DoubleLine's strategies. Past performance is no guarantee of future results.

Important Information Regarding DoubleLine

To receive a copy of DoubleLine's current Form ADV (which contains important additional disclosure information, including risk disclosures), a copy of DoubleLine's proxy voting policies and procedures, or to obtain additional information on DoubleLine's proxy voting decisions, please contact DoubleLine's Client Services.

CFA® is a registered trademark owned by CFA Institute.

DoubleLine Group is not an investment adviser registered with the Securities and Exchange Commission (SEC).

DoubleLine® is a registered trademark of DoubleLine Capital LP.

Los Angeles
Tampa
Dubai
Tokyo

(813) 791-7333
DoubleLine.com
@DLineCap
DoubleLine-Capital