1Q20 Fixed Income Overview

During the first two months of the year, fixed income markets generally trended higher. However, volatility increased amid rising risk-off sentiment in the last few days of February, and continued into March as evidence mounted that COVID-19 was a global pandemic. March produced the worst shock to risk markets since 1929 in terms of velocity and severity. Broadly speaking, government bonds benefited as “safe-haven” assets; concurrently most asset categories suffered amid an acute liquidity crunch. At one point, off-the-run 30-year U.S. Treasuries (UST) traded with up to a 2-3 point bid/ask spread. Credit bonds experienced a dramatic widening in spreads, and commodity prices declined sharply alongside the drop in global demand. Asset managers facing redemptions and mortgage real estate investment trusts (mREITs) meeting margin calls were among the forced sellers of credit. Negative returns across credit sectors were most acute during the three week period from February 29 to March 20. (Figure 1)

Credit Sectors  |  February 29, 2020 - March 20, 2020 (Pre-March 23 Fed Announcement)

Following this notable period of volatility, the Federal Reserve (Fed) implemented historic measures to combat the disruption in financial markets. The Federal Open Market Committee (FOMC) delivered two intra-meeting interest rate cuts on March 3 and March 15, the second of which brought the Federal Funds Target Rate upper bound to 25 basis points (bps). In a statement on March 23, the FOMC announced further actions, effectively removing the previous limit for asset purchases of UST and Agency mortgage-backed securities (MBS) of $500 billion and $200 billion, respectively. In addition, the FOMC included purchases of Agency Commercial MBS (CMBS) in its Agency MBS purchases. The Fed also announced several facilities designed to support certain segments of the debt market including: the Primary Market Corporate Credit Facility (PMCCF) and the Secondary Market Corporate Credit Facility (SMCCF), the Term Asset-Backed Securities Loan Facility (TALF), an expansion of the Money Market Mutual Fund Liquidity Facility (MMLF), and an expansion of the existing Commercial Paper Funding Facility (CPFF). The various Fed facilities along with open-ended Quantitative Easing (QE) expanded the Fed’s balance sheet to over $6.50 trillion as of April 24, well above the $4.52 trillion peak it hit in mid-May 2016 and above the $4.12 trillion as of year-end 2019. (Figure 2)
After the Fed announcements, credit assets that gained support from the Fed rallied, as investment grade credit and municipal bonds traded with much tighter bid/ask spreads and better liquidity. Broadly speaking, it remained harder to transact in markets that were not directly addressed by the Fed’s facilities as bid/ask spreads lingered closer to their wider levels from mid-March. These include non-agency mortgages, non-agency CMBS, CLOs, non-consumer ABS, and parts of the below investment grade corporate bond market. Although prices in these markets rallied some, returns were generally muted relative to markets being supported directly by the Fed. (Figure 3)

Credit Sectors | March 20, 2020 - March 31, 2020 (Post-March 23 Fed Announcement)

Additionally, on March 27, the U.S. Congress enacted unprecedented support to the U.S. economy by passing a more than $2 trillion stimulus bill, the largest in history. The size of the stimulus program, known as the Coronavirus Aid, Relief, and Economic Security Act (CARES), dwarfs the now second largest stimulus bill in history, the $800 billion American Recovery and Reinvestment Act of 2009 (ARRA), signed by President Barack Obama following the 2008 Global Financial Crisis (GFC).

**Month-to-Date Returns Through April 24, 2020 | March 31, 2020 - April 24, 2020**

Source: Bloomberg, DoubleLine

**Year-to-Date Returns Through April 24, 2020 | December 31, 2019 - April 24, 2020**

Source: DoubleLine, Bloomberg
### Fixed Income Cross Sector Data

<table>
<thead>
<tr>
<th>Sector</th>
<th>3/31/2020</th>
<th>12/31/2019</th>
<th>3/31/2019</th>
<th>YTD Change</th>
<th>1-Year Change</th>
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<tr>
<td><strong>U.S. Aggregate (LBUSTRUU)</strong></td>
<td>5.69</td>
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<td><strong>U.S. Agency MBS (LUMSTRUU)</strong></td>
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<td>4.03</td>
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<td>-2.36</td>
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<tr>
<td><strong>U.S. Credit (LUCRTRUU)</strong></td>
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<td>7.65</td>
<td>7.17</td>
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<td>0.51</td>
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<td><strong>U.S. Corporate High Yield (LF98TRUU)</strong></td>
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<td><strong>U.S. CMBS (CMBS)</strong></td>
<td>4.77</td>
<td>4.89</td>
<td>4.94</td>
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<td><strong>U.S. ABS (RO02)</strong></td>
<td>4.04</td>
<td>4.20</td>
<td>4.19</td>
<td>-0.16</td>
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<td><strong>U.S. Securitized: MBS/ABS/CMBS (LD19TRUU)</strong></td>
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<td>3.34</td>
<td>4.08</td>
<td>-1.40</td>
<td>-2.14</td>
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* **Option Adjusted Duration (Years)**

Source: Bloomberg
**Sector Outlook**

**Agency Mortgage-Backed Securities**

**Fed:** The mortgage market was faced with a supply shock in March. Supply came from both forward To-Be-Announced (TBA) origination sales as well as deleveraging flows from mREITs. In response to these stress points in the MBS ecosystem, the Fed responded in kind by expanding its purchases across settlement dates and by expanding its operations across the coupon stack.

The Fed has purchased over $550 billion of Agency MBS as of April 24, for both short settle and TBA settle. For context, the Fed has bought more Agency MBS in roughly four weeks than in all of QE3, which totaled approximately $160 billion September 13, 2012 to October 29, 2014.

Short settle purchases were aimed at immediately addressing the supply pressure from deleveraging flows from mREITs. The Fed stopped short settle purchases the week ending April 17, implying it no longer views them as necessary, possibly due to inputs from dealers and investors.

As of April 24, the Fed has purchased just over $3.5 billion of Agency CMBS. In all prior QE programs, while the Fed bought close to $1.7 trillion in Agency MBS, it never bought Agency CMBS.

**Spreads:** Option Adjusted Spreads (OAS) widened 21 bps during the quarter. Pre-Fed announcement, MBS was trading with an OAS of nearly 140 bps. Following the Fed announcement, MBS OAS tightened approximately 80 bps over the course of a few trading days. The OAS of the Bloomberg Barclays U.S. MBS Index closed at 58 bps on April 24.

The Fed’s decision to include Agency CMBS in the QE program immediately softened losses with spreads tightening to approximately 95 bps over swaps by March 31 from a wide of 110 bps just one week prior.

**Forbearance:** A forbearance plan temporarily suspends or reduces the amount of regular monthly mortgage payment. Most often, it is used in times of temporary hardship, like unemployment. Forbearance is not something new to the mortgage market, and has been around for quite some time. For Agency loans, if a borrower misses a payment, the mortgage servicer is contractually obligated to advance the P&I to the MBS trust.

Forbearance on Agency loans can be extended up to 12 months, and can be resolved in the following ways:

- Reinstatement: full repayment, or a lump sum
- Repayment plan: catch up payments in addition to normal monthly payment
- Payment deferral: add payments to the end of the mortgage
- Modification: reduce monthly payments

On April 22, the Federal Housing Finance Agency (FHFA) announced that it would more closely align Fannie Mae's and Freddie Mac's policies regarding servicer advances. Currently, Freddie requires that servicers of its loans that are in forbearance advance scheduled interest payments on the loans to the MBS pool for a maximum of four months. In contrast, prior to this April 22 announcement, Fannie Mae mandated that servicers

**Bloomberg Barclays US Mortgage-Backed Securities Index OAS (bps) | January 1, 2020 - April 24, 2020**

![Bloomberg Barclays US Mortgage-Backed Securities Index OAS (bps)](chart.png)
of its forborne loans advance both principal and interest for the duration of the forbearance period, even if it extended beyond four months. This announcement will now cap the P&I advance obligation for servicers of Fannie Mae loans in forbearance at four months, similar to Freddie Mac’s policy. Servicers of Freddie loans will continue to advance only missed interest payments for four months. After the four months, the respective government-sponsored enterprise (GSE) will make P&I advances to the MBS pool for the remainder of the forbearance period, if any.

At this time, DoubleLine believes it is unlikely that there will be changes to Ginnie Mae, Fannie Mae and Freddie Mac’s ability to continue to make timely P&I payments; the explicit Ginnie Mae guarantee and the Treasury lines of support to the GSEs are likely ample protection for timely payment of P&I.

Non-Agency Mortgage-Backed Securities

Fed: Broadly speaking, the Fed has not announced intentions to explicitly support the non-agency RMBS market.

Spreads: AAA rated paper, including Jumbo 2.0, and Non-qualified mortgage (QM) seniors widened to over 300 bps over swaps; however, the former retraced back down to the low 200s bps over swaps as the Fed began purchasing Agency MBS.

Legacy RMBS that was yielding roughly 3% in February widened to low double-digit yields during the depths of the sell-off. As of April 27, legacy RMBS trade around a 5%-6% yield. Relative to corporate credit, the spread for legacy paper is inside of high yield but wider than investment grade (IG) corporate bonds.

Legacy RMBS should benefit indirectly from the Fed’s explicit support of investment grade corporate bonds as post GFC, the National Association of Insurance Commissioners (NAIC) assigned a new dollar price rating methodology for these assets. As such, insurance companies can buy them and call them “investment grade” for their balance sheet. For an insurance company, the legacy RMBS is a yield pick up to IG corporate bonds with less downgrade risk since these bonds have already been downgraded and likely trade at discounts to NAIC dollar prices.

Credit Risk Transfer (CRT) securities were the worst performing subsector due primarily to their highly-levered capital structures. Across the stack, the M1, M2, and B1 tranches widened to 400, 1000, and 2300 bps over swaps, respectively.

Forbearance: Forbearance/deferral plan numbers are expected to increase in the near-term and may be compounded by statements from public officials suggesting a widespread payment moratorium. We believe these comments are unconstructive and may actually distract servicers from assisting those borrowers experiencing legitimate financial hardships.

While it is still too early to forecast industry-wide peak delinquencies and recovery timelines, the precedents from Hurricanes Maria (Puerto Rico) and Harvey (Texas) in 2017, though imperfect, may nonetheless be instructive. In those admittedly more geographically-contained instances, borrower delinquencies generally peaked within the first few months and thereafter declined over the next three to nine months before stabilizing at levels modestly higher than the pre-hurricane numbers.

It is important to note that an increase in forbearance does not necessarily equate to a commensurate increase in defaults. While delinquency rates increased following Hurricane Harvey in Houston on August 25, 2017, and Hurricane Irma in Miami on August 30, 2017, cumulative losses and defaults on Jumbo 2.0 and Non-qualified mortgage (QM) transactions were negligible. If COVID-19 temporarily depresses employment and gross domestic product (GDP), it is likely that the duration of the economic damage from COVID-19 will be similar to that of the 2017 hurricanes.

Fundamentals: Homeowners will likely experience a less negative shock relative to the broader population, as a majority of the recent layoffs have been occurring in the service sector with the lowest wage earners being the most impacted. Based on U.S. Census data, the homeownership rate for households above the median family income is 79% compared to 51% for those households below the median.

Home price appreciation (HPA) is largely driven by supply and demand. Housing demand is largely expected to decrease in the coming months as the COVID-19 and the resulting labor market stress delay and/or halt home purchases. However, the supply of housing inventories remain low and constraints to homebuilding should limit supply in the second and third quarter. It is likely home prices will fall on a national level given the economic outlook of rising unemployment and macro uncertainty; however, HPA is unlikely to fall to 2008 type levels given the low supply relative to the supply pre-GFC.

The average borrower today is stronger compared to 2008, when many loans were originated with up to 100% loan-to-value (LTV). These borrowers have built up equity in their homes, and it is unlikely that the levels of defaults and losses will reach 2008 type levels.

Commercial Mortgage-Backed Securities

Fed: The Fed announced on April 8 that legacy conduit AAA CMBS would be included in TALF 2.0. The initial eligibility criteria included only bonds that were issued prior to March 23, 2020, indicating that new issue CMBS would not be supported for the time being. Single-asset, single-borrower (SASB) and CRE CLOs were also excluded from eligible criteria.

While the inclusion of legacy AAA conduit CMBS will further stabilize the market, a lack of liquidity for ineligible assets remains and is causing significant volatility, particularly as the impact of the coronavirus on credit is still unknown.
Spreads: The velocity of movement in March was unprecedented; for context, in 2008, it took approximately 12 – 18 months for CMBS prices to fall to levels they did in March. Generally speaking, assets that were yielding roughly 3% pre-COVID-19 are yielding approximately 6% as of April 24, which equates to pricing discounts of roughly 15-20 points at the top of the capital stack, and 30-50+ points for below investment grade securities, with corresponding wider yields for the bottom of the structure.

Benchmark 10-year last cash flow (LCF) AAA conduit spreads began the year at swaps +80 bps and, after temporarily widening to swaps +350 bps, were at swaps +150 bps as of April 24. Down the stack, CMBS BBB- conduit spreads continue to widen and were at swaps +1,300 bps as of April 24, the widest level of the year. Broadly speaking, the AA and below tranches across private label CMBS continue to struggle as there is generally a lack of buyers.

Forbearance: Given current market conditions, borrowers are proactively reaching out to CMBS servicers with forbearance requests, which would allow the borrower to defer debt service payments over a specified period (including requests to waive late fees and default interest penalties). If the borrower does not make debt service payments, CMBS deals are structured with “servicer advancing,” whereby the Master Servicer is required to advance P&I payments to bondholders, to the extent the Master Servicer deems the advancements recoverable. Recoverability is determined based on property performance and appraisal values. This is complicated by shelter-in-place limitations which makes it difficult to get an appraisal of the property.

Servicers within the CMBS universe are rated, well-capitalized depository institutions with access to additional liquidity if and when needed. Furthermore, these entities are experienced, having dealt with a similar environment as a result of the Global Financial Crisis.

Fundamentals: The commercial real estate (CRE) market is uniquely impacted by the effects of COVID-19 given the closure of non-essential businesses and stay-at-home mandates. The effects on the hotel and retail sectors, in particular, are the most immediately pronounced.

Broadly speaking, the current market environment is generally worse than 2001 and 2008. In 2001, the terrorist attacks on September 11, largely affected the travel and leisure segments of the market. In 2008, most segments of the market were overvalued. Today, it’s trying to think about what the world looks like when the entire economy essentially shuts down. That makes it very difficult to invest with any certainty of future cash flows.

During the GFC, spreads on conduit super seniors widened to as high as 1,400 bps, more than four times current levels. Stronger underwriting and strong fiscal and monetary support should help keep losses relatively contained in the current market environment. Current AAA CMBS bonds have, on average, 30% credit enhancement; even for 2006-08 vintage bonds, which had among the worst underwriting, average loss rates were 10.4% and maximum losses for select deals reached as high as 19%. In that scenario, it is likely that AAA and AA- CMBS tranches would generally remain money good, while A- and BBB- would potentially see principal write downs. Additionally, CMBS deals issued post-GFC exhibit stronger credit metrics with higher credit enhancements and lower LTls than those issued prior to the GFC.

Asset-Backed Securities

Fed: The Term Asset-Backed Securities Loan Facility (TALF) facility was established to help meet the credit needs of consumers and small businesses by facilitating the issuance of asset backed securities (ABS) and improving market conditions for outstanding ABS. TALF 1.0 was first announced on November 25, 2008 to support the issuance of asset-backed securities (ABS) collateralized by student loans, auto loans, credit card loans, and loans guaranteed by the Small Business Administration (SBA). TALF 2.0 was reinstated on March 23, 2020 to function as a funding backstop to facilitate the issuance of eligible ABS until September 30, 2020. Under the facility, the New York Fed will commit to lend to a special purpose vehicle (SPV) on a recourse basis, with the Treasury to make an equity investment of $10 billion in the SPV. The SPV initially will make up to $100 billion of loans available to eligible borrowers, with all loan terms of three years or less. Loans to borrowers will be on a nonrecourse basis, and will be fully secured by eligible ABS.

Spreads: Spreads widened across sectors throughout the quarter; the widening was most pronounced in sectors directly impacted by COVID-19. Senior bonds within transportation assets were trading with loss-adjusted yields in the 10%-15% range during the week of March 23. Pre-COVID, senior bond transportation spreads were generally in the 4%-6% range. Broadly speaking, consumer related ABS spreads widened approximately 200 bps, and were trading with loss-adjusted yields of roughly 4% for senior bonds. Pre-COVID-19, these bonds were trading at loss-adjusted yields of roughly 2-3%. Spreads have largely tightened for sectors which the Fed has pledged support, such as AAA rated auto, credit cards, and student loans, while non-TALF supported sectors remain at wider spread levels.

Fundamentals: Aviation has been one of the most directly impacted sectors of COVID-19, as the International Air Transport Association forecasts global passenger numbers will fall 55% this year compared with 2019. During March, senior aviation bonds generally traded in the low-70s dollar price. From a relative value perspective, senior portions of the transportation sector are offering attractive loss-adjusted yields at discounted dollar prices.
Collateralized Loan Obligations

Fed: TALF 2.0 has expanded to include newly issued static CLO AAA tranches. While it is generally too early to determine the impact, it appears the Fed is, at the very least, thinking of the CLO market to facilitate additional liquidity. Given the eligible TALF collateral is static AAA deals, it is likely the impact may be relatively muted as the static CLOs tend to be a small portion of annual new CLO issuance, but could improve market sentiment. Broadly speaking, AAA CLOs may see a marginal bid tighter.

Spreads: The discount margin (DM) on AAA CLO got as wide as roughly 400 bps the week of March 23; pre-COVID-19, AAA CLO were trading at a 100 – 150 DM. Over the last few weeks of March, the AAA DM has tightened in approximately 150 bps, trading at approximately 250 bps over 3-month LIBOR. Down the capital stack, the curve has generally steepened, as the DM on BBB’s spiked to nearly 1,000 bps out from pre-COVID-19 levels of approximately 350 bps. Below investment grade tranches experienced spread widening in the range of 700 bps – 1,400 bps.

Fundamentals: On April 17, Moody’s, S&P and Fitch placed more than 1,000 U.S. and European CLO tranches on negative watch or outlook as new trustee data has rolled in and agencies have begun to get a clearer idea on how managers are dealing with the sharp increase in loan downgrades. These negative rating actions have largely been concentrated in the lower part of the ratings stack, with a growing number of originally-rated BBB tranches also being placed on negative watch or outlook. According to data from Barclays it is estimated that in the U.S., 43% and 54% of originally-rated BB and single-B tranches, respectively, are currently on negative watch or outlook.

At this time, it is unlikely that AAA or AA will experience downgrades; however there could potentially be downgrades in single A CLO that have relatively weaker collateral while BBB CLO with relatively stronger collateral may not experience a downgrade.
Definitions

CPPF - The Federal Reserve Board established the Commercial Paper Funding Facility on March 17, 2020 to support the flow of credit to households and businesses.

Government Sponsored Enterprise (GSE) - A quasi-governmental entity established to enhance the flow of credit to specific sectors of the American economy. Created by acts of Congress, these agencies, though privately held, provide public financial services.

MMLF - The Federal Reserve established the Money Market Mutual Fund Liquidity Facility on March 18, 2020 to broaden its program of support for the flow of credit to households and businesses.

NAIC - The National Association of Insurance Commissioners is the U.S. standard-setting and regulatory support organization created and governed by the chief insurance regulators from the 50 states, the District of Columbia and five U.S. territories.

PMCCF - The Federal Reserve established the Primary Market Corporate Credit Facility on March 23, 2020, to support credit to employers through bond and loan issuances.

SMCCF - The Federal Reserve established the Secondary Market Corporate Credit Facility on March 23, 2020, to support credit to employers by providing liquidity to the market for outstanding corporate bonds.

TALF - The Federal Reserve established the Term Asset-Backed Securities Loan Facility on March 23, 2020 to support the flow of credit to consumers and businesses.

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