Dodge & Cox®

Investment Perspectives

MBS Investing Through the Pandemic: A Look Back

August 2021

Key Takeaways

- Dodge & Cox's fixed income Funds and other accounts have invested in Agency[a] mortgage-backed securities (MBS) for many decades because we believe they are an integral component of a total return strategy.
- The highly-liquid and highly-rated MBS universe continues to provide attractive total return opportunities for long-term investors, especially relative to short to intermediate duration alternatives such as U.S. Treasuries.
- Our research team conducts deep fundamental research to identify MBS with attractive borrower, loan, servicer, and program characteristics that offer long-term total return opportunities over a wide range of interest rate scenarios.
- We also evaluate the interplay of prices and fundamentals, proactively adjusting MBS positioning as relative value changes across our opportunity set. In 2020, we significantly re-crafted MBS exposure in the Dodge & Cox Income Fund and other fixed income portfolios, which contributed to strong performance.
- Going forward, MBS will continue to play an important role in our fixed income Funds and other accounts, offering a durable source of relative value compared to other opportunities within the fixed income universe.

Active MBS Investing at Dodge & Cox

We apply the same active management approach and bottom-up research framework to investing in MBS and other structured products that we utilize in evaluating companies and other issuers. The COVID-19 pandemic and subsequent market turbulence illustrate our approach, showing how we were able to take advantage of the unusual circumstances and add value. We focus on the Dodge & Cox Income Fund's MBS holdings in this paper, but applied similar strategies to other fixed income Funds and accounts.

Changes to the MBS Landscape

A few themes underlie the dramatic change in the MBS landscape and subsequent change in the composition of the Dodge & Cox Income Fund's MBS holdings from early 2020 through the second quarter of 2021. Plunging rates, strong home prices, and a switch to lower-touch business practices favored efficient non-bank mortgage originators. These originators have invested heavily in technology to reduce borrower costs and expedite the mortgage closing time period. Greater efficiency and lower rates have made mortgage refinancing more attractive for most borrowers compared to before the pandemic. The increase in refinancing demand drove actual and expected MBS prepayment speeds higher, leading to greater negative convexity.[b] In March 2020, the Federal Reserve provided even more refinance incentives to borrowers when it reduced the federal funds rate target and announced its large-scale asset purchase program in March 2020, pledging to purchase $40 billion dollars in Agency MBS per month indefinitely. These moves reduced mortgage rates and buoyed MBS prices, despite deteriorating prepayment risk fundamentals.

The Impact of the Fed Buying MBS

The Fed's monthly purchase program in MBS caused spreads—i.e., the differential between the mortgage security yield and the duration-matched Treasury yield—to tighten generally, lowering mortgage rates for borrowers and yields for investors among specified pools. However, it also contributed to an elevated yield opportunity in the "dollar roll" market. The dollar roll is an investment in MBS wherein an investor purchases a forward-settle "to-be-announced" (i.e., TBA) futures contract and, as the settlement date approaches, sells (or "rolls") the position by selling the contract and buying another with a later settle date. An investor typically repeats this "sell and buy" strategy as long as the dollar roll's embedded yield exceeds alternatives in the traditional cash market (indicating that the market believes future MBS yields may exceed those currently available). The market refers to this dynamic—where the roll offers more yield than the cash security—as the roll trading "special." Investing in the dollar roll presents the same mark-to-market profile as investing in specified pools in that TBAs are ultimately claims on specified pools, but provide more potential total return thanks to the greater yield from this roll "specialness." As shown in Figure 1, since shortly after the onset of the Fed's MBS purchase program, the dollar roll has traded special by ~75 to 100 basis points[c] (bps) annualized, resulting in an average all-in yield of ~2.25% to 2.5% (~1.5% yield of underlying MBS security plus ~0.75% to 1.0% roll specialness).

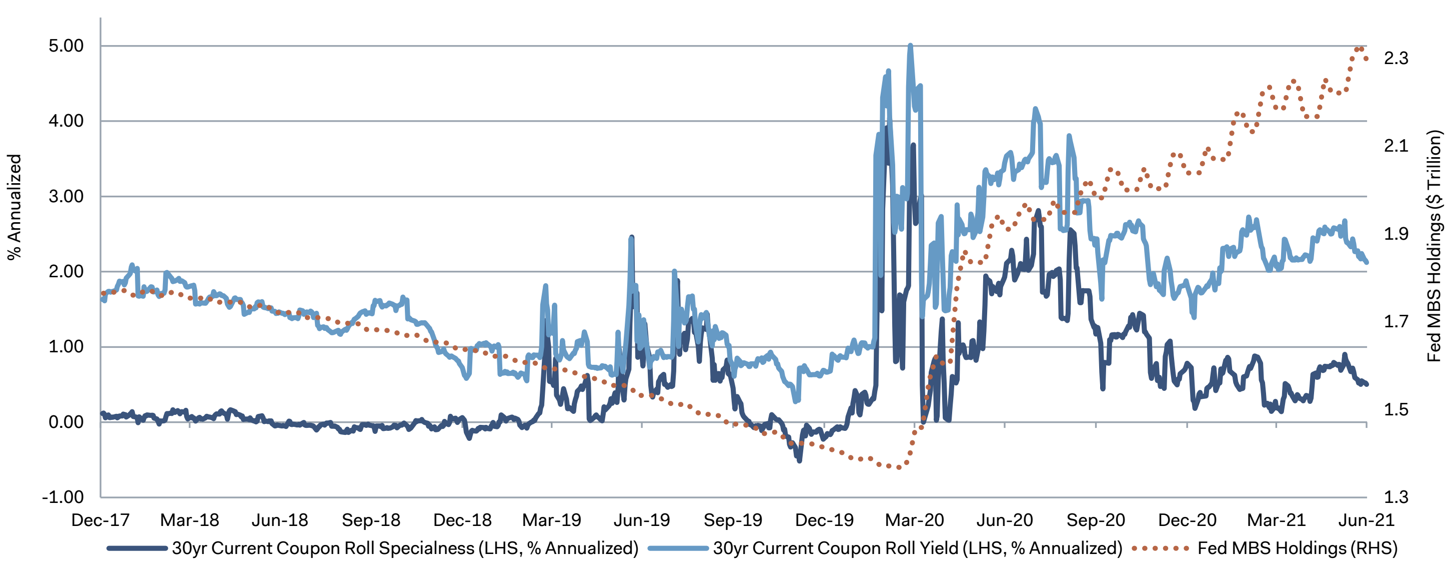
Adding Value Through Active Management

We actively repositioned the Fund's exposure[d] amid the shifting landscape of higher prepayment risk (see Figure 2) and the Fed's increased participation in the MBS market, as part of our ongoing search for attractive relative value opportunities.

(1) We sold much of the Fund's recently originated, higher coupon (i.e., 4.5% and higher) securities beginning in the first quarter of 2020. We thought the market was not adequately pricing in the deleterious effects of continued elevated prepayment rates on MBS valuations.

(2) We invested proceeds into lower coupon (i.e., less than or equal to 2.5%), lower loan-balance mortgages (borrowers with mortgage loans substantially lower than the average borrower) that provide stronger prepayment protection both through the lower note rate (less borrower incentive to refinance) and lower loan balance (less aggregate savings for the borrower and less aggregate profit for the originator). These borrowers faced higher fixed costs to refinance (e.g., appraisal cost, title search cost) as a percentage of their loan, diminishing the net value of the refinance. In many cases, the fixed costs more than offset the potential benefit

Figure 1: Rolls Remain Special as Fed Buying Continues



Source: JPMorgan, Federal Reserve. "Drop" is the embedded implied yield earned by rolling TBA. "Specialness" is the component of the drop that exceeds the fundamental yield of the market—the technical mispricing caused in large part by the Fed.

to refinance, leading to more stable prepayment speeds (see Figure 3) and subsequent outperformance. As shown in Figure 4, we began adding to this area in the second quarter of 2020 when pricing was particularly attractive and production volume (i.e., availability) was high.

In addition to selecting pools with low loan balances, we typically evaluate each pool at the loan level and select those with the most attractive (and attractively priced) characteristics. Key factors include:

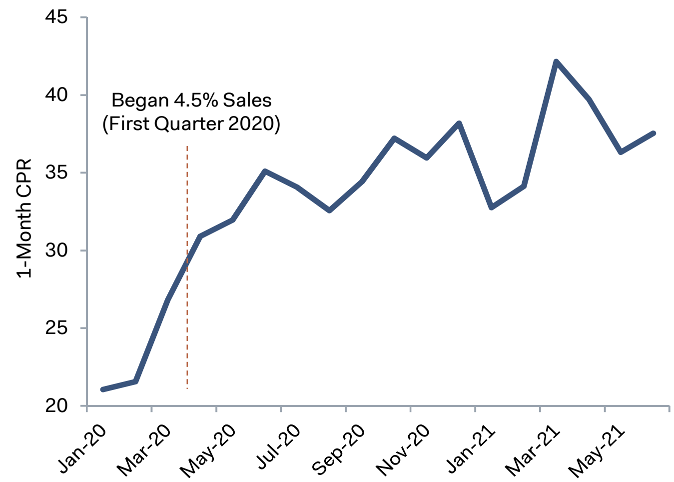
- **Loan rate:** What is the refinancing incentive for the borrower?
- **Mortgage servicer:** Does it have aggressive and/or efficient business practices?
- **Origination channel:** Bank branch, correspondent lender, mortgage broker?
- **Loan age:** What does this tell us about the likelihood of a borrower refinancing?
- **Geography:** Does location limit or amplify the borrowers' ability to refinance?
- **Other factors,** including FICO score, loan-to-value ratio, and debt-to-income ratio.

(3) We began investing in the dollar roll market in specified coupons (e.g., 2% and 2.5%) that provide very attractive relative yield (~2.5%) compared to other intermediate duration alternatives. This is a highly liquid market with more than $10 billion traded daily and a bid/ask spread of less than a "tick" (1/32nd of a percent, 0.03%), which allowed us to move in and out of the market easily as the specialness of the roll evolved.

How Did MBS Perform in 2020?

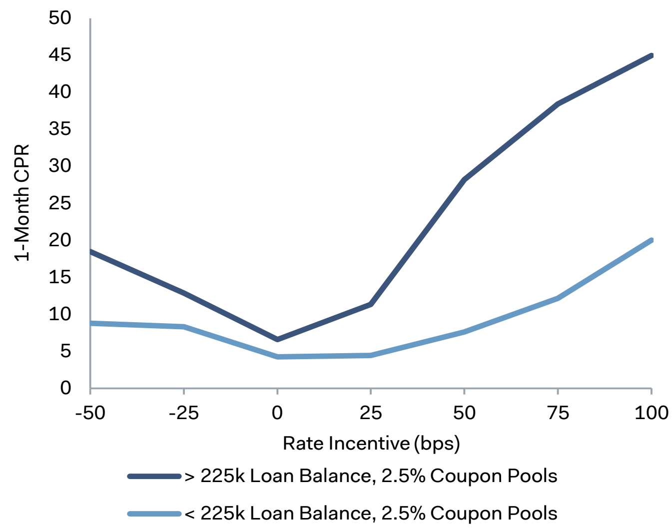
The massive changes in prepayment speeds, borrower behavior, and the Fed's bond buying activity (see Figure 5) resulted in wide variability in returns over the course of 2020. As mortgage rates fell below 3%, prepayment speeds increased, particularly for loans with higher balances. The rise in prepayments hurts investors as they are forced to reinvest the returned principal at a lower level of interest. The fall in rates gave the vast majority of U.S. mortgage borrowers incentive to refinance their loans, and their subsequent prepayment behavior caused higher coupon mortgages to underperform lower coupon mortgages. For example, prepayment speeds spiked for 30-year 4.5% coupon pools, leading them to generate just 4bps of "excess return" (i.e., return above a duration-matched U.S. Treasury) in 2020, while the 2.5% coupon pools generated 60bps of excess return. It is worth mentioning that the Fed drove some of the outperformance in the 2.5% coupon pools through its increased purchase of lower coupon securities. Furthermore, characteristics beyond coupon mattered for 2020 performance. For example, within 2.5% coupon pools, those with loan balances greater than $225,000 saw a dramatic 27% CPR[e] increase in monthly prepayments between March 2020 and March 2021, while those with loan balances less than $225,000 increased by only 5% CPR, generating 215 bps of excess return.

Figure 2: Prepayments Have Increased and Remain Elevated



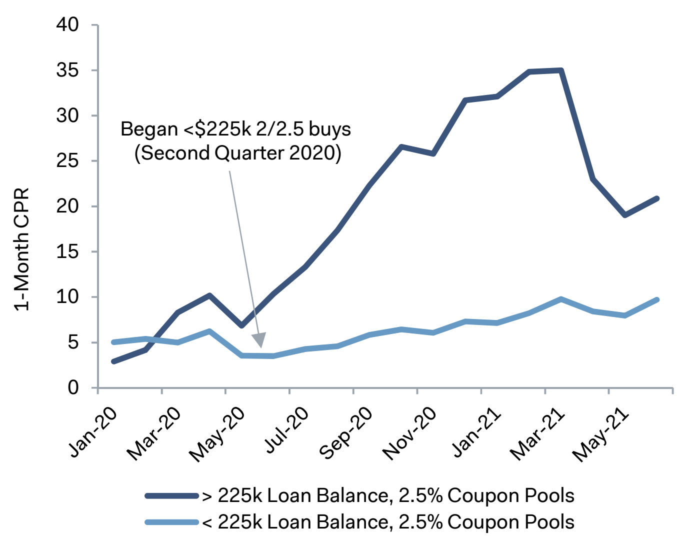
Source: Fannie Mae.

Figure 3: 12-Month Prepayment Curves for Low vs. High Balance Borrowers



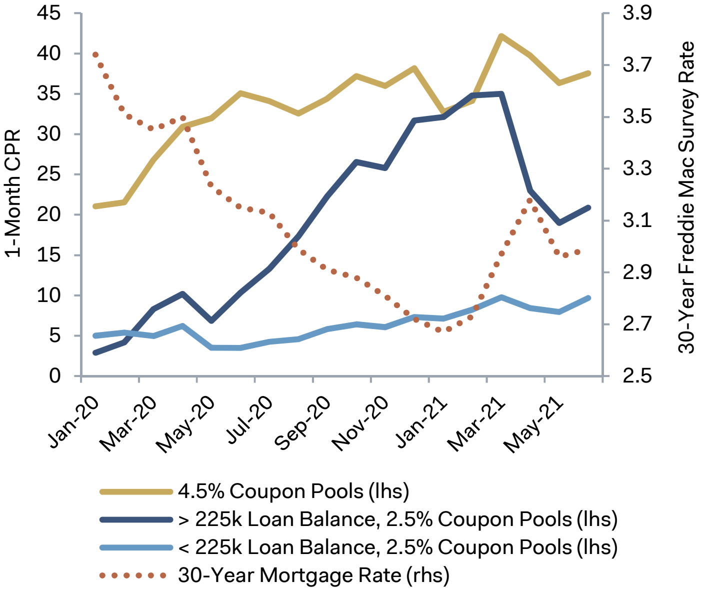
Source: Fannie Mae.

Figure 4: Stability in Low Coupons with Low Loan Balances



Source: Fannie Mae.

Figure 5: With Lower Interest Rates, Refinancing Has Increased



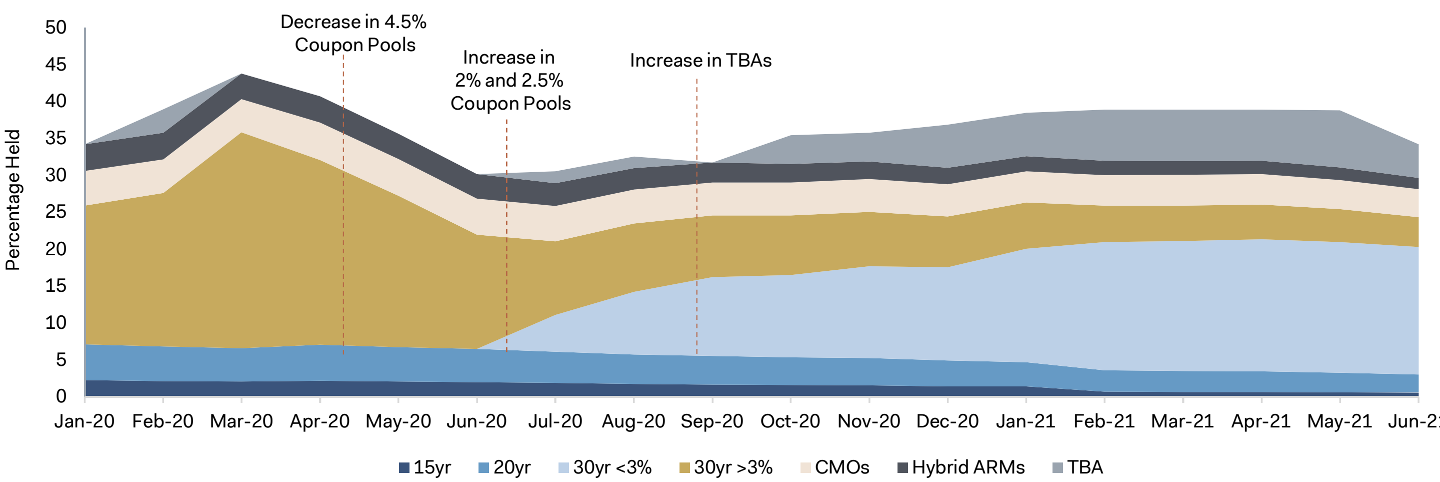
Source: Fannie Mae.

This performance disparity validated many of the changes that we made within the Fund's MBS holdings over the course of the year (see Figure 6).

The Opportunity in MBS Going Forward

We continue to believe that an active and value-driven approach emphasizing the relationship between fundamentals and MBS valuations provides our Funds with an opportunity to benefit from above market long-term returns. Our in-depth analysis of how borrowers behave, how that behavior may change, and how that change may impact MBS values enables us to develop insights and find attractive relative value opportunities over many different economic scenarios and time periods. In 2020, as an active, total-return manager, we were able to re-craft the MBS holdings significantly within our fixed income Funds and other accounts, providing strong contributions to relative returns. We believe that our structured products expertise provides a durable source of relative value, liquidity, and high credit-quality to our diversified fixed-income strategies across a wide variety of future market environments.

Figure 6: Income Fund MBS Holdings



Source: Dodge & Cox.

Before investing in any Dodge & Cox Fund, you should carefully consider the Fund's investment objectives, risks, and charges and expenses. To obtain a Fund's prospectus and summary prospectus, which contain this and other important information, visit dodgeandcox.com or call 800-621-3979. Please read the prospectus and summary prospectus carefully before investing.

Investment prices may increase or decrease, sometimes suddenly and unpredictably, due to general market conditions. Local, regional, or global events such as war, acts of terrorism, the spread of infectious illness or other public health issues, recessions, or other events could also have a significant impact on a Fund and its investments. In addition, investing in non- U.S. securities may entail risk due to foreign economic and political developments; this risk may be higher when investing in emerging markets.

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a The U.S. Government does not guarantee the Fund's shares, yield, or net asset value. The agency guarantee (by, for example, Ginnie Mae, Fannie Mae, or Freddie Mac) does not eliminate market risk.

b Negative convexity, which comes from the borrower's option to refinance, causes MBS prices to rise by less than MBS prices falls for a given interest rate change, assuming all other variables are the same.

c One basis point is equal to 1/100th of 1%.

d Specific examples used herein relate to the Dodge & Cox Income Fund, but we took similar actions in other fixed income Funds and accounts, to the extent consistent with account objectives and guidelines.

e The conditional prepayment rate (CPR) is the annualized percentage of the existing mortgage pool that is expected to be prepaid in a year.