

## Possible FOMC Actions in the MBS Markets

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This memo examines possible actions in the mortgage-backed securities (MBS) markets that the FOMC could take to support conditions in the mortgage markets and thereby foster a stronger economic recovery. We analyze three potential actions that might help push mortgage rates lower than they would be otherwise: communications about MBS holdings, a coupon exchange program within the existing MBS portfolio, and large-scale purchases of MBS (which could be undertaken either as a fixed quantity of purchases or as a way of implementing a strategy of targeting mortgage rates or spreads). Pros and cons for these possible actions (described below) are summarized in Table 1.

### Background

Although mortgage rates have fallen, on net, in 2011, the spread of mortgage rates over duration-matched Treasury yields has risen substantially, recently nearing some of the highest levels seen since the peak of the financial crisis (figure 1, top panel). The current high level of the spread reflects the widening of two underlying components: the primary-secondary market spread between mortgage rates and MBS yields (figure 1, middle panel), and the secondary market spread between MBS yields and duration-matched Treasury yields (figure 1, bottom panel). Taken together, these indicators suggest that mortgage rates could potentially be lower, which would be supportive for new home purchases and mortgage refinancings that lower homeowners' debt service burdens.

A common explanation for the current high level of the spread between mortgage rates and MBS yields is that servicing capacity is limited and that risks and uncertainties are high. These risks and uncertainties are many, including concerns about (1) additional declines in house prices or increases in unemployment, (2) stricter interpretations by Fannie Mae, Freddie Mac and the Federal Housing Administration of representations and warranties embedded in mortgage purchase contracts with originators, (3) legal risks and other costs associated with mortgage servicing, (4) high fallout rates for mortgage commitments by potential homebuyers, and (5) potential changes in government loan modification and refinancing programs that could affect the cost and the pace of refinancing. As a result, the largest mortgage originators—who provide

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more than half of all mortgage loans—have little incentive to increase their mortgage origination and servicing capacity and are almost exclusively focused on homeowners and potential homeowners with the most pristine credit records.

FOMC actions that place downward pressure on MBS yields cannot solve the mortgage servicing problems, but such actions could be supportive of any policies that other parts of the government put in place to lower the costs of purchasing homes or refinancing mortgages. Moreover, potential FOMC actions that place downward pressure on MBS yields also encourage MBS investors and banks to rebalance their portfolios toward riskier assets with higher returns. Policy actions that extend the average maturity of the SOMA's holdings of MBS may also complement the effects of the Maturity Extension Program currently underway in the Treasury market, particularly because there is significant segmentation between investors in the MBS and Treasury markets.

### **Option 1: Additional Communication about MBS Holdings**

To support improved conditions in mortgage markets and help contribute to a stronger economic recovery, the Federal Reserve could provide forward guidance regarding the economic conditions that are likely to warrant maintaining the size of the SOMA's MBS portfolio at its current level through a specified future date and indicate its intent to sell its MBS holdings at a "gradual pace" when asset sales are eventually initiated.<sup>2</sup> Such a conditional commitment could provide private market participants with greater confidence that the market would not have to absorb what would effectively be a large increase in MBS supply stemming from Federal Reserve sales of MBS until some date fairly far in the future. This type of communication could have more force if included within broader forward guidance provided by policymakers about the SOMA portfolio as a whole. However, FOMC communications specifically about MBS holdings would have an effect on their own, so long as the greater clarity provided by such a policy diminished the risk that sales would occur faster than expected, as well as eased the hedging costs and liquidity concerns of MBS market participants. In addition, the Federal

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<sup>2</sup> In its August statement, the FOMC introduced this type of explicit forward guidance with respect to the target range of the federal funds rate. Market expectations regarding the timing of the normalization of the SOMA's portfolio may have been shaped by the exit strategy principles outlined in the June 2011 FOMC meeting minutes. In particular, the minutes indicated that the Committee would likely begin by first ceasing to reinvest some or all payments of principal on SOMA's securities holdings. The timing and pace of sales, which would commence some time after the first increase in the target federal funds rate, would be communicated in advance, and the pace would be relatively gradual and steady, eliminating SOMA holdings of agency securities over three to five years. Of course, any exit strategy raises the possibility that market participants would seek to sharply reduce their MBS holdings as conditions change, resulting in upward pressure on MBS yields and mortgage rates.

Reserve would continue to provide a source of steady purchases in the market as it reinvests principal payments on its portfolio of agency securities, potentially improving market functioning over the commitment period.

Of course, this communication strategy option could have some limitations. MBS and mortgage yields might not react much without any increase in the near-term size of the Federal Reserve's balance sheet. Moreover, investors may not view such a long-term commitment as completely credible; that is, they may judge that the Committee will find it attractive to shed its MBS holdings fairly quickly once the economic outlook improves. Finally, market participants may view such communications as adding little new information beyond the FOMC's previous communications about the Committee's anticipated timeframe for maintaining low rates, its MBS reinvestment policy, and its expected sequence to exit from policy accommodation.

A plan to maintain larger holdings of MBS for a longer time could pose a variety of risks. First, such a step could complicate the Federal Reserve's eventual exit from policy accommodation by maintaining the size of the balance sheet and delaying the return to a portfolio that consists mainly of Treasury securities. In addition, such a policy could heighten the risks to Federal Reserve income if sales were to occur later, when interest rates would likely be higher. Finally, retaining a large MBS portfolio for a longer period could also heighten concerns about the extent to which the Federal Reserve was engaged in credit allocation.

### **Option 2: MBS Coupon Exchange Program**

The Federal Reserve could change the composition of its MBS holdings in a manner similar to the Maturity Extension Program (MEP) currently underway for SOMA holdings of Treasury securities. Specifically, the Federal Reserve could sell higher-coupon MBS and purchase lower-coupon MBS. An agency coupon exchange program of this type should put downward pressure on current coupon MBS yields without expanding the overall size of the SOMA's agency MBS holdings. Current coupon MBS purchases may best support the housing and mortgage markets because they are most closely linked to primary mortgage rates.

The overall size of a coupon exchange program would be dependent on the SOMA's current holdings of high-coupon MBS and projections of prepayment speeds and MBS originations. Based on current estimates, staff believes it would be feasible to conduct a \$200 billion program under which MBS with coupons of 5.0 percent and above are sold and an equal amount of newly-issued securities are purchased over 12 months. In addition to putting downward pressure on MBS yields backed by newly-originated mortgages, a coupon exchange

program would provide the market with a source of high-coupon securities, the supply of which is currently shrinking. FRBNY staff estimates suggest that an exchange program of this size would have fairly modest effects, adding the equivalent of only about \$75 to \$100 billion in Treasury ten-year equivalents to the SOMA portfolio, around a quarter or less of the effect of the MEP adopted at the September meeting.<sup>3</sup> However, to the extent the program signals the Federal Reserve's commitment to keeping mortgage rates low for an extended period of time, the costs of hedging might fall.

A coupon exchange program would raise complications similar to those noted above with the communications option regarding the pace at which the composition of the SOMA portfolio could be normalized. A shift in the composition of the MBS portfolio towards lower coupon securities might also increase risks to Federal Reserve income. Such MBS would have longer durations than the MBS sold as part of the coupon exchange and so could involve larger capital losses when they are eventually sold during the exit period in an environment of higher interest rates. In addition, their lower coupons would generate less income for the Federal Reserve and therefore lower Federal Reserve remittances to the Treasury, particularly in scenarios in which the Federal Reserve is removing policy accommodation and raising the interest rate on reserves. Moreover, executing the MBS coupon exchange program may be operationally complicated, as it would require the sales of a large amount of seasoned higher-coupon securities which are less liquid and require complicated trading procedures. The pace of sales and purchases would need to be monitored closely to ensure that the Federal Reserve's transactions would not adversely affect functioning in MBS markets. In addition, should recent government actions succeed in providing greater refinancing opportunities for troubled mortgage borrowers, the duration of higher coupon mortgages might shorten significantly, making it difficult to sell the higher coupon MBS without making significant price concessions.

### **Option 3: Large-Scale MBS Purchase Program**

As a more aggressive measure, policymakers may wish to consider an expansion of the MBS portfolio through additional purchases. A purchase program could be aimed at reducing mortgage rates and improving mortgage market conditions generally by announcing a fixed amount of MBS purchases (similar to the purchase program that was announced in November 2008 and increased in March 2009), or it could involve the explicit targeting of the mortgage rate

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<sup>3</sup> The reason for the small effect relative to the MEP is both the smaller size of the associated purchases and sales and also the relatively small difference in ten-year equivalents between low and high coupon MBS.

(or the mortgage spread) through purchases of MBS in whatever quantity was required to achieve the target mortgage rate (or spread).

### **Option 3A: Traditional LSAP (MBS) Program**

The overall size of a purchase program would be dependent largely upon the supply of current production MBS in the market and the amount of outstanding MBS that is available for purchase. Based on the experience of the first LSAP and current issuance levels, staff generally believe that up to \$40 billion of new MBS purchases per month in addition to ongoing reinvestment purchases could be achieved without causing substantial market dysfunction.<sup>4</sup>

Depending on which prepayment model is used, staff estimates that a purchase program of \$500 billion of MBS over one year would represent \$285 billion to \$370 billion in 10-year equivalents. Such purchases might lower long-term rates (including mortgage rates) by around 10 to 15 basis points. This effect could be augmented to some degree to the extent that the purchases remove prepayment risk from private portfolios and so reduce the price of such risk in the market. In addition, if some investors have a strong preference for MBS, then the effects of the purchases on MBS yields could be enhanced, while effects on Treasury yields would be reduced. The effects of such a program are difficult to assess, and the overall impact of the purchases is subject to considerable uncertainty. However, it should be noted that the estimated effects of such a program based on an alternative methodology are broadly similar.<sup>5</sup> Thus, announcing a fixed quantity of MBS purchases should help reduce MBS yields, and that reduction should lead to some decline in retail mortgage rates.

Although the MBS market is very familiar with the mechanics of an MBS purchase program, many market participants may question the likely size of such effects when the MBS market is functioning well. While market participants have gained a greater understanding of quantity-based LSAP programs in recent years, it is also possible that, if the FOMC did not also specify a cap on the mortgage rate (or a mortgage spread), MBS market participants might be

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<sup>4</sup> The Desk estimates that the Federal Reserve could purchase up to 75 percent of the overall volume of newly issued current coupon securities (the supply of which has been averaging around \$55 billion per month) and about 30 percent of their existing stock. The monthly amounts could fluctuate in response to variation in the level of monthly issuance and refinancing activity, which may be affected by other government programs.

<sup>5</sup> Hancock and Passmore (2011) estimated that the first MBS LSAP, excluding the announcement effect, lowered mortgage rates by about 60 basis points. This estimate is very imprecise. Moreover, that program was significantly larger and reached its maximum holdings during a period of low and declining MBS originations. Very rough adjustments to this estimate suggest that the LSAP described above might lower mortgage rates around 20 basis points. See D. Hancock and W. Passmore, 2011, "Did the Federal Reserve's MBS Purchase Program Lower Mortgage Rates?" *Journal of Monetary Economics*, vol. 58, pages 498-514.

uncertain of the Committee's intentions, perhaps dampening the likely impact of the program.<sup>6</sup> As indicated earlier, higher MBS holdings might complicate the Federal Reserve's exit strategy when it comes time to normalize the portfolio, including the possibility that a larger volume of sales reduces the remittances to Treasury to very small levels. Moreover, the increase in the size of the balance sheet could raise concerns about the Federal Reserve's ability to exit from accommodation smoothly and thereby may lead to higher expected and actual inflation.

### **Option 3B: Target a Cap on the Mortgage Rate or Mortgage Spread**

Alternatively, the FOMC could undertake MBS purchases in concert with an announcement of either a mortgage rate or mortgage spread cap. For example, the FOMC might try to establish a specific cap on the Freddie Mac mortgage rate and purchase MBS whenever the mortgage rate exceeds this cap for some specified period. Alternatively, the FOMC might establish a mortgage rate-to-Treasury spread cap and purchase MBS if the spread rises above the spread cap on average for a specified period.

The major advantage of a mortgage rate cap is that the message is transparent. All participants in the housing and mortgage markets (including potential homebuyers) will know what the FOMC is trying to do and, so long as the Committee is credible, will adjust their expectations and actions accordingly. Such adjustments might yield significant hedging cost savings for market participants, resulting in tighter MBS-to-Treasury spreads.

However, there are a number of potential drawbacks to a rate targeting program beyond those associated with a purchase program of fixed size.<sup>7</sup> First, the imposition of a mortgage rate cap would represent a commitment to a possibly open-ended expansion of the SOMA's MBS portfolio. The FOMC may have to purchase very large amounts of MBS should longer-term interest rates begin to rise, and market participants may question the Federal Reserve's commitment to purchases, ultimately calling into question the credibility of the policy. In pursuing this strategy, the Federal Reserve could become *de facto* the only MBS purchaser in the market, thereby undermining functioning in markets that are currently trading relatively

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<sup>6</sup> Market participants experienced some confusion concerning the Federal Reserve's objectives and the mortgage rate in the initial stages of the first LSAP program. Until May 2009, many market participants believed that the government or the Federal Reserve was targeting a low mortgage rate and the Federal Reserve would increase its purchases of MBS when interest rates were rising. As a result, these mortgage market participants left MBS positions relatively un-hedged, only to find that the Federal Reserve did not substantially increase its purchases in response to a sharp rise in mortgage rates and higher MBS yields at the end of that month.

<sup>7</sup> For a discussion of the potential costs and benefits of targeting longer-term interest rates, see Bowman, David, Chris Erceg, and Michael Leahy, "Strategies for Targeting Interest Rates Out the Yield Curve," Memorandum to the FOMC, October 13, 2010.

smoothly. Second, because the mortgage rate is only indirectly related to the yield on MBS, there is no guarantee that the Federal Reserve could achieve a target for the mortgage rate by purchasing MBS. Third, such a program would raise complexities in selecting what mortgage rate should be chosen for the cap, whether the cap should build in lags or a projected path, and when MBS purchases should be initiated and withdrawn. Finally, it may be difficult to exit from this form of credit allocation because of the potentially adverse public reaction when mortgage rates are allowed to increase, as well as the balance sheet concerns and income risks mentioned above.

Using a mortgage spread cap, rather than a mortgage rate cap, would mitigate the risk to the size of the Federal Reserve's balance sheet by allowing mortgage rates to increase in tandem when Treasury interest rates increase, for example, because of an improvement in the economic outlook. Targeting a spread could also focus greater attention on the level of mortgage spreads and apply moral suasion to lenders who otherwise might be inclined to accept higher spreads. However, establishing a cap on mortgage rates or spreads could still leave the Federal Reserve making very large purchases of MBS in some circumstances. It also would still require careful definitions of the spread to be targeted and the period over which the Federal Reserve would respond to deviations, and it could be politically difficult to unwind.

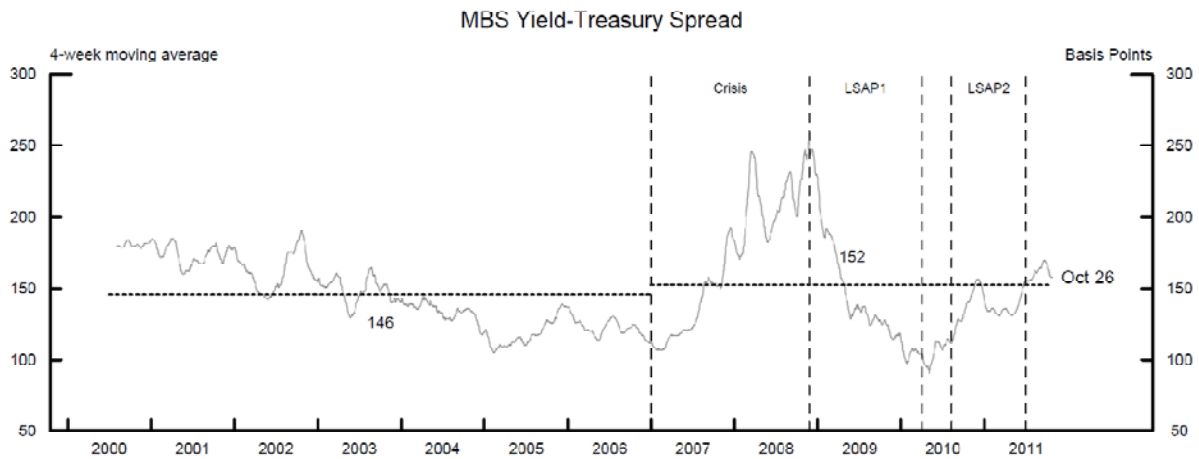
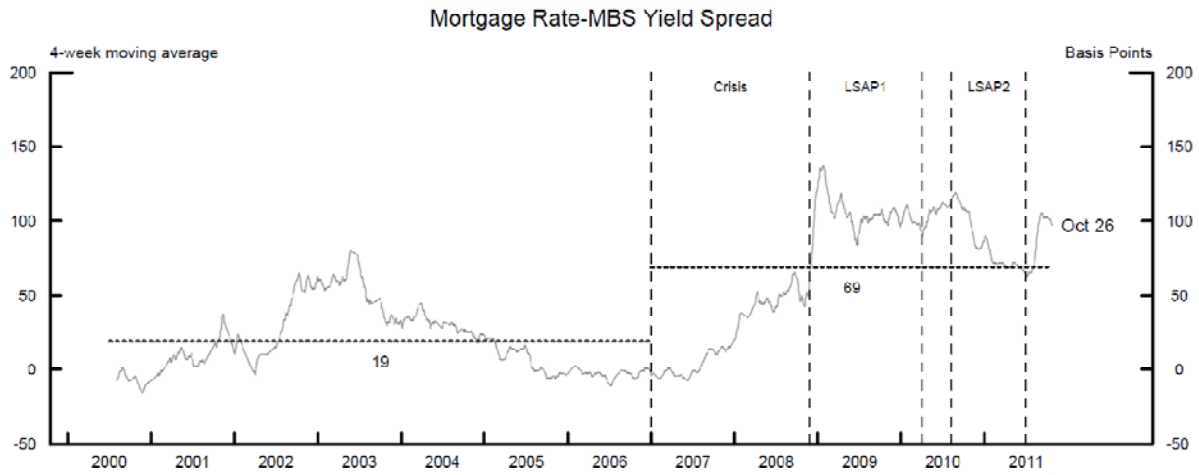
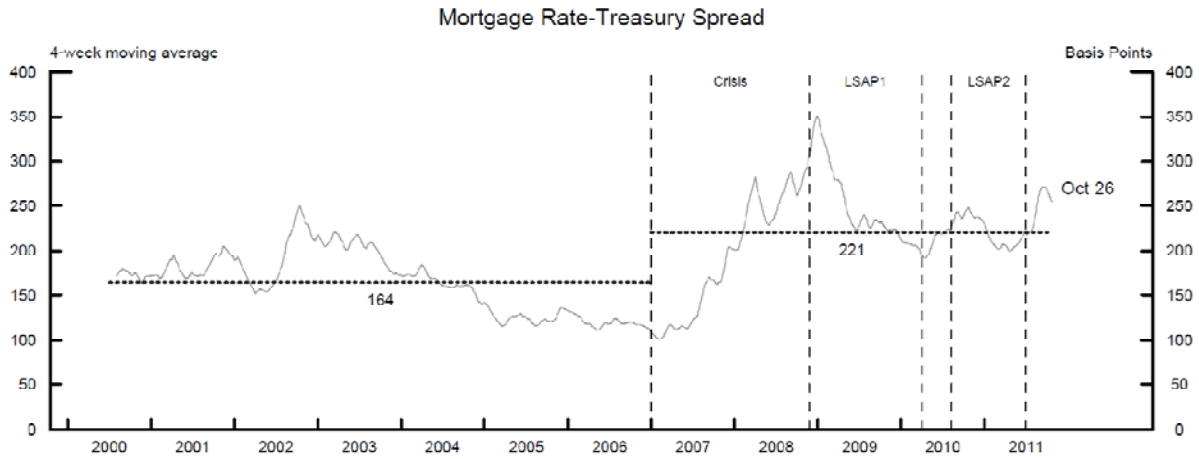
**Table 1: Summary of Pros and Cons for Possible FOMC Actions in MBS Markets**

Action	Pros	Cons
<b>Additional Communication about MBS Holdings</b>	<ul style="list-style-type: none"> <li>• Provides private market participants with greater confidence that the market would not have to absorb what is effectively a large increase in MBS supply until some date fairly far in the future;</li> <li>• May diminish hedging costs and liquidity concerns of MBS market participants.</li> </ul>	<ul style="list-style-type: none"> <li>• Might be viewed as adding little new information;</li> <li>• Could complicate the eventual exit from policy accommodation by maintaining the size of the balance sheet and delaying the return to a SOMA portfolio that consists mainly of Treasury securities;</li> <li>• Could heighten the risks to income if sales were to occur later, when interest rates would likely be higher.</li> <li>• Could heighten concerns about the extent to which the SOMA portfolio affects the allocation of credit to the mortgage sector.</li> </ul>
<b>MBS Coupon Exchange Program</b>	<ul style="list-style-type: none"> <li>• Should put downward pressure on current coupon MBS yields without expanding the overall size of SOMA’s agency MBS holdings;</li> <li>• Current coupon MBS purchases may best support the housing and mortgage markets because they are most closely linked to primary mortgage rates;</li> <li>• Might relieve pressure that market participants currently report experiencing in finding tradable, high-coupon securities;</li> <li>• The costs of hedging might fall.</li> </ul>	<ul style="list-style-type: none"> <li>• Shift in the composition of the MBS portfolio towards lower coupon securities might increase risks to income;</li> <li>• May be operationally complicated;</li> <li>• Pace of sales and purchases would need to be monitored closely to not adversely affect functioning in MBS markets;</li> <li>• If government succeeds in providing greater refinancing opportunities for troubled mortgage borrowers, duration of higher coupon mortgages might shorten significantly, making it difficult to sell the higher coupon MBS without making significant price concessions.</li> </ul>
<b>Traditional LSAP (MBS) Program</b>	<ul style="list-style-type: none"> <li>• Might lower long-term rates (including mortgage rates);</li> <li>• Effect could be augmented to some degree to the extent that the purchases remove prepayment risk from private portfolios and so reduce the price of such risk;</li> <li>• If some investors have a strong preference for MBS, then the effects of the purchases on MBS yields could be enhanced.</li> </ul>	<ul style="list-style-type: none"> <li>• Market participants may question the likely size of LSAP effects when the MBS market is functioning well;</li> <li>• Higher MBS holdings might complicate the Federal Reserve’s exit strategies and thereby may lead to higher expected and actual inflation.</li> </ul>
<b>Target a Cap on the Mortgage Rate or Mortgage Spread</b>	<ul style="list-style-type: none"> <li>• Message is transparent. All participants in the housing and mortgage markets (including potential homebuyers) will know what the FOMC is trying to do and may adjust their expectations and actions accordingly;</li> <li>• Such adjustments might yield significant hedging cost savings for market participants, resulting in tighter MBS-to-Treasury spreads;</li> <li>• Using a mortgage spread cap, rather than a mortgage rate cap, would mitigate the risk to the size of the Federal Reserve’s balance sheet by allowing mortgage rates to increase in tandem when Treasury interest rates increase. Targeting a spread could also focus greater attention on the level of spreads and apply moral suasion to lenders who otherwise might be inclined to accept higher spreads.</li> </ul>	<ul style="list-style-type: none"> <li>• Would represent a commitment to a possibly open-ended expansion of the SOMA’s MBS portfolio;</li> <li>• Market participants may question the Federal Reserve’s commitment to purchases, calling into question the credibility of the policy;</li> <li>• Federal Reserve could become <i>de facto</i> the only MBS purchaser in the market, thereby undermining functioning in markets;</li> <li>• No guarantee that the Federal Reserve could achieve a target for the mortgage rate by purchasing MBS. Program would raise complexities in selecting what mortgage rate should be chosen for the cap, whether the cap should build in lags or a projected path, and when MBS purchases would occur.</li> <li>• May be difficult to exit because of the potentially adverse public reaction and balance sheet concerns when mortgage rates are allowed to increase.</li> </ul>



Figure 1

### Mortgage Rate Spreads



Source: Freddie Mac, bankrate.com, Bloomberg, and Federal Reserve Board calculations

Note: The mortgage rate is for 30-year, fixed-rate mortgages; MBS yield is interpolated for current coupon securities; and the Treasury yield is duration matched to the MBS yield.