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Reinvestment Policy for Maturing SOMA Holdings

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I. Introduction

The size and composition of the SOMA portfolio are policy tools that the FOMC may use to influence financial conditions and the economy. In this light, the question of whether maturing SOMA portfolio holdings are redeemed or reinvested has direct policy implications. In particular, allowing portfolio redemptions would remove monetary accommodation through draining reserves and reversing portfolio-balance effects, while reinvesting maturing proceeds to hold steady the size and composition of the SOMA portfolio would maintain a given degree of monetary accommodation.²

The agency debt security that matures on December 10 will be the first security purchased under the large-scale asset purchase (LSAP) program to mature, and we currently plan to let that security mature without reinvestment. That decision holds limited significance, however, due to the small size (\$30 million) of this particular security. Going forward, the amount of maturing agency debt securities in the SOMA picks up steadily throughout 2010, with cumulative maturing agency principal of \$3 billion through the first quarter of 2010 and nearly \$25 billion over the year as a whole. MBS paydowns are likely to be even more substantial, given the size of the MBS holdings and the monthly amortization of MBS payments. Indeed, we project that MBS-related paydowns (scheduled and unscheduled) will total \$120 to \$160 billion in 2010, on top of the estimated \$50 to \$55 billion of MBS paydowns in 2009.³ Lastly, the current SOMA holdings include about \$93 billion of Treasury securities that will mature between now and the end of 2010. Accordingly, a decision on whether to reinvest these issues or allow them to be redeemed will have important consequences for the evolution of the Federal Reserve's balance sheet.

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² Prior to the introduction of LSAPs as a policy tool, outright holdings of the SOMA portfolio generally tracked the level of Federal Reserve notes, as this was the primary autonomous factor which drove the trend growth of the System's balance sheet. In this sense, outright SOMA holdings (or at least their total level) were considered "permanent" so long as currency continued to grow, with maturing proceeds invested in newly-issued Treasury debt.

³ During the ramp-up phase of the LSAP, MBS paydowns have been more than offset by continued purchases. Purchases will continue to settle through at least June 2010 as TBA trades can be arranged as many as three months forward, which means that the portfolio will likely continue to grow through the first half of 2010. Absent a decision to reinvest MBS paydowns, settled MBS holdings are expected to peak at about \$1.1 trillion around June 2010 and then gradually decline thereafter. However, please note that due to the uncertainty of actual prepayments of MBS, actual paydowns of MBS are less certain than maturities of agency debt and Treasury holdings and could even fall outside of the estimated ranges presented here.

This memo discusses the various strategies that could be taken to reinvest or redeem those holdings, providing balance sheet projections under each of these strategies. The staff recommends adopting an initial strategy under which the Desk does not reinvest the proceeds from maturing agency debt securities or repayments of MBS, thereby allowing the portfolio holdings of those assets to run down over time. A decision by the FOMC on what approach to take for maturing Treasury holdings can be deferred until early next year.

II. Policy Considerations Regarding Maturing Portfolio Holdings

Like asset sales, redemptions of SOMA assets allow policy makers to simultaneously reduce excess reserves and to reverse some of the portfolio-balance effects that resulted from the large-scale asset purchase (LSAP) programs. However, redemptions affect the balance sheet gradually and at a pace determined by the flow of maturities or prepayments of the securities held—a feature that could be limiting, depending on the evolution of the economic outlook.

With these issues in mind, it is worth considering the range of balance sheet outcomes that could be achieved under various redemption strategies. As described in detail in section III of the memo, different strategies produce quite different outcomes for the amounts of assets held—ranging from leaving the balance sheet unchanged to shrinking it more than \$300 billion by the end of 2010.

The FOMC could choose between those strategies depending on how quickly it wants to unwind the amount of reserves and reduce the portfolio size. The urgency associated with those adjustments will depend on a variety of factors. For example, the desire to remove reserves through redemptions may depend on the efficacy of the payment of interest on reserves in controlling short-term interest rates and on the effectiveness of other reserve-draining tools. The desire to unwind portfolio-balance effects may depend on developments in financial markets and their consequences for economic activity. Any redemption strategy might need to be adjusted over time depending on how conditions evolve. However, the FOMC could pursue an initial strategy to be consistent with an appropriate path for the balance sheet based on current expectations for how the economy and financial markets will evolve.

In addition to considerations about the pace at which monetary accommodation associated with the LSAPs might be removed, redemption strategies may also be influenced by the long-run objectives for the SOMA. The ultimate size and composition of the SOMA portfolio will depend in large part upon the framework within which monetary policy is conducted. In particular, policymakers will need to weigh several broad questions, such as the following: (1) What is the appropriate overall size for the SOMA portfolio? (2) What is

the appropriate composition of the SOMA over time—and, specifically, should it move back to a Treasury-only portfolio?⁴ (3) At what pace should the adjustment to this ultimate portfolio take place? The staff could continue work toward more complete answers over time to these questions and other issues that may help to further refine a redemption/reinvestment policy for the SOMA portfolio.

However, even as the Committee weighs all of these issues, the Desk will need to have an interim redemption/reinvestment policy to guide the treatment of the upcoming maturities and MBS principal repayments. An interim policy could be effective through all or part of 2010, depending on policymakers' preferences as they weigh the appropriate policy to implement over a longer period.

III. Options for Interim Redemption/Reinvestment Policy

We consider several potential redemption/reinvestment strategies and focus primarily on their effects on the total size of the SOMA portfolio. Specifically, we consider the following four options:

- (1) Full reinvestment of all portfolio holdings;
- (2) Full redemption of agency debt and MBS holdings and full reinvestment of Treasury holdings;
- (3) Full redemption of agency debt and MBS holdings and selective reinvestment of Treasury holdings based on maturity; and
- (4) Full redemption of all portfolio holdings.⁵

A summary of the balance sheet projections under each of these strategies is reported in Table 1.

We start with strategy (1), the full reinvestment of all portfolio holdings. This strategy could be considered if policymakers find the current level of monetary accommodation appropriate for the time being and are comfortable with its implications for reserve levels and the ability to tighten monetary policy at the appropriate time. However, this approach is inconsistent with the decisions already made to not reinvest the agency security that is maturing on December 10 or the prepayments of MBS that have been received thus far. Moreover, the current Desk directive is written in a manner that does not explicitly allow for such

⁴ There are also compositional questions within a given asset class—for example, what proportion of Treasury holdings should be in Treasury bills? These issues can be discussed more deeply in future work.

⁵ The preparation of other balance sheet size projections thus far has classified Treasury holdings as either LSAP or “legacy.” However, we view this distinction as artificial for consideration of redemption/reinvestment policy strategies. Instead, we think the Committee should focus on the size and maturity of the entire outstanding portfolio when considering its redemption/reinvestment strategy.

reinvestment. Thus, if policymakers decided to move in this direction, it would require some adjustment to the current Desk directive and an effort by the Desk to purchase enough assets to restore the holdings that have been redeemed to date. This strategy, if used to bring agency debt holdings up to \$175 billion and MBS holdings up to \$1.25 trillion, would leave the balance sheet with \$2.2 trillion of assets. Even if policymakers have already (implicitly) signaled that they are not inclined to adopt this strategy, it provides a useful benchmark against which to measure the other policy choices.

If the Committee wishes to reduce the size of the SOMA portfolio at a gradual pace and feels inclined to start moving back towards a portfolio more heavily skewed towards Treasury securities, it could adopt strategy (2) as an interim redemption/reinvestment policy, in which maturing proceeds of only agency debt and agency MBS are not reinvested. This would affirm (or make more explicit) the policy governing current portfolio investment. As noted above, redemptions of agency debt holdings are estimated to reduce the portfolio by nearly \$25 billion through the end of 2010, while paydowns of agency MBS holdings offer an opportunity to redeem another \$120 to \$160 billion.⁶ Thus, a considerable reduction of the portfolio could be achieved by allowing those holdings to run off. At the same time, maturing Treasury holdings could be reinvested into newly issued Treasury securities subject to the normal reinvestment procedures of the Desk.⁷ On balance, this strategy would leave the size of the portfolio just under \$2 trillion at the end of 2010—about \$230 billion less than in strategy (1).

Any upward pressure on longer-term interest rates from this strategy should be modest. The empirical work that the staff has conducted over the past year suggests that this balance sheet adjustment would push longer-term interest rates about 10 basis points higher than they would otherwise be under an unchanged portfolio. However, since market participants are reportedly expecting most of these redemptions, this effect is most likely already embedded in market rates. Accordingly, we would not expect any sustained market reaction to this strategy.

Strategies (1) and (2) cover the more immediate issue of whether to reinvest agency debt and MBS securities. As noted above, the staff recommendation is to adopt an interim approach that is consistent with strategy (2), under which the Desk would not reinvest the proceeds

⁶ If a distinction were made between legacy and LSAP Treasury holdings, an additional \$7 billion could be redeemed in 2010 if it were the policy to reinvest only legacy SOMA holdings.

⁷ This reinvestment could follow the existing practice of the Desk or be modified. Under current practices, maturing proceeds are allocated across the slate of new Treasury securities issued on the same day on which the maturing funds are received. Holdings of Treasury notes and bonds are allocated to new Treasury note and bond securities to result in an equal percent take-down of each security auction, with SOMA holdings treated as an add-on to the public offering amount. Maturing Treasury bill proceeds are allocated across new Treasury bill issues such that the resulting percentage ownership of the total outstanding supply for each individual security offered is made equal, again with SOMA holdings treated as an add-on to the public offering amount.

from maturing agency debt securities or repayments of MBS. A decision for handling Treasury securities seems less pressing, as the Desk has a longstanding practice of routinely reinvesting existing Treasury holdings and can continue to do so for now. Nevertheless, policymakers should not wait long to consider whether it is appropriate to revisit the redemption strategy for Treasury securities as well, as it gives them more flexibility in achieving different balance sheet outcomes. To foreshadow that decision, this memo presents two different options for redeeming Treasury holdings.

It is easiest to begin with the more extreme option in which the Committee allows all SOMA maturities, including Treasury securities, to run off without reinvestment—strategy (4) in the list above. This approach would maximize the role of redemptions in achieving a reduction of outright asset holdings and reserve balances. Allowing all Treasury holdings to mature would provide an additional \$93 billion in SOMA paydowns by the end of 2010. Under this approach the size of SOMA would be expected to decline by about \$322 billion over that period.

Since redemption of Treasury holdings is most likely unexpected by market participants, this decision could have an immediate impact on market rates when announced. However, the effect would probably not be large, given the size of the surprise and the fact that the redemptions would be so gradual. A reasonable guess is that the upward pressure on the ten-year Treasury yield would be less than 10 basis points, although this effect would depend on the Treasury's response in its issuance decisions. Note that Treasury assumes that SOMA holdings are reinvested at each new auction, and thus a decision to allow Treasuries to mature would likely have a material impact on Treasury's debt management strategy.⁸

A slightly less aggressive approach would be to target a partial reinvestment of maturing Treasury assets—strategy (3). This strategy would allow the Committee to reduce the portfolio at an intermediate rate relative to options (2) and (4) by allowing only a portion of Treasury holdings to run-off. There are many alternatives under this strategy, and policymakers could choose between them based on the magnitude of redemptions preferred and the desired characteristics of securities in which funds are reinvested.

One path within strategy (3) would be to restrict reinvestment of maturing Treasury proceeds to short-term securities, like Treasury bills or Treasury notes with two years to maturity. Such a strategy may be undertaken in order to shift the portfolio towards issues with limited duration and interest-rate risk, while retaining a higher level of excess reserves in the system

⁸ Since Treasury typically assumes reinvestment of SOMA holdings, a decision to allow SOMA holdings to mature without replacement would likely prompt an adjustment in Treasury's issuance calendar. Treasury could choose to increase longer-term debt issuance to the public, or it might choose to draw down on cash balances or to issue short term bills. Either of the last two approaches would moderate the rate impact of a Fed decision to redeem maturing securities.

than would be achieved under strategy (4). It would also keep a higher balance of Treasury holdings in SOMA, which could be seen as advantageous based on the view that Treasury holdings will have a permanent place in the portfolio. Under this example, Treasury reinvestment would total \$57 billion from December 31, 2009 to year-end 2010 and redemptions of Treasuries would fall from \$93 to \$36 billion, bringing total expected SOMA redemptions to about \$265 billion.⁹

IV. Further Considerations and Concluding Thoughts

Policymakers will presumably want to reduce the size of the balance sheet over time as the economy recovers. In that case, the redemption/reinvestment strategy to be implemented for maturing SOMA holdings is an important policy decision.

At this juncture, the FOMC must soon decide whether it remains comfortable with the current practice of not reinvesting holdings of agency debt securities that mature and holdings of MBS that are paid down. A decision to not reinvest the proceeds from these securities, and the associated reduction in the SOMA holdings of those assets, would begin to unwind the reserve injections and portfolio-balance effects associated with the expanded portfolio. In addition, this decision would begin the process of moving the SOMA back towards a Treasury-only portfolio.

However, the reduction of reserve balances and portfolio-balance effects achieved by this strategy would be very drawn out. If policymakers want to achieve more rapid adjustments along these dimensions, they may also consider the appropriate redemption strategy for Treasury securities. The SOMA manager will be looking for guidance from the FOMC on a broader redemption strategy, one covering Treasury securities, in early 2010.

Another point to consider in contemplating future redemptions is the potential use of asset sales. Reducing portfolio holdings through redemptions may be less disruptive to markets than outright sales of securities. The primary reason is that the speed at which the market has to absorb new supply is capped by the flow of maturing assets on the Fed's balance sheet. In contrast, a decision to move to a regime of selling assets creates the possibility of a more rapid reduction of Fed holdings, which could be seen by the markets as potentially disruptive to market functioning.

⁹ The amount of Treasury securities which can be purchased at any auction is limited to the amount of funds maturing on the date when the newly auctioned securities are issued. Since the 2-year note is auctioned at each month-end date, the maximum amount of funds which could be invested in this security in the next year would be the \$39 billion scheduled to mature on month-end dates. Likewise, purchases of Treasury bills, which are auctioned and settled weekly, would be basically limited to the \$18 billion of maturing Treasury bill holdings. If the Committee wished to consider secondary market purchases as a vehicle for reinvestment, reinvestment decisions would be more flexible, but such purchases would reduce the outstanding supply of Treasury securities held by the public.

However, the cap on the pace at which SOMA holdings could be reduced might also be considered a shortcoming of relying strictly on a redemption strategy. Most importantly, under any of the strategies discussed above, the pace at which the balance sheet would be shrunk may not be optimally lined up with the policy objectives of the FOMC. After all, the schedule of redemptions was not the primary consideration in the purchase decisions made under LSAPs, and the redemption schedule of legacy Treasury holdings is a function of the past practices for accumulating and rolling over SOMA holdings at Treasury auctions. As a result, the pace of redemptions that will occur in our SOMA holdings is somewhat arbitrary, with neither the removal of reserves nor the reversal of portfolio-balance effects being set in an optimal manner.

Another complication arises because the pace of MBS redemptions will depend on the path of interest rates. Strategies that involve running off MBS holdings therefore build in a responsiveness of our asset holdings to financial conditions that may not be optimal. This consideration may be particularly problematic given the high degree of uncertainty related to prepayments of MBS holdings. In fact, the uncertainty surrounding the estimates of MBS paydowns in 2010 is the same order of magnitude as scheduled maturities of Treasury holdings in 2010 and a multiple of the agency debt maturing in 2010.

With these considerations in mind, the Committee may wish to consider an approach in which redemptions are implemented in a flexible manner. The Committee could always periodically revisit its past decisions and decide to scale down redemptions if needed to maintain more monetary stimulus. Alternatively, it could boost redemptions or even enhance them with simultaneous use of asset sales if the need to remove stimulus more quickly arises. These adjustments would presumably depend on the evolution of conditions in the economy and financial markets.

Lastly, we note that the Committee should communicate the details of any interim redemption policy that is implemented and the policy objectives associated with that strategy.

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TABLE 1: SOMA Holdings & Reserve Balance Projections Under Alternative Reinvestment Policies

	Treasury	Agency	MBS*	Total Redemptions	Total SOMA Holdings	Reserve Balances
Option 1 - Reinvest all Treasuries, Agency, and Agency MBS by Asset Class						
2010	775	175	1250	0	2200	1208
2011	775	175	1250	0	2200	1140
Option 2 - Reinvest all Treasuries, Redeem all Agency and Agency MBS						
2010	775	150	1046	228	1972	980
2011	775	107	965	352	1848	787
Option 3 - Partial reinvestment of Treasuries, Redeem all Agency and Agency MBS**						
2010	739	150	1046	265	1935	943
2011	722	107	965	406	1794	734
Option 4 - Redeem all Treasuries, Agency, and Agency MBS						
2010	682	150	1046	322	1878	886
2011	614	107	965	514	1686	626

Estimates are as of December 4.

*Projections of MBS holdings are model-dependent and subject to material uncertainty.

**Projections assume all eligible maturing proceeds are used to purchase securities at Treasury bill and 2-yr note auctions only.