

April 21, 2017

Reinvestment Proposal

Staff of the Board of Governors and the Federal Reserve Bank of New York¹

Introduction

The Committee's discussion of reinvestments at the March FOMC meeting affirmed its intention to reduce the portfolio gradually in a passive and predictable manner. Participants generally preferred to phase out reinvestments of both Treasury securities and mortgage-backed securities (MBS) to reduce the likelihood of an outsized market response to a change in reinvestment policy and the possibility of market disruptions. In addition, many participants noted that the reinvestment policy should be changed in a way that results in a gradual reduction in the size of the balance sheet that is largely on "autopilot" in the sense that the need for ongoing Committee decisions during the period of balance sheet normalization will be minimal.

This memo provides, for the Committee's consideration, a specific staff proposal for phasing out reinvestments and discusses the possibility of employing fixed monthly redemption caps for Treasury securities and MBS throughout the normalization process. The phase-out proposal is consistent with the views expressed at the March FOMC meeting as well as the September 2014 Policy Normalization Principles and Plans, and the proposed additional balance sheet normalization principles discussed in an accompanying memo, "Communicating a Plan for Ceasing or Phasing Out Reinvestment."

Phase-out proposal

A phase-out plan requires choices about the length of time and the process by which reinvestments are reduced over time. Staff focused on an approach that would be

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gradual and predictable, as well as straightforward to communicate and operationally feasible. Consistent with these guidelines, staff is proposing to phase out reinvestments over an 18-month period. Table 1 summarizes the features of the staff proposal as well as its results, assuming that the change in policy begins in October 2017.² As shown in column 1, the share of maturing Treasury securities and agency debt as well as principal repayments of MBS that are reinvested is reduced through decrements of 15 percentage points every three months, before a final reduction of 10 percentage points. Under this approach, 85 percent of maturing securities and principal repayments are reinvested during the first three months from October through December 2017; by January 2019, only 10 percent of maturing securities and principal repayments are reinvested; and, all reinvestments cease starting in April 2019.

The 18-month phase-out period, as proposed, allows for a gradual shift of securities to the private sector, providing time for markets to adjust to an environment without regular securities purchases by the Federal Reserve. Adjusting the length of the phase-out period (as shown in the appendix) would obviously affect the speed by which the reinvestment share is decreased, but it would otherwise entail little differences to the issues discussed in the next section.

Given the proposed length of the phase-out, there is a trade-off between the size and the frequency of adjustments to reinvestments. If adjustments to reinvestments are scheduled frequently, the tool may be perceived as unnecessarily complicated. In contrast, with less frequent and thus larger adjustments, each incremental alteration to the share of reinvestments could be perceived as carrying more import. In order to balance these concerns, the staff proposes that adjustments to the share of reinvestments occur every three months, in marginal decrements of 15 percentage points. This approach would imply that changes in the reinvestment share over time are not directly associated with particular FOMC meetings and would support the notion that changes to reinvestment policy are operating in the background.

² Policymakers may decide on a different start date for the change in reinvestment policy. Staff examined the impact of delaying the start date by up to six months and concluded that the volume and pattern of redemptions of Treasury securities and MBS would be little affected.

This approach is straightforward to operationalize, with reinvestments conducted, more or less, in the same manner as they are currently. For Treasury securities, the reduction in reinvestments would go into effect at the start of the calendar month following the initial announcement to change the reinvestment policy and the reinvestment share would be applied to proceeds received at each individual maturity date.³ The Desk would continue to roll over maturing securities at Treasury auctions, allocating the appropriate share of maturing proceeds proportionally across newly issued securities. No announcements would be made about specific SOMA auction participation beyond the Treasury's publication of auction results, as is the current practice. For MBS, the reduction in reinvestments would similarly go into effect in the calendar month following the initial change to the reinvestment policy and would apply to each monthly purchase announcement during the period in which the share is in effect. Each month, the reinvestment share would be applied to the total amount of MBS paydowns to be received during that calendar month, plus any agency debt maturities over the same period.⁴ Purchases would be conducted in the secondary market in line with new issuance of agency MBS.⁵ As with current operating practice, an announcement about total reinvestment purchases would be made at the start of each monthly period on the Federal Reserve Bank of New York's public website, accompanied by a detailed operating schedule.⁶

Figure 1 shows projected reinvestments and redemptions under this proposal over a two-year period starting in October 2017. The red and blue bars above the x-axis represent redemptions of Treasury securities and MBS, respectively (this information is

³ When a maturity date falls on a weekend or a holiday, the issues mature the following business day; this can cause a month-end maturity to occur in the next month. In this case, the staff recommends using the reinvestment share for the original month of maturity.

⁴ In practice, the Desk publishes its anticipated reinvestment purchase amount on the eighth business day of each month due to the time needed to receive and incorporate the necessary information from Fannie Mae, Freddie Mac, and Ginnie Mae to calculate paydowns on the portfolio that will be received over the coming month. This announcement covers purchases scheduled to take place between the middle of the current month and the middle of the following month.

⁵ Secondary market purchases of MBS are conducted in the To-Be-Announced (TBA) market. Settlement of those purchases could occur up to three months after purchase as per normal TBA market conventions, but would typically occur one to two months forward. If there are concerns with the ability to settle those purchases, then settlement could be delayed further through the use of dollar roll transactions.

⁶ https://www.newyorkfed.org/markets/amb/amb_schedule.html

also displayed in Table 1). The quantity of redemptions during the first six months, by construction, is relatively small—roughly between \$2 billion and \$15 billion per month for Treasury securities and projected to be between \$2 billion and \$5 billion for MBS. Month-to-month variation for Treasury securities reflects, in part, the mid-quarter refunding pattern of the maturities. As expected, as the reinvestment share decreases over time, the monthly variation in redemptions becomes more pronounced, with redemptions of Treasury securities rising above \$60 billion in some months during the later part of the phase-out period. For MBS, the projected path of reinvestments is smoother; however, this pattern is partly the result of the projected smooth and gradual increase in interest rates. If interest rates were to rise or fall relative to the staff projections, principal repayments of MBS would likely be lower or higher, respectively; given the asymmetric effects of the embedded prepayment option in MBS, the likely deviation from the baseline projection would be greater in the event that interest rates fall than it would be if interest rates rise.

To characterize the MBS prepayment risk, the “moneyness” distribution of SOMA MBS holdings provides an indication of the sensitivity of prepayments to changes in interest rates based on the extent to which underlying mortgages have an economic incentive to be refinanced—or are “in the money”—at a given level of the primary mortgage rate. As reported in figure 2, if the primary mortgage rate rose by 50 basis points, only a small balance of \$50 billion of the MBS portfolio would remain “in the money,” thus reducing expected MBS prepayments. Conversely, if the primary mortgage rate declined by 50 basis points, approximately \$500 billion of the MBS portfolio would be “in the money,” which would likely trigger an increase in prepayments. Staff models suggest that if the primary mortgage rate fell to 3.5 percent and stayed at that value, principal repayments on MBS could increase to between \$25 billion to \$30 billion per month in the medium term.⁷

⁷ In addition to uncertainty about interest rates, these projections are subject to model uncertainty. One of the standard models used by the Desk to project MBS principal repayments of the SOMA portfolio is an MBS prepayment model provided by Blackrock. This model has an average absolute one-month ahead forecast error for monthly principal repayments of SOMA MBS of \$1.2 billion or 4.1 percent, based on projections made between January 2015 and March 2017.

Possible caps

If policymakers wished to avoid large monthly swings in redemptions or the potential for a large increase in the volume of redemptions, the phase-out proposal above could be augmented to include fixed monthly redemption caps, separately for Treasury securities and MBS. If set at a relatively high level, these caps would preserve most of the balance sheet run-off, but could also reinforce the objective of maintaining a gradual and predictable reduction in the portfolio both during the phase-out period and in the subsequent period before reaching the normalized size of the portfolio. By limiting the overall pace of decline in the balance sheet, caps could be particularly helpful in circumstances in which the economy has weakened and the federal funds tightening cycle has paused. However, the inclusion of caps, especially if they may bind irregularly or in uneven ways across Treasury securities and MBS, might complicate communication about reinvestment policy. They may also have unwanted credit allocation effects, and would somewhat delay the normalization of the size of the balance sheet, but these effects are likely to be small if caps are set at relatively high levels. These tradeoffs will need to be considered in determining whether to utilize fixed monthly redemption caps for either Treasury securities or MBS.

As described in the March 3, 2017, FOMC reinvestment memo, “Changing the FOMC’s Reinvestment Policy: Approaches and Considerations,” redemptions of Treasury securities could be capped at \$30 billion to dampen the sharp increases in redemptions on mid-quarter refunding dates.⁸ Figure 3 shows how this would alter the pattern of redemptions and reinvestments for Treasury securities. This approach would, effectively limit the amount of securities redeemed on each mid-quarter refunding date and the extent to which the Treasury needs to prefund issuance around these dates. However, early communications and a prolonged phase-out period, as recommended here, should provide sufficient lead-time for the Treasury to adjust issuance as needed; informal conversations with Treasury staff support this view. Nevertheless, the cap may

⁸ As seen in column 3 of Table 1, under the staff proposal with a \$30 billion cap on Treasury securities, the cap would be binding in November 2018 and February 2019 during the phase-out period, and during several mid-quarter months thereafter until the normalization of the size of the balance sheet has been achieved.

still be desirable for dampening the overall contraction of the balance sheet in an adverse situation in which the economy has weakened.

On the MBS side, a cap would eliminate the possibility that MBS redemptions could increase markedly in the event that interest rates fall by an unexpectedly large amount. As noted above, MBS principal repayments could increase to levels between \$25 billion and \$30 billion per month if the mortgage rate fell to 3.5 percent. If rates fell further, MBS principal repayments could increase even further. A cap of, say, \$25 billion per month could help dampen the increase in redemptions in these adverse scenarios.⁹ Of course, if such a change in long-term rates is associated with an economic shock that has broader implications for the Committee's stance on monetary policy, the Committee may judge that it would be appropriate to restart reinvestments.

Impacts and considerations

We now turn to how the phase-out proposal is expected to affect the Federal Reserve's balance sheet and income, discuss macroeconomic and market effects, and note how redemptions affect the amount of Treasury securities available to support overnight reverse repurchase agreement (ON RRP) operations.

Balance Sheet, Income, and Macroeconomic Effects

Figures 4 through 6 present the model implications of the staff's proposed approach, which does not incorporate the use of caps, for changing reinvestment policy ("18-month phase-out") and compare them to a scenario in which redemptions are fully and immediately ceased ("immediate cessation") starting in October 2017.¹⁰ As expected, the phase-out approach causes the securities portfolio and reserve balances to decline at a slower rate, reflecting additional reinvestments during the phase-out period; this feature delays the normalization of the size of the balance sheet by about half a year relative to the scenario with full redemptions. Otherwise, the projections indicate that, relative to the "immediate cessation" scenario, the phase-out approach has minor

⁹ The \$25 billion cap for MBS is not binding in the baseline projection. As a result, projected redemptions are as shown in figure 1.

¹⁰ In both scenarios, the assumed longer-run level of reserve balances is \$500 billion.

implications, as the term premium effect is, on average, only about 5 basis points more negative through 2019. Consequently, macroeconomic outcomes, the path for the federal funds rate, and earnings remittances to the Treasury as implied by the staff's model are largely unchanged.

As discussed in the March FOMC reinvestment memo, the staff's analysis incorporates the assumption that the Federal Reserve's balance sheet affects term premiums entirely through the so-called "stock effect" and that the public would not infer any potential changes to the future path of short-term interest rates from the change in reinvestment policy. While this is a useful framework, the experience of the "taper tantrum" in the summer of 2013 counsels caution. Ample communication in advance of a change in policy and implementing a gradual phase-out should help align market expectations with FOMC plans and reduce the likelihood of a "tantrum" episode.

Market Expectations

Market expectations about reinvestments have evolved since the March FOMC meeting. In the March Surveys of Primary Dealers and Market Participants, respondents placed the highest probability, on average, of a change being announced in 2017:Q4, but with substantial mass on 2018:Q1 as well.^{11,12} In addition, the median survey respondent expected reinvestments of both Treasury securities and MBS to be phased out. Following the release of the minutes of the March FOMC meeting, which included language indicating that if the economy continued to perform about as expected, a change to reinvestment policy would likely be appropriate later this year, several market participants pulled forward their most likely timing for a change to reinvestment policy into late 2017. These more recent readings suggest that market expectations have moved closer to the staff projections; as such, the balance sheet, income, and macroeconomic

¹¹ Market participants' diffuse views about the timing of a change in reinvestment policy as well as the level of the federal funds rate expected to prevail at the time of announcement of the policy change were the subject of the March 2017 Tealbook B Box "Expectations for Changes to Reinvestment Policy."

¹² The median respondent's modal expectation also had the announcement about the change in reinvestment policy occurring when the federal funds rate reaches the target range between 1½ and 1¾ percent. This target range is slightly higher than the level of the federal funds assumed in the staff's proposal, which calls for a change in policy to occur when the federal funds rate reaches the target range between 1¼ and 1½ percent.

projections associated with market views should be broadly similar to those reported above. The Desk's April Surveys will provide a full update of expectations about the reinvestment policy.

Treasury Market

As was discussed in the memo to the FOMC in March, a key consideration in understanding the impact of these SOMA redemptions is the effect on Treasury issuance. Once the Committee announces a change to its reinvestment policy, the Treasury will need to adjust its issuance calendar to raise additional funds from private investors; adjustments could include increases in offering amounts for current maturity points or the addition of new maturity points.¹³ The Treasury has discussed with the Treasury Borrowing Advisory Committee (TBAC) the need to increase borrowing once SOMA reinvestments decline. According to the minutes of the February TBAC meeting, Treasury issuance strategies in response to a reduction in SOMA holdings will be discussed further at upcoming TBAC meetings. The communications proposed in the accompanying memo should provide sufficient advance notice to allow the Treasury to make the necessary adjustments, which could include pre-funding some of the financing that it would otherwise need to raise at the mid-quarter refunding maturity dates.

There is some additional uncertainty associated with the outlook for Treasury financing. It is possible that, absent legislation to raise the debt ceiling by late fall, additional Treasury issuance could become constrained. If this timing holds, it would imply that the Treasury would have less flexibility in terms of prefunding maturities or making adjustments to its issuance calendar when reinvestments are beginning to be phased out, elevating the importance of a slow and gradual start. While debt-ceiling issues may be resolved by year-end, a high degree of uncertainty remains about the outlook for deficit financing needs more generally. Additional clarity is not likely to

¹³ The Treasury Department has solicited the opinions of the Primary Dealers on the possibility of issuing a new security with a maturity greater than 30 years (e.g., 40, 50, or 100 years). In principle, if the Treasury were to introduce a new maturity point during the phase-out period, the SOMA would participate in auctions for those securities as long as they coincided with a maturity date of other SOMA holdings. In practice, the ability of the SOMA to participate in these auctions would depend on the operational preparedness of the Desk to settle and account for the new securities.

emerge for at least several months and increases in financing needs are expected to affect Treasury issuance starting in 2018. As discussed in the March reinvestment memo, although the expected increase in privately held Treasury coupon securities (reflecting both SOMA redemptions and larger deficits) is sizable, it remains in line with some estimates of issuance capacity and the historical increase in issuance seen during the financial crisis.

MBS market

As noted in the March FOMC memo, two key considerations are not taken into account in staff models used to estimate the term premium effects of Federal Reserve asset holdings. The first is a possible impact on the spread between MBS and Treasury yields (MBS basis). Although the total amount of MBS redemptions is projected to be small compared to the amount of Treasury securities that will be absorbed by private investors, it represents a sizable share of the net amount of MBS issued to the private sector, and that could lead to some widening of the basis. In fact, markets generally expect the basis to widen in the lead up to and during the early stages of implementing the change in reinvestment policy. However, the gradual pace of the proposed phase-out should mitigate the risk that such effects are particularly large or disruptive. Second, as noted above, in the model used to estimate the term premium effect, staff assumes that asset purchases work through the “stock effect” of securities holdings. However, there is a possibility of “flow” effects as well, including from convexity hedging.¹⁴ Kim and Meldrum (2017) discuss flow effects during the taper tantrum episode and suggest that this event was an important learning experience for traders and investors and that, as a result, they may now be more ‘in tune’ with balance sheet policies.

Treasury securities available for ON RRP operations

While the FOMC has not set a formal cap on ON RRP operations, the Desk has established an approach that determines the quantity of Treasury securities available for ON RRP operations based on total SOMA Treasury holdings, with a holdback for those

¹⁴ See Kim and Meldrum “Two Questions from the Taper Tantrum Episode,” April 3, 2017, for a discussion of the narrow and broad definition of flow effects.

needed for other operational matters.¹⁵ In its most recent statement, the Desk noted that the amount of Treasury securities available for ON RRP operations is “around \$2 trillion.” Based on the current operating procedure, the amount of Treasury collateral available to support ON RRP operations will decline as redemptions occur and the Treasury portfolio contracts.¹⁶ The Desk will need to communicate this information periodically.¹⁷

Conclusion

Staff has provided a specific proposal for phasing out reinvestments based on the views expressed at the March FOMC meeting as well as the September 2014 Policy Normalization Principles and Plans. Depending on policymakers’ preferences, the proposal can be adjusted to a different phase-out length (such as one of those presented in the appendix), and it could include a cap on Treasury securities, MBS, or both.

¹⁵ The amount of Treasury securities available for ON RRP operations is calculated as current Treasury SOMA holdings less (1) Treasury securities needed to conduct reverse repurchase agreements with foreign official and international accounts, (2) Treasury securities needed to support the securities lending operations conducted by the Desk, and (3) buffers to provide for possible changes in demand for these activities and for possible changes in the market value of the SOMA’s holdings of Treasury securities.

¹⁶ At normalization, when the size of Treasury securities holdings is at its lowest level in the staff projections, there will still be a sizable stock of Treasury securities available to provide collateral against ON RRP. Treasury securities holdings are projected to hit a minimum of nearly \$1.4 trillion in market value. About \$1.2 trillion of MBS would also be available, which could also be used as collateral for the ON RRP facility.

¹⁷ If the FOMC reinstates an overall cap on the size of the ON RRP facility, this might obviate the need for ongoing adjustments.

Table 1: Phase-out Proposal and Projected Reinvestment and Redemption Amounts

Column		1	2		3		4		
Months		Reinvestment Share		Reinvestments		Redemptions		Maturing/Prepaying Securities	
		Billions of \$							
		Tsy	MBS/Agy	Tsy	MBS	Tsy	MBS/Agy	Tsy	MBS/Agy
Oct-17	1			7.4	12.8	1.3	2.3	8.7	15.1
Nov-17	2	85%		16.1	15.5	2.8	2.7	18.9	18.2
Dec-17	3			14.9	11.5	2.6	2.3	17.5	13.8
Jan-18	4			21.7	9.6	9.3	4.1	30.9	13.7
Feb-18	5	70%		34.0	10.5	14.6	4.1	48.6	14.6
Mar-18	6			21.8	10.5	9.4	4.5	31.2	15.0
Apr-18	7			19.1	8.1	15.6	6.9	34.7	15.0
May-18	8	55%		30.1	8.8	24.6	6.7	54.7	15.5
Jun-18	9			16.7	10.6	13.7	8.1	30.5	18.7
Jul-18	10			12.6	5.8	18.9	9.5	31.5	15.3
Aug-18	11	40%		17.6	5.2	26.4	8.8	44.0	14.0
Sep-18	12			7.6	5.2	11.4	7.9	19.0	13.1
Oct-18	13			6.0	3.3	17.9	9.8	23.9	13.1
Nov-18	14	25%		14.8	3.4	44.4	10.1	59.2	13.5
Dec-18	15			4.6	3.0	13.7	10.1	18.2	13.1
Jan-19	16			1.5	1.2	13.3	10.9	14.7	12.1
Feb-19	17	10%		5.8	1.3	52.0	10.9	57.8	12.3
Mar-19	18			2.5	1.4	22.2	11.9	24.7	13.3
Apr-19	19			0.0	0.0	30.6	13.6	30.6	13.6
May-19	20			0.0	0.0	60.2	13.3	60.2	13.3
Jun-19	21	0%		0.0	0.0	23.5	14.2	23.5	14.2
Jul-19	22			0.0	0.0	22.1	14.0	22.1	14.0
Aug-19	23			0.0	0.0	70.0	13.3	70.0	13.3
Sep-19	24			0.0	0.0	14.2	12.2	14.2	12.2
Cumulative 18mo				254.6	127.9	314.1	131.7	568.7	259.6

Note: During the phase-out period, \$4.4 billion of agency debt is maturing, of which \$2.4 billion matures in November 2017, \$2.0 billion matures in June 2018, and \$0.1 billion matures in March 2019. The remaining \$2.3 billion of agency debt holdings mature as far out as 2032.

Figure 1 – Projected Redemptions (Reinvestment)

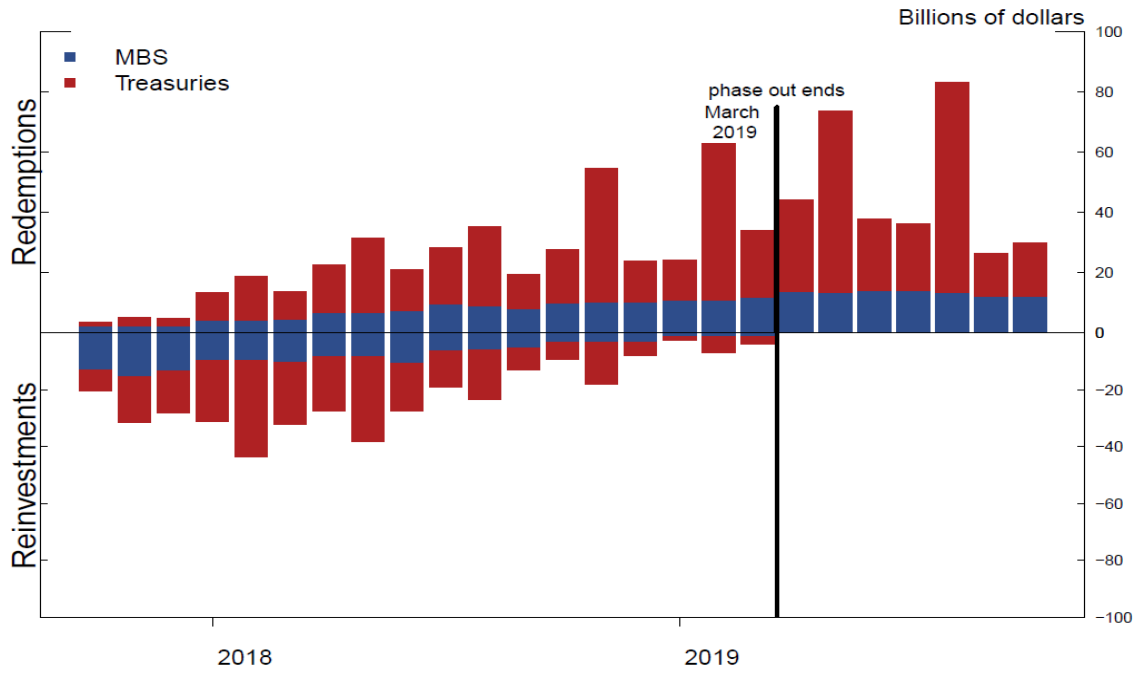
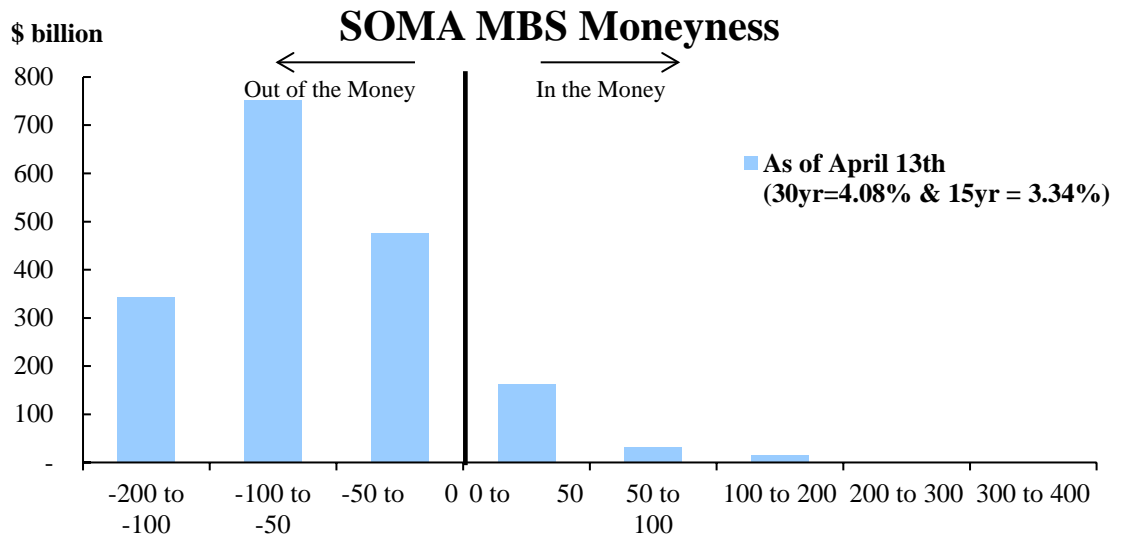


Figure 2 – Moneyness of SOMA MBS holdings at different changes in rates



Source: FRBNY, Freddie Mac

Note: Moneyness is calculated as the difference between the primary mortgage rate and each security's weighted average coupon + 50 basis points

Figure 3 – Projected Redemptions (Reinvestment) with a \$30 Billion Treasury Redemption Cap

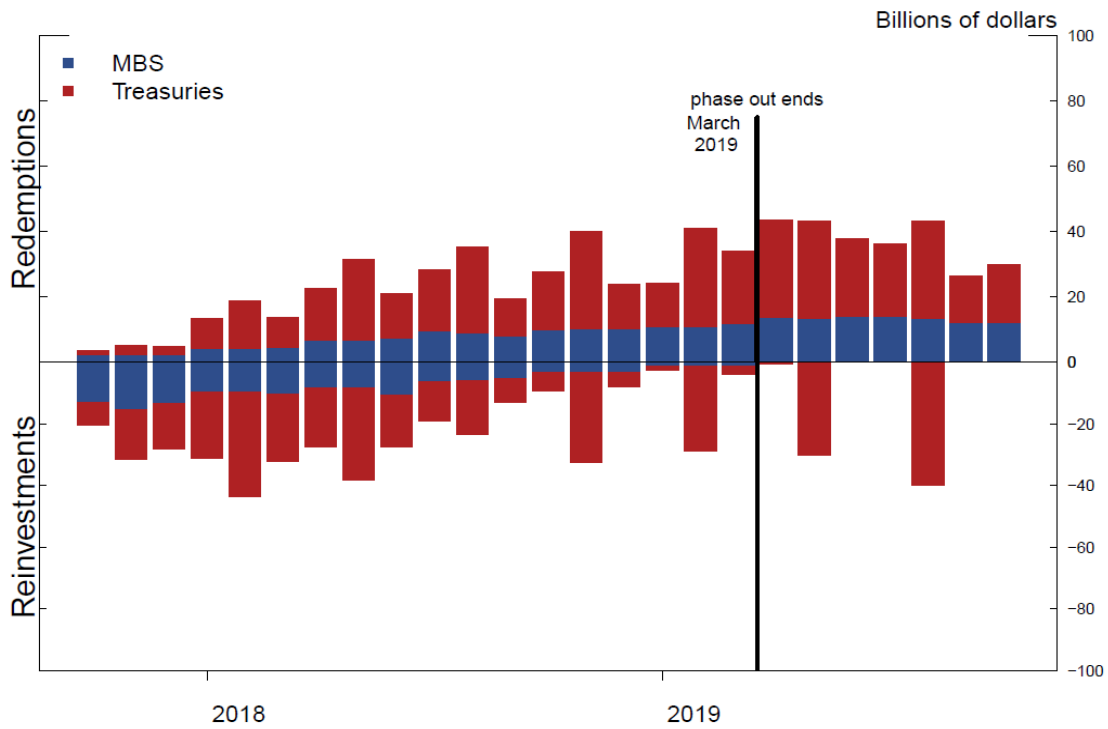


Figure 4 - Selected Assets and Liabilities of the Balance Sheet

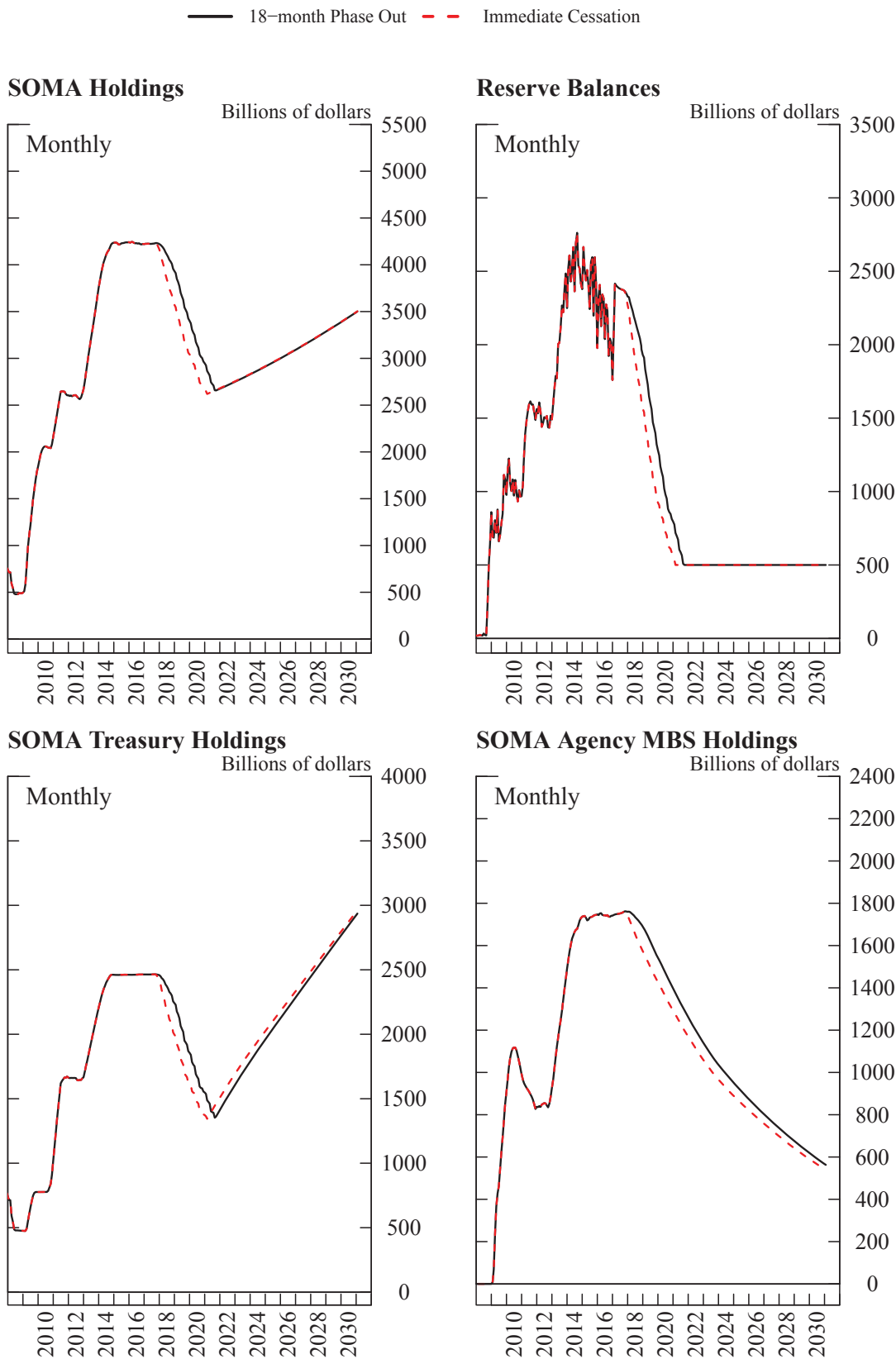
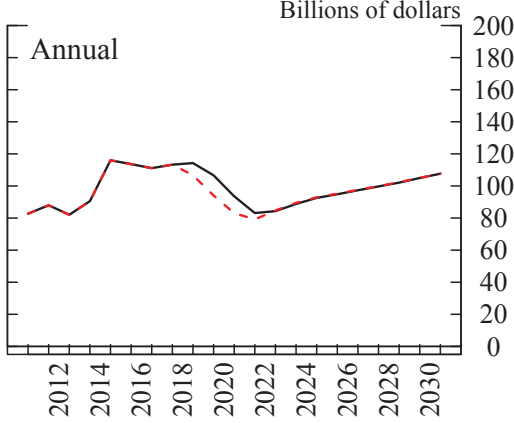


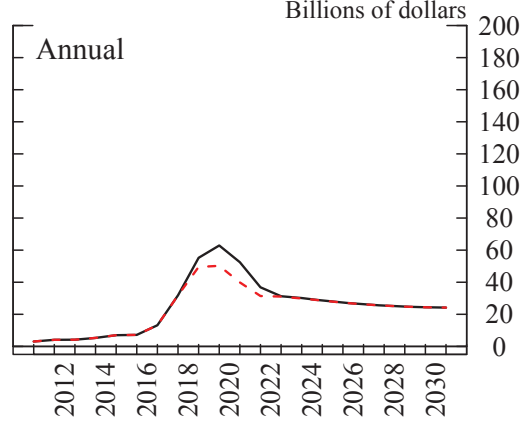
Figure 5 - Income Projections

— 18-month Phase Out - - - Immediate Cessation

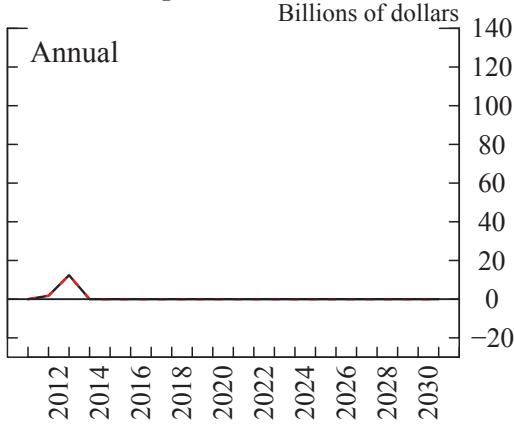
Interest Income



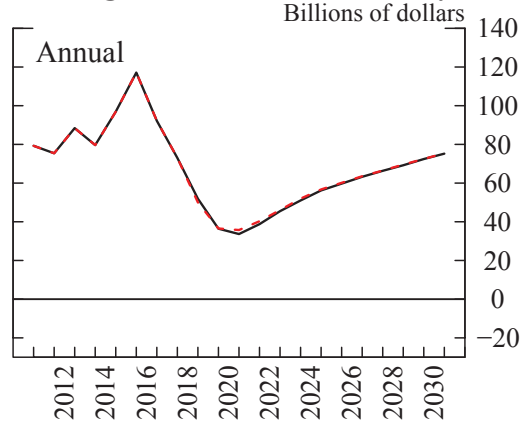
Interest Expense



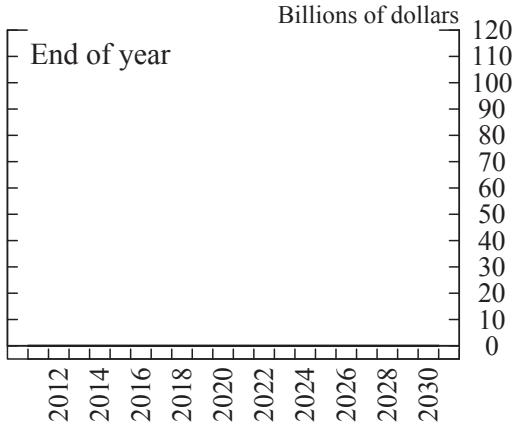
Realized Capital Gains



Earnings Remittances to Treasury



Deferred Asset



Memo: Unrealized Gains/Losses

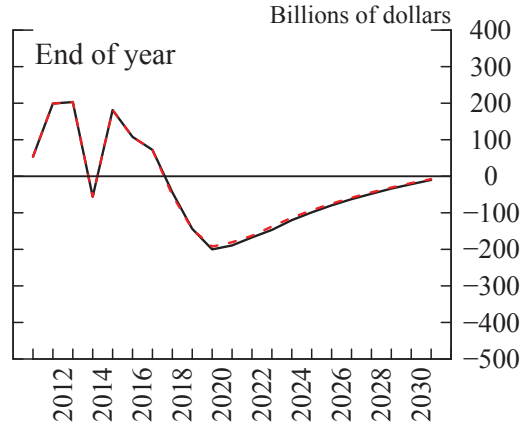
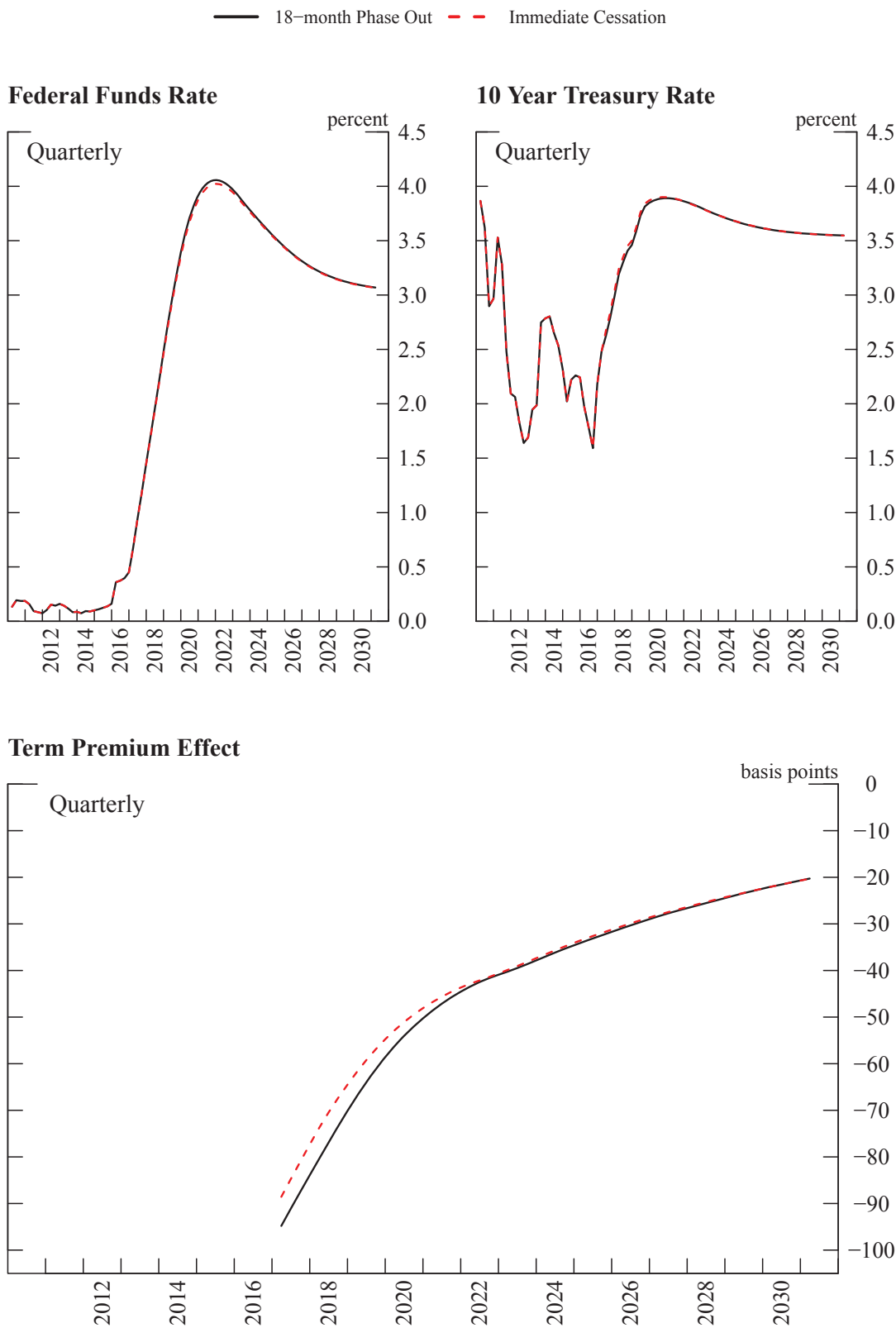


Figure 6 - Interest Rates

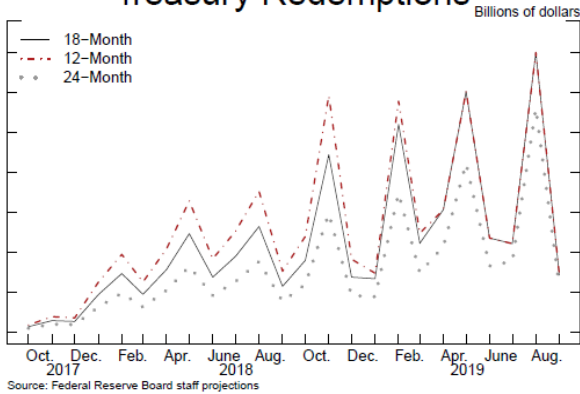


Appendix

This appendix provides 12- and 24-month phase-out options. The table illustrates how the reinvestment share is reduced over the corresponding period, while the charts compare the resulting redemptions to those from the 18-month phase-out proposal.

Month		12-Month						24-Month					
		Reinvestment Share		Reinvestments		Redemptions		Reinvestment Share		Reinvestments		Redemptions	
				Billions of \$						Billions of \$			
		Tsy	MBS/Agy	Tsy	MBS	Tsy	MBS/Agy	Tsy	MBS/Agy	Tsy	MBS	Tsy	MBS/Agy
Oct-17	1			7.0	12.2	1.7	3.0			7.8	14.0	0.9	1.6
Nov-17	2	80%		15.1	14.9	3.8	3.6	90%		17.0	16.6	1.9	1.8
Dec-17	3			14.0	10.9	3.5	2.7			15.8	12.4	1.8	1.4
Jan-18	4			18.6	8.3	12.4	5.5			24.7	11.2	6.2	2.8
Feb-18	5	60%		29.2	9.0	19.4	6.0	80%		38.9	12.2	9.7	3.0
Mar-18	6			18.7	9.1	12.5	6.1			25.0	12.3	6.2	3.1
Apr-18	7			13.9	6.0	20.8	8.9			24.3	10.5	10.4	4.5
May-18	8	40%		21.9	6.5	32.8	9.7	70%		38.3	11.4	16.4	4.9
Jun-18	9			12.2	8.3	18.3	10.6			21.3	13.1	9.1	5.4
Jul-18	10			6.3	2.9	25.2	11.7			18.9	8.8	12.6	5.9
Aug-18	11	20%		8.8	2.6	35.2	10.5	60%		26.4	7.9	17.6	5.3
Sep-18	12			3.8	2.6	15.2	10.4			11.4	7.9	7.6	5.3
Oct-18	13			0.0	0.0	23.9	13.4			11.9	6.8	11.9	6.8
Nov-18	14			0.0	0.0	59.2	13.7	50%		29.6	7.0	29.6	7.0
Dec-18	15			0.0	0.0	18.2	12.1			9.1	6.1	9.1	6.1
Jan-19	16			0.0	0.0	14.7	12.3			5.9	5.0	8.8	7.5
Feb-19	17			0.0	0.0	57.8	13.2	40%		23.1	5.4	34.7	8.1
Mar-19	18			0.0	0.0	24.7	13.4			9.9	5.4	14.8	8.1
Apr-19	19	0%		0.0	0.0	30.6	13.2			9.2	4.0	21.4	9.4
May-19	20			0.0	0.0	60.2	14.2	30%		18.1	4.4	42.2	10.2
Jun-19	21			0.0	0.0	23.5	13.8			7.1	4.2	16.5	9.9
Jul-19	22			0.0	0.0	22.1	13.0			4.4	2.7	17.7	10.7
Aug-19	23			0.0	0.0	70.0	12.0	20%		14.0	2.5	56.0	9.9
Sep-19	24			0.0	0.0	14.2	12.0			2.8	2.5	11.3	9.9
		Cum. 12-mo		169.4	93.2	200.8	88.8	Cum. 24-mo		414.9	194.1	374.4	148.3

Treasury Redemptions



MBS Redemptions

