DOMESTIC OPEN MARKET OPERATIONS DURING 2010

A Report Prepared for the Federal Open Market Committee by
the Markets Group of the Federal Reserve Bank of New York
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FEDERAL RESERVE BANK OF NEW YORK, MARKETS GROUP

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I. IMPLEMENTATION OF MONETARY POLICY IN 2010

A. Policy Overview

Throughout 2010, the Federal Open Market Committee (FOMC) maintained its target range for the overnight federal funds rate—its conventional operating objective for open market operations—at 0 to ¼ percent, a range that it first adopted in December 2008. In the statements released following each regularly scheduled meeting, the Committee reiterated that it anticipated economic conditions would likely warrant exceptionally low levels of the federal funds rate for an extended period. With the interest rate paid on reserve balances at ¼ percent throughout the year, and with the level of these balances at exceptionally high levels as a byproduct of policy actions that influenced the size of Federal Reserve asset holdings, open market operations specifically aimed at controlling the level of reserve balances were not needed to keep the federal funds rate within its target range.[1]

Because the ability to reduce short term nominal interest rates was effectively constrained by the zero bound, the FOMC used adjustments to the quantity and types of securities in the System Open Market Account (SOMA) as a way to provide further monetary accommodation during 2010. Accordingly, the policy directives for open market operations (OMOs) issued by the FOMC to the Trading Desk of the Federal Reserve Bank of New York (FRBNY) included objectives for either the amount of purchases of particular types of securities or the total level of outright holdings of domestic securities in the SOMA.[2] Early in the year, OMOs were aimed at completing purchases of debt issued by government sponsored entities (GSEs, or agencies) and mortgage-backed securities (MBS) guaranteed by those agencies, under a large scale asset purchase (LSAP) program that began in late 2008. After these purchases were completed and as economic and financial conditions evolved during 2010, operating objectives for OMOs and the SOMA focused on the re-investment approach for principal payments on the securities previously acquired. And late in the year, operating objectives were aimed at further expanding total SOMA holdings through additional purchases of longer term Treasury securities.

Most Committee members felt that these policy actions, which focused on the quantity of longer term assets in the SOMA, could influence economic conditions by pushing longer-term interest rates lower than they would otherwise be, operating through a so-called "portfolio balance" channel.[3] Under this view, Federal

[1] Reserve balances are the deposits held by depository institutions at Federal Reserve Banks that are either used to meet reserve requirements or counted as excess reserves.
[2] The policy directives issued by the FOMC to the Desk in 2010 are reproduced in Appendix C.
[3] See Minutes of the Federal Open Market Committee, August 10, 2010, page 8, http://www.federalreserve.gov/monetarypolicy/files/fomcminutes20100810.pdf, for a summary of the Committee

Reserve purchases of longer-term securities change the quantity and mix of financial assets available to the public and push investors into holding other assets with similar maturity characteristics, helping to depress longer-term yields and to make broader financial conditions more supportive of economic growth. However, the channels through which changes in the holdings of securities by the Federal Reserve can affect financial conditions and the magnitude of any such effects have been the subject of some debate.[4]

In other policy developments during 2010, in light of the improved conditions in financial markets that began to take hold in 2009, the Federal Reserve closed the temporary special liquidity facilities that it had created to support financial markets during the period of acute strain, although temporary swap lines were later reestablished with several central banks. The Federal Reserve also continued to develop instruments to drain reserve balances, to ensure that it has the tools to facilitate a smooth exit from the period of unusually accommodative monetary policy at the appropriate time.

B. Organization of the Report

This report reviews the conduct of open market operations and other developments that influenced the balance sheet of the Federal Reserve in 2010. Policies and operations associated with outright holdings of domestic assets in the SOMA are discussed in Section II. Characteristics of the expanded SOMA portfolio are reviewed in that section as well. Developments in the various Federal Reserve lending arrangements are presented in Section III. This review includes a discussion of the wind down of various lending facilities that were used to support financial conditions from 2007-2009, developments in institution-specific credit extensions initiated during that same period, and activity at the Federal Reserve's securities lending program. The behavior of reserve balances and other balance sheet factors that affected the supply of reserve balances are described in Section IV. Recent patterns in key short-term funding markets that historically have been most influenced by reserve levels and the development of new temporary reserve draining tools intended to ensure that operating objectives for the federal funds rate can be achieved are described in Section V, followed by concluding observations.

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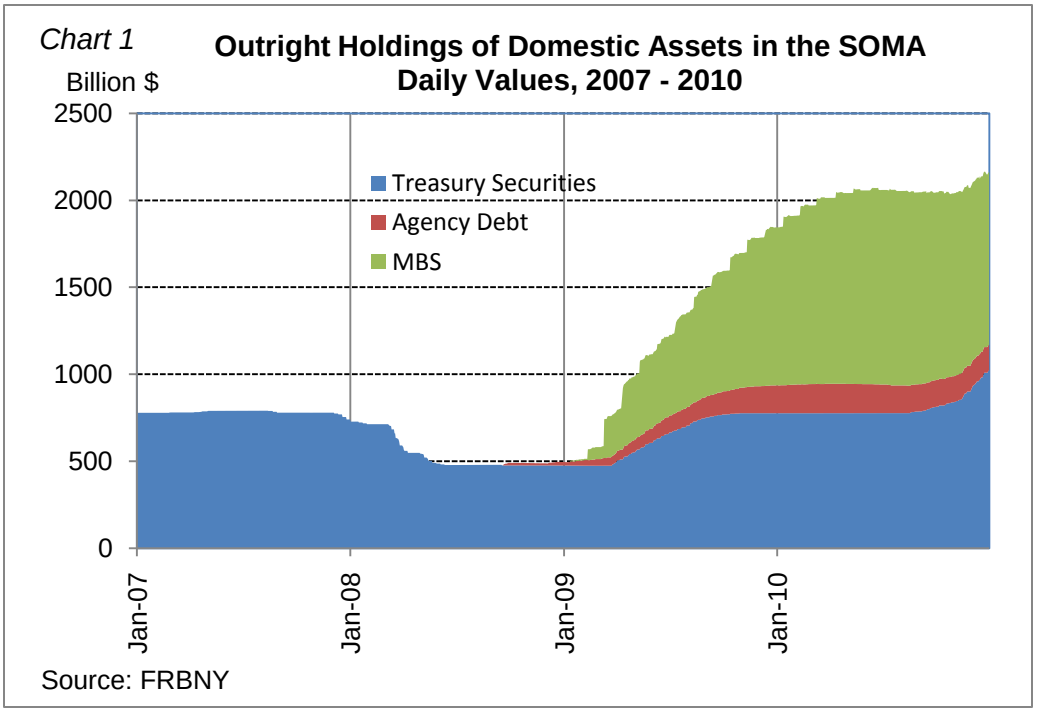
discussion about how adjustments to SOMA holdings could affect longer term interest rates. The portfolio balance mechanism is also described in "The Economic Outlook and Monetary Policy," remarks by Chairman Ben S. Bernanke at the Federal Reserve Bank of Kansas City Economic Symposium, Jackson Hole, Wyoming, August 27, 2010, http://www.federalreserve.gov/newsevents/speech/bernanke20100827a.htm.

[4] Some empirical evidence suggesting that securities purchases by the Federal Reserve were successful in bringing down longer-term interest rates is cited in "Monetary Policy Objectives and Tools in a Low-Inflation Environment," remarks by Chairman Ben S. Bernanke at the Federal Reserve Bank of Boston Conference on Revisiting Monetary Policy in a Low-Inflation Environment, October 15, 2010, http://www.federalreserve.gov/newsevents/speech/bernanke20101015a.htm.

II. OUTRIGHT HOLDINGS OF DOMESTIC SECURITIES IN THE SOMA PORTFOLIO

A. Policy Decisions Affecting the SOMA Portfolio

Prior to the financial crisis, outright holdings of securities in the SOMA consisted almost exclusively of Treasury securities.[5] The size of outright SOMA holdings was determined by the net value of other items on the balance sheet of the Federal Reserve, most notably the level of Federal Reserve note liabilities and the temporary open market operations that were used to actively manage the level of reserves to control the federal funds rate. In July 2007, just ahead of the onset of the financial crisis, the value of SOMA outright holdings totaled $791 billion, comprised solely of Treasury securities (**Chart 1**).[6] During the crisis, a large portion of these holdings, including almost all Treasury bills held, were either sold or redeemed to offset the impact on reserves of expanded lending through various liquidity facilities.[7] Consequently, Treasury holdings fell to $497 billion in late 2008.[8]



[5] A relatively small amount of agency debt had been purchased on an outright basis and held in the SOMA previously, beginning in 1971. New purchases were stopped in 1981, and beginning in 1997 all agency holdings were allowed to mature without replacement, the last issue maturing in 2003.

[6] Unless otherwise indicated face values of SOMA holdings will be reported throughout this section. This amount includes realized inflation compensation on holdings of Treasury Inflation-Indexed Securities.

[7] Under the operating procedures used at the time, the reserve effects of policy initiatives that influenced asset holdings on the balance sheet needed to be offset to maintain the federal funds rate around the target level set by the FOMC. For a description of those operating practices and the reduction in holdings of short-term Treasury securities, which began in 2007, see Domestic Open Market Operations during 2008, http://www.newyorkfed.org/markets/omo/omo2008.pdf.

[8] Total outright holdings in the SOMA remained slightly above this amount because of a small program to purchase $12 billion of agency discount notes that was introduced in September 2008. All these holdings matured before 2010.

By the start of 2010, total domestic securities held outright in the SOMA had expanded to $1.845 trillion as a result of policy decisions taken by the Committee beginning in late-2008 to purchase up to $1.75 trillion of MBS, agency debt, and longer-term Treasury securities.[9] The Desk completed these purchases by March 31, 2010, pushing outright SOMA holdings to $2.014 trillion at that time. The MBS purchases were arranged on a forward settling basis, and unsettled amounts of previously arranged purchases were $155 billion at the start of 2010 and $104 billion when the purchase programs were completed at the end of March.

The initial reinvestment practice associated with the securities acquired under these purchase programs was to exchange all maturing Treasury debt for new issues at Treasury auctions, consistent with historical practice, but to receive MBS principal payments and allow agency debt to mature without reinvestment. At first, the implications of this approach for the size of the SOMA were small because the pace of prepayments on the recently purchased MBS was quite low. By summer 2010, though, mortgage rates had fallen to historic lows, and the pace of MBS prepayments was accelerating. Most Committee members felt that the resulting decline in the SOMA would mean private investors would have to hold more longer term securities, making longer term interest rates somewhat higher than they would be otherwise, and that the resulting tightening of financial conditions was seen as inappropriate given the economic outlook.[10] Consequently, at the August FOMC meeting, the Committee directed the Desk to keep constant the level of SOMA holdings by reinvesting principal payments from agency debt and MBS into longer-term Treasury securities.[11] Through purchases of Treasury securities, the Desk sought to maintain the total value of SOMA holdings at around $2.054 trillion, its value as of August 4.[12]

With progress towards its statutory objectives of maximum employment and price stability disappointingly slow in the fall of 2010, most Committee members judged it appropriate to provide additional monetary

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[9] On November 25, 2008, the FOMC announced plans to purchase up to $500 billion of Fannie Mae, Freddie Mac, and Ginnie Mae MBS and up to $100 billion of debt issued by Fannie Mae, Freddie Mac, and the Federal Home Loan Banks. On March 18, 2009 these amounts were expanded to up to $1.25 trillion of MBS and up to $200 billion of agency debt, to be completed by the end of 2009, and expanded to include purchases of up to $300 billion of longer term Treasury securities over the following six months. The FOMC stated that the purchases of agency related securities should support mortgage lending and housing markets and that purchases of longer -term Treasury securities should help improve conditions in private credit markets. On September 23, 2009, the FOMC extended the period over which purchases of agency debt and MBS would be arranged to March 31, 2010.

[10] See Minutes of the Federal Open Market Committee, August 10, 2010, http://www.federalreserve.gov/monetarypolicy/files/fomcminutes20100810.pdf.

[11] Most Committee members judged that it would be better to reinvest principal payments on agency debt into longer term Treasury securities, in light of current conditions in the MBS market and the Committee's desire to eventually normalize the composition of the SOMA portfolio. See Minutes of the Federal Open Market Committee, August 10, 2010.

[12] Due to differences in statement dates for the Treasury purchases and principal payments on MBS and agency debt, the actual level of domestic securities in the SOMA varied slightly around this level. Also, at this point almost all previous purchases of MBS had settled and outstanding net purchases which had not yet settled were under $3 billion.

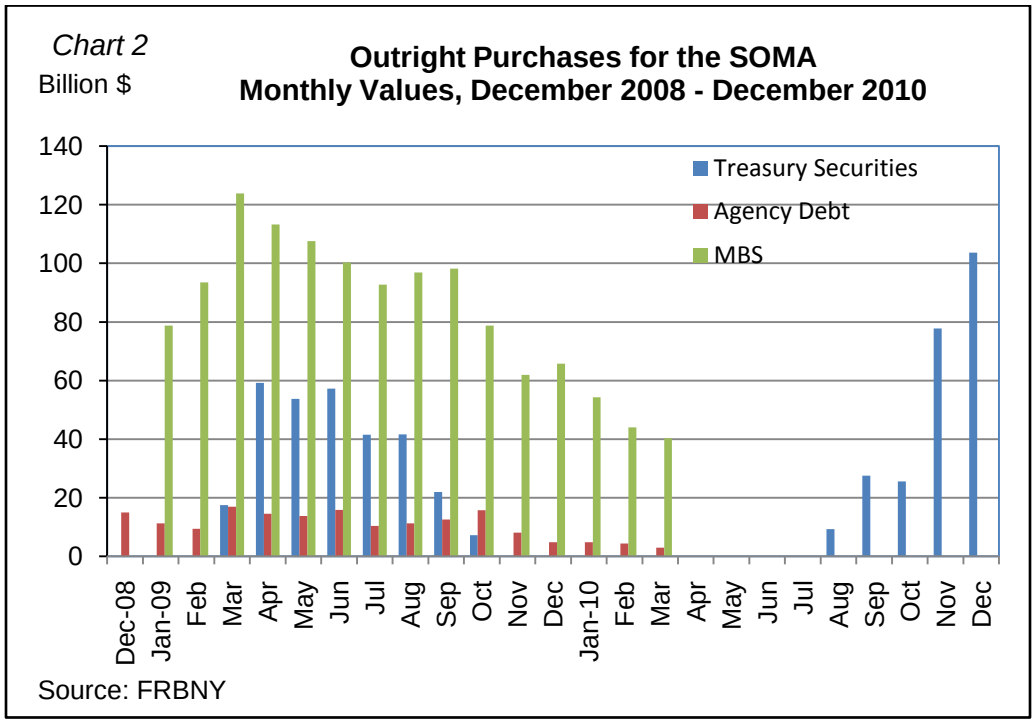
accommodation.[13] Accordingly, the FOMC announced at its November meeting that it intended to increase the total face value of domestic securities in the SOMA portfolio to approximately $2.6 trillion by the end of June 2011 by purchasing a further $600 billion of longer term Treasury securities in addition to any amounts associated with the reinvestment of principal payments on agency debt and MBS. The Committee also indicated that it would regularly review the pace of its securities purchases and the overall size of its asset purchase program in light of incoming information and make adjustments as needed. As a result of these purchases, at the end of the year the total value of domestic securities held outright in the SOMA had risen to $2.156 trillion, about $100 billion above the level prevailing just ahead of the November meeting.

B. SOMA Outright Transactions and Holdings by Asset Category

1. Mortgage-Backed Securities

Purchases and Holdings

During the first quarter of 2010, the Desk purchased $139 billion of MBS to complete the $1.250 trillion of total purchases under the large-scale asset purchase program (**Chart 2**).[14] Beginning in October 2009, the Desk gradually reduced the pace of these purchases to reduce the possible impact on the market when purchases ultimately stopped.



[13] See Minutes of the Federal Open Market Committee, November 2-3, 2010, http://www.federalreserve.gov/monetarypolicy/files/fomcminutes20101103.pdf.

[14] Unless otherwise indicated, reported purchase figures for MBS refer to net purchase amounts. All SOMA purchases were of MBS guaranteed by Fannie Mae, Freddie Mac or Ginnie Mae.

Holdings of MBS in the SOMA rose from $908 billion at the start of the year to a peak of $1.129 trillion in June (**Chart 3**). Most of the MBS purchases were securities with coupons of 4.0%, 4.5% and 5.0%, the prevailing coupons being originated at the time of purchase (**Chart 4**). During 2010, both scheduled and unscheduled repayment of principal reduced the total level of holdings such that MBS in the SOMA at the end of 2010 was $992 billion.

Chart 3

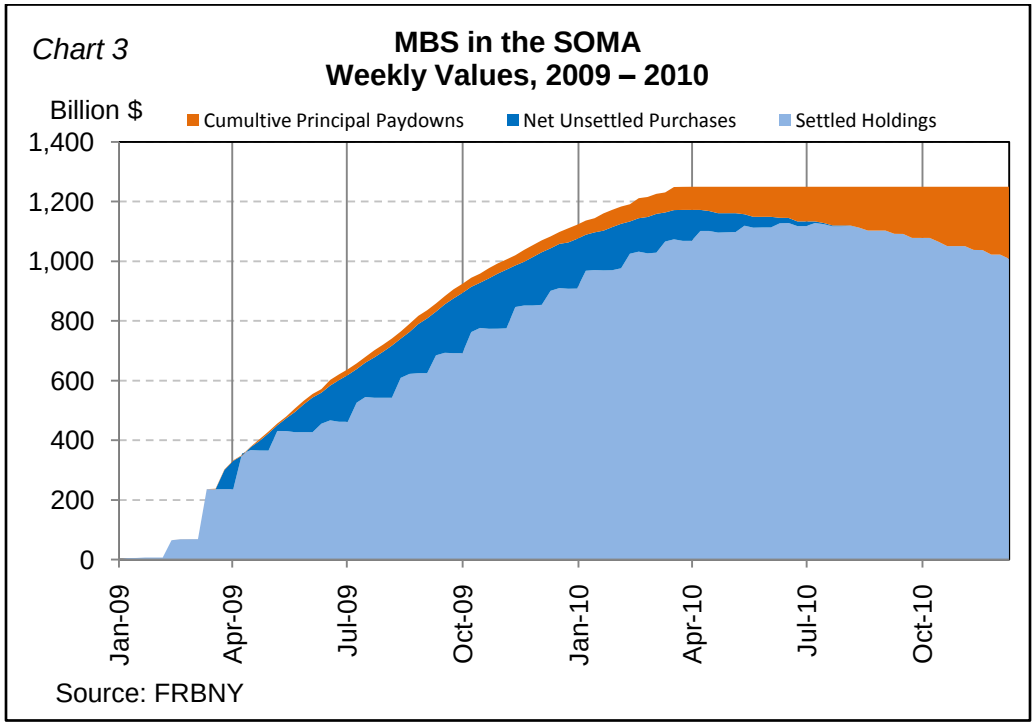
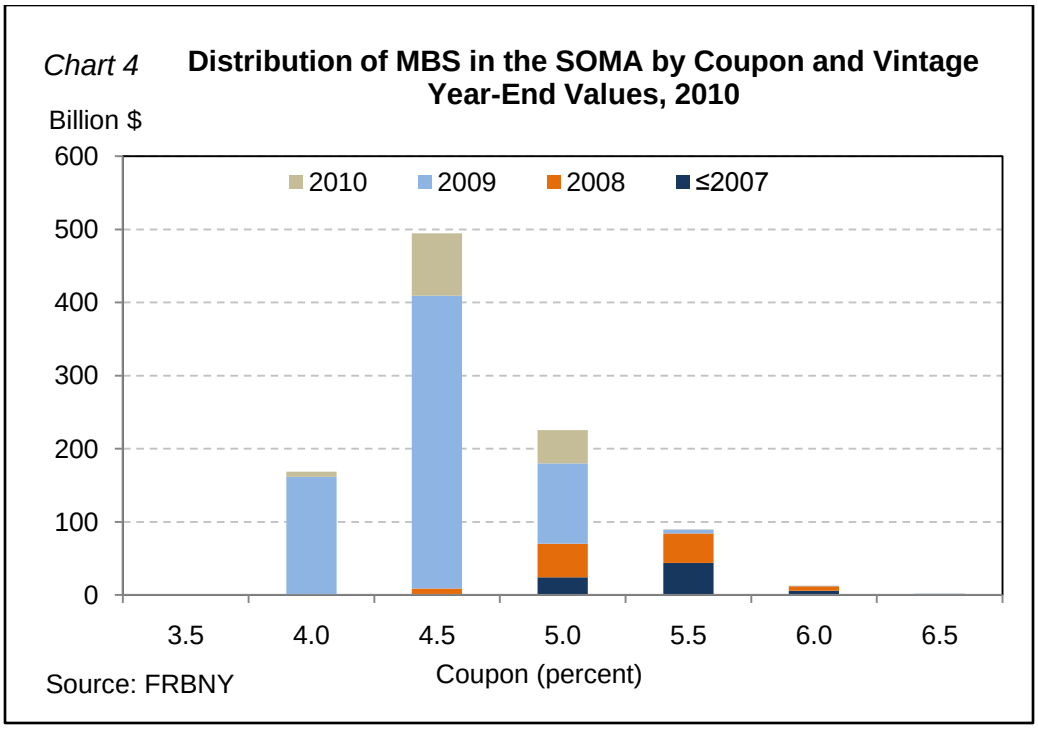


Chart 4



Dollar Rolls and Coupon Swaps

While outright purchases were completed in March, Desk activity in MBS continued through August to facilitate the settlement of outstanding, unsettled MBS.[15] In particular, the Desk sold "dollar rolls," which are transactions in which MBS for delivery on one date are sold with a simultaneous agreement to repurchase "substantially similar" securities on a specified future date. These transactions effectively defer the delivery date on previously arranged purchases, to give counterparties more time to find securities to deliver.[16] The Desk sold slightly over $100 billion in dollar rolls in 2010, peaking in February at $26 billion, with many dollar rolls arranged after outright purchases had ended in March.

Settlement pressures were severe for Fannie Mae MBS with 5.5% coupons in the spring and early summer. To help alleviate this pressure, the Desk conducted a relatively small amount of "coupon swaps." Coupon swaps, common in the MBS market, are transactions that combine the sale of one particular type of MBS with the simultaneous agreement to purchase a different MBS. Using coupon swaps, the Federal Reserve sold Fannie Mae 5.5% coupon MBS that it had previously purchased but had not settled, and bought Fannie Mae 4.5% coupon securities that were more readily available in the market. All of the Desk's swap transactions were arranged between June 28 and July 8 and totaled $9.15 billion in par amount.[17] These transactions, while relatively small in size, contributed to a temporary improvement in the settlement of MBS securities generally and, in particular, helped in the settlement of the Desk's purchases.

Prepayment Activity

Principal payments in 2010 mostly reflected early repayments of principal from borrowers paying off outstanding loans. A small amount of regularly scheduled principal payments also reduced the face value of holdings. Principal payments of MBS in the SOMA portfolio totaled $210 billion in 2010, up from $47 billion in 2009. The pace of monthly prepayments grew during the year, starting off at $10 billion in January and generally rising through the year to more than $30 billion by December as a result of the steady decline in mortgage rates from April to early November (**Chart 5**).

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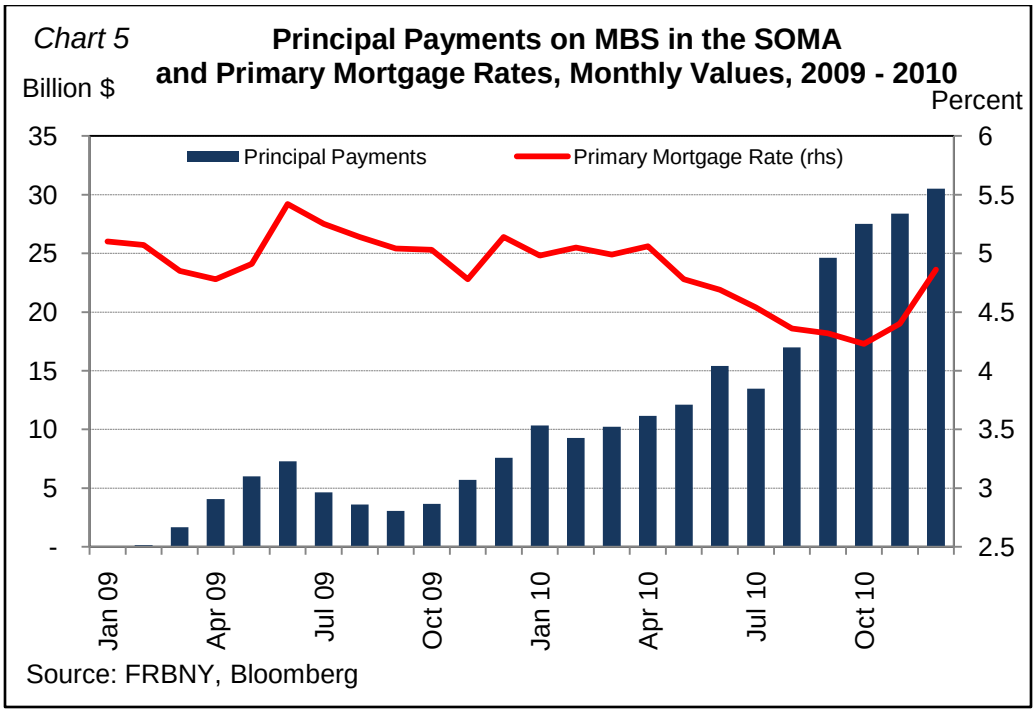
[15] Sizable settlement "fails" in the market as a whole were at least partly a byproduct of the Desk's large purchases and total SOMA holdings of MBS, which reduced the supply in the market available for other sellers to meet outstanding obligations to deliver securities. Data on MBS settlement fails reported by the primary dealers is available at http://www.newyorkfed.org/markets/primarydealers.html. The actual incidence of settlement fails on the Desk's purchases was small, with the most outstanding in 2010 being $14 billion in April.

[16] In 2009, the Desk also bought dollar rolls, but it arranged no such transactions in 2010.

[17] These swaps were conducted for equal face amounts. Since 5.5% coupons traded at higher values than 4.5% coupons, the swaps generated a cash inflow of $339 million as compensation for the lower expected cash flows from the lower coupon securities.



Operational Approach

Purchases of MBS were arranged on most days through March 31.[18] At the beginning of 2010, the Desk followed the approach, announced in August 2009, of conducting MBS purchases and dollar rolls from primary dealers through a single investment manager, Wellington Management. On March 2, 2010, the Desk began to use internal staff to execute some of the MBS purchases.[19] Initially, the Desk alternated trading days with Wellington Management, but it subsequently assumed full trading responsibilities. The dollar roll and coupon swap trades after March 31 were executed exclusively by the Desk, with Wellington continuing to provide settlement support.

2. Agency Debt

Purchases and Holdings

In 2010, the Desk purchased $12 billion of agency debt, completing purchases totaling $172 billion under the program initially announced in November 2008. As it did with MBS purchases, the Desk gradually reduced the pace of agency debt purchases to lessen the possible impact on the market when purchases ultimately stopped. By the end of 2010, $25 billion of the agency debt purchased had matured.

[18] Information about MBS transactions for the SOMA portfolio can be found at http://www.newyorkfed.org/markets/mbs/.
[19] The Desk arranges its MBS transactions using TradeWeb or Bloomberg trading systems.

Operational Approach

The Desk arranged its agency debt purchases in 2010 through the primary dealers using the same electronic auction platform (FedTrade) that it uses for most of its open market operations. In all, ten operations were arranged, each organized as a multiple-price auction soliciting bids from all the dealers for an announced maturity sector, with the final operation conducted on March 24. The purchase program targeted relatively liquid or "benchmark" securities representing those maturity points where the agencies concentrate their issuance.[20]

3. Treasury Securities

Purchases and Holdings

Prior to the August FOMC meeting, the Desk neither purchased nor sold Treasury securities in 2010, other than to reinvest proceeds received from maturing securities at auctions of new Treasury debt. Outright purchase operations resumed on August 17, after the FOMC directed the Desk to keep total holdings of securities in the SOMA at their current level by reinvesting principal payments from agency debt and MBS into longer-term Treasury securities. Between the August and November FOMC meetings, the Desk purchased $65 billion in Treasury securities to satisfy this directive.

The pace of purchases increased following the November FOMC meeting, reflecting the Committee's decision that it intended to further expand the SOMA by purchasing an additional $600 billion in Treasury securities by the end of the second quarter in 2011, a goal that would require average monthly purchases of about $75 billion in addition to the amounts to be purchased under the reinvestment program announced in August. The operation on November 12 was the first to incorporate this higher objective for total SOMA holdings. From the November FOMC meeting until the end of the year, the Desk purchased $179 billion, bringing total purchases of Treasury securities in 2010 to $244 billion and the level of holdings at year end to $1.015 trillion.

Operational Approach

While in many ways the procedures used to arrange outright purchases of Treasury securities in 2010 were similar to those used in the past, the Desk made several modifications to its operational framework. The Desk released an operating policy following the FOMC's August meeting that would guide its outright

[20] Data on the Desk's agency debt transactions is available at http://www.newyorkfed.org/markets/soma/agencies.html.

purchases of longer-term Treasury securities, and the policy was further refined following the November FOMC meeting.[21]

The Desk's operating policy involved publishing the anticipated amount of total purchases it expected to arrange between the middle of the current month and the middle of the following month, the dates of operations, and the maturity range for each operation. This information was published around the middle of each month.[22] With the expansion of purchases in November, the monthly announcement was expanded to include an expected range for the size of each operation. In mid-December, the Desk began releasing the prices paid in individual operations over the preceding month, including the weighted-average accepted price, the highest accepted price, and the proportion accepted of each proposition submitted at the highest accepted price.

The Desk continued to conduct outright purchases of Treasury securities through the primary dealers using a multiple-price auction format, arranging operations over the FedTrade electronic auction platform. Altogether, the Desk arranged 56 operations in 2010 over the period from August to the end of the year. Consistent with the policy objectives, purchases were concentrated in the 2- to 10-year maturity range of the nominal Treasury curve, although purchases also included other nominal Treasury coupon securities and Treasury Inflation-Indexed Securities. Consistent with longstanding practice, securities that were trading with heightened scarcity value in the repo market for specific collateral, or that were cheapest to deliver into the front-month Treasury futures contracts, were excluded.

To provide operational flexibility and to ensure that it was able to purchase the most attractive securities, effective November 10, the Desk temporarily relaxed the 35 percent per-issue limit on SOMA holdings as a share of total outstanding supply. The percentage amount by which holdings of a single issue could increase above 35 percent in any one operation, however, was limited. On December 20, a graduated set of purchase limits was imposed that capped per-issue holdings at 70 percent.[23]

Throughout the year, the Desk continued to roll over maturing Treasury holdings using its traditional approach of replacing maturing holdings with newly issued debt at Treasury auctions. For maturing bill proceeds, the full amount was reinvested in new 4-week Treasury bills. For maturing coupon securities, the

[21] Transaction data and FAQs about the Desk's operations in Treasury securities are available at http://www.newyorkfed.org/markets/openmarket.html.
[22] This release was made on the eighth business day of each month to incorporate upcoming MBS prepayment amounts, which become known at the end of the fourth business day of each month.
[23] The full schedule of purchase limits is shown at http://www.newyorkfed.org/markets/lttreas_faq.html.

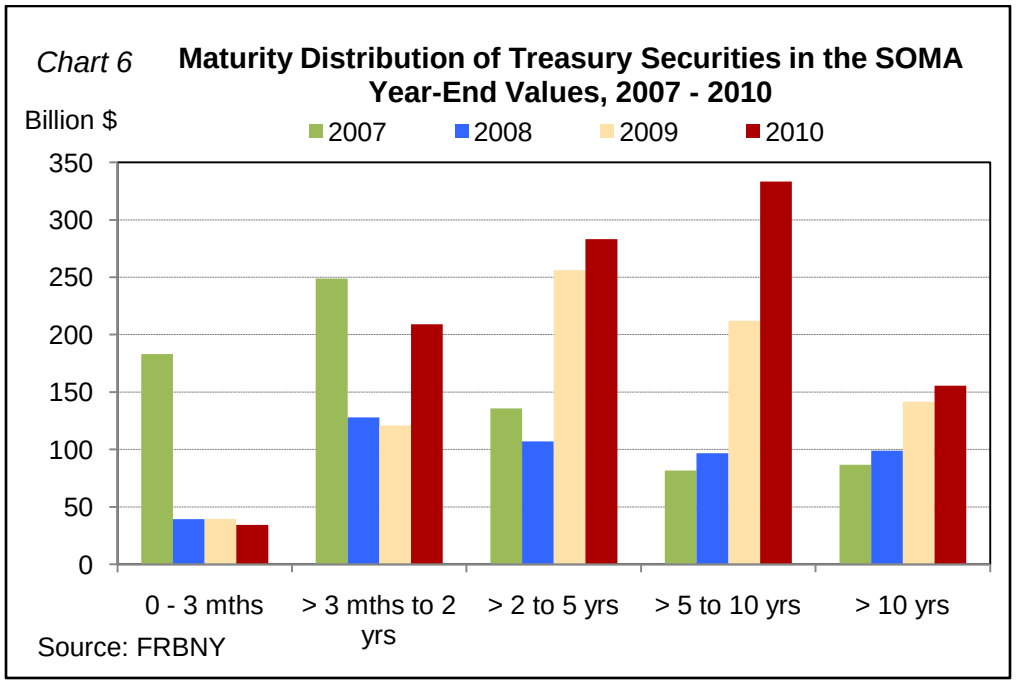
Desk reinvested maturing securities by placing add-on, non-competitive bids for the SOMA at Treasury auctions, equal to the amount of its holdings maturing on the issue date of a new security.[24]

C. SOMA Portfolio Characteristics

The effect of policy actions since the onset of the financial crisis has been to produce a larger SOMA portfolio that is also more heavily weighted towards holdings of non-Treasury securities and longer term debt compared to previous years. In this section we describe the maturity structure of the SOMA as of the end of 2010 and the income flows associated with this different portfolio structure.

Maturity Structure and Composition

Prior to the financial crisis, SOMA holdings of Treasury securities were skewed towards the shorter end of the maturity spectrum. Consistent with the policy objectives of the asset purchase programs, purchases of Treasury securities during 2009 and 2010 were weighted towards longer term securities. The effect of this shift in the pattern of purchases, as well as the rundown in short term holdings in 2008, is evident in the maturity structure of Treasury holdings in the SOMA (**Chart 6**). The value of holdings of securities with maturities of between two and ten years in both absolute terms and as a share of all Treasury securities in the SOMA was much higher at the end of 2010 than it was in 2007.



[24] On dates when more than one new Treasury issue settled, the Desk allocated the reinvestment of funds from maturing SOMA holdings across new issues. The Desk maintained the 35 percent limit on reinvestments at Treasury auctions. The Desk would redeem any amount needed to avoid breaching the limits, but the limits were not binding in 2010.

The Desk's holdings of agency debt at the end of 2010 were instead concentrated in securities with less than three years to maturity, and nearly all of the agency debt held at the end of 2010 matures by June 2018, reflecting the fact that agency debt purchases focused on the shorter maturities where issuance was greatest.

Almost all of the MBS purchased for the SOMA were backed by 30-year conventional mortgages. Repayment of principal on these types of securities is sensitive to many factors besides the contractual maturity of the underlying loans because of the option that households have to repay their mortgages early. As noted previously, prepayments in 2010 rose following declines in mortgage rates during the year. The rise in mortgage rates late in the year, however, suggests that most of the mortgagors underlying the MBS held in the SOMA will have little incentive to refinance, so the pace of prepayments on these SOMA holdings is likely to slow in 2011.

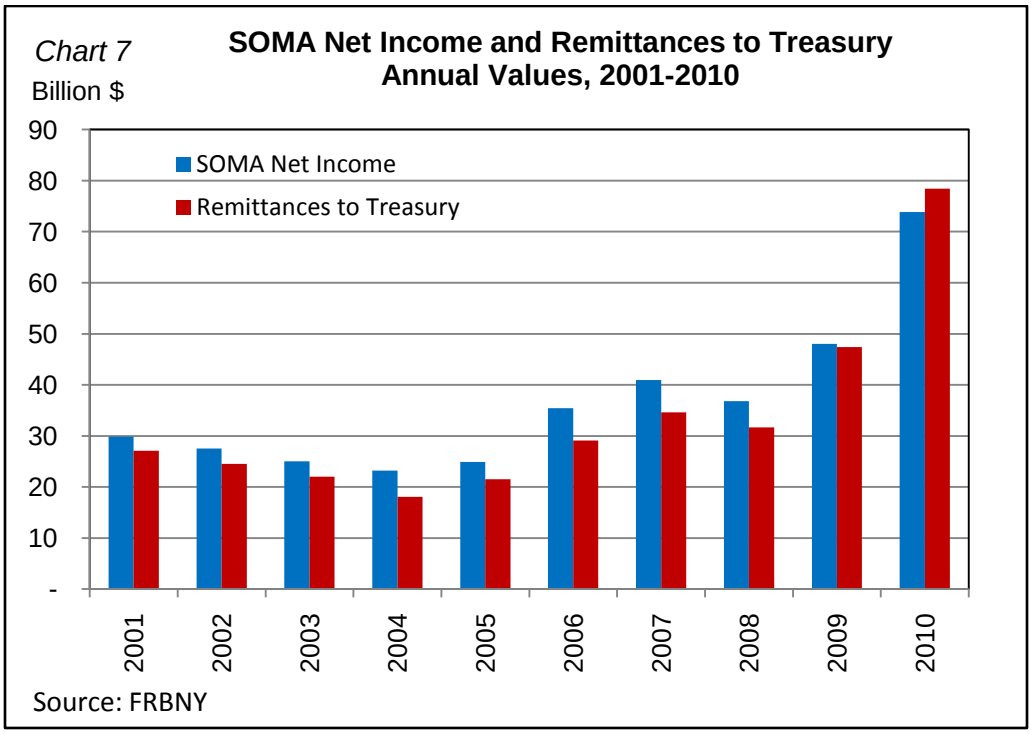
Prepayment speeds will depend on other underlying characteristics of the more than 4 million mortgagors backing the MBS held by SOMA. For example, most of the mortgages underlying the MBS in the SOMA were originated in 2008 and 2009, after credit standards had been tightened considerably. As more creditworthy mortgagors presumably should be able to refinance more readily whenever they have a financial incentive to do so, the prepayment rates for the MBS in the SOMA may be somewhat above those on older vintages of MBS.

The weighted average remaining life of the MBS held in the SOMA at the end of 2010 was estimated to be about 4.2 years.[25] While not strictly comparable, the average maturity of Treasury holdings was 6.4 years at the end of 2010.[26] At the end of 2006, the average maturity of Treasury securities, which accounted for all outright holdings in the SOMA at that time, was 3.4 years. Thus, in addition to being both larger and including many non-Treasury securities, the SOMA portfolio consisted of a proportionately larger amount of longer-term securities at the end of 2010 than it did before the onset of the financial crisis.[27]

[25] To help assess the portfolio of MBS holdings in the SOMA and to project future prepayments under various scenarios, the Desk uses analyses and monitoring tools purchased from external vendors. The estimate of the average remaining life is subject to considerable uncertainty because of the many factors that affect actual prepayment speeds.
[26] Although purchases of Treasury securities since 2008 have been concentrated in longer term securities, the average maturity of this portfolio has not changed significantly since then because the average maturity of these purchases has been similar to the average maturity of the Treasury holdings that remained in the SOMA after the sales and redemptions of 2008. In fact, the average maturity of Treasury holdings has fallen slightly over the past two years because existing holdings have aged while new purchases have held roughly constant in maturity composition.
[27] As of the end of 2010, the average maturity of agency debt in the portfolio was 2.9 years, but these securities accounted for only a very small portion of the total portfolio.

Portfolio Income

The expansion of the SOMA and concentration of holdings in longer term securities led to a substantial further increase in net income in 2010, which in turn contributed to a large rise in remittances to the U.S. Treasury from the Federal Reserve.[28] SOMA net income was $74 billion in 2010, up from $48 billion in 2009 and well above the typical levels observed ahead of the financial crisis (**Chart 7**).[29]



Many factors will influence the path of SOMA net income in the future. For instance, earnings on the SOMA would be expected to decline if the size of the total portfolio were to move back towards pre-crisis levels. Portfolio income will also be affected by changes in portfolio composition, as these changes could affect the coupon income realized from the assets held. And, for a given portfolio of fixed coupon securities, increases in the interest rate paid on reserves would reduce SOMA net income.

[28] The primary component of SOMA net income is the interest income earned on the outright holdings of domestic securities, but it also reflects all other earnings and interest expense (including interest income on foreign currency denominated assets and interest expense on reverse repurchase agreements) associated with the SOMA portfolio. SOMA net income is also measured net of the interest paid on reserve balance liabilities created by SOMA assets. Remittances to the Treasury reflect all Federal Reserve earnings in excess of those needed for operating costs, dividends and capital maintenance. In general, remittances are close to SOMA net income.

[29] Remittances in 2008 and 2009 were lifted by net earnings associated with the temporary lending facilities created by the Federal Reserve.

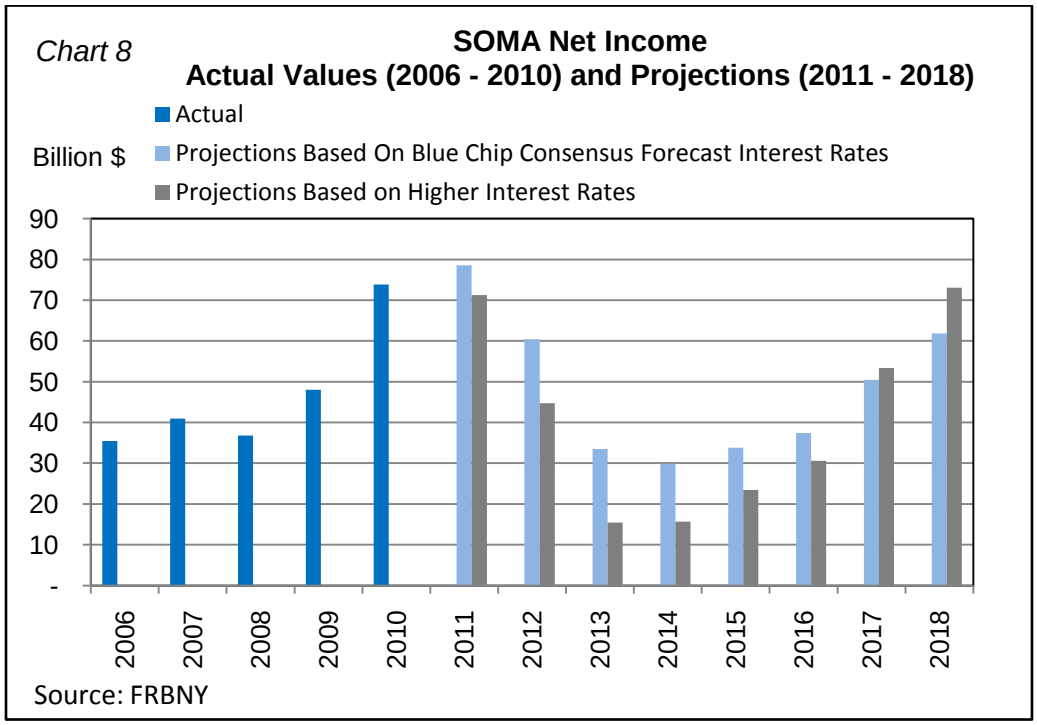
Another factor that could affect future SOMA net income is the difference in the value of any securities that might be sold in the future from their book value.[30] As the market value of these securities will move inversely with the level of longer-term interest rates, capital losses could be realized if the FOMC were to decide to sell assets in a higher interest rate environment, which would reduce SOMA net income.[31]

The realized path of SOMA net income will therefore depend on the evolution of interest rates and future policy decisions made by the FOMC about the size and composition of the SOMA portfolio. To provide an illustrative example, a projection of SOMA net income out to 2018 was made under a particular set of assumptions for these factors. In particular, interest rates were assumed to evolve according to the Blue Chip consensus forecast, with short-term interest rates rising to around 4 percent and the ten-year Treasury yield rising to between 5 ¼ and 5 ½ percent.[32] In addition, the size and composition of the Federal Reserve balance sheet were assumed to evolve in a manner similar to that assumed in a recent research paper by Chung, Laforte, Reifschneider, and Williams.[33] Specifically, SOMA domestic asset holdings grow to $2.6 trillion by June 2011, remain at that level until mid-2012, and then fall steadily over a four year period at a pace of roughly $80 billion per quarter through a combination of asset redemptions and asset sales.[34]

Based on these assumptions, SOMA net income would be expected to remain quite elevated over the next two years, to subsequently decline for several years to a trough in 2014, and to rise again thereafter (**Chart 8**). The decline in income from 2012 to 2014 results primarily from the assumed rise in interest rates and from the declines in SOMA outright holdings. The rise in interest rates would reduce net income by increasing interest payments on reserve balance liabilities, although this effect declines over time since reserves shrink as the size of the SOMA falls. In addition, the assumed sales of securities generate capital losses in these projections, which further reduce income. Nonetheless, SOMA net income remains sizable throughout the

[30] The book value will be their value at the time of purchase, adjusted for any amortized premium or accreted discount.
[31] For MBS, the inverse relationship between the market value of the portfolio and interest rates is amplified by the response of mortgagors to interest rate changes. For example, higher rates would not only make current holdings of MBS less attractive relative to newly issued securities having higher coupons, but would also reduce the expected prepayment speeds on the mortgages underlying these securities.
[32] These assumptions are based on long-range consensus interest rate projections from "Blue Chip Economic Indicators: Top Analysts' Forecasts of the U.S. Economic Outlook for the Year Ahead," Vol. 36, No. 3, March 10, 2011.
[33] See "Have We Underestimated the Likelihood and Severity of Zero Lower Bound Events?" Federal Reserve Bank of San Francisco Working Paper, 2011-01. For balance sheet projections, the authors make illustrative assumptions about SOMA reinvestment and sales policies, reserve levels, and growth in Federal Reserve note liabilities. The portfolio assumptions behind the SOMA net income projections presented here are similar to the "Phase 3" assumptions made in the research paper. These projections are based on historical SOMA holdings through February 2011. Minor sources of net income, such as income on foreign assets held in the SOMA, were ignored in constructing these estimates.
[34] Under these assumptions, by mid-2016 the size of the SOMA is consistent with reserve balances close to levels prevailing just ahead of the crisis. But as some MBS would remain in the portfolio at this time under these assumptions, sales of these securities continue for about another year until completely eliminated from the portfolio, the impact of these sales on portfolio size being offset by purchases of Treasury securities. By 2018, the portfolio is renormalized in both its composition and its size.

projection period in these projections, and even the lowest projected levels are close to amounts prevailing just ahead of the financial crisis.[35]



To provide a sense of the sensitivity of the projections to alternative interest rate paths, SOMA net income was also projected under the assumption that all interest rates are 1 percentage point (100 basis points) higher than the Blue Chip forecast, while maintaining the same assumptions about the size and timing of adjustments to the SOMA portfolio.[36] Compared to the first set of projections, the higher interest rates reduce SOMA net income through 2016 by further raising the interest cost of reserves and the realized capital losses on asset sales. However, these effects subsequently disappear, as asset sales are assumed to be completed and reserve levels are significantly reduced. As a result, SOMA net income is actually higher beginning in 2017 under the alternative scenario, reflecting the greater interest income earned on the assets held in the SOMA. Of course, realizations of lower-than-expected interest rate paths would have effects in the opposite direction, initially raising SOMA net income relative to the first set of projections for several years and then reducing it in the outer years.

[35] Even though SOMA size and composition have been renormalized by 2018, projected net income is much higher than it was just ahead of the crisis, in part because of the ongoing growth in Federal Reserve note liabilities, on which the Federal Reserve does not pay any interest, which is offset by higher holdings of interest-bearing SOMA assets.
[36] The higher alternative interest rate path is phased in over six months beginning in March 2011, and then remains 100 basis points above the Blue Chip forecast for the remainder of the projection period.

Overall, many different paths for SOMA net income are possible over the projection horizon, depending on the realized course of interest rates, the SOMA portfolio, and other factors.

III. FEDERAL RESERVE LENDING ACTIVITY[37]

A. Short-Term Liquidity Provisions

Overview

A key component of the Federal Reserve's response to the extraordinary strains in the financial system that emerged in 2007 was the provision of short-term credit, extended through a number of liquidity programs, on a scale sufficient to promote financial stability. Individual liquidity programs differed from one another in many important ways, but all were tied to a central bank's lender of last resort role in the provision of short-term liquidity to financially sound institutions. In addition to making adjustments to the primary credit facility (PCF), several new arrangements for extending short-term credit were established between December 2007 and October 2008 under different authorizations within the Federal Reserve Act, most of which were still operational in 2010.[38] These additional facilities included the Term Auction Facility (TAF), the Central Bank Liquidity Swaps (swap lines), the Primary Dealer Credit Facility (PDCF), the Term Securities Lending Facility (TSLF), the Asset-Backed Commercial Paper Money Market Mutual Fund Lending Facility (AMLF), and the Commercial Paper Funding Facility (CPFF).[39]

Total outstanding credit arranged through all facilities peaked at $1.714 trillion in December 2008 (**Chart 9**).[40] Usage of these facilities declined markedly over the course of 2009 as conditions in wholesale funding markets improved, and by the start of 2010 total outstanding loans at all these facilities had fallen to $122 billion (**Chart 10)**.[41]

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[37] Further details about many of the lending arrangements described in this section, including their use throughout the period of financial market strain, are available at the following link: http://www.federalreserve.gov/monetarypolicy/bst.htm. Also, the impact of Federal Reserve lending arrangements on its income is described in "Income Effects of Federal Reserve Liquidity Facilities," Michael J. Fleming and Nicholas J. Klagge, FRBNY Current Issues in Economic and Finance, vol. 17, number 1, 2011, http://www.newyorkfed.org/research/current_issues/ci17-1.html. The authors estimate that between August 2007 and December 2009 many of the facilities described in this section contributed about $13 billion to income in excess of the cost of funds.

[38] Two other standing short-term discount window lending arrangements that are not discussed in this section are the Secondary Credit and the Seasonal Credit programs. The spread between the Secondary Credit and Primary Credit rates was maintained at 50 basis points throughout the period of financial stress, but otherwise the terms for these programs were not adjusted in order to help address financial market strains during 2007-2010, and lending amounts under these programs remained small throughout this period.

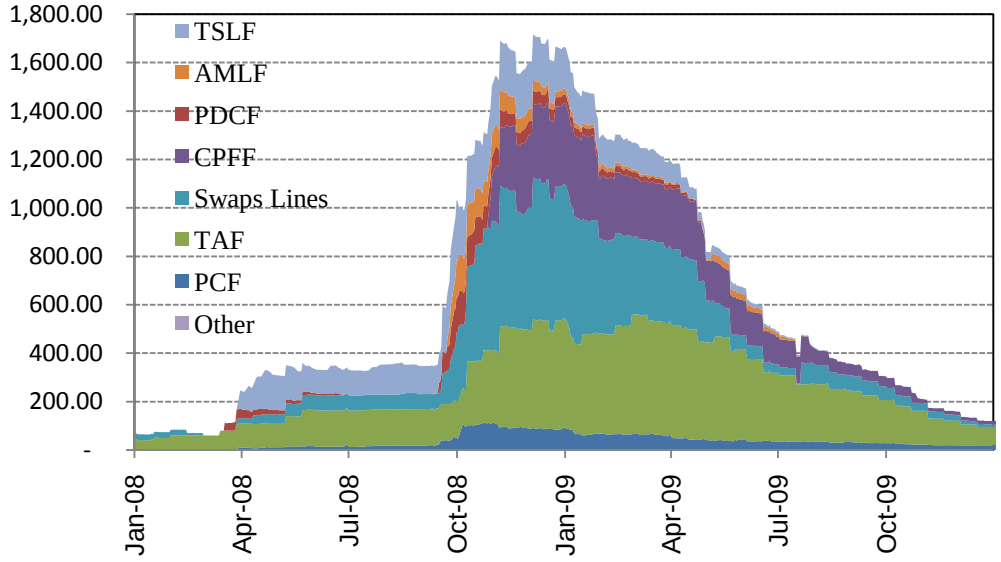
[39] The Money Market Investor Funding Facility (MMIFF) became operational in November 2008, but it was terminated in October 2009 with no loans having been arranged through the facility.

[40] Included are TSLF loans that were arranged as a result of both regular TSLF auctions and the TSLF Options Program (TOP). Not included are RPs associated with the 28-day single-tranche operations the Desk arranged against all OMO-eligible collateral types, which totaled $80 billion during much of 2008 but that matured in early 2009.

[41] Many of the facilities were designed so that credit would no longer be attractive relative to market alternatives as financial market conditions normalized.

Chart 9

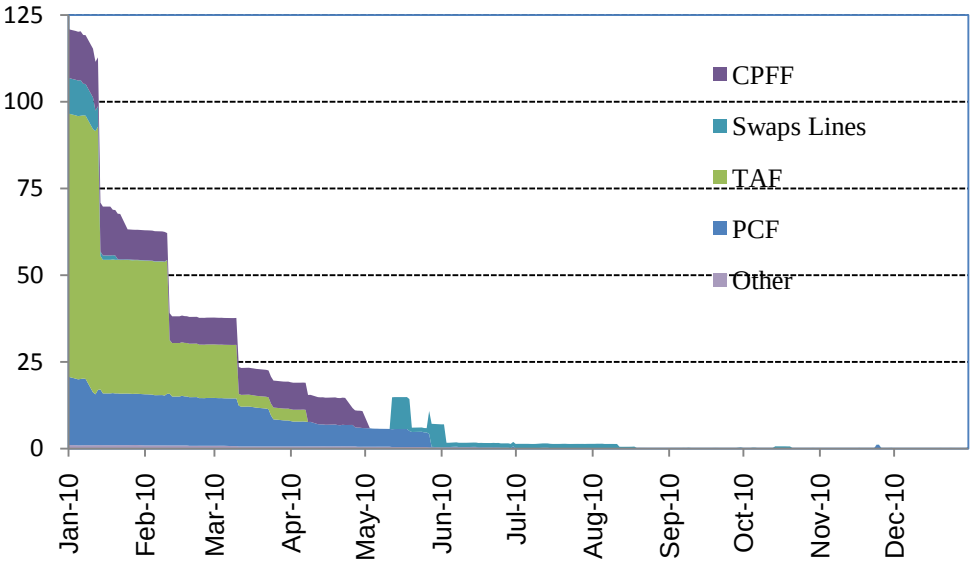
Loans Outstanding through Short-Term Liquidity Arrangements, Daily Values, 2008 - 2009



Source: FRBNY. "Other" includes Secondary and Seasonal Discount

Chart 10

Loans Outstanding through Short-Term Liquidity Arrangements, Daily Values, 2010



Source: FRBNY. "Other" includes Secondary and Seasonal Discount

In June 2009 the Board of Governors had approved the extension through February 1, 2010 of the AMLF, the CPFF, the PDCF, and the TSLF, and the FOMC had extended the swap lines to the same date.[42] The

[42] The TSLF also required the approval of the FOMC, as that facility was established under the joint authority of the Board and the FOMC.

Board did not set a fixed expiration date for the TAF at that time but anticipated that it would gradually reduce TAF funding so long as market conditions continued to improve. Given the continued improvement in financial conditions, the Federal Reserve allowed those facilities that had a February 1 termination date to expire as scheduled, and in early 2010 it took other steps to restore its arrangements for providing short-term liquidity to a more normal footing. As a result of these developments, total lending through these facilities declined substantially during the first several months of the year. Key developments in individual facilities during 2010 are described below.

Primary Credit Facility (PCF)

The Federal Reserve's primary credit facility (PCF) serves as a backup source of liquidity for depository institutions in generally sound financial condition and with appropriate collateral pledged to a Reserve Bank. The use of the facility is initiated by depository institutions and approved by Reserve Banks. This facility has been a critical component of the monetary policy implementation framework since it was established in 2003, one that helps the Desk achieve its operating objective for the overnight federal funds rate by working to limit upward rate pressures whenever there is a net reserve shortage or a disruption to payment flows. However, since the level of reserves in the banking system has reached extraordinarily large levels, usage of the PCF for these purposes has fallen.

Early in 2010, amid improving conditions in the bank funding markets, the Board unwound some of the special terms of the facility that were implemented during the financial crisis. First, as had been announced on November 17, 2009, effective January 14, 2010, the maximum maturity of PCF loans was reduced from 90 to 28 days. Then, on February 18, the Board announced that lending terms would return to overnight maturities for most loans, effective March 18. Additionally, on February 18, it increased immediately the PCF rate from 50 basis points to 75 basis points. This action widened the spread between the PCF rate and the rate paid on reserve balances (and corresponding to the upper end of the target range for the federal funds rate) back to 50 basis points, although it remained below the 100 basis point spread between the PCF rate and the target federal funds rate that prevailed ahead of the crisis. In making these modifications, the Board indicated that they were not expected to lead to tighter financial conditions, nor were they intended to signal any change in the outlook for the economy or monetary policy.

Borrowing activity continued to decline from elevated crisis levels, beginning the year at around $20 billion and, by the second half of the year, returning to the very low levels characteristic of the pre-crisis period. Improved market conditions, elevated levels of excess reserves held by many depository institutions, and the amelioration of some institution-specific circumstances all contributed to borrowing activity becoming limited in frequency and amount.

Term Auction Facility (TAF)

Established by the Board in December 2007 to provide term loans to depository institutions, the TAF had $76 billion of outstanding loans to depository institutions at the start of 2010. Only three TAF auctions, each for 28-day funds and in declining amounts, were arranged in 2010, and all were significantly undersubscribed. The final TAF loans matured on April 8.[43]

Primary Dealer Credit Facility (PDCF)

The PDCF was created in March 2008 to provide backup overnight funding for the primary dealers. The PDCF balance reached zero on May 13, 2009 and the program formally expired on February 1, with no lending having occurred in 2010.

Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF)

The AMLF became operational in September 2008 to extend non-recourse loans at the primary credit rate to U.S. depository institutions and bank holding companies to finance their purchase of high-quality asset-backed commercial paper (ABCP) from money market mutual funds at amortized cost. The last loans extended under this facility were arranged in May 2009 and matured in October of that year. There was no AMLF activity in 2010, and the program formally expired on February 1.

Commercial Paper Funding Facility (CPFF)

The CPFF was created in October 2008 as a liquidity backstop to U.S. issuers of commercial paper through a specially created limited liability company that purchased three-month unsecured CP and ABCP from eligible issuers using financing from the Federal Reserve. At the start of 2010, outstanding CPFF loans were $14 billion. Final loans of $3 billion were extended on February 1, the day the program formally expired, and these matured on April 26.

Central Bank Liquidity Swaps (Swap Lines)

In December 2007, U.S. dollar liquidity swap lines were established with other central banks to reduce the likelihood that domestic financial markets would be disrupted by liquidity conditions in global dollar funding markets. Initially, only lines with the European Central Bank and the Swiss National Bank were created, but

[43] On February 18, before the final auction and on the same date that certain changes were announced to the PCF, the Board increased the TAF minimum bid rate by ¼ percentage point, to ½ percent, to increase the cost of borrowing through the facility.

swap lines were subsequently established with twelve other central banks.[44] In every case the counterparty to the Federal Reserve was a foreign central bank, which took on all the credit risk associated with lending to its local financial institutions. At the start of 2010, outstanding swaps with other central banks totaled just over $10 billion. Only $100 million remained outstanding on February 1, when the lines expired, and this transaction matured on February 12.[45]

In May, temporary swap lines were reestablished with the Bank of Canada, the Bank of England, the European Central Bank, the Swiss National bank, and Bank of Japan in response to the reemergence of strains in U.S. dollar short-term funding markets in Europe.[46] These arrangements were initially authorized through January 2011, and in December they were extended through August 1, 2011. Usage peaked at $9.2 billion in mid-May, but soon fell as offshore dollar funding conditions improved, reaching $1.2 billion by mid-June. Usage fell further in the following months and totaled just $75 million at the end of 2010. Only the European Central Bank and the Bank of Japan saw participation at their tender operations.

Term Securities Lending Facility (TSLF)

The TSLF was established in March 2008 to promote liquidity in financing markets for Treasury and other collateral and to improve the functioning of financial markets more generally. Unlike the other liquidity arrangements, lending through the TSLF did not affect the size of the Federal Reserve balance sheet or reserve levels, because dealers pledged eligible securities as collateral against loans of Treasury securities from the SOMA portfolio. TSLF loans against all types of eligible collateral reached zero in August 2009, and only one auction was held in 2010, in January, which received no bids. The program expired on February 1.

B. Term Asset-Backed Securities Loan Facility (TALF)

The TALF was authorized by the Board of Governors to assist financial markets in accommodating the credit needs of consumers and businesses, by encouraging the issuance of securities backed by privately originated loans and improving market conditions for asset-backed securities (ABS) more generally. Borrowers received either three-year or five-year non-recourse loans from the FRBNY, which were collateralized by ABS issued against a variety of consumer, business, and commercial real estate loans.[47]

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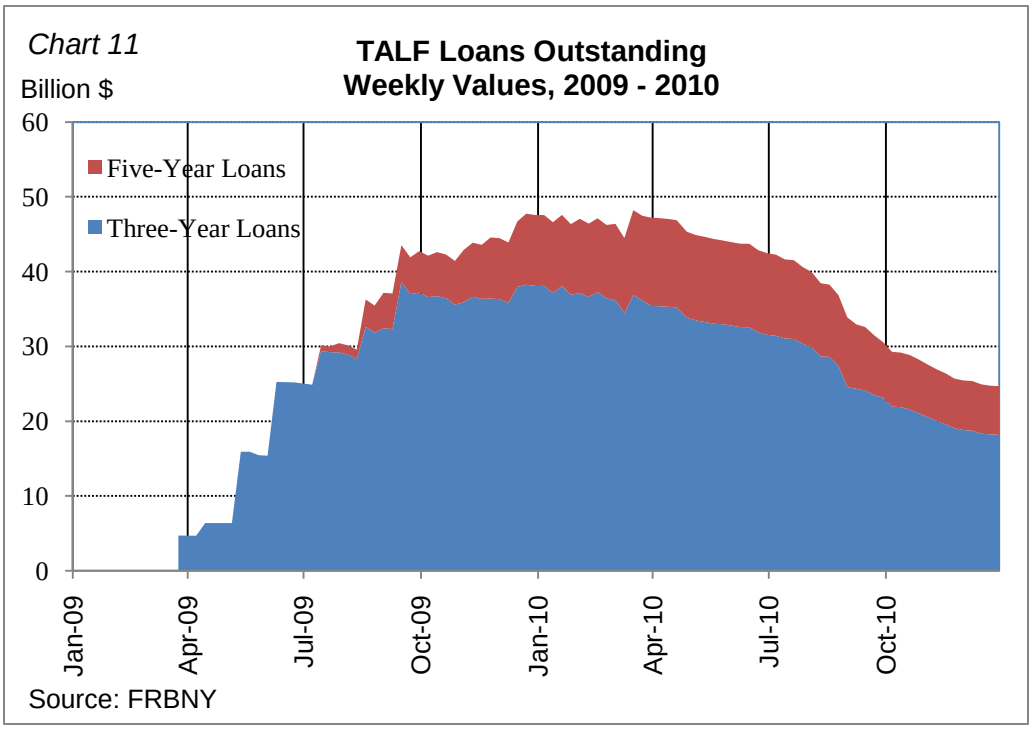
[44] These are the Reserve Bank of Australia, the Banco Central do Brasil, the Bank of Canada, Danmarks Nationalbank, the Bank of England, the Bank of Japan, the Bank of Korea, the Banco de Mexico, the Reserve Bank of New Zealand, Norges Bank, the Monetary Authority of Singapore, and Sveriges Riksbank.

[45] In April 2009, the FOMC had also established foreign-currency liquidity swap lines with four foreign central banks, under which the Federal Reserve would be enabled to provide foreign currency liquidity to U.S. institutions. These lines were established as a precautionary measure and were never utilized. They also expired on February 1, 2010.

[46] All the swap lines were set up on May 9 except the line with Japan, which was set up on May 10. The arrangement with Canada allowed drawings of up to $30 billion, as was the case previously.

[47] TALF LLC is a special purpose vehicle that was established for the limited purpose of purchasing TALF collateral that might be surrendered to FRBNY by borrowers under the TALF program, or in certain limited circumstances, TALF

TALF loans were first extended in March 2009 against non-mortgage ABS, in July 2009 against legacy commercial mortgage-backed securities (CMBS), and in November 2009 against newly-issued CMBS. In August 2009, the Board, with the Treasury Department, approved extending TALF for new loan extensions against non-mortgage ABS and legacy CMBS through March 2010, and approved extending TALF for new loan extensions against newly issued CMBS through June 2010.[48]



The TALF closed for new loan extensions on June 30, 2010, after arranging a total of $71.1 billion in loans, $9.4 billion of which were made in 2010 and the last of which were made in March 2010. The outstanding amount of TALF loans at the start of 2010 was $47.5 billion, and it peaked at $48.5 billion in March 2010 (**Chart 11**). Largely due to borrower prepayments, the outstanding loan balance ended the year at $24.7 billion, with collateral amortization and redemptions also contributing to the decline.[49] According to market participants, improving market conditions spurred investors to prepay their TALF loans. As rate spreads continued to narrow on the TALF-eligible asset classes, asset price appreciation reportedly provided an incentive to sell the ABS to realize gains. Also, as financing became more widely available in 2010, some

program loans. As of the end of 2010, TALF LLC had not purchased any such assets. The assets held by TALF LLC at the end of 2010 reflected the investment of monthly fees FRBNY pays TALF LLC associated with its right to put collateral to TALF LLC and funding provided by Treasury at the initiation of the program. More background on the structure of the TALF and its operations can be found at the following link on the FRBNY public website: http://www.newyorkfed.org/markets/talf.html.

[48] The Board and the Treasury had previously authorized TALF loans through December 2009.

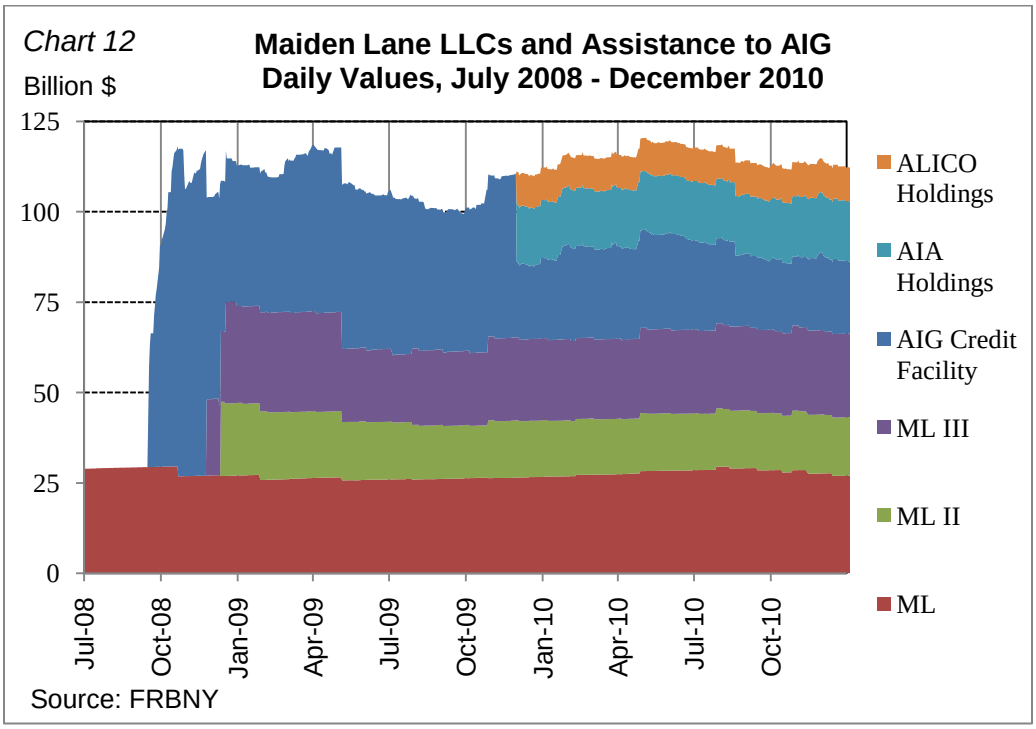
[49] Full and partial repayments of TALF loans totaled $32.4 billion in 2010 and $14.1 billion in 2009.

investors reportedly replaced TALF financing with private-market financing. As of the end of 2010, all collateral pledged against outstanding TALF loans maintained their 'AAA' rating, and all TALF loans were performing as scheduled.

On July 20, 2010, the Board announced, in agreement with the Treasury, that the Treasury's protection for TALF under the Troubled Asset Relief Program would be reduced from $20 billion to $4.3 billion.[50] The Treasury's initial commitment represented 10 percent of the program's authorized lending limit of $200 billion, and the revised commitment represented 10 percent of the $43 billion of loans outstanding as of June 30 when the facility closed.

C. Assets Associated with Lending to Specific Institutions

Associated with its lending to facilitate the acquisition of Bear Stearns Companies Inc. (Bear Stearns) by JPMorgan Chase & Co. (JPMC) and its lending to the American International Group, Inc. (AIG), the FRBNY helped form and established an interest in several Limited Liability Companies (LLCs).[51] At the end of 2010, the fair market value of the portfolios held by these LLCs and the remaining outstanding lending to AIG totaled $112.2 billion, about unchanged from its level one year earlier (**Chart 12**).



[50] See http://www.federalreserve.gov/newsevents/press/monetary/20100720a.htm.

[51] More detail on the three Maiden Lane facilities described in this section, including facility structure, transaction history and financial information, is available at: http://www.newyorkfed.org/markets/maidenlane.html#. More detail on other activities related to financial assistance to AIG is available at: http://www.newyorkfed.org/aboutthefed/aig/index.html.

Maiden Lane LLC

On March 24, 2008, subsequent to the announcement that Bear Stearns would be acquired by JPMC, the Federal Reserve announced, after consultation with the Treasury, that it would provide term financing to facilitate the merger. The FRBNY formed a limited liability company, Maiden Lane LLC, to acquire a portfolio of assets valued at approximately $30 billion as of March 14, 2008, financed by $29 billion in term financing from the FRBNY and $1 billion in subordinated financing from JPMC. The estimated fair value of the portfolio of assets as of December 29, 2010, was $27.0 billion, little changed from one year earlier.[52] In June 2010, proceeds realized in the Maiden Lane LLC portfolio, after fees, expenses and certain other payments, began to be used to pay down the principal balance of the loan from FRBNY in accordance with the terms of the facility. Prior to this time, such proceeds were invested in Treasury and agency securities (both debentures and mortgage-backed securities) that were added to the portfolio. As a result, the principal balance of this loan, including accrued interest, was $25.8 billion as of December 29, 2010, about $3.4 billion less than one year earlier.

AIG, Maiden Lane II LLC, and Maiden Lane III LLC

In September 2008, the FRBNY extended credit to prevent a disorderly failure of AIG. In addition to a revolving credit facility, two facilities were established at that time to facilitate AIG's restructuring by purchasing assets from AIG, with FRBNY providing loans to help finance the purchases. Maiden Lane II LLC was established to purchase $20.5 billion of non-agency residential mortgage-backed securities from AIG's securities lending program. Maiden Lane III LLC was established to purchase approximately $29.3 billion of collateralized debt obligations on which AIG had written credit default swaps. Further modifications to the support arrangements were made in 2009. Two LLCs were created to hold all of the outstanding common stock of two life insurance holding companies of AIG, American Life Insurance Company (ALICO) and American International Assurance Company LTD (AIA). And the outstanding principal balance of the loan to AIG and the amount available under the revolving credit facility were reduced by $25 billion in exchange for a preferred interest in the two LLCs, AIA Aurora LLC and ALICO Holdings LLC.

As of December 31, 2010, AIG had an outstanding loan balance plus accrued interest and fees owed of $20.9 billion, about $2.5 billion below the amount one year earlier.[53] The value of the preferred interest of FRBNY

[52] The fair market value for the end of 2010 reflects prices as of September 30 applied to portfolio holdings as of December 29. Agency MBS holdings accounted for almost two-thirds of the total value of the portfolio, which also included commercial real estate loans, non-agency residential mortgage-backed securities, residential real estate loans and other assets.

[53] During 2010, principal payments on the revolving credit facility reduced the maximum amount available under that facility from $35 billion to $24.5 billion.

in AIA Aurora LLC and ALICO Holdings LLC totaled $26.4 billion at the end of 2010, about $1.3 billion higher than one year earlier. The estimated fair value of the assets held by Maiden Lane II LLC was approximately $16.2 billion as of December 29, 2010, about $0.6 billion higher than one year earlier, and the estimated fair value of the assets held by Maiden Lane III LLC was approximately $23.1 billion as of December 29, 2010, about $0.5 billion higher than one year earlier.[54] Income from each of these portfolios continued to be used to pay down FRBNY loans. As a result, the principal balance of the FRBNY loan to Maiden Lane II, including accrued interest, was approximately $13.5 as of December 29, 2010, about $2.5 billion less than one year earlier. The principal balance of the FRBNY loan to Maiden Lane III, including accrued interest, was approximately $14.1 as of same date, about $4.4 billion less than one year earlier.

On September 30, 2010, AIG announced an agreement with the FRBNY and Treasury on a comprehensive recapitalization plan designed to repay all its obligations to American taxpayers.[55] Under the recapitalization, AIG planned to use cash proceeds from an initial public offering (IPO) of AIA and the sale of ALICO, first to repay the credit extended to AIG by the FRBNY under the revolving credit facility and then to redeem FRBNY's preferred interests in AIA Aurora LLC and ALICO Holdings LLC. AIG planned to purchase substantially all of FRBNY's remaining preferred interests in these LLCs with the proceeds from a draw on a Treasury commitment, and to transfer the preferred interests in the LLCs to the Treasury. AIG completed the IPO of AIA on October 29 and the sale of ALICO on November 1, and the proceeds from the two transactions, with totaled approximately $27 billion, were held in segregated accounts at the FRBNY.[56] The recapitalization plan was closed in January 2011.[57]

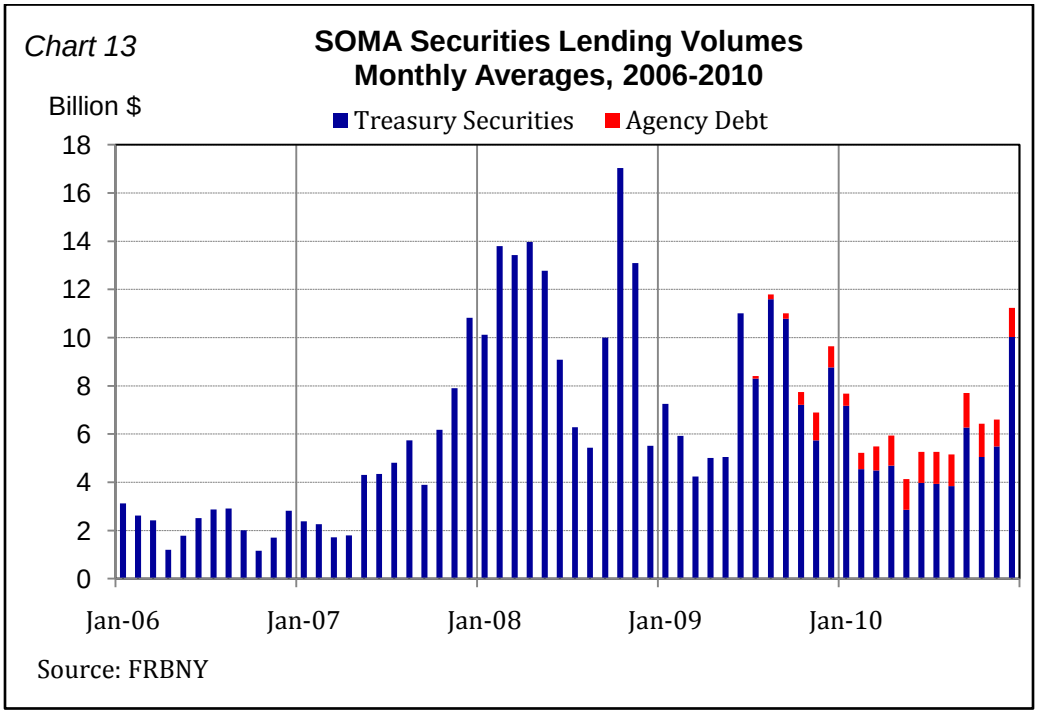
D. SOMA Securities Lending

To promote the smooth clearing of Treasury securities in the secondary market, the Federal Reserve has long operated a securities lending program for Treasury securities. Given the accumulation of agency debt through the LSAP programs, agency direct obligations were added to the securities lending program in 2009. Under the program, primary dealers may borrow these securities from the SOMA on an overnight basis, for a

[54] The fair market values for the end of 2010 reflect prices as of September 30 applied to portfolio holdings as of December 29.
[55] Details of this announcement and agreement can be found at: http://www.aigcorporate.com/newsroom/2010_September/AIGAnnouncesPlantoRepay30Sept2010.pdf.
[56] As noted in Section IV, the placement of these funds at FRBNY was a factor that reduced reserve balances.
[57] The recapitalization transaction was completed on January 14, 2011. FRBNY's revolving credit facility was fully repaid, including accrued interest and fees, and FRBNY's commitment to lend any further funds to AIG was terminated ahead of the credit facility's scheduled expiration in September 2013. In addition, FRBNY was paid in full for its preferred interests in the AIA Aurora and ALICO LLCs. A portion of those interests were redeemed with proceeds from AIG's sale of ALICO. The remaining interests were purchased by AIG with funds obtained through a draw on the Treasury and transferred to the Treasury Department. The closing of the recapitalization also marked the termination of the AIG Credit Facility Trust, which was established to hold approximately 79 percent controlling equity interest in AIG for the sole benefit of the U.S. Treasury.

fee and in accordance with specified terms and conditions. Securities are awarded and the lending fee is determined through competitive bidding in an auction held each business day at noon. All securities loans are collateralized with U.S. Treasury securities rather than cash, so there is no effect on reserve balances.

In 2010, there were no major structural changes to the SOMA securities lending facility. Average daily lending volumes of Treasury securities fell from $7.6 billion to $5.2 billion, as demand for specific Treasury collateral declined due to the drop in Treasury yields and a reduction in rate volatility (**Chart 13**). Nevertheless, lending activity remained elevated relative to pre-crisis levels, likely owing to the historically low minimum lending fee. This fee has been kept at 0.05 percent since April 2009, compared to levels as high as 1 percent prior to the crisis.[58] Lending volumes of agency securities increased from an average of $0.6 billion from August through December of 2009, to $1.2 billion for all of 2010, likely reflecting in part the increase in SOMA holdings of these securities.



IV. RESERVE BALANCES AND AUTONOMOUS FACTORS

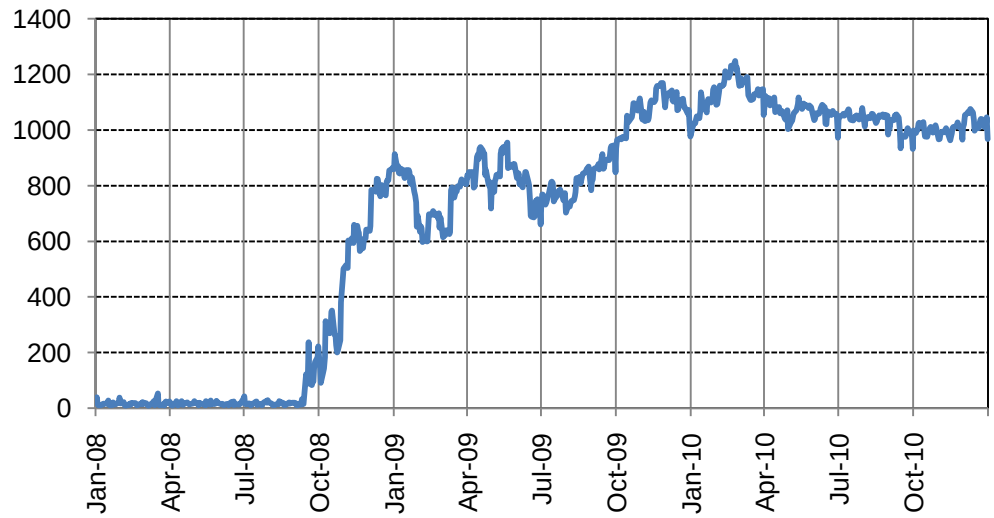
A. Reserve Balances in 2010

The policy actions that led to a significant expansion in total assets on the Federal Reserve's balance sheet in 2008 and 2009 resulted in a substantial increase in liabilities in the form of reserve balances held by depository

[58] The minimum lending fee was lowered several times during the financial crisis as liquidity conditions in the Treasury market for specific issues deteriorated, and was reduced to a low of 0.01 percent in December 2008. The fee was raised to 0.05 percent as liquidity conditions improved in April 2009.

institutions. These balances were very close to $1 trillion at the end of 2009 (**Chart 14**).[59] The net effect of further policy actions taken in 2010 that were aimed at influencing outright holdings and lending, described in Section II and Section III, was to leave reserve balance liabilities at historically elevated levels throughout the year. The Desk did not have to sterilize, or offset, the impact that policy actions had on reserve balances, as the high levels of balances kept the federal funds rate within its target range, given that the lower end of the range was 0 percent. Consequently, no OMOs were arranged in 2010 for this purpose, including no use of temporary operations at all during the year apart from some small scale operations arranged as part of the development of temporary reserve draining instruments.[60]

Chart 14 **Total Reserve Balances Held by Depository Institutions**
Daily Values, 2008 - 2010



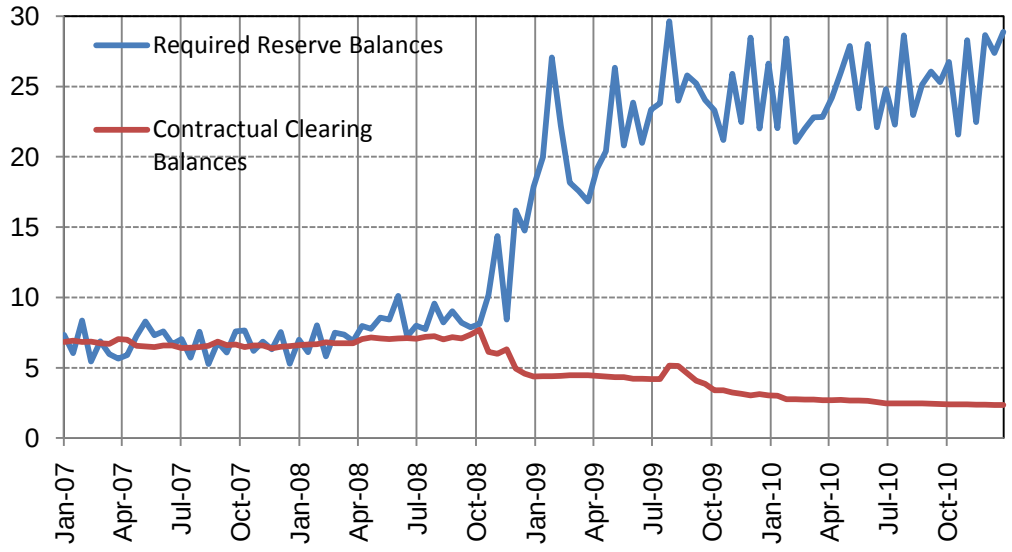
Source: FRBNY. This measure also includes balances held to satisfy contractual clearing balance obligations

Total reserve balances increased to just under $1.250 trillion in late February 2010 as the purchases of agency debt and MBS under LSAP programs neared their completion. Balances declined from late February to early April as the Treasury's Supplementary Financing Account (discussed below) was raised. On balance they trended modestly lower over the remainder of the year, falling back to levels of around $1 trillion, reflecting the runoff of outright holdings until these were offset and eventually reversed by renewed outright purchases, as well as changes in some other balance sheet factors that affected the supply of reserves (described below).

[59] The measure of total reserve balances reported here also includes the small amount of balances held by depository institutions to meet contractual clearing balance obligations, which are discussed below.
[60] These operations are described in Section V. Temporary OMOs were last used to influence the federal funds rate in December 2008.

The vast majority of total reserve balances in 2010 were excess reserves, or balances that are not needed to meet either the portion of reserve requirements unmet by vault cash holdings (required reserve balances) or contractual clearing balance obligations. The level of required reserve balances, while quite small relative to the level of excess reserves, remained high compared to its historical norms. Required reserves were boosted by the low interest rate environment, which has contributed to growth in transactions accounts at banks, and by the payment of interest on reserve balances, which has reduced the incentive banks have to evade reserve requirements (**Chart 15**). Meanwhile, depository institutions continued to trim their contractual clearing balance obligations. The high level of excess reserves and the payment of interest on reserve balances have reduced the incentives banks have to establish contractual clearing balance obligations.[61]

Chart 15 **Required Reserve and Contractual Clearing Balances**
Biweekly Maintenance Period Values, 2007 - 2010



Source: FRBNY. Required Reserve Balances is the portion of reserve requirements not satisfied with vault cash.

B. Autonomous Factors Affecting Reserve Balances

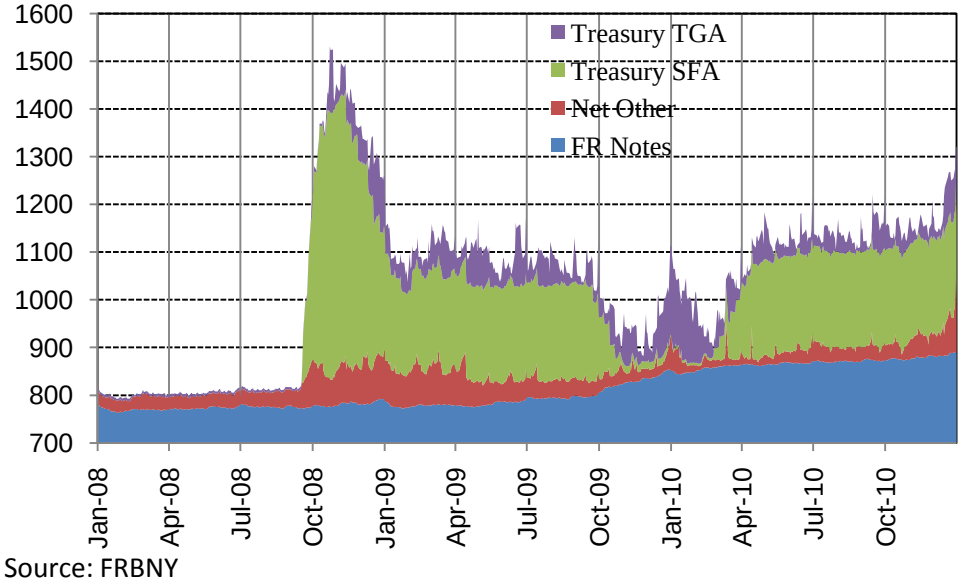
The supply of reserve balances can also be affected by a number of factors that are outside the direct influence of Federal Reserve policymakers or the Desk's operations, which are referred to as "autonomous factors."[62] Historically, being able to forecast accurately the net value of all autonomous factors over short

[61] The Federal Reserve does not pay interest on balances held to meet contractual clearing balance obligations, but banks earn income credits on these obligations based on a formula that is closely linked to short term money market rates.
[62] While "autonomous factors" is a useful operating concept, the inclusion or exclusion of particular balance sheet items into any measure of autonomous factors can be open to interpretation. For example, in the measure used in this report, the balances that the Treasury holds in its Supplementary Financing Account are included, although this arrangement was originally developed as a way of helping the Federal Reserve to reduce the aggregate supply of reserve balances.

time horizons was crucial for operating procedures that required maintaining the supply of reserves within a relatively narrow band in order to control the federal funds rate. In 2010, as in 2009, such control was less critical because of changes in the operating environment, including a target federal funds rate of near zero and a high level of reserve balances, which helped ensure that the federal funds rate would remain within its target range even in the face of large reserve movements. At the same time, changes in the operating environment since late 2008 have influenced the behavior of some autonomous factors in important ways.

Federal Reserve note liabilities, whose growth reduces the level of reserve balances, remain by far the largest single autonomous factor (**Chart 16**). Federal Reserve notes increased by $54 billion over 2010, or by about 6.2 percent (measured on a December-to-December month-average basis). Growth had accelerated amid the severe financial dislocations in late 2008 but then slowed from mid-2009 through mid-2010. Late in 2010, growth picked up amid larger net shipments overseas.

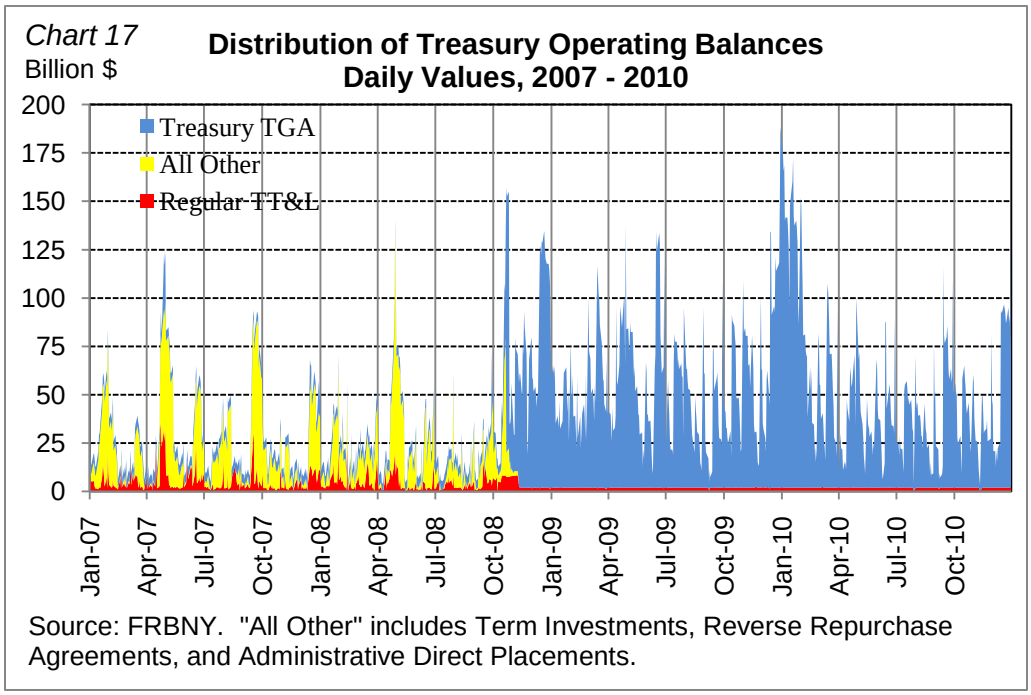
Chart 16 **Net Autonomous Factors (Liabilities and Capital less Assets), Daily Values, 2008 - 2010**



Source: FRBNY

Movements in Treasury's deposits at the Fed, both in the Treasury General Account and the Supplementary Financing Account, contributed to substantial swings in reserve supply in the months around year-end 2009. Both the average level and the volatility of the Treasury General Account (TGA) were much higher in 2010 than they had been prior to changes in Treasury's management of its cash balances starting in October 2008. Because of the very low rates of return available on alternative investments, including a rate of 0 percent on balances placed in the regular Treasury Tax and Loan (TT&L) deposits at commercial banks, the Treasury has kept almost all of its funds in the TGA since late-2008 (**Chart 17**). As in 2009, the Treasury placed just $2

billion a day in TT&L accounts, primarily to keep this program operational should it decide to make greater use of it in the future. And Treasury again made no use of the term investment option (TIO), reverse repurchase investments, or administrative direct placements in 2010. As a result, the TGA was very volatile, swelling when auctions of Treasury securities settled and on tax payment dates, and declining when large payouts were made.[63]



The Treasury also keeps a separate account at the Federal Reserve called the Supplementary Financing Account (SFA). The program under which this account was established, the Supplementary Financing Program (SFP), consists of a series of Treasury bill auctions, separate from Treasury's regular borrowing program, the proceeds of which are placed in the SFA.[64] The SFP was established in September 2008 in cooperation with the Federal Reserve as a way to facilitate draining reserves created by the Federal Reserve's lending and liquidity initiatives. The SFA had been at $200 billion from February to September 2009. At that time the Treasury began to reduce SFP bills, and the balances placed in the SFA, because of debt ceiling constraints it was facing. At the start of 2010, the SFA was just $5 billion. After the debt ceiling was

[63] In addition to having held higher average balances in its TGA at the Federal Reserve since 2008, the Treasury has also held higher average total operating balances since that time, as higher spending and deficit totals have created a need to build up larger cash positions on auction settlement dates ahead of major payout dates.
[64] Treasury earns an implicit return on funds kept in the SFA, as well as in the TGA. Such funds effectively reduce the level of reserve balances by an equivalent amount, and the amount of interest the Federal Reserve pays on reserve balances accordingly, which increases Federal Reserve net earnings that are remitted to the Treasury.

increased in February 2010, the SFA was soon restored to $200 billion, and it remained at that level for the rest of the year.

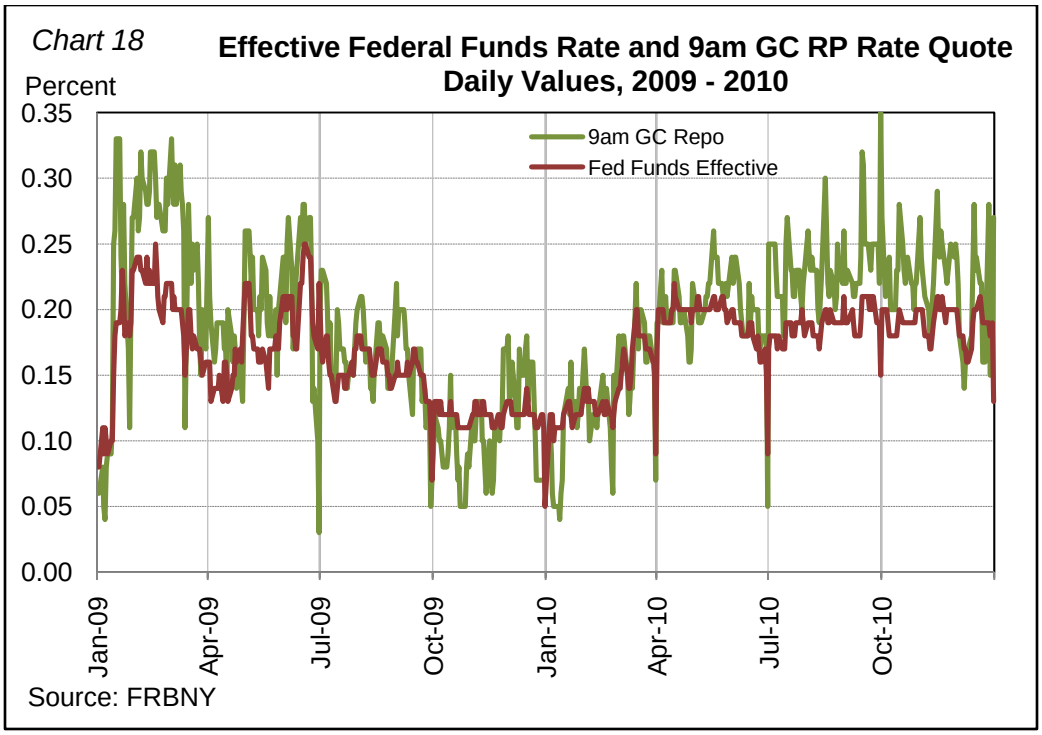
Fluctuations in other net autonomous factor liabilities also affected the amount of reserves in 2010. The size of the foreign RP pool liabilities contracted by $8.2 billion in 2010 (measured on a December-to-December month-average basis), reducing other net autonomous factor liabilities. The foreign RP pool, which comprises overnight repurchase agreements between the FRBNY and its foreign central bank and international customers, had increased sharply during the fall of 2008 as these customers moved funds from the banking system to accounts at the Federal Reserve amid severe financial dislocations. The foreign RP pool had been gradually declining since, and by the end of 2010 it had returned to levels consistent with pre-crisis levels. During the final quarter of 2010, AIG placed approximately $27 billion of funds in segregated accounts at FRBNY pending the closing of the recapitalization plan it agreed to in September, which drained reserves late in the year.[65]

V. OVERNIGHT FUNDING MARKETS AND THE DEVELOPMENT OF RESERVE DRAINING TOOLS

A. Overnight Funding Markets in 2010

In 2010, as in 2009, the high level of reserve balances and the 25 basis point interest rate paid on excess reserves kept the federal funds rate within its target range of between 0 and 25 basis points (**Chart 18**). With the changes in the operating environment since late 2008, the federal funds rate in 2010 remained much less sensitive to movements in the level of reserve balances than it had been in prior years. Trading volume in this market also remained relatively low. Ever since reserve levels expanded and interest began to be paid on reserve balances, banks have generally been able to earn a higher return by holding excess balances at Federal Reserve Banks compared to lending in overnight markets. Consequently, other types of institutions, such as GSEs and securities dealers, continued to be the principal sellers in the federal funds market during 2010. Nonetheless, movements in the federal funds rate remained highly correlated with rate movements in other overnight funding markets, such as the Eurodollar market and repo markets used by securities dealers to finance general collateral (GC) Treasury holdings.[66]

[65] The recapitalization plan, which was described in Section III, was completed in January 2011.
[66] Repo market trading volumes reported by primary dealers in 2010 also remained well below pre-crisis levels, as efforts by dealers to deleverage their balance sheets have reduced incentives for establishing matched book positions, and associated trading in these markets. Weekly primary dealer transaction information is available at http://www.newyorkfed.org/markets/statrel.html.



Overnight rates in funding markets moved up early in 2010 and generally remained at somewhat higher levels for the rest of the year. Daily effective federal funds rates between 10 and 15 basis points had been common during the final quarter of 2009 and early 2010, but rates were generally closer to 20 basis points after the first quarter of 2010. The buildup in SFP bills and the SFA to $200 billion starting in February was commonly cited by market participants as having contributed to this move up in rates, by increasing the supply of Treasury bills that dealers had to finance in collateral markets and by reducing reserve levels.[67] Record net levels of debt issued by the Treasury in 2010 were cited as a reason for the emergence of a modest but persistent spread in the GC repo rate above the federal funds rate, which was evident over much of the second half of the year.

Downward pressure on overnight rates was less evident on quarter-end dates in 2010, partly the result of a regulatory change. Fees paid by banks participating in the Federal Deposit Insurance Corporation Transaction Account Guarantee (TAG) program had been based on their quarter-end deposit liabilities, which banks in turn sought to pass on to their depositors, such as money market funds. Given the heightened costs of leaving balances on deposit at banks on these days, portfolio managers sought alternative market investments, which depressed overnight market rates generally. But during the first half of 2010, a number of banks opted out of the TAG program. Also, beginning July 1, the assessment base for the fee

[67] This upward movement in rates was partially a reversal of rate declines in the fourth quarter of 2009 that had been linked to a run down in SFP bills and the SFA at that time.

calculation was changed to average daily balances. As such, these developments removed an important source of downward pressure on overnight market rates on quarter-end dates.

On November 1, the Depository Trust and Clearing Corporation (DTCC) began to publish trading information for the most frequently traded securities on its General Collateral Finance (GCF) platform. Daily average rate indexes and trading volume statistics are provided for general collateral U.S. Treasury securities, federal agency securities, and mortgage-backed securities issued by Fannie Mae and Freddie Mac. The publication of this information enhances the transparency of these important funding markets, and is the result of a collaboration of DTCC and the Treasury Market Practices Group (TMPG), which is comprised of various types of participants in these markets.

B. Development of Temporary Reserve Draining Tools

As part of prudent advance planning, in 2010, the Federal Reserve further developed two tools it will be able to use to drain a large quantity of reserves if needed. These tools, which are reverse repurchase agreements (RRPs) using SOMA securities as collateral and term deposits offered to depository institutions through a Term Deposit Facility (TDF), could be used in conjunction with increasing the interest rate paid on reserve balances to ensure its ability to achieve operating objectives for the federal funds rate whenever the FOMC begins to remove policy accommodation. As part of their development, a small number of operations for limited values were arranged in 2010 using each of these tools.

RRP Program

The Desk had conducted a series of small-scale RRPs with primary dealer counterparties using Treasury and agency debt from the SOMA portfolio as collateral and using tri-party settlement arrangements at clearing banks in December 2009. The Desk made considerable further progress in 2010 in developing a program to conduct RRPs with all types of SOMA collateral and with an expanded set of counterparties. In August 2010, six RRP operations were arranged with the primary dealers in which MBS holdings were used as collateral, in some operations along with the other collateral types.[68]

In March 2010, the FRBNY announced criteria for acceptance of money market funds as counterparties for RRPs, and in August it announced that twenty-six funds had been accepted to be counterparties for these

[68] Details of all RRP operations arranged in 2010 are available at http://www.newyorkfed.org/markets/omo/dmm/temp.cfm. Statements regarding operating policies covering RRPs are available at http://www.newyorkfed.org/markets/rrp_op_policies.html.

operations.[69] In October, the Desk arranged five RRP operations with this expanded set of counterparties, with the traditional primary dealer counterparties participating in three of these operations. In September, the Desk announced eligibility criteria for additional money market funds to become counterparties for RRPs, and, as of the end of the year, the Federal Reserve was considering expanding even further both the number and types of institutions that might be eligible to participate in its RRPs.

Term Deposit Facility

In December 2009, the Board of Governors proposed amendments to Federal Reserve Regulation D (Reserve Requirements of Depository Institutions) that would enable the Reserve Banks to offer interest bearing deposits for fixed terms to eligible institutions, through a Term Deposit Facility (TDF). In April 2010, the Board approved amendments to Regulation D authorizing the TDF. The TDF program offers fixed quantities of term deposits for specified maturity dates through competitive auctions, with a noncompetitive tender option for smaller bidders. Any institution eligible to receive interest on reserve balances maintained at a Federal Reserve Bank can participate in the TDF program, upon completing certain necessary set up steps and the approval of its Reserve Bank. As of the end of 2010, about 500 depository institutions had signed up for the program.

To ensure operational readiness and to provide eligible institutions with an opportunity to gain familiarity with term deposit procedures, in June the Federal Reserve began to arrange small-value auctions of term deposits, and in September the Federal Reserve Board authorized ongoing small-value TDF operations.[70] Five TDF auctions were arranged in 2010, with terms ranging from fourteen to eighty-four days.[71]

VI. CONCLUDING OBSERVATIONS

The type and sizes of open market operations arranged in 2010 were profoundly influenced by policy actions taken during the year and, more broadly, since 2008. These policy actions include the reduction in the operating objective for the federal funds rate to its effective lower bound in December 2008 and the assorted actions aimed at influencing the total size and composition of outright holdings of domestic securities in the SOMA portfolio as a way to influence economic and financial conditions. The cumulative policy actions taken since the onset of the financial crisis have resulted in a SOMA portfolio of domestic securities that is much larger and more complicated in structure than it was before the crisis, and an associated level of reserve

[69] Announcements regarding expanded counterparties for RRPs are available at http://www.newyorkfed.org/markets/rrp_announcements.html. Information regarding the Desk's traditional primary dealer counterparties for OMOs is provided in Appendix D.

[70] Operations under the TDF are authorized by the Board of Governors, and staffs at the Board and at FRB St. Louis have operational responsibility.

[71] Information about TDF arrangements, including operation announcements and results, is available at http://www.frbservices.org/centralbank/term_deposit_facility.html.

balance liabilities that is also unusually large. The eventual removal of policy accommodation in response to evolving conditions could also have significant implications for open market operations and the management of the Federal Reserve balance sheet at that time.

APPENDIX A: AUTHORIZATION FOR DOMESTIC OPEN MARKET OPERATIONS

On January 26, 2010 the Committee approved the following Authorization for Domestic Open Market Operations with amendments to paragraph 4 that allow the use of "securities that are direct obligations of, or fully guaranteed as to principal and interest by, any agency of the United States" in temporary short term investment transactions with foreign and international accounts and fiscal agency accounts:

1. The Federal Open Market Committee authorizes and directs the Federal Reserve Bank of New York, to the extent necessary to carry out the most recent domestic policy directive adopted at a meeting of the Committee:

> A. To buy or sell U.S. government securities, including securities of the Federal Financing Bank, and securities that are direct obligations of, or fully guaranteed as to principal and interest by, any agency of the United States in the open market, from or to securities dealers and foreign and international accounts maintained at the Federal Reserve Bank of New York, on a cash, regular, or deferred delivery basis, for the System Open Market Account at market prices, and, for such Account, to exchange maturing U.S. government and federal agency securities with the Treasury or the individual agencies or to allow them to mature without replacement; and
>
> B. To buy or sell in the open market U.S. government securities, and securities that are direct obligations of, or fully guaranteed as to principal and interest by, any agency of the United States, for the System Open Market Account under agreements to resell or repurchase such securities or obligations (including such transactions as are commonly referred to as repo and reverse repo transactions) in 65 business days or less, at rates that, unless otherwise expressly authorized by the Committee, shall be determined by competitive bidding, after applying reasonable limitations on the volume of agreements with individual counterparties.

2. In order to ensure the effective conduct of open market operations, the Federal Open Market Committee authorizes the Federal Reserve Bank of New York to use agents in MBS-related transactions.

3. In order to ensure the effective conduct of open market operations, the Federal Open Market Committee authorizes the Federal Reserve Bank of New York to lend on an overnight basis U.S. government securities and securities that are direct obligations of any agency of the United States, held in the System Open Market Account, to dealers at rates that shall be determined by competitive bidding. The Federal Reserve Bank of New York shall set a minimum lending fee consistent with the objectives of the program and apply reasonable limitations on the total amount of a specific issue that may be auctioned and on the amount of securities that each dealer may borrow. The Federal Reserve Bank of New York may reject bids that could facilitate a dealer's ability to control a single issue as determined solely by the Federal Reserve Bank of New York.

4. In order to ensure the effective conduct of open market operations, while assisting in the provision of short-term investments for foreign and international accounts maintained at the Federal Reserve Bank of New York and accounts maintained at the Federal Reserve Bank of New York as fiscal agent of the United States pursuant to section 15 of the Federal Reserve Act, the Federal Open Market Committee authorizes and directs the Federal Reserve Bank of New York: A. For the System Open Market Account, to sell U.S. government securities, and securities that are direct obligations of, or fully guaranteed as to principal and interest by, any agency of the United States, to such accounts on the bases set forth in paragraph 1.A under agreements providing for the resale by such accounts of those securities in 65 business days or less on terms comparable to those available on such transactions in the market; and B. For the New York Bank account, when appropriate, to undertake with dealers, subject to the conditions imposed on purchases and sales of securities in paragraph l.B, repurchase agreements in U.S. government securities, and securities that are direct obligations of, or fully guaranteed as to principal and interest by, any agency of the United States, and to

arrange corresponding sale and repurchase agreements between its own account and such foreign, international, and fiscal agency accounts maintained at the Bank. Transactions undertaken with such accounts under the provisions of this paragraph may provide for a service fee when appropriate.

5. In the execution of the Committee's decision regarding policy during any intermeeting period, the Committee authorizes and directs the Federal Reserve Bank of New York, upon the instruction of the Chairman of the Committee, to adjust somewhat in exceptional circumstances the degree of pressure on reserve positions and hence the intended federal funds rate and to take actions that result in material changes in the composition and size of the assets in the System Open Market Account other than those anticipated by the Committee at its most recent meeting. Any such adjustment shall be made in the context of the Committee's discussion and decision at its most recent meeting and the Committee's long-run objectives for price stability and sustainable economic growth, and shall be based on economic, financial, and monetary developments during the intermeeting period. Consistent with Committee practice, the Chairman, if feasible, will consult with the Committee before making any adjustment.

APPENDIX B: GUIDELINES FOR THE CONDUCT OF SYSTEM OPEN MARKET OPERATIONS IN FEDERAL AGENCY ISSUES

The Guidelines for the Conduct of System Open Market Operations in Federal Agency Issues, which were temporarily suspended on January 26, 2009, remained suspended.

APPENDIX C: DOMESTIC POLICY DIRECTIVES ISSUED TO THE FEDERAL RESERVE BANK OF NEW YORK

In 2010, the Committee voted to authorize and direct the Federal Reserve Bank of New York to execute transactions in the System Account in accordance with the following domestic policy directives:

Directive issued on January 27

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to purchase agency debt and agency MBS during the intermeeting period with the aim of providing support to private credit markets and economic activity. The timing and pace of these purchases should depend on conditions in the markets for such securities and on a broader assessment of private credit market conditions. The Desk is expected to execute purchases of about $175 billion in housing related agency debt and about $1.25 trillion of agency MBS by the end of the first quarter. The Desk is expected to gradually slow the pace of these purchases as they near completion. The Committee anticipates that outright purchases of securities will cause the size of the Federal Reserve's balance sheet to expand significantly in coming months. The Committee directs the Desk to engage in dollar roll transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS transactions to be conducted through the end of the first quarter, as directed above. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

Directive issued on March 16

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to complete the execution of its purchases of about $1.25 trillion of agency MBS and of about $175 billion in housing-related agency debt by the end of March. The Committee directs the Desk to engage in dollar roll transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS transactions. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

Directive issued on April 28

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to engage in dollar roll transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS transactions. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

Directive issued on June 23

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate

settlement of the Federal Reserve's agency MBS transactions. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

Directive issued on August 10

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to maintain the total face value of domestic securities held in the System Open Market Account at approximately $2 trillion by reinvesting principal payments from agency debt and agency mortgage-backed securities in longer-term Treasury securities. The Committee directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS transactions. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

Directive issued on September 21

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to maintain the total face value of domestic securities held in the System Open Market Account at approximately $2 trillion by reinvesting principal payments from agency debt and agency mortgage-backed securities in longer-term Treasury securities. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

Directive issued on November 3

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to execute purchases of longer-term Treasury securities by the end of June 2011 in order to increase the total face value of domestic securities held in the System Open Market Account to approximately $2.6 trillion. The Committee also directs the Desk to reinvest principal payments from agency debt and agency mortgage-backed securities in longer-term Treasury securities. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

Directive issued on December 14

The Federal Open Market Committee seeks monetary and financial conditions that will foster price stability and promote sustainable growth in output. To further its long-run objectives, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to execute purchases of longer-term Treasury securities in order to increase the total face value of domestic securities held in the System Open Market Account to approximately $2.6 trillion by the end of June 2011. The Committee also directs the Desk to reinvest principal payments from agency debt and agency mortgage-backed securities in longer-term Treasury securities. The System Open Market

Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

APPENDIX D: PRIMARY DEALERS

The Federal Reserve Bank of New York trades U.S. government and select other securities with designated primary dealers, which include banks and securities broker-dealers. The role of the primary dealer includes the obligations to: (i) participate consistently as a counterparty to the Federal Reserve in its execution of open market operations as directed by the FOMC, and (ii) provide the Desk with market information and analysis helpful in the formulation of monetary policy. Primary dealers are also required to participate meaningfully in all auctions of U.S. government debt, including an underwriting commitment, and to make reasonable markets for the Federal Reserve when it transacts on behalf of its foreign official account-holders.[72]

In January 2010, the Federal Reserve Bank of New York published a revised policy regarding the administration of relationships with primary dealers intended to provide greater transparency about the significant business standards expected of primary dealers and to offer clearer guidance on the process to become a primary dealer. The revised policy takes into consideration the evolution of the marketplace and of open market operations over the past decade, as well as recent changes in the role of primary dealers. Substantive changes from the previous policy include:

- a more structured presentation of the business standards expected of a primary dealer;
- a more formal application process for prospective primary dealers;
- an increase in the minimum net capital requirement from $50 million to $150 million;
- a seasoning requirement of one year of relevant operations before a prospective dealer may submit an application; and
- a clear notice of actions the New York Fed may take against a noncompliant primary dealer.[73]

During 2010, the number of primary dealers was unchanged at eighteen.[74]

[72] General information about primary dealers is available at the following website: http://www.newyorkfed.org/markets/primarydealers.html.
[73] Further information about these changes can be found at the following link: http://www.newyorkfed.org/markets/pridealers_policies.html.
[74] The final list of primary dealers published in 2010 can be found at the following link: http://www.newyorkfed.org/newsevents/news/markets/2010/an101102.html.