
DOMESTIC OPEN MARKET OPERATIONS
DURING 2005

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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DOMESTIC OPEN MARKET OPERATIONS DURING 2005

I. IMPLEMENTATION OF MONETARY POLICY IN 2005

A. Introduction

The Federal Open Market Committee's (FOMC) domestic policy directive prescribes that the Trading Desk (Desk) of the Federal Reserve Bank of New York (FRBNY) foster conditions in the reserves market consistent with maintaining the federal funds rate at an average around a specified target rate. Accordingly, the Desk arranges open market operations to target the federal funds rate and to achieve simultaneously other objectives for the structure of Federal Reserve holdings of domestic financial assets.

This report reviews the conduct of open market operations during 2005. First, we describe operating procedures used by the Desk to influence the federal funds rate and summarize key new developments in the policy implementation framework. Then, we describe demand for balances at the Federal Reserve and the behavior of autonomous factors—balance sheet items outside of the control of the Desk—that affect the supply of these balances. We review the composition of domestic financial assets held by the Federal Reserve and the various types of open market operations used to adjust them. Finally, we discuss the behavior of the federal funds rate in 2005 and the use of the discount window as a tool in the day-to-day implementation of monetary policy.

B. Overview of Operational Procedures to Control the Federal Funds Rate

The federal funds target rate was increased at each of the eight FOMC meetings in 2005, rising from 2 ¼ percent at the start of the year to 4 ¼ percent at the end of the year (Table 1). On each occasion, the Board of Governors approved an increase in the primary credit rate to maintain a spread of 100 basis points above the federal funds rate target.¹

<u>Effective Date</u>	<u>Federal Funds Target Rate</u>	<u>Primary Credit Rate</u>
December 14, 2004	2.25	3.25
February 2, 2005	2.50	3.50
March 22, 2005	2.75	3.75
May 3, 2005	3.00	4.00
June 30, 2005	3.25	4.25
August 9, 2005	3.50	4.50
September 20, 2005	3.75	4.75
November 1, 2005	4.00	5.00
December 13, 2005	4.25	5.25

¹ A spread of 150 basis points of the secondary credit rate over the federal funds rate target was also preserved.

To influence the federal funds rate, the Desk conducts open market operations to align the supply of balances held by depository institutions at the Federal Reserve—or Fed balances—with banks' demand to hold balances consistent with the funds rate around the target. Each morning, the Desk considers whether open market operations are needed based on estimates of the supply of and demand for Fed balances.

The average level of Fed balances that banks demand over a two-week reserve maintenance period consistent with the funds rate remaining around the target is in large part determined by requirements to hold Fed balances, with only a small level of additional, or excess, balances typically demanded. The federal funds rate can move above the target rate if Fed balances fall so low that some banks have difficulty finding sufficient funds to cover required balance deficiencies or potential overdrafts in their Fed accounts. Conversely, the federal funds rate can fall below the target rate if Fed balances are so high that some banks risk ending a maintenance period holding undesired excess balances. From time to time when the funds rate deviates from the target, despite reserve levels being in line with requirements, the Desk may increase or decrease the supply of reserves accordingly.

Depository institutions may average their holdings of Fed balances over the days within a maintenance period to meet requirements, which gives them considerable leeway in day-to-day account management. This flexibility can absorb some volatility in the funds rate that might otherwise develop when reserve supply and demand are misaligned.

C. New Developments in 2005

Further Changes to the Calculation of Earnings Credits on Clearing Balances

Following upon changes implemented in early 2004, additional revisions to the formula for computing the earnings credits on contractual clearing balances became effective on January 6, 2005. The changes effectively further reduced the earnings credit rate.²

Elimination of the Limit on Changes in the SOMA between FOMC Meetings

At the February 1-2, 2005 FOMC meeting, the Committee amended the Authorization for Domestic Open Market Operations, removing any limit to the net change in the System Open Market Account (SOMA) between FOMC meetings. In practice, this limit or “leeway,” most recently at \$12 billion, had not been a binding factor on Desk operations for many years.

² For more information on the change, the original announcement from the Board of Governors can be found at <http://www.federalreserve.gov/boarddocs/meetings/2004/20041104/2005RepricingMemo.pdf>.

Replacement of Automated Auction Platform for Securities Lending Operations

On November 7, 2005, the Desk replaced its automated auction platform for conducting securities lending auctions with its market counterparties. The previous mainframe-based Trading Room Automated Processing System (TRAPS) was replaced by an up-to-date infrastructure and interface, named FedTrade. In 2006, the same system will be employed to conduct outright operations, repurchase agreement (RP) operations, and reverse repurchase agreement (RRP) operations, replacing the TRAPS system which has supported these operations since 1994.

Revisions to Procedures for the Desk's Daily Survey of Overnight RP Rates

On October 11, 2005 the Desk implemented modest revisions to its daily procedures for collecting data from the primary dealers that is used to calculate benchmark overnight RP rates. These benchmark rates are used in the Desk's short-term RPs to allocate accepted propositions across collateral tranches. The revisions were made to ensure more uniformity in the data collected from the different dealers in order to construct more accurate measures of current market spreads between RP rates for different collateral types.

II. BANKS' DEMAND FOR FED BALANCES

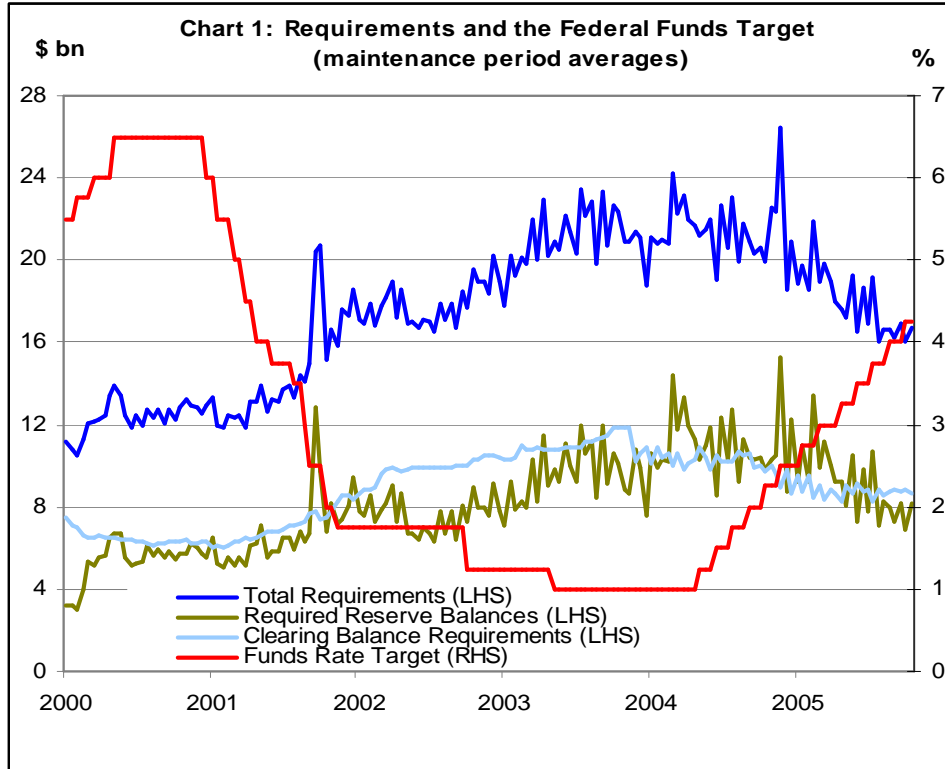
Total demand for Fed balances can be broken down into two components: the portion needed to meet all balance requirements and the portion held in excess of these requirements.

A. Total Balance Requirements

A bank's total balance requirement is the average level of balances it must hold at its Reserve Bank over a two-week maintenance period to meet all obligations. This requirement has a regulatory and a contractual component. The regulatory component is called the required reserve balance and is equal to the portion of reserve requirements not met with vault cash. The contractual component is called the clearing balance requirement. Required reserve balances might be affected by the application of "as-of" adjustments. Such adjustments might be made to correct Reserve Bank accounting transaction errors, to correct reporting errors (including deposit reporting errors), to recover float incurred by an institution, or to address other circumstances. Required reserve balances, clearing balance requirements, and most as-of adjustments are known at the start of each maintenance period, which facilitates the Desk's estimation of the overall demand for Fed balances.

Both required reserve balances and clearing balance requirements contracted over 2005 (Chart 1). While the precise factors behind the declines in requirements in 2005 are not certain, historically, both reserve requirements and clearing balance requirements have tended to move inversely with short-term interest rates. Rising rates both raise the opportunity cost to households and businesses of holding reservable deposits at banks, and reduce the level of clearing balance obligations a bank would need to generate

income credits sufficient to cover its use of Federal Reserve Bank priced services.³ Since the start of the interest rate tightening cycle in mid-2004, total requirements have erased about half of the gains from their trough reached in 2000.⁴



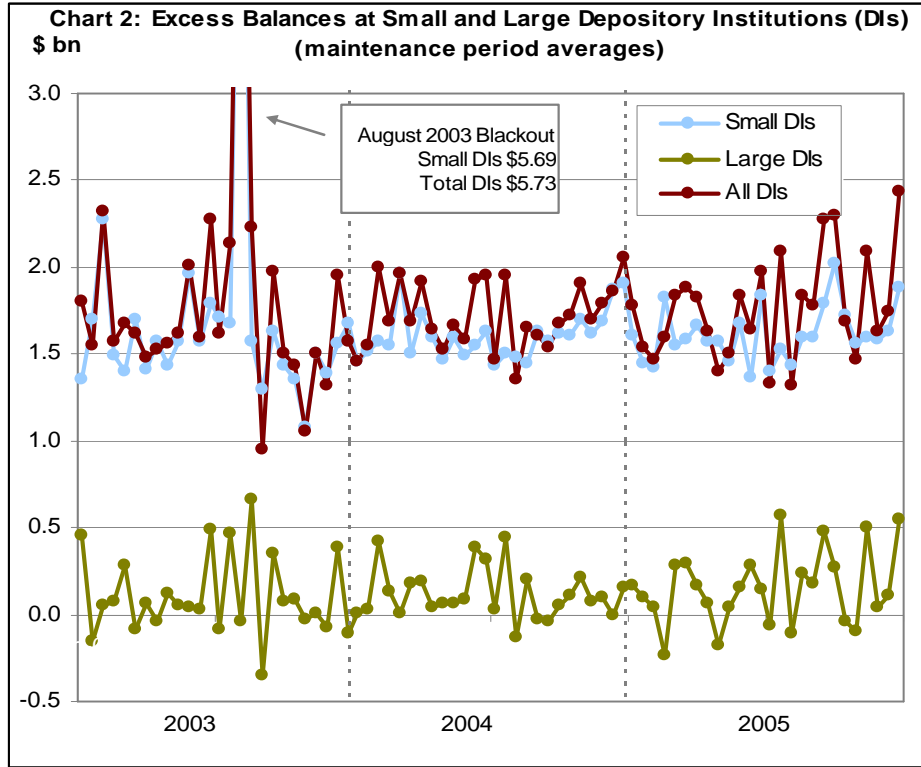
B. Excess Balances

Excess balances are balances held by institutions at the Fed that are above the level of total requirements. Excess balances earn no interest and therefore represent a lost investment opportunity. But many institutions, especially small banks that lack access to wholesale funding markets, routinely hold a modest amount of excess balances to mitigate the potential for end-of-day overdrafts. Demand for excess is an important component of the total demand for Fed balances, which the Desk accounts for in its provision of balances.

³ The reference in footnote 2 also discusses the calculation and use of income credits earned on balances held to meet clearing balance requirements. The changes to the formula for calculating earned income credits may have been an additional factor in the decline in clearing balance requirements in both 2004 and 2005.

⁴ Total requirements fell dramatically over the 1990s as a result of cuts in reserve requirement ratios and declines in reserve requirements associated with the growth of retail deposit sweep accounts at depository institutions.

Excess levels averaged \$1.78 billion in 2005 and were in line with 2004 levels (Chart 2). The volatility of maintenance period average excess levels was a bit higher in 2005 than in the preceding year; the standard deviation of period-average excess was \$295 million in 2005, up from \$192 million in the preceding year.

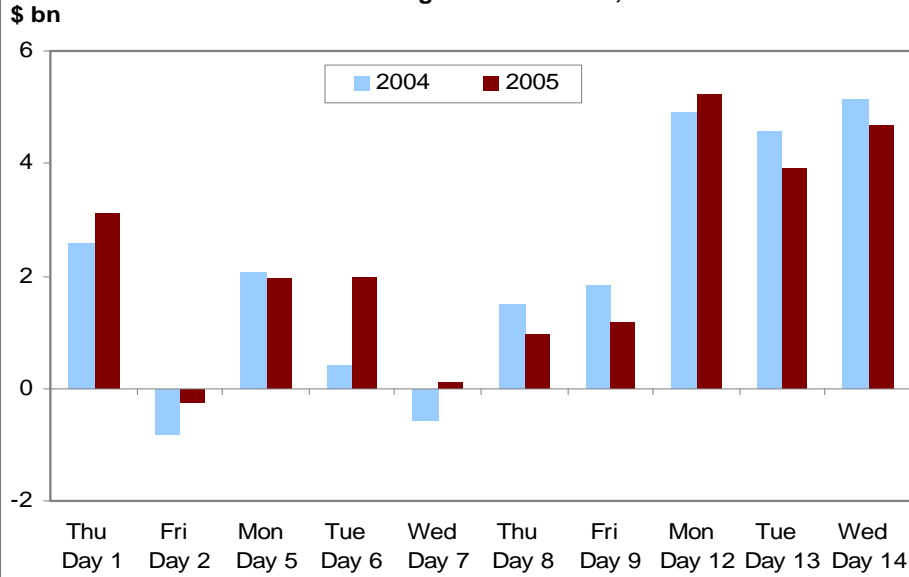


In designing open market operations, the Desk aims to satisfy banks' demands for holding Fed balances on a daily as well as on a maintenance period-average basis. Excluding maintenance periods in which patterns were strongly influenced by expectations of a policy change, daily reserve demand in 2005 was heavily weighted towards the last three days of each maintenance period, in line with the preceding year (Chart 3).

During all the maintenance periods in 2005 that contained an FOMC meeting, as with the last five such periods in 2004, a policy tightening was widely anticipated in the days ahead of the meeting. In these periods, the Desk accommodated banks' desires to accumulate more reserves to meet their requirements under the prevailing, lower target rate ahead of the meeting (Chart 4).⁵ In 2005, the Desk also was more aggressive in running down the large average-to-date excess positions built up in the early part of these periods in the days immediately following the FOMC meeting than it was in the preceding year.

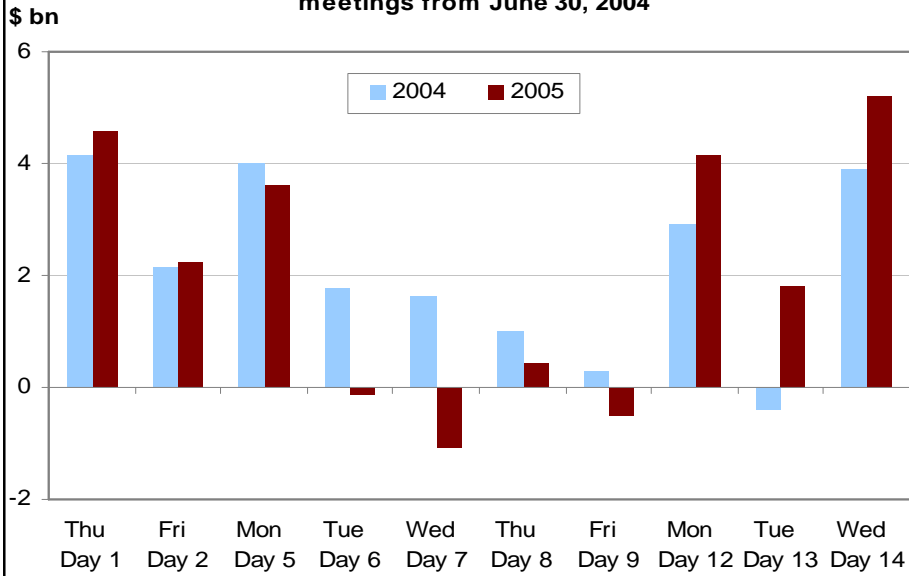
⁵ The day on which an FOMC meeting falls within a maintenance period can affect the daily pattern. In most of the FOMC periods captured in this chart, the FOMC date fell on the first Tuesday. A discussion of the behavior of the federal funds rate on these occasions appears in section V.A.

Chart 3: Average Daily Levels of Excess Balances by Day of Maintenance Period, excluding Maintenance Periods containing FOMC meetings from June 30, 2004



Note: Excess is calculated using period-average levels of all as-of adjustments.

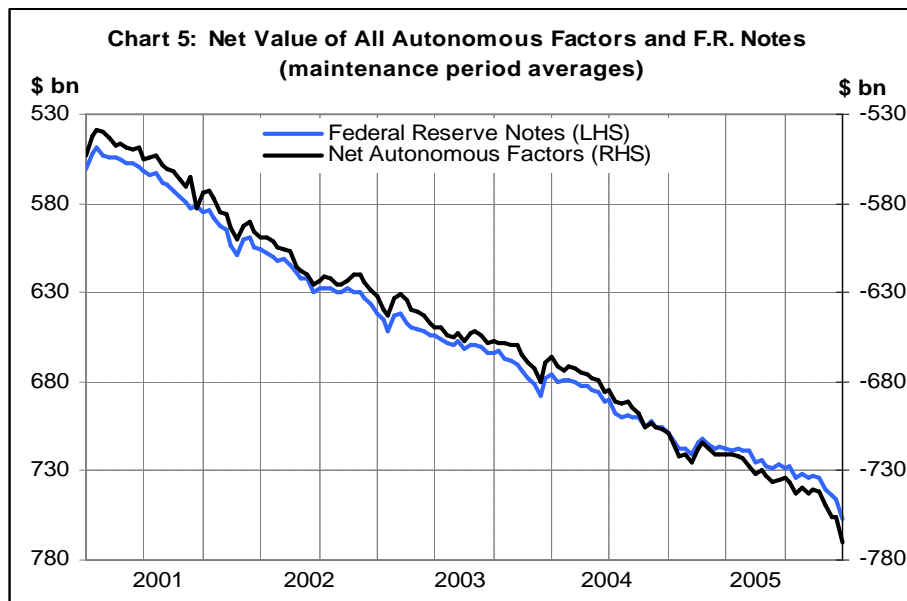
Chart 4: Average Daily Levels of Excess Balances by Day of Maintenance Period, only Maintenance Periods containing FOMC meetings from June 30, 2004



Note: Excess is calculated using period-average levels of all as-of adjustments.

III. AUTONOMOUS FACTORS AFFECTING THE SUPPLY OF FED BALANCES

The supply of Fed balances is determined by the size of the Federal Reserve's domestic financial assets, discount window loans, and the levels of the various autonomous factors on the Federal Reserve's balance sheet over which the Desk has little or no control. In absolute size, autonomous factors consist primarily of currency liabilities issued by the Federal Reserve (F.R. notes). They also include many other balance sheet items, both assets and liabilities, the net value of which historically has been relatively small. The net level of autonomous factors—measured as assets less liabilities and so having a negative value—decreased by \$33 billion in 2005, a little less than the amount by which it decreased in 2004 (Chart 5).

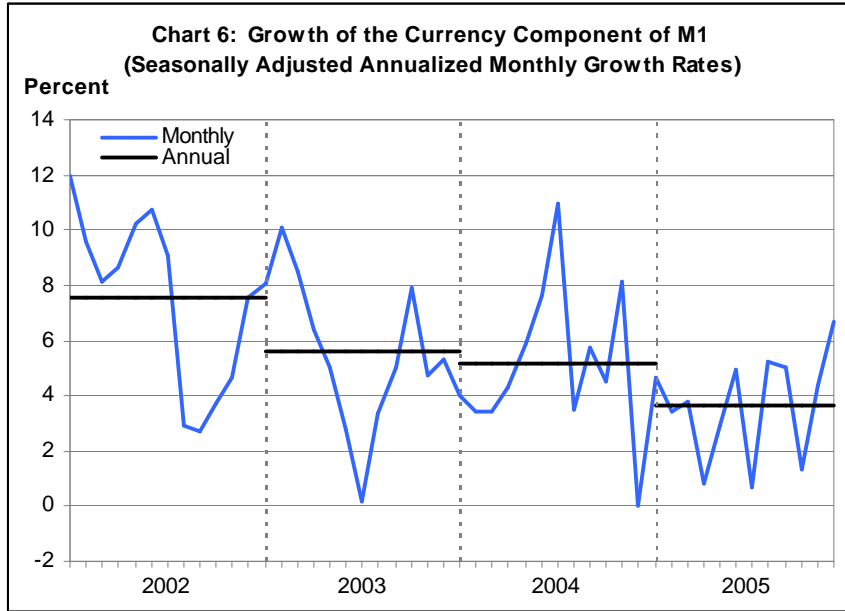


Developments in Federal Reserve Notes

The quantity of F.R. notes outstanding increased by 5.4 percent (\$39 billion) during 2005, above the 4.3 percent rate at which notes increased during 2004 and almost identical to the rate at which they grew during 2003.⁶ However, as represented by the seasonally adjusted currency component of M1, monthly currency growth rates were erratic (Chart 6).⁷ Variations in the net volume of currency shipments to foreign destinations contributed substantially to monthly swings.

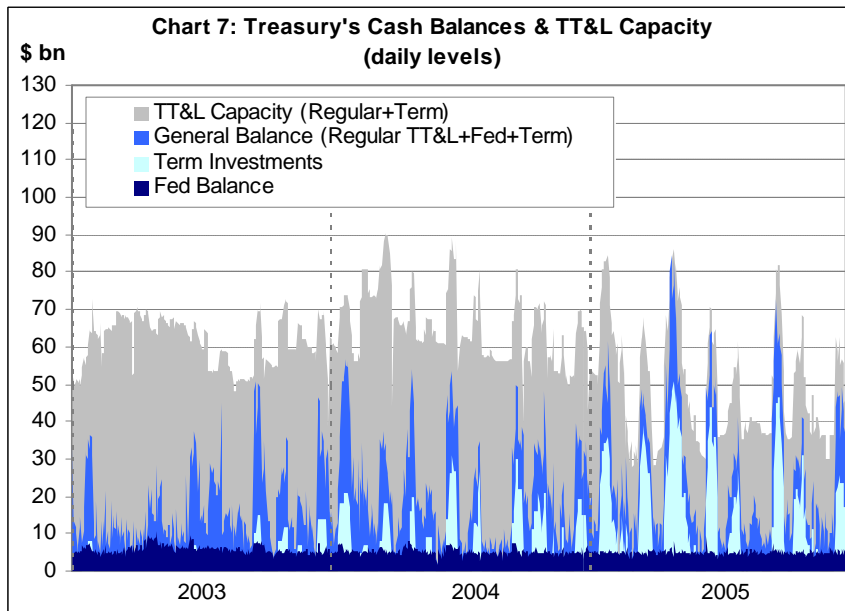
⁶ These calculations are based on year-end date levels.

⁷ The average monthly growth rate in this series in 2005 was a bit below that in 2004.



Developments in the Treasury Balance

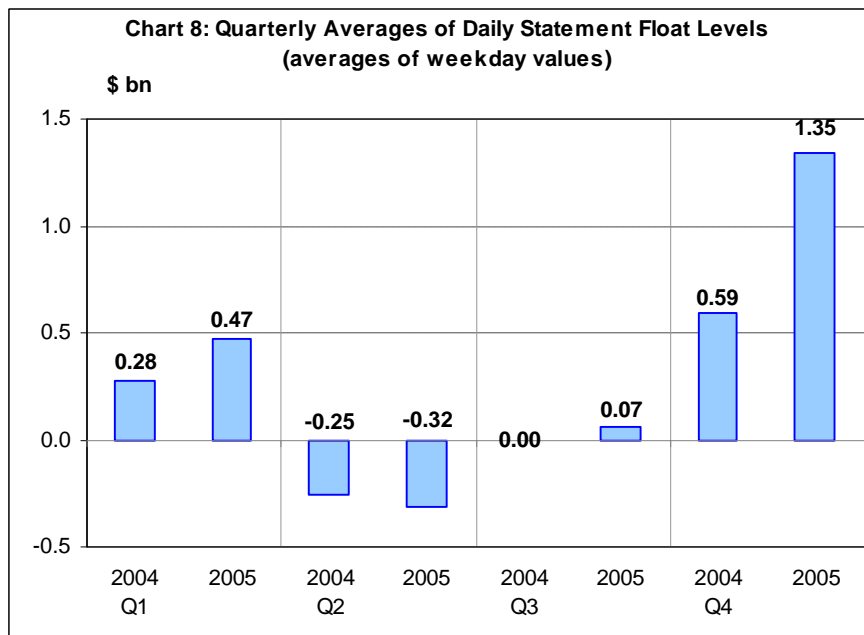
Treasury's overall cash position (general balance), defined as funds held in the Treasury's account with the Federal Reserve plus all balances held in Treasury Tax and Loan (TT&L) note accounts at commercial banks (including term investments), was higher on average in 2005 than in the preceding year (Chart 7).



Treasury held larger and more frequent auctions of funds under the Term Investment Option (TIO) program. Many commercial banks that participated in the TIO auctions withdrew some of the collateral they had previously tended to keep in place over extended periods for regular TT&L investments, and they increased TT&L capacity for TIO placements only temporarily during high tax receipt months. Consequently, total TT&L capacity was on average lower and more volatile than in 2004. Despite the more challenging operational environment of lower average TT&L capacity and higher general balances, Treasury was generally able to keep its balance at the Fed close to its usual daily \$5 billion target in 2005. As in 2004, in 2005 there were no dates on which general balances exceeded total TT&L capacity by more than the \$5 billion amount targeted for the Fed account. Meanwhile, in 2005, there were 6 days when general balances were below the usual \$5 billion amount targeted for the Fed account, down from 12 such occasions in the preceding year.⁸

Developments in Statement Float

In 2005 Federal Reserve float levels were on average quite similar to the prior year until the final quarter. The average daily float level in Q4 2005 was \$1.35 billion, by far the highest quarterly average level in recent years (Chart 8).



⁸ There was one additional occasion in 2004 when the general balance, less an amount previously placed in a TIO investment that was outstanding on the day, was less than \$5 billion.

Several interrelated factors likely led to the heightened float levels, including the ongoing consolidation of Federal Reserve check processing operations. By concentrating activity at a smaller number of regional offices, a disruption of work at one office or delays in the transportation of checks between any two offices seem to have a larger impact on float levels.

Volatility and Predictability of Key Autonomous Factors

The variability of autonomous factors, as measured by average absolute daily changes, increased from the prior year, largely due to increased variability of float and of the foreign RP pool (Table 2). Average same-day float forecasting misses increased as a consequence of this increased variability, and overall same-day forecasting misses increased along with it. However, accuracy of same-day projections of the pool was about the same in 2005 as in the preceding year, despite the higher volatility.

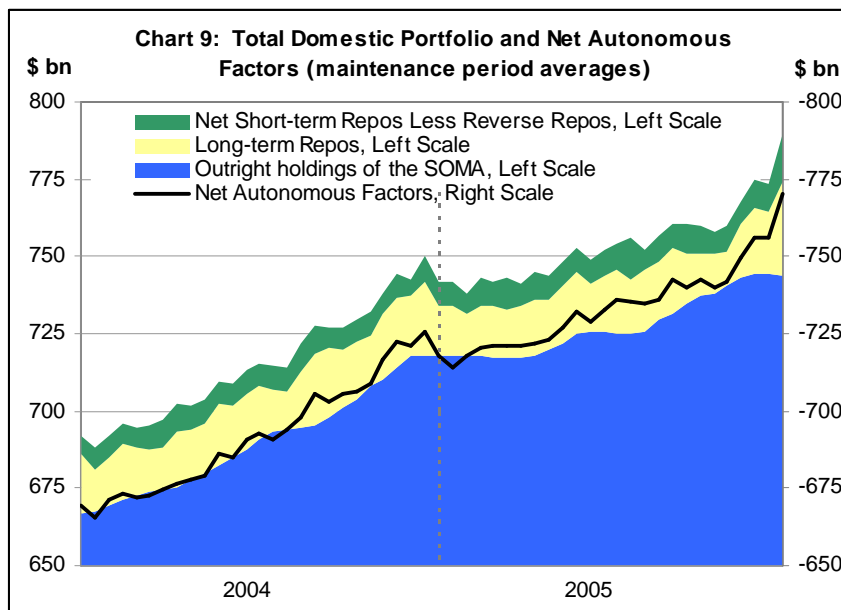
<i>Table 2</i>						
<u>Daily Changes and Forecast Misses in Autonomous Factors (millions of dollars)</u>						
<u>Average and maximum of absolute values</u>						
<i>Daily Change</i>						
	2003		2004		2005	
	<u>Average</u>	<u>Max.</u>	<u>Average</u>	<u>Max.</u>	<u>Average</u>	<u>Max.</u>
Currency in circulation	858	3,128	918	3,510	855	2,930
Treasury balance	745	3,552	763	4,272	704	4,942
Foreign RP pool	629	4,325	599	5,219	756	6,773
Float	1,059	6,704	721	5,724	943	6,572
Net value*	1,690	8,017	1,356	7,209	1,666	7,483
<i>Daily Forecast Miss</i>						
	2003		2004		2005	
	<u>Average</u>	<u>Max.</u>	<u>Average</u>	<u>Max.</u>	<u>Average</u>	<u>Max.</u>
Currency in circulation	163	919	200	1,566	213	1,561
Treasury balance	489	2,224	415	2,353	444	4,277
Foreign RP pool	86	1,506	125	1,716	148	1,768
Float	551	4,020	374	2,811	594	5,803
Net value*	803	3,805	654	3,920	876	8,156
Notes:						
* Net value reflects offsetting movements and forecast misses of all autonomous factors.						

IV. DOMESTIC FINANCIAL ASSETS & OPEN MARKET OPERATIONS

A. Different Types of Open Market Operations and Their General Uses

The Federal Reserve maintains a mix of domestic financial assets to achieve its monetary policy objectives. Most of the assets in its portfolio are Treasury securities that are held outright (Chart 9). The Federal Reserve also holds government securities on a temporary basis under repurchase agreements and

occasionally issues temporary liabilities delivering Treasury securities under reverse repurchase agreements.



In general, the Desk structures these domestic financial assets so that short-term RPs, defined as RPs with an original maturity of less than 13 days, are used to make marginal adjustments to the supply of Fed balances. Short-term RPs are arranged most days, after reserve supply and demand projections are complete. Less utilized, RRP are arranged when the level of Fed balances needs to be reduced temporarily (after accounting for all short-term RPs maturing that day).

The Desk also arranges long-term RPs, defined as RPs with original maturities of 13 days or more, to address seasonal volatility in autonomous factors or swings in demands for reserve balances that are expected to last for a number of weeks or even months. Long-term RPs are ordinarily arranged weekly each Thursday. These operations are typically arranged early in the morning when the financing market is more liquid, and usually before daily reserve supply and demand projections are complete. These RPs can be reduced as an alternative to arranging RRP for extended periods or selling securities outright from the domestic portfolio in the event that the total portfolio in future weeks or months proves to be persistently lower than currently projected.

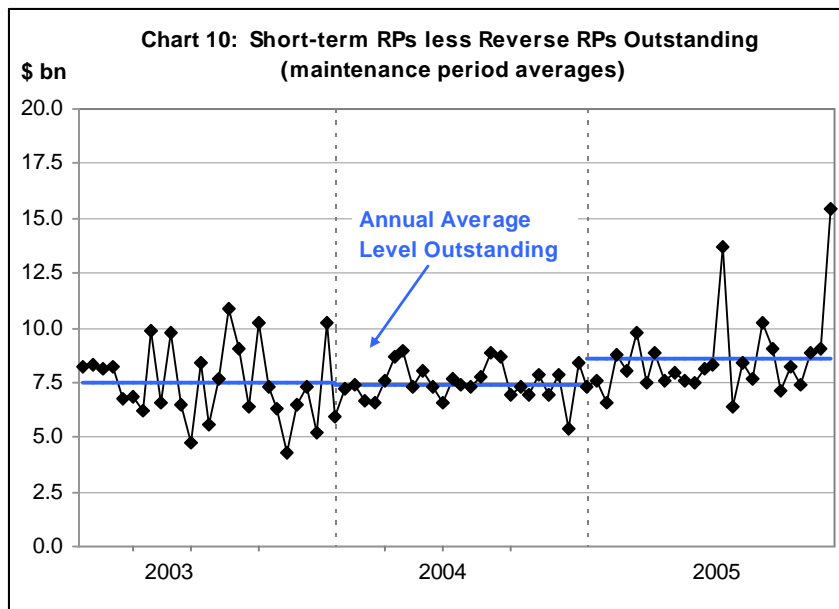
The Desk addresses permanent increases in the level of autonomous factor liabilities through outright purchases of Treasury securities for the SOMA. Maturing securities held outright are then routinely exchanged for new issues at primary auctions. Less commonly, redemptions and sales of portfolio holdings

may be used to achieve reductions to the portfolio that are expected to be permanent, or to avoid exceeding guidelines for holdings of specific issues.

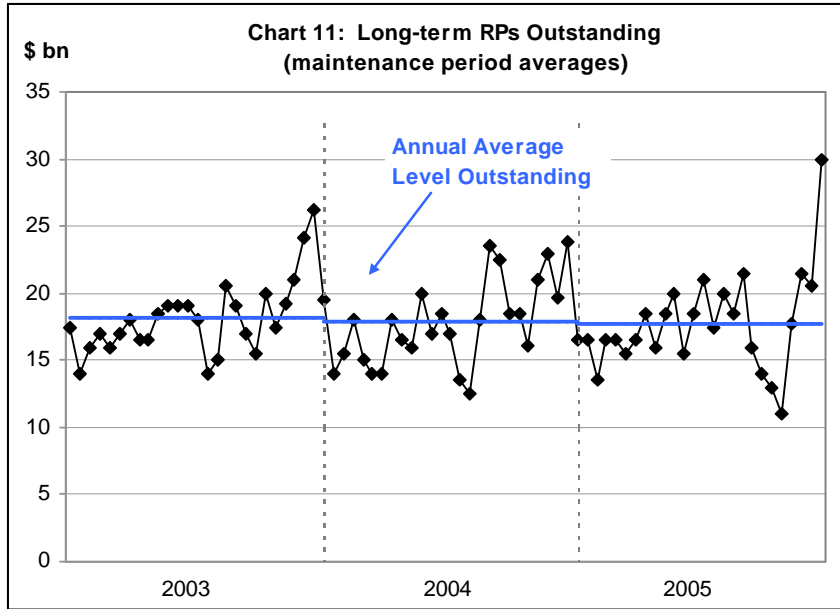
B. Temporary Holdings and Operations

Outstanding Levels of Short-Term and Long-Term RPs

Longer term financial assets (both outright holdings and long-term RPs) in the domestic portfolio are structured to allow for an expected layer of short-term RPs, the size of which is built up or drawn down through more frequent market entry to offset short-lived changes to net autonomous factors and reserve demands. The average level of short-term RPs (less RRP) outstanding was \$8.5 billion in 2005 versus \$7.5 billion in 2004, and ranged between \$6.4 billion and \$15.5 billion on a maintenance period average basis (Chart 10). Daily amounts outstanding ranged from \$1.75 billion to \$24.0 billion.

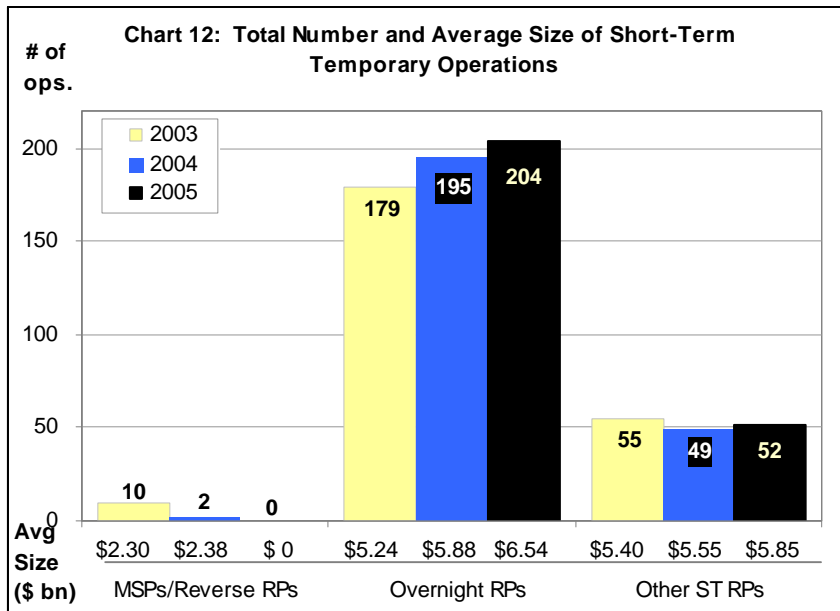


The average level of outstanding long-term RPs was \$17.6 billion in 2005, close to its average in 2004 (Chart 11). Maintenance period average levels ranged from \$11.0 billion to \$30.0 billion (and the highest daily level outstanding was \$32.0 billion, in the period covering the year-end).



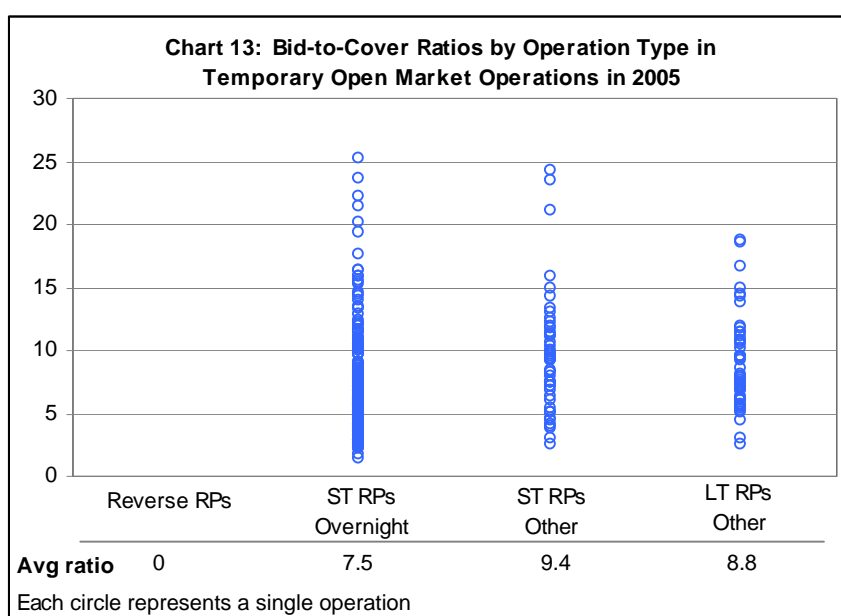
Short-Term and Long-Term Temporary Operations

The Desk arranged short-term RPs on all but 7 business days in 2005, compared to all but 17 days during 2004. A total of 204 overnight RPs were arranged in 2005 (including those spanning a holiday or a weekend), while the Desk arranged 52 other short-term RPs, both amounts similar to corresponding levels in the preceding year (Chart 12). In size, the average for all short-term temporary operations during 2005 was \$6.4 billion, and individual amounts ranged between \$1.75 billion and \$13.5 billion. The Desk arranged no temporary draining operations in 2005.



The Desk arranged a 14-day RP every Thursday morning. These operations averaged \$8.7 billion in size and ranged between \$4.0 billion and \$14.0 billion.⁹ In addition, it arranged a \$5 billion 28-day RP to help meet projected elevated seasonal reserve needs around the year-end. The 28-day RP was conducted on a 1-day forward commitment basis.

The average bid-to-cover ratio for all RP operations during 2005 was 8.0. This ratio was very volatile from operation to operation, but in general it was lower for overnight RPs than for other RPs (Chart 13). The Desk continued to minimize the potential for having insufficient coverage on its overnight RPs by arranging overlapping term operations to layer in balances ahead of days when dealer participation on overnight RPs has sometimes been low and projected balance needs high (such as quarter-end dates).

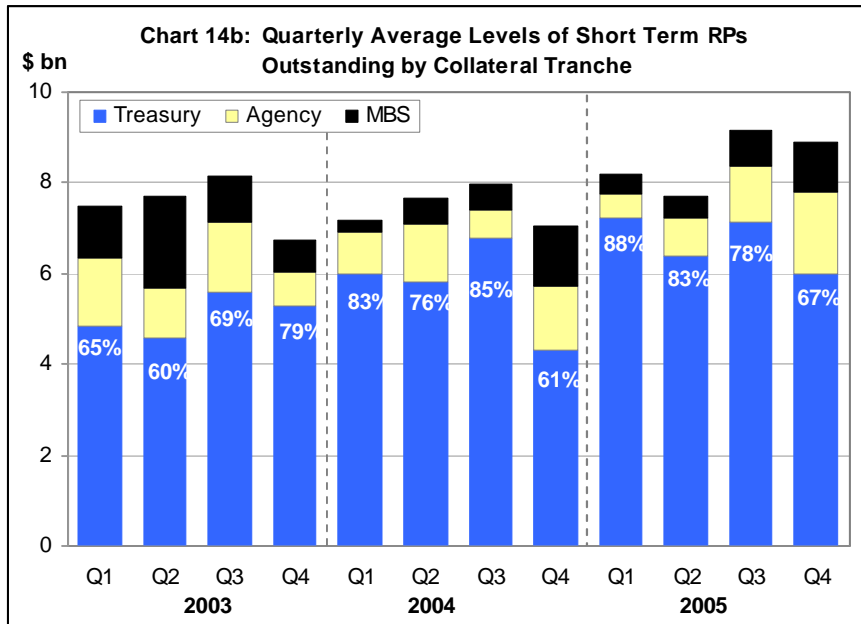
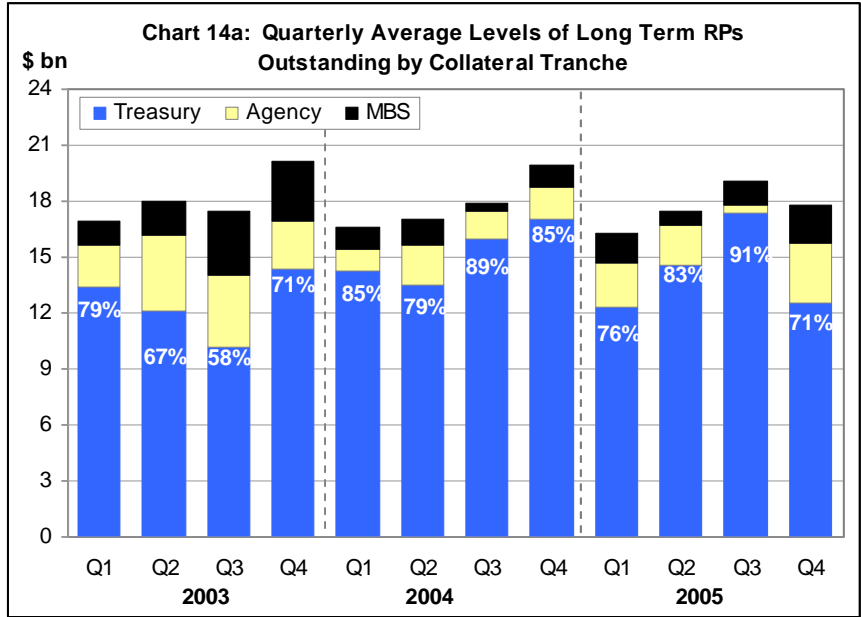


Collateral Distribution of Repurchase Agreements

The Desk solicited propositions across the entire pool of eligible government securities collateral on all RPs arranged in 2005. All RPs were arranged as three separate simultaneous operations (tranches), differentiated by the type of collateral eligible. In the first tranche, only Treasury debt was accepted; in the second, direct federal agency obligations were also eligible (in addition to Treasury securities); and, in the third, mortgage-backed securities were eligible in addition to the first two collateral types. The Desk selected from propositions across the three tranches according to the attractiveness of bids, measured relative to current rates in the financing market for each particular class of collateral. Benchmark rates for this purpose were based on an internal daily survey of financing rates paid by the primary dealers. Overall,

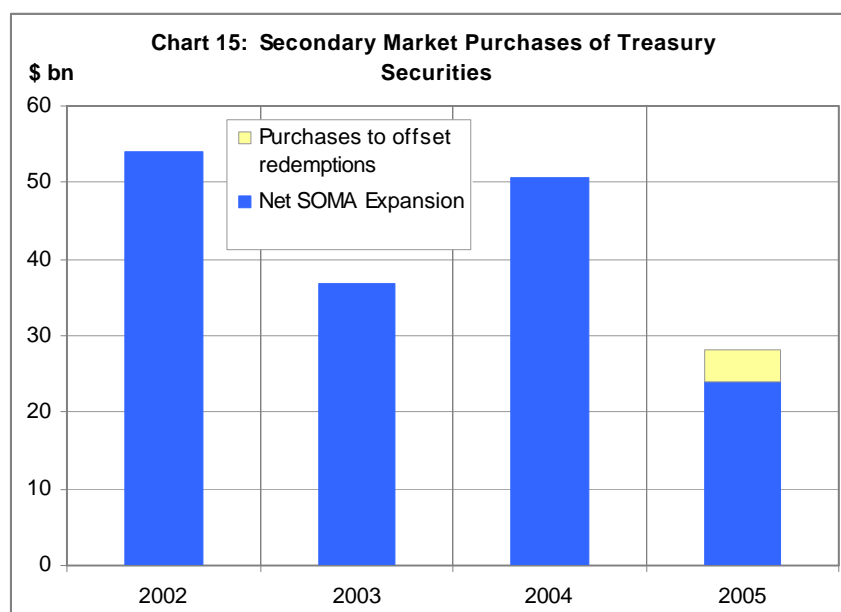
⁹ These figures include long-term RPs of slightly greater or lesser maturity arranged around Thursday holidays.

in recent years the distribution by collateral tranche of outstanding RPs has been weighted heavily toward the Treasury tranche, which on average has accounted for about 80 percent of all outstanding RPs, both long-term and short-term, roughly similar to their 2004 averages (Charts 14a and 14b).



C. Permanent Holdings in the System Open Market Account and Outright Activity

During 2005, the par value of the SOMA portfolio increased by \$24.0 billion, ending the year at \$739.5 billion.¹⁰ The expansion was achieved by \$28.1 billion of outright purchases, mostly in the secondary market from primary dealers, supplemented by some purchases for the SOMA of Treasury bills from foreign central banks and other international institutions that hold accounts with the Federal Reserve. Purchases were partly offset by a moderate amount of redemptions of maturing securities (Chart 15).



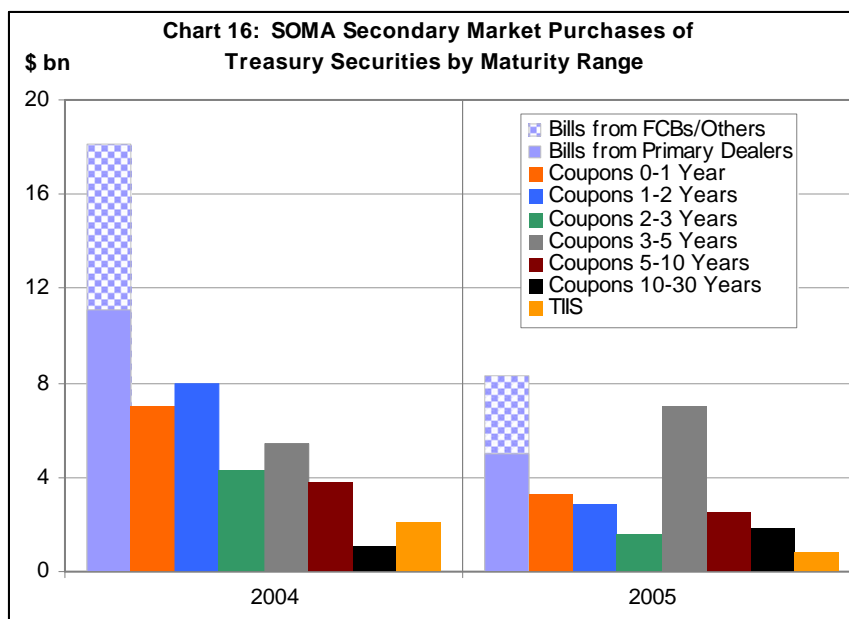
Purchases in both the secondary and primary markets are aimed at maintaining a liquid portfolio, while avoiding significantly distorting prices or liquidity of specific Treasury securities. Consequently, SOMA holdings are comprised of an array of Treasury securities with varying remaining maturities, and are constrained by per-issue purchase limit guidelines for individual Treasury issues as set forth in July 2000.

Secondary Market Purchases

The distribution of purchases in 2005 was similar overall to that of 2004, the most notable exception being a large relative increase of purchases in the 3-5 year sector (Chart 16). The change to monthly 5-year note auctions in August 2003 has led to steady increases in purchasable room in that sector under the portfolio purchase guidelines.¹¹

¹⁰ This level excludes \$3.3 billion in inflation compensation on Treasury inflation-indexed securities. The inflation compensation component in the portfolio increased by \$1.1 billion over the year.

¹¹ Purchasable room is defined as the maximum amount available for purchases within the limits set in the guidelines.



Outright operations with the primary dealers are typically conducted mid-morning, when market liquidity is relatively high, and are scheduled to avoid coinciding with major economic data releases or Treasury auctions. Outright operations generally settle on the following business day and, therefore, do not have a same-day impact on Fed balances. Purchases from foreign central banks and international institutions are made in notably smaller amounts on a day-to-day basis when there is a need to expand Fed balances and sell orders from these accounts are in line with the SOMA portfolio guidelines. These trades are typically arranged for same-day settlement.

Treasury coupon operations continued to be segmented into separate tranches across different portions of the yield curve to facilitate efficient execution. The selection of specific issues in each operation was based on the relative attractiveness of propositions and on portfolio considerations. In addition to remaining within the per-issue limits, the Desk avoided purchases that would be expected to cause a sizable redemption on any day within the foreseeable future, and it bought no issues in the secondary market that had less than five weeks remaining until maturity. The Desk also refrained from purchasing issues that were trading with significant scarcity value in the RP market in order to avoid impairing the liquidity of individual securities that were in greater demand elsewhere. In a similar vein, the Desk refrained from purchasing newly issued securities in the secondary market.

Altogether, in 2005 the Desk bought \$24.8 billion from the dealers in 24 outright operations arranged in the market, and it bought another \$3.3 billion (all bills) for the SOMA from foreign accounts. In the preceding

year, the Desk purchased \$43.5 billion from dealers in 40 operations arranged in the market, while buying another \$7.0 billion from foreign accounts.

Primary Market Activity

Growth in the SOMA portfolio is achieved through outright purchases of Treasury securities in the secondary market, which is then sustained by replacing maturing holdings with newly issued debt at Treasury auctions. The auction rollover process differs slightly for coupon and discount securities. For coupons, the Desk rolls over maturing securities by placing add-on bids for the SOMA at auction equal to the lesser of (a) its maturing holdings on the issue date of a new security or (b) the amount that would bring the SOMA holdings as a percentage of the issue to the percentage guideline limits. In scenarios when two or more coupon securities settle on the same date, the Desk rolls over funds based on percentages outlined in the guidelines, which are higher for shorter dated issues. For bill rollovers, the maturing amount is allocated across newly issued bills to maintain roughly an equal percentage amount of ownership in each security settling on the same date.

There were six redemptions in 2005 totaling \$4.1 billion, all occurring when new 2-year note auctions settled. On these occasions, the size of maturing issues exceeded the percentage guideline limits for holdings of specific issues multiplied by the size of the newly auctioned notes. The last redemption was in 2001.

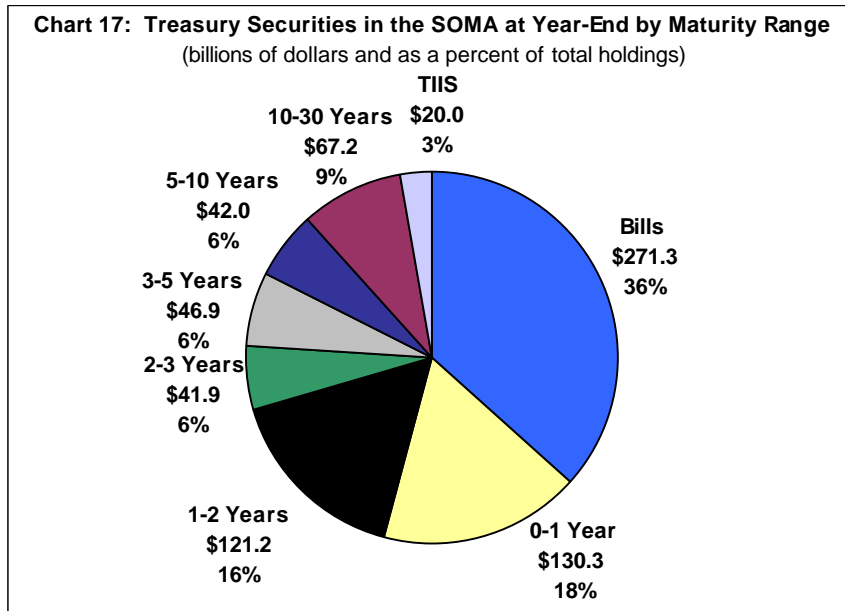
Treasury inflation indexed securities (TIIS) were purchased for the SOMA at a primary auction when a portion of a maturing 2-year note was exchanged for \$3 billion of a 20-year TIIS. This was the first purchase of TIIS at a primary auction since January 2002.

The Treasury redeemed three callable coupon securities held in the SOMA portfolio in 2005, totaling \$3.2 billion. The Desk rolled over these funds into securities with settlement dates matching the redemption dates.

General Characteristics of the SOMA at Year End

The distribution of SOMA holdings by remaining maturity at the end of 2005 is shown in Chart 17. The average remaining maturity of the SOMA portfolio was 38.0 months at the end of the year, compared to an average remaining maturity of 53.9 months on all outstanding marketable Treasury debt.¹² At the end of 2004, average remaining maturity of the SOMA portfolio and of outstanding Treasury debt was 38.8 months and 55.1 months, respectively. At the end of 2005, 17.8 percent of total outstanding marketable Treasury debt was held in the portfolio, down slightly from 18.1 percent one year earlier.

¹² All calculations in this paragraph are based on par values.

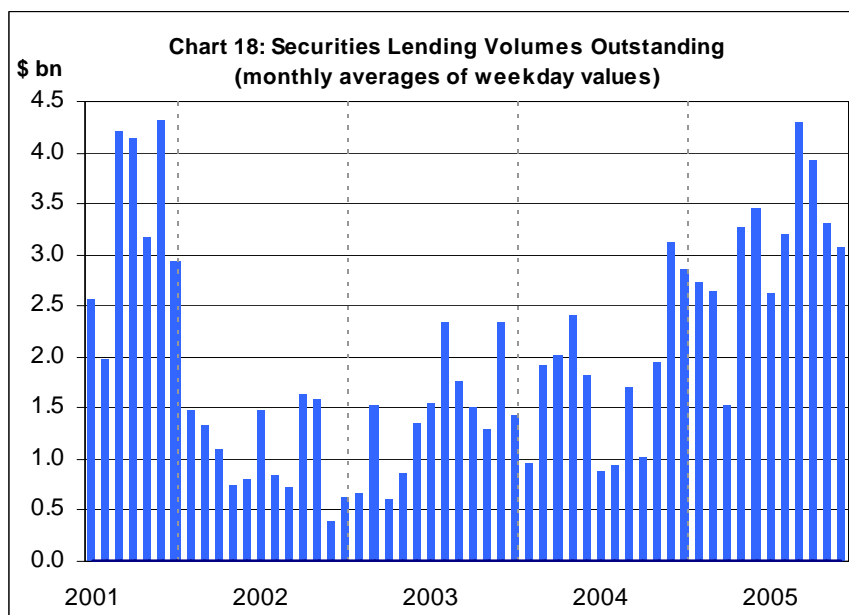


SOMA Securities Lending Activity

The FRBNY provides a temporary source of securities to the Treasury financing market via a securities lending program to promote smooth clearing of Treasury securities. The program offers for loan, on an overnight basis, outright holdings in the SOMA portfolio in accordance with specified terms and conditions.¹³ Securities are awarded to primary dealers based on competitive bidding in an auction held each business day at noon eastern standard time. To prevent securities lending operations from affecting Fed balances, securities loans are collateralized with Treasury securities rather than cash. Over the course of 2005, the Desk maintained the minimum fee for the SOMA securities lending program at 1 percent.

Securities lending volume increased significantly in 2005, averaging about \$3 billion daily (Chart 18). The rise in borrowing activity over the course of the year was at least partially attributable to the gradual rise in the target level of the federal funds rate, which in turn caused general collateral (GC) funding rates, which are closely aligned to the funds rate, to rise as well. The rise in GC rates increased the scope for specific issues to be financed in the RP market at rates more than 1 percent (the Desk's minimum borrowing fee) below the general collateral rate, the range in which dealers have an incentive to borrow from the Desk. Quarter-end borrowing activity further contributed to the increase in volumes. The temporary scarcity of cheapest-to-deliver securities ahead of quarter-end delivery dates for the Chicago Board of Trade's 10-year Treasury note futures contracts exacerbated borrowing activity during the second and third quarters.

¹³ For terms and conditions of the Federal Reserve's securities lending program, see http://www.newyorkfed.org/markets/sec_terms.html.



In the fourth quarter of 2005, the Desk successfully implemented its new FedTrade trading platform, replacing the TRAPS system previously used. In addition, the Desk announced in December that dealer borrowing limits would be modified as of January 9, 2006 to more efficiently allocate SOMA holdings to the primary dealers, particularly during periods of collateral market dislocation.¹⁴

V. THE FEDERAL FUNDS MARKET AND DISCOUNT WINDOW CREDIT

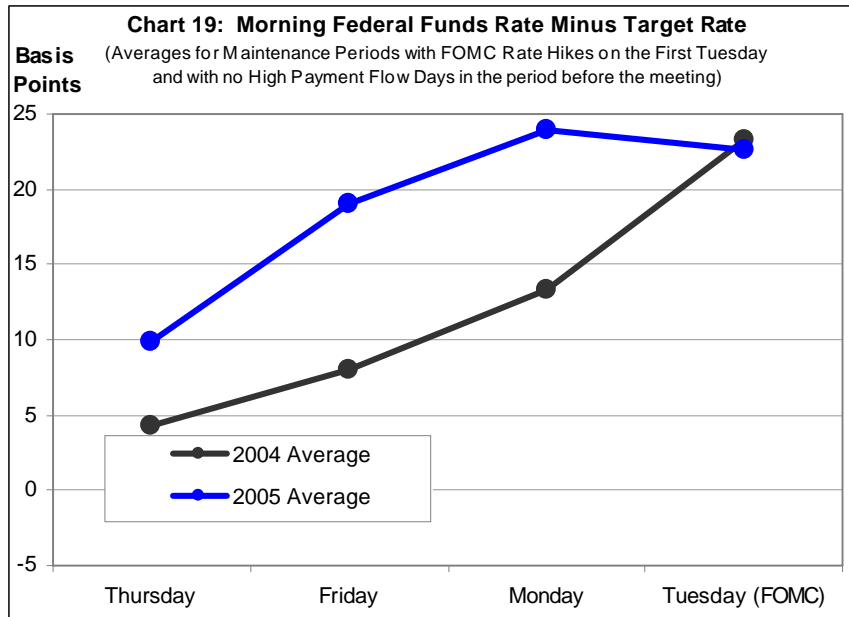
A. The Federal Funds Market

Participants in the federal funds market continued to anticipate with virtual certainty the increases in the target federal funds rate ahead of all the FOMC meetings in 2005, which pushed up rates in the days ahead of all eight meetings and in general contributed to higher rate volatility in the corresponding maintenance periods.¹⁵ The impact of these expectations for a policy change on the funds rate in the days ahead of FOMC meetings was in general more pronounced in 2005 than in the preceding year (Chart 19).¹⁶

¹⁴ This announcement may be found at the following link:
<http://www.newyorkfed.org/newsevents/news/markets/2005/an051205.html>

¹⁵ For a discussion of how expectations of a policy change in general have affected the behavior of the federal funds rate since the start of the rate firming cycle in June 2004, please refer to pp. 32-33 of the 2004 Annual Report.

¹⁶ To control for other circumstances that can have an impact on rates, observations included in Chart 19 are limited to situations where the FOMC meeting fell on the first Tuesday of a maintenance period and in which there were no high payment flow dates in the period ahead of the meeting. The levels of excess reserves provided by the Desk ahead of the meeting dates reflected in the chart were somewhat higher in 2005 than in 2004.



In 2005, most measures of intraday rate volatility in the federal funds market increased from their low levels in 2003 and 2004, even after maintenance periods that featured an increase in the target level of the funds rate are excluded (Table 3). Both the intraday standard deviations in rates and the daily trading ranges in 2005 were modestly to substantially above the levels observed in 2004. Deviations of daily effective rates from the target rate were also slightly greater on average in 2005; however, these increases were less apparent when periods with an increase in the target funds rate were excluded from the measures. The daily average deviations increased most clearly on high payment flow days.

The increase in federal funds rate volatility in 2005 may have been at least partly due to the higher interest rate environment. Volatility in the federal funds rate was exceptionally low in 2003 and 2004, when target rates for federal funds were at historical lows. At that time, the gap between the target rate and the lower bound for rates – zero percent – narrowed substantially which, in conjunction with the primary credit facility adopted in 2003, effectively limited the potential trading range for rates. Since that time, the potential room for downward rate movements has widened substantially. In principle at least, the reduced levels of required operating balances that have coincided with higher interest rates, described in section II.A, might also have contributed to heightened rate volatility by reducing banks’ scope for “averaging” reserve holdings over a maintenance period. Still, levels of rate volatility remained well below levels experienced amid the steep decline in total requirements in the 1990s.

Table 3
Federal Funds Rate Behavior (basis points)

	<u>2001</u> ^a	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	non-FOMC <u>2005</u> ^b
All Days						
<i>Intraday Standard Deviation</i>						
Median	7	5	4	3	4	4
Average	9	6	5	4	7	6
<i>Daily Trading Range</i>						
Median	56	31	25	19	38	31
Average	80	44	34	30	55	53
<i>Absolute Deviation of Effective Rate from Target</i>						
Median	5	3	3	1	2	2
Average	7	4	4	3	5	3
High Payment Flow Days ^c						
<i>Intraday Standard Deviation</i>						
Median	8	7	6	4	7	-
Average	12	9	8	7	9	-
<i>Absolute Deviation of Effective Rate from Target</i>						
Median	11	8	6	4	8	-
Average	12	6	8	4	10	-

^a Excludes data from September 11 through October 3.
^b Excludes all data from maintenance periods with an FOMC meeting.
^c High payment flow dates include the first and last business days of each month, and the first business day after the 14th of each month.

B. Discount Window Credit

The year 2005 was the third year of operation of the primary credit facility as a backup source of very short-term liquidity for depository institutions in generally sound financial condition and with appropriate collateral. Reserve Banks extend primary credit at a rate 100 basis points above the fed funds target rate.

Both the frequency with which banks borrowed at least \$100 million and the average daily outstanding amount of primary credit in 2005 were much the same as in recent prior years (Table 4). Since the inception of the primary credit facility in January 2003, there have been twelve occasions when funds brokers reported some trading in the market at rates in excess of the primary credit rate, ten of which occurred in 2005. Thus, some institutions have continued to show a reluctance to borrow from the discount window under the primary credit facility, preferring to pay a higher rate in the market. However, on most of these occasions, there was also a substantial amount of borrowing from the primary credit facility, indicating that the new facility likely helped limit upward rate pressures even on those days.

Table 4

Average and Frequency of Adjustment/Primary Credit Borrowing

	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>
Averages daily values (mil.\$)	\$439/\$81*	\$48	\$43	\$43	\$55
(average of business days)					
Number of days when borrowing was ...					
\$100 million or more	36	13	13	18	15
\$500 million or more	13	6	3	3	5

*Excludes 9/11/01, 9/12/01, and 9/13/01

APPENDIX A: AUTHORIZATION FOR DOMESTIC OPEN MARKET OPERATIONS

Open market operations were conducted under the Authorization for Domestic Open Market Operations. The Authorization in effect at the end of 2005 is reprinted below:

Authorization for Domestic Open Market Operations

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;

(b) To buy U.S. Government securities, obligations that are direct obligations of, or fully guaranteed as to principal and interest by, any agency of the United States, from dealers for the account of the Federal Reserve Bank of New York under agreements for repurchase of such securities or obligations 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 dealers; provided that in the event Government securities or agency issues covered by any such agreement are not repurchased by the dealer pursuant to the agreement or a renewal thereof, they shall be sold in the market or transferred to the System Open Market Account.

(c) To sell U.S. Government securities and obligations that are direct obligations of, or fully guaranteed as to principal and interest by, any agency of the United States to dealers for System Open Market Account under agreements for the resale by dealers of such securities or obligations 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 dealers.

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 lend on an overnight basis U.S. Government securities 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 which could facilitate a dealer's ability to control a single issue as determined solely by the Federal Reserve Bank of New York.

3. 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 System Open Market Account, to sell U.S. Government securities 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 New York Bank account, when appropriate, to

undertake with dealers, subject to the conditions imposed on purchases and sales of securities in paragraph 1(b), repurchase agreements in U.S. Government and agency securities, 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.

4. 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. 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 FOMC has established specific guidelines for operations in agency securities to ensure that Federal Reserve operations do not have undue market effects and do not serve to support individual issuers. The guidelines are reprinted below.

Guidelines for the Conduct of System Operations in Federal Agency Issues

1. System open market operations in Federal agency issues are an integral part of total System open market operations designed to influence bank reserves, money market conditions, and monetary aggregates.
2. System open market operations in Federal agency issues are not designed to support individual sectors of the market or to channel funds into issues of particular agencies.