Prefatory Note

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Class I FOMC – Restricted Controlled (FR)

August 6, 2009

Monetary Policy Alternatives

Prepared for the Federal Open Market Committee
by the Staff of the Board of Governors of the Federal Reserve System

RECENT DEVELOPMENTS

SUMMARY

Financial market conditions generally became more supportive of economic activity over the intermeeting period, as investor sentiment improved and strains in several markets eased further. Equity markets rallied in response to second-quarter earnings reports that were substantially stronger than analysts had expected and other indications that the economy may be stabilizing. Meanwhile, despite the near failure of a major middle-market lender in July, the yields and spreads on corporate debt declined, credit default swap (CDS) spreads narrowed, and conditions in short-term funding markets continued to improve. Rates on conforming fixed-rate mortgages decreased somewhat, and the market for commercial mortgage-backed securities (CMBS) showed some limited signs of recovery following the inclusion of legacy CMBS in the Term Asset-Backed Securities Loan Facility (TALF) and the release of additional details regarding the Treasury's Public-Private Investment Program (PPIP). In spite of these improvements, however, bank credit is still very tight, and the functioning of some financial markets remains strained.

In reaction to earnings reports, generally mixed economic data, and various Federal Reserve communications, policy expectations and yields on Treasury coupon securities were somewhat volatile over the intermeeting period; on net, however, both the expected path of the federal funds rate and the nominal yield curve were little changed.

In the second quarter, as in the first, household debt shrank a bit, while debt of nonfinancial businesses was essentially unchanged. Nonetheless, owing to a very large expansion of government borrowing, the growth of total domestic nonfinancial sector debt increased in the second quarter. Commercial bank credit contracted across all major loan categories, and banks further tightened standards and terms on loans to businesses and households over the past three months. M2 fell in July, as investors unwound further the shift toward safe monetary assets that occurred during the height of the crisis.

International financial markets continued to exhibit signs of improved sentiment and decreased risk aversion over the intermeeting period. Global stock markets rose, and the dollar depreciated somewhat as investors' demand for foreign assets increased.

MONETARY POLICY EXPECTATIONS AND TREASURY YIELDS

The Committee's decisions at its June FOMC meeting to leave the target range for the federal funds rate unchanged and to maintain the size of the large-scale asset purchase (LSAP) programs were largely anticipated. However, investors had reportedly placed some odds on the Committee increasing the size of the Treasury or mortgage-backed security (MBS) purchase programs. In addition, a number of analysts interpreted the statement as suggesting that the Committee believed economic activity to be in the process of bottoming out. Accordingly, nominal Treasury yields and rates on longer-dated Eurodollar futures contracts rose moderately following the statement. The release of the minutes on July 15 occasioned little additional market reaction, but monetary policy expectations declined during the Chairman's testimony on July 21, as investors reportedly took note of his remark that "the FOMC believes that a highly accommodative stance of monetary policy will be appropriate for an extended period." FOMC communication over the period also seemed to contribute to greater market confidence that the Committee had the tools necessary to withdraw policy accommodation in a smooth and timely manner when needed.

Other incoming economic information had little net effect on policy expectations, and the market-implied path of the federal funds rate ended the period about the same as at the time of the June FOMC meeting (Chart 1). Futures quotes, along with the staff's usual assumptions regarding term premiums, still suggest that market participants expect the target rate to remain within its current range until the first quarter of 2010. However, term premiums may well be larger than assumed by the staff, implying a lower expected path of policy than that depicted in Chart 1. Indeed, most respondents to the Desk's dealer survey in August anticipated that the federal funds rate would remain in its current range until at least the fourth quarter of next year, as they did in the June survey.[1, 2]

Yields on Treasury coupon securities were somewhat volatile, responding to Federal Reserve communications, better-than-expected corporate earnings reports, and economic data that were mixed relative to expectations. Still, on balance over the intermeeting period, the nominal yield curve was largely unchanged, with only a small upward shift in long-term yields. Implied volatility of long-term interest rates moderated, although it remains relatively high.

Near-term inflation compensation fell early in the intermeeting period, partly due to a weak employment report and declines in energy prices. Although it subsequently retraced a portion of this drop, inflation compensation for the next five years was

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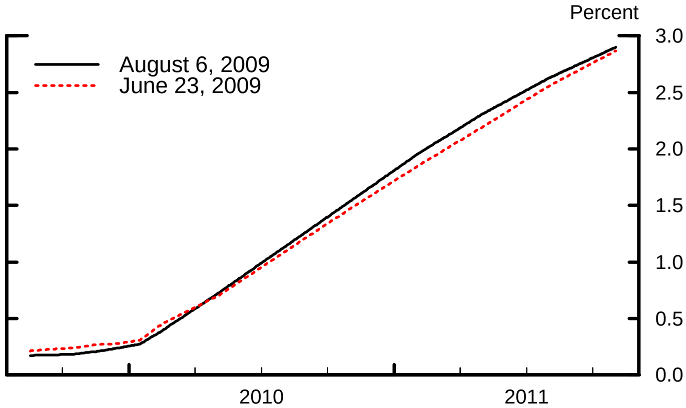
[1] Over the intermeeting period, RBC Capital Markets and Nomura Securities International were added to the list of primary dealers and thus were included in this survey for the first time, along with Jefferies & Company, which was added to the list of primary dealers during last period. Dresdner Kleinwort Securities withdrew its name from the list of primary dealers in late June.

[2] The effective federal funds rate averaged 0.16 percent over the intermeeting period, and its intraday volatility averaged 6 basis points. The changes in Regulation D that were implemented on July 2 appeared to have only limited effects on the overnight federal funds market. Federal funds trading volumes spiked in early July following the change to Regulation D but subsequently returned to their recent ranges.

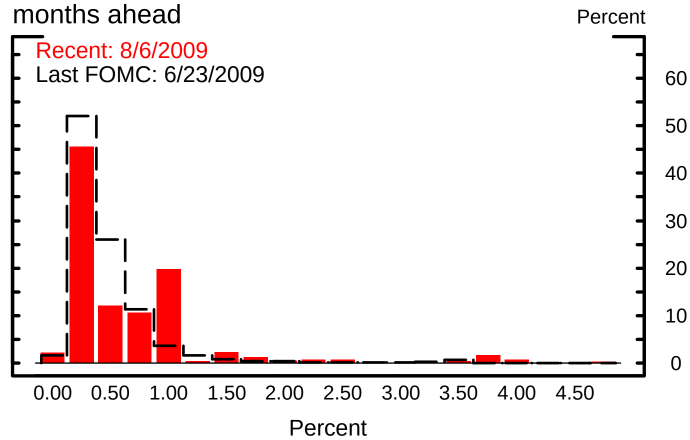
Chart 1
Interest Rate Developments

Expected federal funds rates



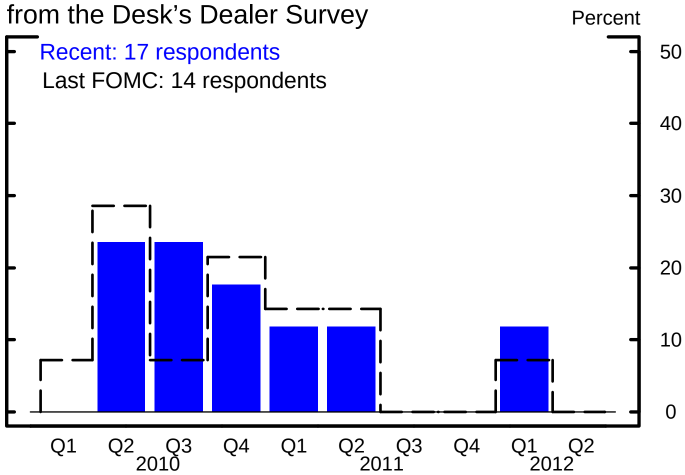
Note. Estimates from federal funds and Eurodollar futures, with an allowance for term premiums and other adjustments.
Source. CME Group.

Implied distribution of federal funds rate six months ahead



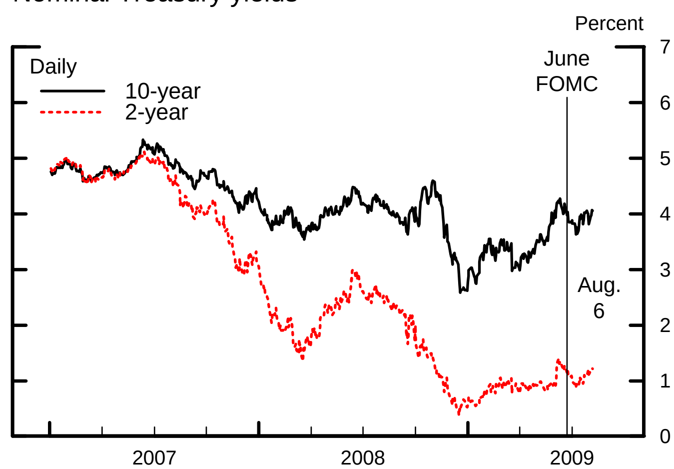
Note. Derived from options on Eurodollar futures contracts, with term premium and other adjustments to estimate expectations for the federal funds rate.
Source. CME Group.

Distribution of expected quarter of first rate increase from the Desk's Dealer Survey



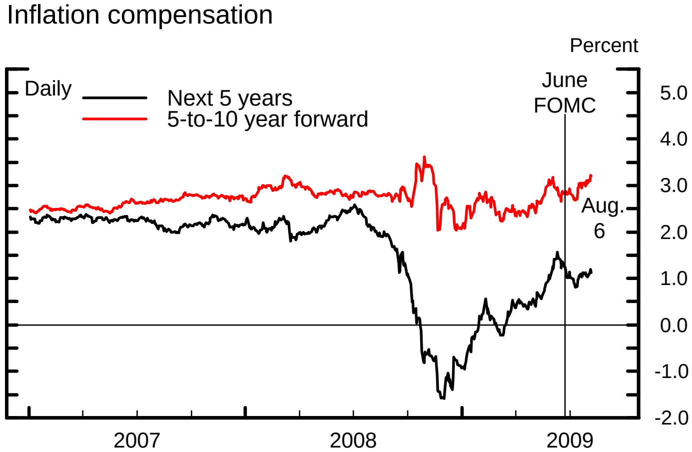
Source. Federal Reserve Bank of New York.

Nominal Treasury yields



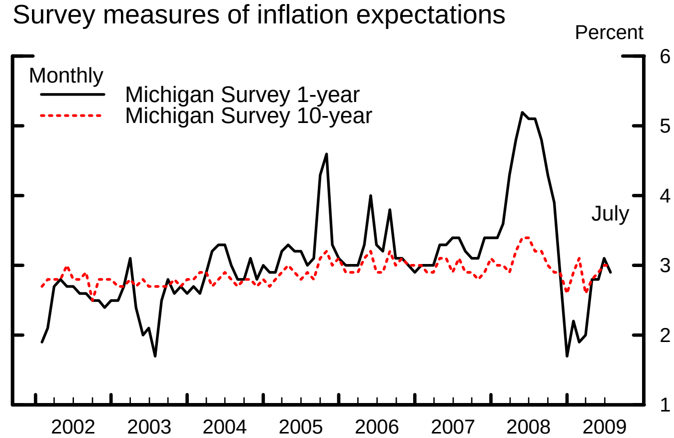
Note. Par yields from a smoothed nominal off-the-run Treasury yield curve.
Source. Staff estimates.

Inflation compensation



Note. Estimates based on smoothed nominal and inflation-indexed Treasury yield curves and adjusted for the indexation-lag (carry) effect.
Source. Barclays, PLC.; Staff estimates.

Survey measures of inflation expectations



Source. Reuters/University of Michigan.

down 9 basis points on balance over the intermeeting period. Meanwhile, ten-year inflation compensation increased 13 basis points. Those changes resulted in an increase of 38 basis points in the five-year forward measure of inflation compensation.[3] Liquidity in the TIPS market reportedly continues to be poor. Survey measures of long-term inflation expectations held steady over the period. Short-run measures of inflation expectations were also little changed; the median forecast of core PCE inflation through 2011 from the primary dealer survey registered a small uptick while near-term inflation expectations measured by the Reuters/Michigan survey fell slightly over the period.

The Treasury auctioned $252 billion in coupon securities across the term structure during the intermeeting period, and its net marketable debt (including bills and coupon securities) increased by $216 billion. Several of the auctions were for record amounts, and—apart from two tepid receptions in late July—demand was reportedly stronger than market participants had anticipated. Measures of foreign participation mostly continued to suggest solid demand from abroad.[4]

CAPITAL MARKETS

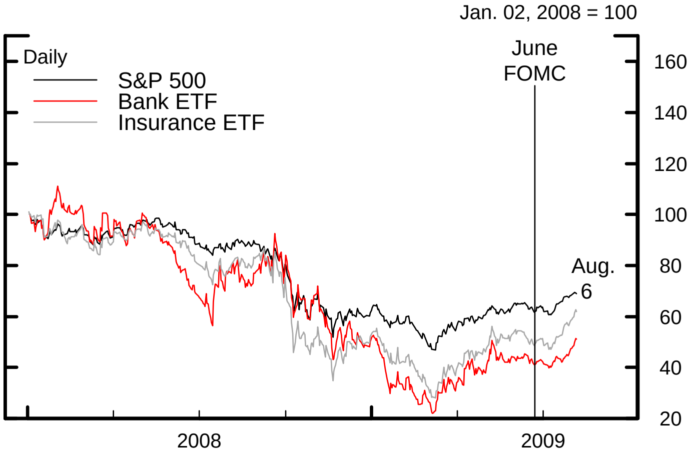
Amid signs of improvement in the economic outlook, broad equity indexes rose significantly, ending the intermeeting period about 11 to 12 percent higher (Chart 2).

[3] There is some dispersion in readings from various market-based measures of inflation compensation this period. The figures reported in the text are based on Board staff's usual calculations from fitted off-the-run TIPS and nominal yield curves, and information from the inflation-swaps market is generally consistent with these readings. Barclay's measures of break-even inflation (which are based on on-the-run yields) show the same general pattern but suggest a smaller increase in the five-year forward rate.

[4] In its August refunding statement, the Treasury announced that auction sizes would likely continue to rise gradually over the medium term. It also reaffirmed its commitment to regular and predictable TIPS issuance and reported that it would consider replacing 20-year TIPS with 30-year TIPS. Finally, it announced that it expected to reach the statutory debt ceiling in the fourth quarter of this calendar year.

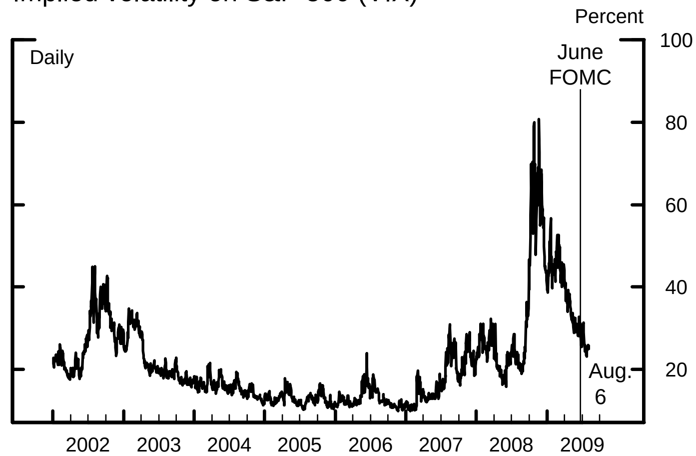
Chart 2
Asset Market Developments

Equity prices



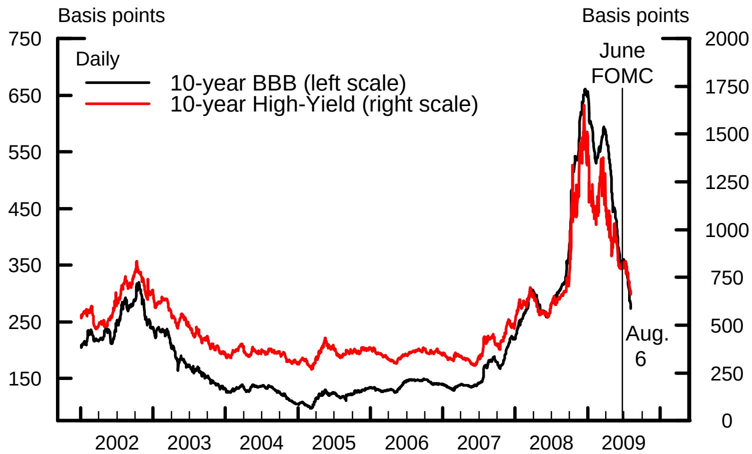
Note. There are 24 banks included in the Bank ETF and 24 insurance companies included in the Insurance ETF.
Source. Bloomberg, Keefe Bruyette & Woods.

Implied volatility on S&P 500 (VIX)



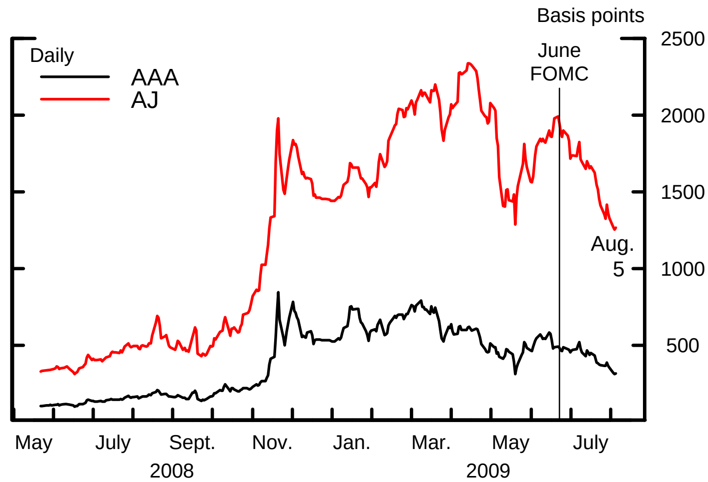
Source. Chicago Board Options Exchange.

Corporate bond spreads



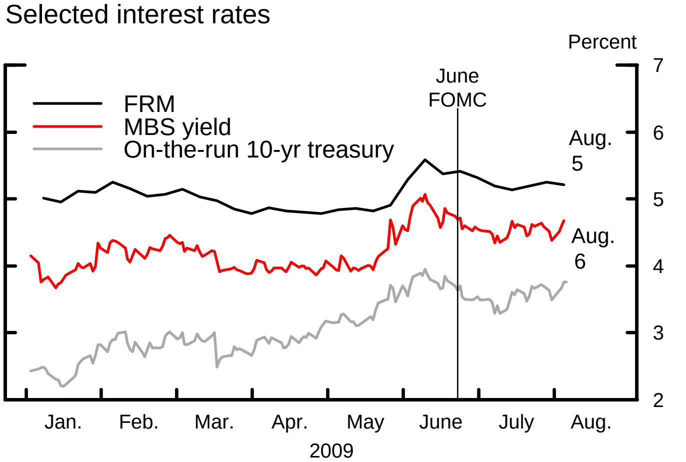
Note. Measured relative to an estimated off-the-run Treasury yield curve.
Source. Merrill Lynch and staff estimates.

CMBX spreads



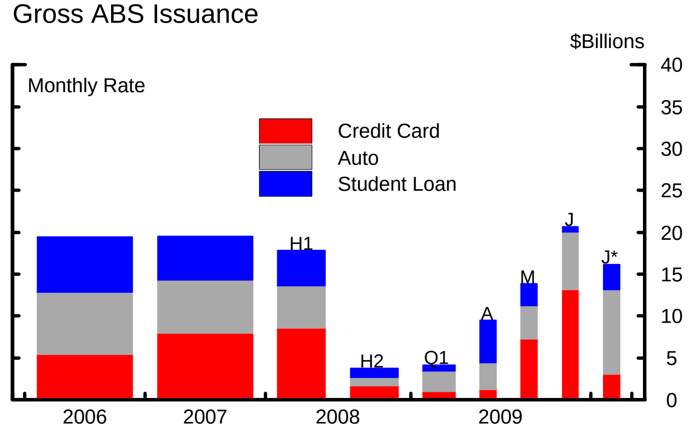
Source. JPMorgan.

Selected interest rates



Note. Data are business daily except for FRM which is weekly.
Source. Bloomberg.

Gross ABS Issuance



*Actual issuance as of July 30.
Note. Auto ABS include car loans and leases and financing for buyers of motorcycles.
Source. Inside MBS & ABS, Merrill Lynch, Bloomberg, and the Federal Reserve.

Earnings in the second quarter were substantially better than analysts had anticipated, with about three-quarters of reports exceeding expectations, often by large margins. Reported revenues were close to analysts' estimates on average, suggesting that the earnings surprises reflected larger-than-expected cost reductions. Implied volatility of equity prices, as measured by the VIX index, declined 5 percentage points to about the levels that prevailed in early 2008, and the equity premium—measured by the staff's estimate of the expected real equity return over the next ten years relative to the real 10-year Treasury yield—continued to narrow, although it remained high by historical standards.

In the financial sector, second-quarter earnings results were mixed. Several large banking organizations reported higher-than-expected profits, mainly due to revenues from investment banking, trading activities, and fees from the wave of mortgage refinancing during the spring. Although regional banks generally have higher exposure to commercial real estate than larger banks, the regional-bank sector generally met earnings expectations. Within this sector however, earnings varied widely. Overall, bank profits in the second quarter were weighed down by high provisions for loan and lease losses as well as a number of one-time charges.[5] Meanwhile, earnings reports for insurance companies generally met expectations. Stocks of banks and insurance companies outperformed the broader market, and, in general, the CDS spreads for such institutions narrowed considerably.

Inflows into bond mutual funds increased in recent months, and yields on investment- and speculative-grade corporate bonds continued their steep decline, producing a further narrowing of spreads over comparable-maturity Treasury issues

[5] On June 30, the FDIC implemented a special assessment of 5 basis points on assets less Tier 1 capital at insured institutions, which significantly affected the earnings of some banks.

over the intermeeting period. Indexes of corporate CDS spreads, which had widened somewhat in early June, retreated to near their pre-Lehman bankruptcy levels. Despite prominent budget problems at some state and local governments, yields on municipal bonds were down modestly, and gross issuance of municipal debt was solid.

Nonfinancial corporate bond issuance remained solid in June and July. However, commercial paper issuance continued to decline, and commercial and industrial (C&I) lending registered another significant drop, leading to a slight decrease in the overall pace of net debt financing by nonfinancial corporations in July. Meanwhile, debt issuance by financial firms remained sluggish, and issuance through the Temporary Liquidity Guarantee Program declined further. Equity issuance in both the financial and nonfinancial sectors was weak in July.

Auctions of agency debt securities were generally well received during the intermeeting period. Spreads on senior agency debt narrowed slightly, reportedly due in part to continuing Federal Reserve purchases. On July 10, Freddie Mac announced that it would tender offers for all of its $4.4 billion of outstanding subordinated debt, and it subsequently reported purchasing about 86 percent of these issues. The firm reportedly viewed the offer as a means of retiring a portion of its liabilities at relatively low cost. Some market participants expected that a similar announcement from Fannie Mae could be forthcoming, and the prices of agency subordinated debt climbed.

Spreads on highly rated tranches of CDS indexes on CMBS narrowed over the intermeeting period, as market participants focused on the expansion of the TALF to cover legacy CMBS, as well as on additional details released by the Treasury regarding the PPIP. Nevertheless, the market for new-issue CMBS was still moribund. Commercial real estate markets remained under considerable stress, as sales of commercial properties continued to drop in the second quarter, the delinquency rate on securitized commercial mortgages rose further, and price indexes fell to about two-thirds of their peak level from late 2007.

Interest rates on 30-year conforming fixed-rate residential mortgages declined to about 5¼ percent over the period but remained higher than they were from January through April. Spreads between primary mortgage rates and yields on agency MBS narrowed somewhat to about 50 basis points, while spreads between MBS and (on-the-run) ten-year Treasury yields were little changed at about 100 basis points. Following the release of the minutes, which noted that the FOMC had discussed possible purchases of agency MBS backed by adjustable-rate mortgages (ARMs) under the MBS LSAP program, secondary-market spreads on ARM products reportedly narrowed. However, spreads for adjustable-rate mortgages remained elevated, and applications for such loans, though slightly higher than in June, stayed at a very low level. Agency MBS issuance rose slightly in May, but the private-label RMBS market remains closed.

Conditions in the consumer asset-backed securities (ABS) market were roughly stable over the period. Spreads of AAA-rated consumer ABS to swaps were unchanged at levels comparable to those in the first half of 2008, and the recent volume of ABS issuance—most of which has been facilitated by the TALF—has been nearing levels observed prior to the second half 2008. Nevertheless, interest rates on consumer loans have yet to retreat, and consumer debt growth is estimated to have remained negative through the second quarter.

Market Functioning

Measures of functioning and liquidity in most financial markets improved further over the intermeeting period. Conditions in short-term funding markets continued to recover, as spreads between three- and six-month Libor rates and overnight index swaps (OIS) edged down, and participation in Federal Reserve liquidity programs declined further (Chart 3). Bid-asked spreads and haircuts for most types of transactions in the repo market also ticked down. Spreads on A2/P2-rated commercial paper and AA-rated asset-backed commercial paper were little changed since late June, remaining at the low end of their ranges over the past two years. In Treasury markets, a decline in the fitting errors of staff nominal yield-curve models suggested that investors were increasingly willing and able to engage in arbitrage.[6] Still, trading volumes reportedly remained low, although they picked up somewhat since June, and the elevated spread between on- and off-the-run ten-year yields pointed to continued strains. Quarter-end pressures facing financial institutions in late June appeared to be quite modest.

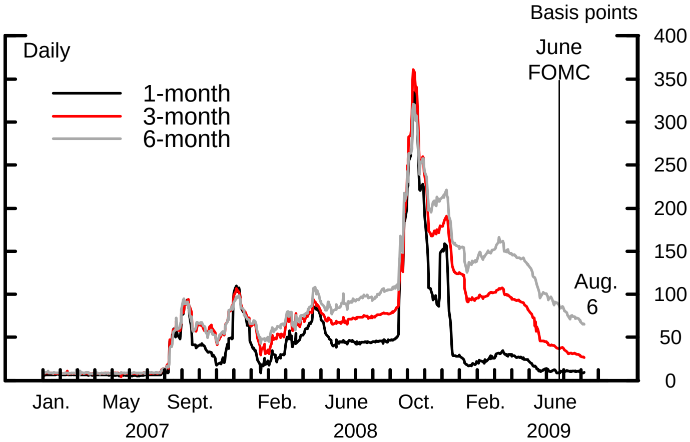
In mid-July, investors became increasingly concerned about the financial condition of CIT Group, one of the largest lenders to middle-market firms, as it appeared potentially unable to roll over maturing debt and failed to receive public support. Subsequent negotiations with bondholders succeeded in procuring $3 billion in private rescue financing, which may have averted a near-term default.[7] Broader financial markets appear to have been largely unaffected by these developments.

[6] The Federal Reserve's Treasury LSAP program may have contributed in part to the decline in the magnitude of fitting errors of late, as this program has utilized fitted yield curves as one benchmark in judging securities that are relatively attractive for purchase.

[7] After obtaining the $3 billion in commitments from lenders, CIT received the minimum required participation in a cash tender offer for its outstanding floating rate senior notes due August 17, 2009. CIT reported that, had the tender offer not been successful, it would likely not have been able to make the August 17 maturity payment on the notes. Still, the longer-term prospects for CIT remained uncertain, its common equity price hovered around $1 per share, its CDS spreads widened up to 5000 basis points, and bid-asked spreads on its debt surged.

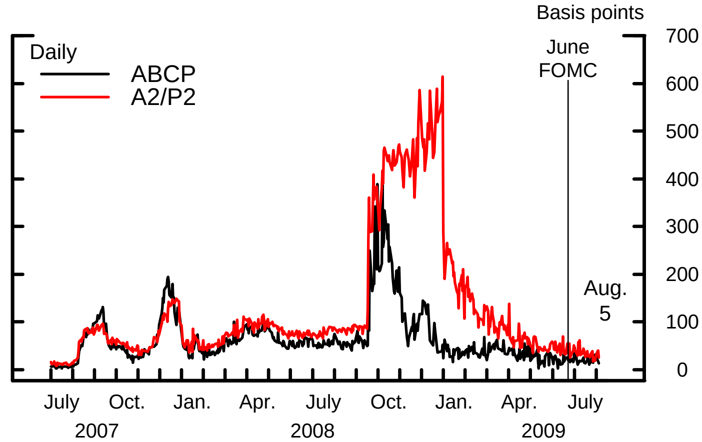
Chart 3
Market Functioning

Spreads of Libor over OIS



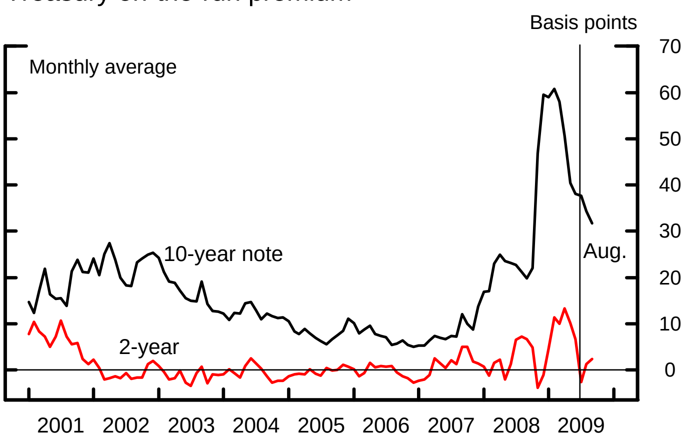
Note. Libor quotes are taken at 6:00 a.m., and OIS quotes are observed at the close of business of the previous trading day.
Source. Bloomberg.

Spreads on 30-day commercial paper



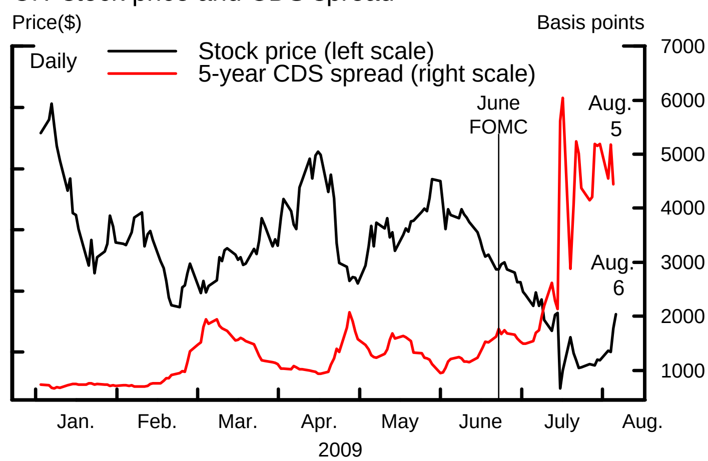
Note. The ABCP spread is the AA ABCP rate minus the AA nonfinancial rate. The A2/P2 spread is the A2/P2 nonfinancial rate minus the AA nonfinancial rate.
Source. Depository Trust & Clearing Corporation.

Treasury on-the-run premium



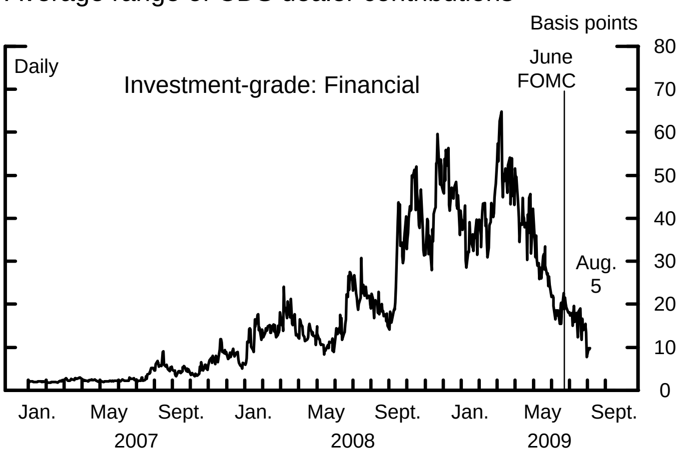
Note. Computed as the spread of the yield read from an estimated off-the-run yield curve over the on-the-run Treasury yield. August observation is the month-to-date average.
Source. Staff estimates.

CIT stock price and CDS spread



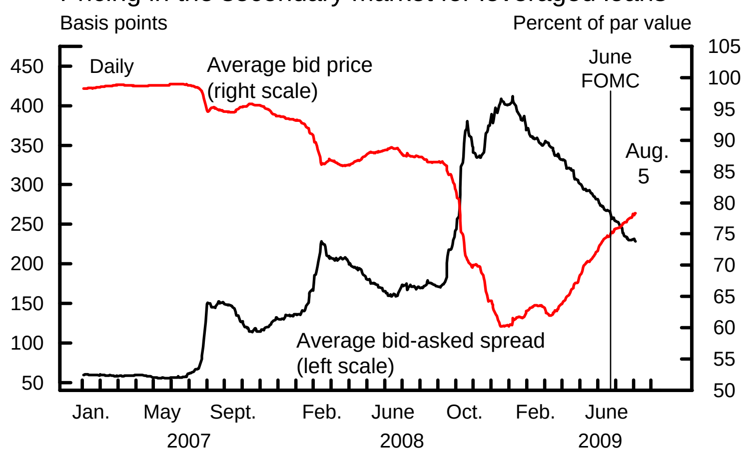
Source. Bloomberg; Markit.

Average range of CDS dealer contributions



Source. Markit.

Pricing in the secondary market for leveraged loans



Source. LSTA/LPC Mark-to-Market Pricing.

The corporate bond market continued to function reasonably well. The basis between the CDX investment-grade index of CDS spreads and investment-grade corporate bond spreads—a rough gauge of possible arbitrage opportunities in corporate debt markets—narrowed further, and the range of quotes reported by CDS dealers tightened. Some further improvements occurred in the leveraged loan market, with average bid prices rising about 4 percent and bid-ask spreads falling by about 35 basis points over the intermeeting period. Although conditions in this market have improved substantially in recent months, they remain quite impaired relative to pre-crisis experience.

Over the intermeeting period, total Federal Reserve assets were little changed at about $2 trillion, with an increase in securities purchased under the LSAP program about offsetting declines in credit supplied under liquidity facilities. (See box entitled "Balance Sheet Developments During the Intermeeting Period.") In the most recent primary dealer survey, respondents placed very low odds on increases in the size of the LSAP program at the upcoming FOMC meeting. Usage of most of the System's liquidity facilities shrank further, although TALF credit continued to expand, with the first extensions of CMBS-backed loans occurring in July. On June 25, the Federal Reserve announced extensions of and modifications to a number of its liquidity programs. Market participants reportedly viewed these actions as appropriate given the recent improvement in financial conditions, and the response in financial markets was minimal.

FOREIGN DEVELOPMENTS

On net, foreign stock markets rose and the dollar depreciated mildly against most currencies over the intermeeting period (Chart 4). European and Japanese stock indexes increased 8 to 10 percent, as positive U.S. earnings reports and news of strong growth in emerging Asia lifted investor sentiment since the June FOMC meeting.

Balance Sheet Developments During the Intermeeting Period

Since the June FOMC meeting, the Federal Reserve's total assets have edged just below $2 trillion and their composition has continued to shift.[1] As a result of the ongoing asset purchases, securities held outright increased $149 billion, but this increase was more than offset by a $177 billion decrease in lending through liquidity and credit facilities.

The Open Market Desk purchased $60 billion in U.S. Treasury securities, $14 billion in agency debt securities, and $76 billion in agency mortgage-backed securities during the intermeeting period.[2] In contrast, most of the System's liquidity and credit programs contracted further, likely reflecting continued improvements in global bank funding markets. Term auction credit declined $49 billion, foreign central bank liquidity swaps declined $46 billion, and primary credit declined $6 billion. Lending under the Primary Dealer Credit Facility remained at zero, and securities lent through the Term Securities Lending Facility (TSLF)—which do not affect on-balance sheet assets because the Federal Reserve retains ownership of the securities lent—fell by $4 billion to $3 billion, the lowest level since the inception of the program.

The facilities aimed either directly or indirectly at the commercial paper market also declined. Credit extended through the Commercial Paper Funding Facility (CPFF) declined $65 billion, as a large amount of maturing commercial paper was not rolled over in the facility. This decline is likely a sign, at least in part, of some substitution of longer-term credit for commercial paper, as well as some deleveraging by commercial paper issuers. Loans extended under the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) decreased by $17 billion, leaving only $113 million outstanding. In contrast to the other facilities, the Term Asset-Backed Securities Loan Facility (TALF), which conducted two subscriptions during the intermeeting period, expanded in size. The first loan subscription, totaling $5 billion, financed the issuance of asset-backed securities collateralized by auto, credit card, student, small business, and servicing advance loans. The second loan subscription, totaling $636 million, was associated with the first legacy commercial mortgage-backed securities (CMBS) operation.[3]

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1 These data are through August 5, 2009.

2 The figures for MBS holdings reflect only trades that have settled. Over the intermeeting period, the Open Market Desk committed to purchase an additional $126.6 billion of MBS, on net.

3 The New York Fed has announced that $6.9 billion was requested in TALF loans at the August 6, 2009 facility. The closing date of this operation is August 13, 2009.

Regarding other assets, the second-quarter revaluation of the Maiden Lane portfolios led to an unrealized revaluation net gain of $1.35 billion on the three Maiden Lane portfolios, largely because of a substantial upward revision in valuation of Maiden Lane III assets that more than offset continued declines in valuations of the Maiden Lane and Maiden Lane III portfolios. The reported value of the revolving AIG credit extension was reduced by a loan adjustment of about $1.3 billion to reflect the lower interest earnings from the loan related to the most recent modification of the terms of the facility in April 2009.

On the liability side of the Federal Reserve's balance sheet, the U.S. Treasury's general account decreased $70 billion. The Treasury's supplementary financing account remained unchanged at $200 billion, while most other categories recorded small changes. The net result of these changes to the balance sheet was an increase of $39 billion in reserve balances of depository institutions

Following the June FOMC meeting, the Federal Reserve announced extensions of and modifications to a number of its liquidity programs and credit facilities. Specifically, the Federal Reserve approved extension through February 1, 2010, of the AMLF, CPFF, PDCF, TSLF, and the foreign central bank liquidity swaps.[4] Furthermore, it was announced that Term Auction Facility (TAF) auction amounts would be reduced gradually if market conditions continued to improve. Auction amounts were set at $125 billion for the July auctions, down from $150 billion previously, and have been set at $100 billion for the August auctions.

[4] TSLF Schedule 1 auctions and TSLF Options Program auctions were suspended, and the frequency as well as the offered amount of Schedule 2 TSLF auctions was reduced. The authorization for the Money Market Investor Funding Facility (MMIFF) was not extended, and an additional administrative criterion was established for use of the AMLF. The expiration date for the TALF currently remains set at December 31, 2009. The TAF does not have a fixed expiration date.

Federal Reserve Balance Sheet

Billions of dollars

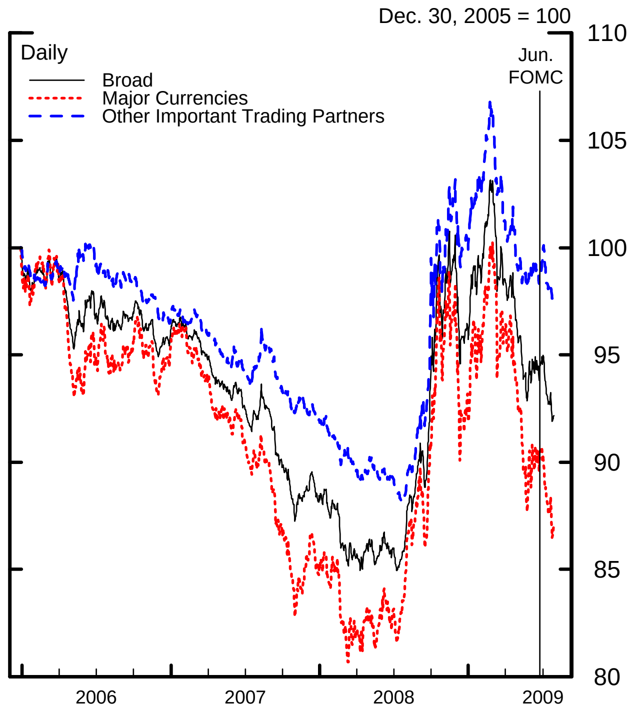
	Change since last FOMC	Current (8/5/2009)	Maximum level	Date of maximum level
Total assets	**-22**	**1,992**	**2,256**	**12/17/2008**
Selected assets:				
Liquidity programs for financial firms	-117	344	1,247	11/06/2008
Primary, secondary, and seasonal credit	-6	34	114	10/28/2008
Term auction credit (TAF)	-49	234	493	03/11/2009
Foreign central bank liquidity swaps	-46	76	586	12/04/2008
Primary Dealer Credit Facility (PDCF)	0	0	156	09/29/2008
Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF)	-17	0	152	10/01/2008
Lending through other credit facilities	-60	91	351	01/23/2009
Net portfolio holdings of Commercial Paper Funding Facility LLC (CPFF)	-65	61	351	01/23/2009
Term Asset-Backed Securities Loan Facility (TALF)	5	30	31	07/24/2009
Support for specific institutions	-1	104	118	04/02/2009
Credit extended to AIG	-1	41	91	10/27/2008
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC	0	62	75	12/30/2008
Securities held outright*	149	1,356	1,356	08/05/2009
U.S. Treasury securities	60	705	791	08/14/2007
Agency securities	14	108	108	08/05/2009
Agency mortgage-backed securities**	76	543	546	07/24/2009
Memo: Term Securities Lending Facility (TSLF)	-4	3	236	10/01/2008
Total liabilities	**-38**	**1,941**	**2,213**	**12/04/2008**
Selected liabilities:				
Federal Reserve notes in circulation	6	872	873	07/08/2009
Reserve balances of depository institutions	-39	725	955	05/20/2009
U.S. Treasury, general account	-70	62	137	10/23/2008
U.S. Treasury, supplemental financing account	0	200	559	10/22/2008
Other deposits	-3	3	53	04/14/2009
Total capital	**2**	**50**	**51**	**08/04/2009**

* Par value.

** Includes only mortgage-backed security purchases that have already settled. Over the intermeeting period, the Open Market Desk committed to purchase $126.6 billion of MBS, on net.

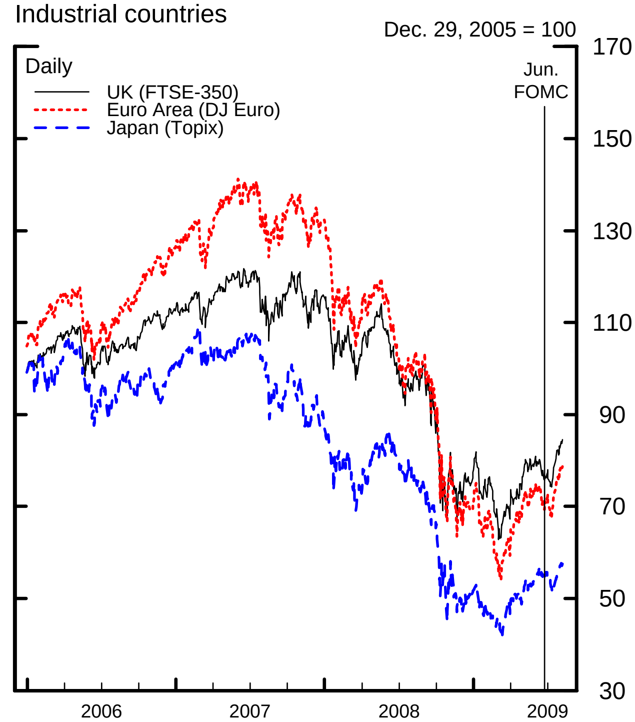
Chart 4
International Financial Indicators

Nominal trade-weighted dollar indexes



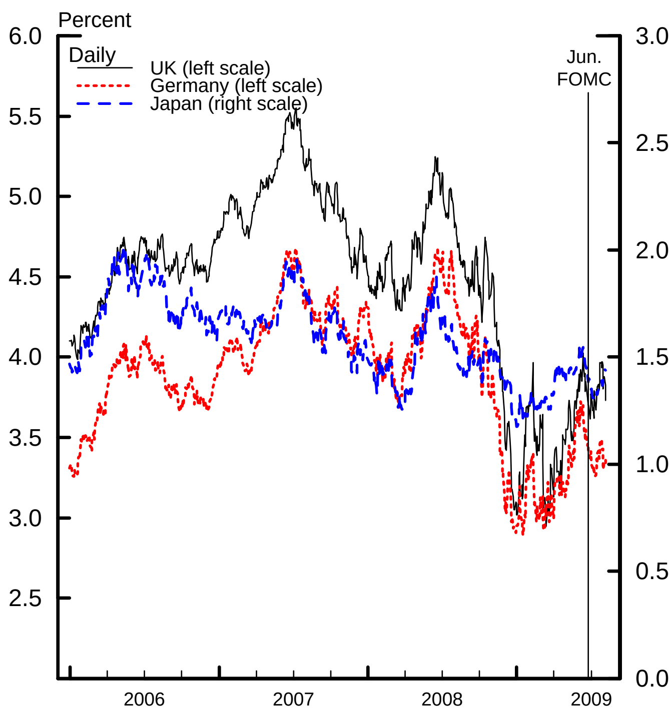
Source. FRBNY and Bloomberg.

Stock price indexes
Industrial countries



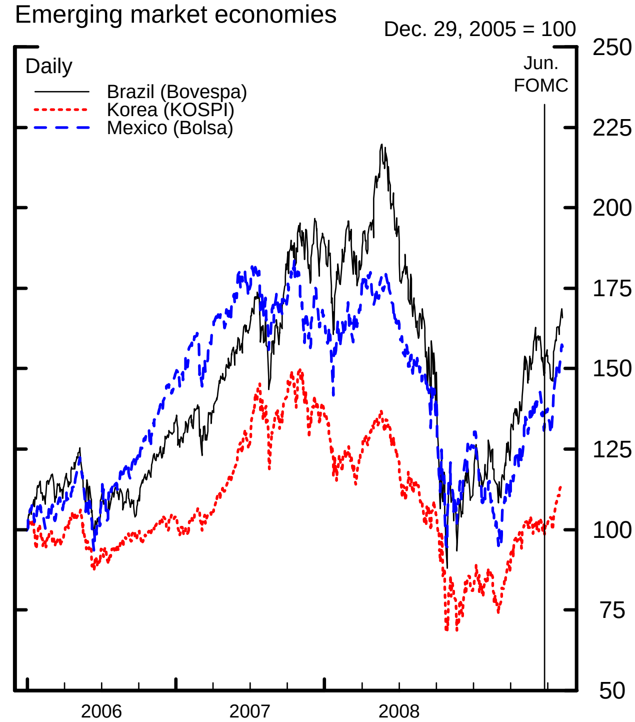
Source. Bloomberg.

Nominal ten-year government bond yields



Source. Bloomberg.

Stock price indexes
Emerging market economies



Source. Bloomberg.

Note. Last daily observation is for August 6, 2009.

European financial stocks, which were further boosted by early reports of better-than-expected profits by some European banks, increased more than 20 percent. The improvement in global sentiment appeared to encourage investors to move further into foreign assets, placing some downward pressure on the dollar. The major currencies index of the dollar declined 3¼ percent since the June FOMC meeting.

The June 24 auction by the European Central Bank (ECB) of unlimited one-year funds at a fixed rate of 1 percent was met with very strong demand. Banks bid for a record €442 billion in loans at the auction, increasing the ECB's total amount of outstanding refinancing operations by 45 percent, and as a result the effective overnight interest rate in the euro area has declined to about 35 basis points. The ECB also began its purchases of covered bonds, buying €5 billion of bonds so far; yields on intermediate-term European covered bonds have declined by roughly 20 basis points since the purchases began in early July. In contrast, yields on longer-dated gilts rose as much as 19 basis points immediately after the Bank of England (BOE) surprised markets by leaving the size of its Asset Purchase Facility (APF) unchanged at £125 billion at its July Monetary Policy Committee (MPC) meeting. Gilt yields continued to edge higher over July as the bank's purchases neared their limit under the facility; however, the completion of purchases at the end of July, which was expected, had little apparent impact on the gilt market. Market participants were divided as to whether the BOE would authorize any further purchases at its August meeting, but the MPC did decide to renew its purchases. Citing the depth of the recession, the BOE raised the size of the APF to £175 billion and widened the set of gilts it would purchase, stating that it expected to conduct its additional purchases over the next three months. Benchmark gilt yields fell about 20 basis points on the announcement. On net, benchmark yields in the United Kingdom are about unchanged when compared to their levels at the time of the June FOMC, while they have declined by 8 basis points in the euro area.

Mutual fund flows to the emerging markets turned positive again after a brief period of outflows in late June, and the dollar depreciated about 1¼ percent against the currencies of our other important trading partners. The larger emerging Asian and Latin American stock markets increased 12 to 18 percent, and EMBI Global spreads declined by about 100 basis points. Several Latin American central banks lowered their policy rates further over the intermeeting period, and but have signaled that they intend to pause before considering any further reductions.

The Swiss National Bank (SNB) intervened

since announcing in March that it would purchase foreign assets as part of its monetary policy operations; .

DEBT, BANK CREDIT, AND MONEY

The level of private domestic nonfinancial sector debt is projected to have declined again in the second quarter. Household debt is estimated to have dropped at an annual rate of 1¼ percent, and nonfinancial business debt appears to have been essentially unchanged (Chart 5). In contrast, the federal government issued debt at a rapid clip, and state and local government debt expanded moderately. All told, the growth rate of domestic nonfinancial sector debt is estimated to have increased from an annual rate of about 4 percent in the first quarter of this year to 5½ percent in the second quarter.

Commercial bank credit contracted at an annual rate of 3¼ percent in the second quarter and 13¼ percent in July. The declines in June and July were widespread across all major loan categories but were particularly pronounced for C&I loans amid subdued originations and broad-based paydowns that may reflect, in part, substitution into bond issuance. Commercial real estate loans also declined. Residential real estate

Chart 5
Debt and Money

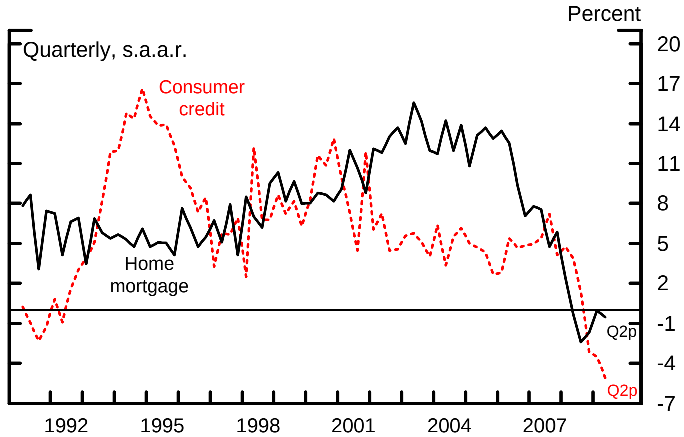
Growth of debt of nonfinancial sectors

Percent, s.a.a.r.

	Total	Business	Household	Government
2007	8.7	13.5	6.6	6.1
2008	5.9	5.1	0.4	17.5
Q1	5.4	7.5	3.0	6.7
Q2	3.2	6.1	0.4	4.4
Q3	8.4	5.0	0.1	28.6
Q4	6.2	1.5	-2.0	26.7
2009				
Q1	4.1	-0.3	-1.1	18.0
Q2p	5.6	-0.1	-1.3	23.3

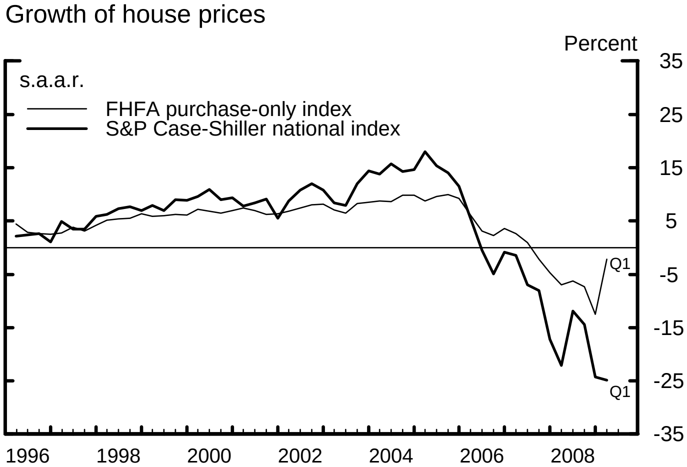
Source. Flow of Funds.
p Projected.

Growth of debt of household sector



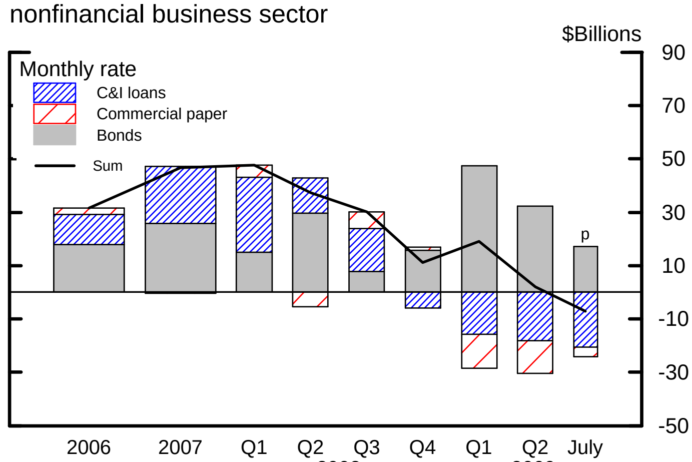
Source. Flow of Funds, Federal Reserve G.19 release.
p Projected.

Growth of house prices



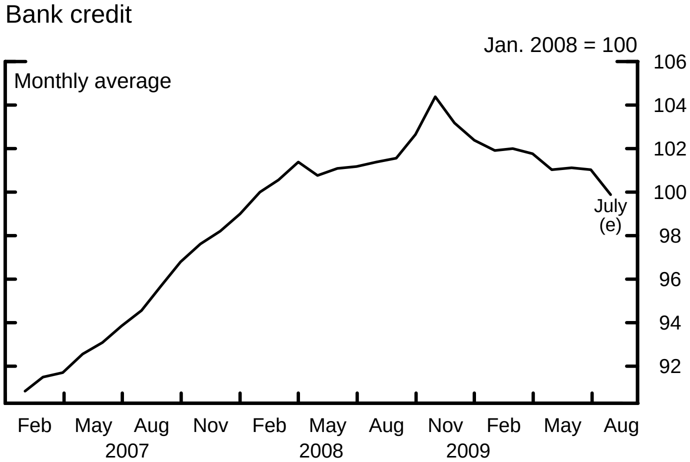
Source. Federal Housing Finance Agency (FHFA), Standard & Poor's.

Changes in selected components of debt of nonfinancial business sector



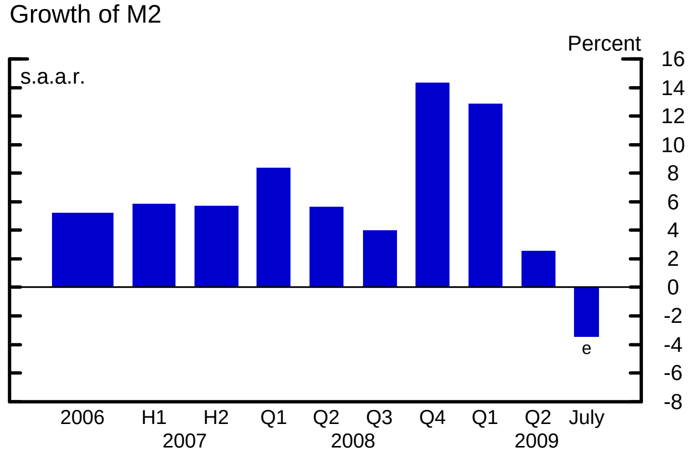
p Preliminary.
Note. Commercial paper and C&I loans are seasonally adjusted, bonds are not.
Source. Depository Trust & Clearing Corporation, Thomson Financial, and Federal Reserve H.8 release.

Bank credit



Source. Federal Reserve.
e Estimated.

Growth of M2



Source. Federal Reserve.
e Estimated.

loans on banks' books dropped further, likely reflecting tighter standards, higher mortgage rates in recent months, continued securitization activity, and additional reductions in the home equity credit lines of some existing customers. The stock of consumer loans originated by banks decreased in June and July, amid reported weaker loan demand and tighter credit standards and terms. The decline in bank credit, combined with further increases in core deposits, has allowed banks to pare their managed liabilities substantially in recent months. Banks' allowance for loan and lease losses continued to rise through late July, suggesting that banks see further deterioration in loan performance as likely.

The Senior Loan Officer Opinion Survey conducted in July indicated that banks continued to tighten their lending standards and terms over the past three months on all major categories of loans to businesses and households. However, the net percentages of banks that tightened declined further. With respect to C&I loans, respondents again cited a less favorable or more uncertain economic outlook, along with a worsening of industry-specific problems and a reduced tolerance for risk, as the leading reasons for the continued tightening. Demand for loans reportedly continued to weaken across all categories except for prime residential mortgages. In response to a special question, most banks said that they expected lending standards to remain tighter than long-run norms until at least the second half of 2010; for below-investment-grade firms and nonprime households, standards are expected to remain tighter for longer, with many banks reporting that standards for such borrowers will remain tighter than average for the foreseeable future.

After growing at an annual rate of 13 percent in the first quarter, M2 increased at a rate of just 2½ percent in the second quarter and contracted at a 3½ percent rate in July, likely reflecting in part a reversal of safe haven demands for M2 assets that had boosted money growth in previous quarters. The recent sluggishness has been evident in all components of M2 but has been most prominent in small time deposits and retail money market funds, both of which have declined at double-digit rates over the last several months as yields on these instruments have dropped to very low levels. The monetary base expanded at a 24 percent rate in the second quarter, a somewhat less rapid pace than had been observed over previous months, and fell at a 6 percent rate in July; these rates reflect the declining usage of several Federal Reserve liquidity and credit facilities.

ECONOMIC OUTLOOK

Information received since the June meeting suggests that the downturn in economic activity is drawing to a close. The staff estimates that real GDP declined at an annual rate of 1½ percent in the second quarter, compared with a 6½ percent contraction in the first quarter.[8] As in June, the staff outlook assumes that the federal funds rate will remain at its current level for the next few years and that the Federal Reserve will not make any significant changes in the size or timing of its large-scale asset purchase (LSAP) programs. The staff continues to anticipate that the spending and tax changes authorized by the American Recovery and Reinvestment Act of 2009 will contribute about 1 percentage point to the annualized growth rate of real GDP growth during the second half of this year and about ¾ percentage point to real GDP growth next year.

In the staff's projection, longer-term Treasury yields edge up through 2010. Mortgage rates are expected to increase about ¼ percentage point as spreads over longer-term Treasury yields widen slightly from unusually low levels. In contrast, risk spreads on investment-grade corporate bonds are projected to narrow a bit more than ½ percentage point. With the equity risk premium also continuing to decline over coming quarters, stock prices are projected to rise at a brisk annual rate of about 15 percent. The availability of bank credit to firms and households is expected to improve over time but remain quite tight by historical standards. The real foreign exchange value of the dollar, which declined about 2 percent over the intermeeting period, is assumed to fall about 2 percent annually during the remainder of this year and in 2010. The current and projected price of West Texas Intermediate crude oil is

[8] The BEA estimated in late July that real GDP declined 1 percent at an annual rate in the second quarter, but subsequently published data on construction and merchandise trade now suggest a somewhat larger decline.

little changed from the time of the June Greenbook; based on readings from futures markets, the staff expects oil prices to rise gradually through the end of next year.

Against this backdrop, the staff now expects real GDP to grow at an annual rate of 1¼ percent during the second half of 2009.[9] The unemployment rate, which rose a notch during the intermeeting period, is projected to reach a peak of 10 percent late this year. Economic activity is expected to pick up modestly next year, with real GDP rising a bit more than 3 percent and the unemployment rate declining to about 9½ percent by the end of next year. In light of the current and prospective level of economic slack, the staff projects core PCE inflation to decline to an average annual rate of 1¼ percent in the second half of this year and to 1 percent in 2010.[10] The corresponding rates for overall PCE inflation are projected to be 2¼ percent in the second half of 2009 and 1¼ percent in 2010.

Looking further ahead, the staff assumes that the federal funds rate will remain at its effective lower bound through 2011 and then move up to about 4 percent over the next two years. The staff forecasts that real GDP will expand at an average rate of about 5 percent from 2011 through 2013, outpacing a rise in potential output that averages 2½ percent per year. As a result, the unemployment rate declines steadily, falling to around 5 percent—the staff's current estimate of the NAIRU—by late 2013. As real activity recovers, total PCE inflation slowly rises to about 1.4 percent by 2013—still noticeably below the assumed long-run inflation goal of 2 percent.

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[9] The comprehensive NIPA revision of July 31 substantially reduced the estimated level of real GDP in recent quarters; thus, the staff estimates that the GDP gap is now about -7¾ percent, more than a percentage point wider than in the June Greenbook.

[10] Consumer spending on "food away from home" has now been moved into the services category of personal consumption expenditures, implying that this food item now enters the core PCE price index. We estimate that this redefinition raised 2008 core PCE inflation by ¼ percentage point but is expected to add only 0.1 percentage point to core PCE inflation rates for 2009 and 2010.

MONETARY POLICY STRATEGIES

Measures of short-run *r** for this round were influenced by two sets of countervailing factors. First, the comprehensive NIPA revision lowered recent readings on the level of output, leading the staff to revise down substantially its estimate of the output gap in the second quarter to about -7½ percent. Other things equal, the wider output gap tends to push short-run measures of *r** lower. Second, incoming data, a lower value of the dollar, an improvement in other financial market conditions, and a stronger forecast for foreign growth put upward pressure on short-run measures of *r**.[11] The net effect of these factors depends on the model used to generate the *r** measures and on whether or not the estimates are conditioned on the staff outlook. Nonetheless, all of the *r** measures are appreciably lower than the real federal funds rate, which currently stands at -1½ percent.

As shown in Chart 6, the Greenbook-consistent estimate of short-run *r** computed using the FRB/US model remains at about -2¾ percent. Of the *r** measures not conditioned on the staff outlook, those derived from the FRB/US and EDO models increased about 1½ percentage points to -4 and -2¼ percent, respectively. Similarly, the measure of short-run *r** from the small structural model rose by ½ percentage point and now stands at -3 percent. In contrast, the *r** estimate from the single-equation model and the Greenbook-consistent measure of *r** from the EDO model declined appreciably. In both cases, the downward revisions (of about a percentage point) were heavily influenced by the downward revision in the staff's estimate of the output gap.

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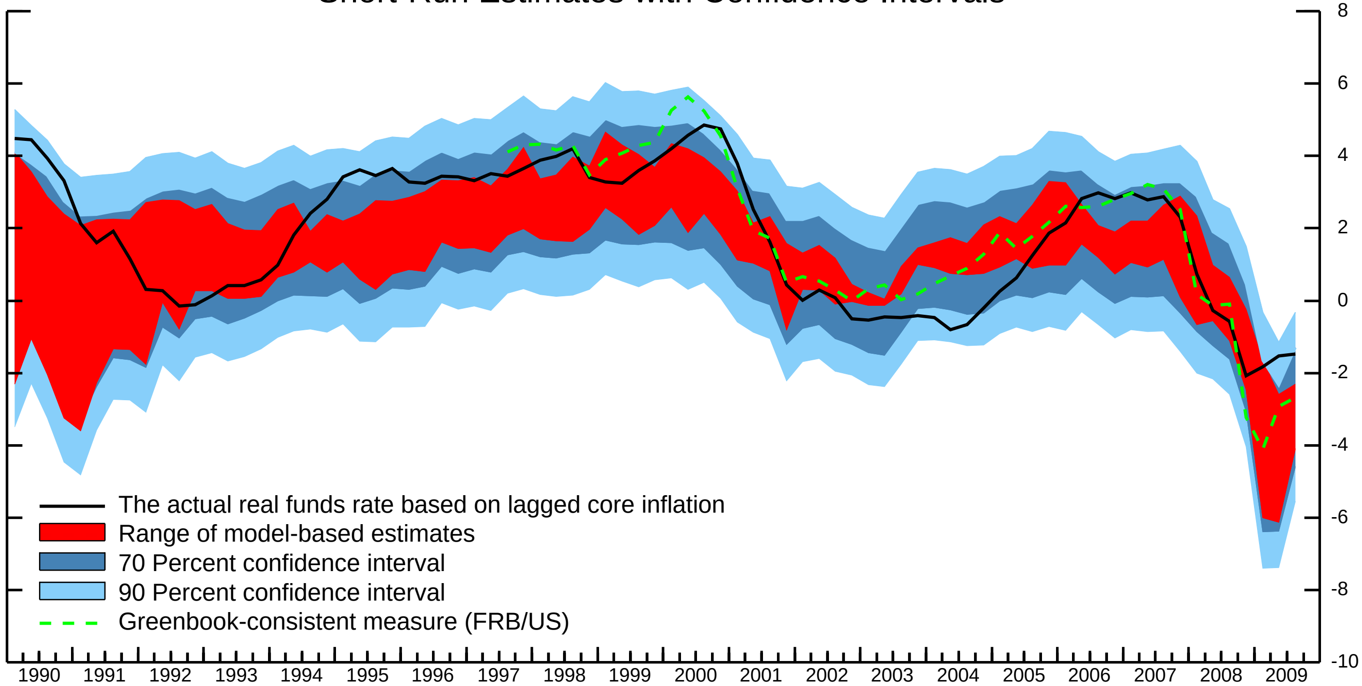
[11] The short-run estimates also reflect a one-quarter shift forward since the June Bluebook of the twelve-quarter time frame for measuring *r**. (The equilibrium real rate *r** is defined as the rate that closes the output gap twelve quarters ahead.) The window now stretches one quarter further into the recovery period, which has the effect of raising the level of economic activity at the end of the window and boosting *r**.

Chart 6
Equilibrium Real Federal Funds Rate



Short-Run and Medium-Run Measures

	Current Estimate	*Previous Bluebook*
Short-Run Measures		
Single-equation model	-2.4	*-1.4*
Small structural model	-3.0	*-3.5*
EDO model	-2.3	*-3.8*
FRB/US model	-4.1	*-5.5*
Confidence intervals for four model-based estimates		
70 percent confidence interval	-4.6 to -1.3	
90 percent confidence interval	-5.5 to -0.3	
Greenbook-consistent measures		
EDO model	-5.0	*-3.9*
FRB/US model	-2.7	*-2.7*
Medium-Run Measures		
Single-equation model	1.2	*1.5*
Small structural model	1.5	*1.5*
Confidence intervals for two model-based estimates		
70 percent confidence interval	0.4 to 2.3	
90 percent confidence interval	-0.2 to 2.8	
TIPS-based factor model	2.0	*2.0*
Memo		
Actual real federal funds rate	-1.5	*-1.6*

Note: Appendix A provides background information regarding the construction of these measures and confidence intervals. The actual real federal funds rate shown is based on lagged core inflation as a proxy for inflation expectation. For information regarding alternative measures, see Appendix A.

Chart 7 shows the result of optimal control simulations of the FRB/US model that use the extended staff forecast as a starting point. In these simulations, policymakers are assumed to place equal weight on keeping core PCE inflation close to their 2 percent inflation goal, on keeping unemployment close to the NAIRU, and on minimizing changes in the federal funds rate. As in recent Bluebooks, optimal monetary policy remains severely constrained by the zero lower bound, with the nominal funds rate remaining at the lower bound until late 2012 (black solid lines). As a result, the unemployment rate stays significantly above the NAIRU until 2012, and core PCE inflation remains noticeably below the 2 percent goal.

Chart 7 also displays the optimal control results that would be obtained if the nominal funds rate was not constrained by the zero bound (blue dashed lines). Under this unconstrained policy, the funds rate falls to about -6 percent next year and stays below zero until mid-2012, while the real funds rate decreases to about -7¾ percent in 2010. These trajectories imply somewhat less negative values for the nominal and real funds rate than depicted in the previous Bluebook. This change reflects both a higher average rate of inflation in the extended staff projection and a shift forward in the start of the simulation period. Relative to the constrained policy, the unconstrained path for the funds rate leads over the next two years to a reduction of about 1½ percentage points in the unemployment rate. Under this unconstrained policy, core PCE inflation would follow a higher trajectory but would still be noticeably lower than the 2 percent goal.

As shown in Chart 8, the outcome-based policy rule prescribes that the funds rate stays at its effective lower bound until the end of 2011. Consistent with the widened estimates of the output gap, the period over which a near-zero funds rate is prescribed lasts two quarters longer than in the previous Bluebook. Financial market expectations for the funds rate path through the first half of 2010 appear to have

Chart 7

Constrained vs. Unconstrained Monetary Policy
(2 Percent Inflation Goal)

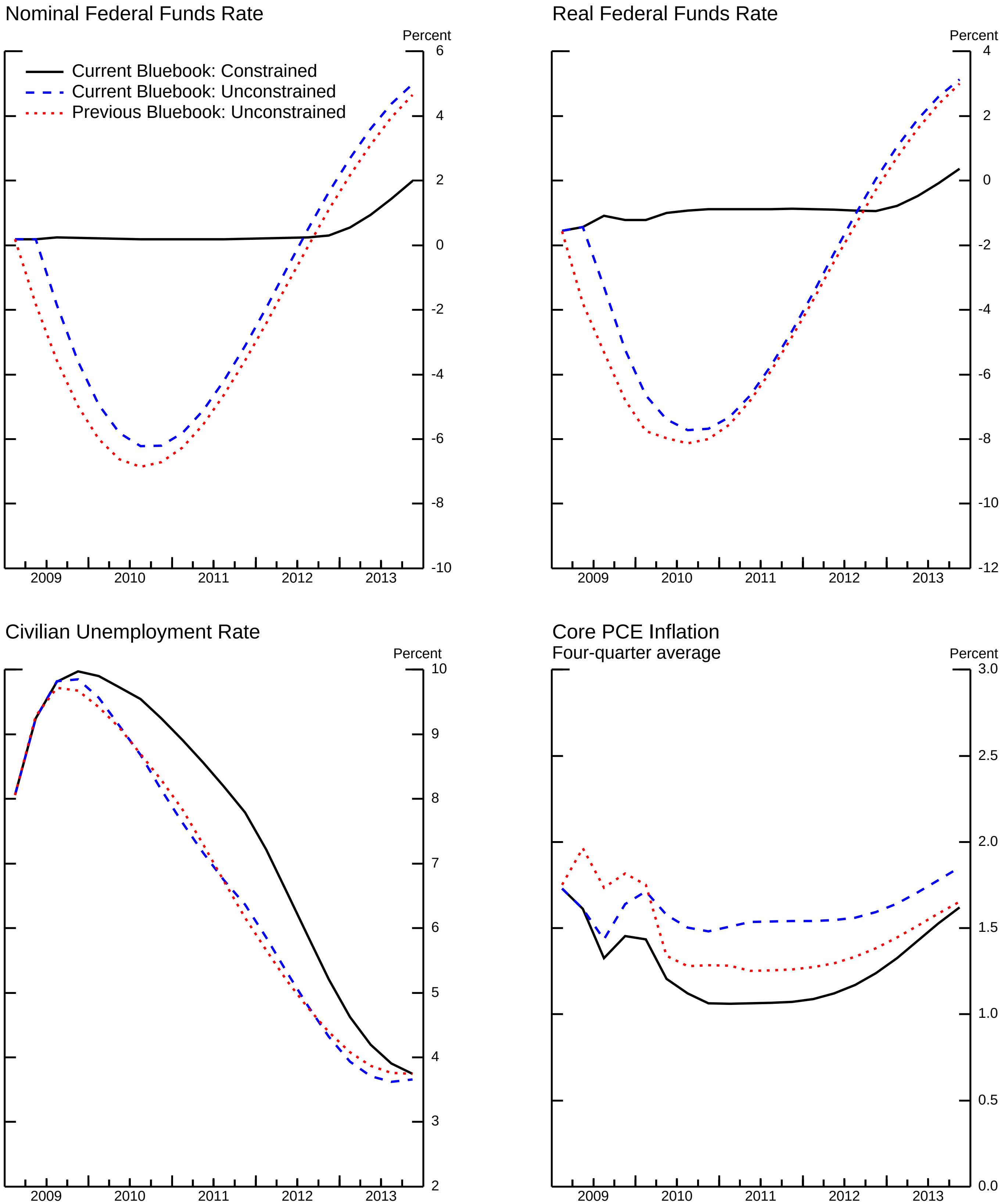
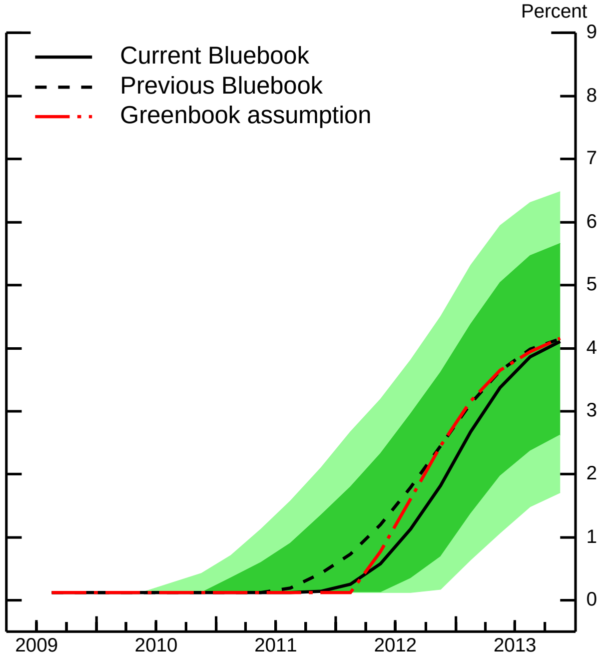


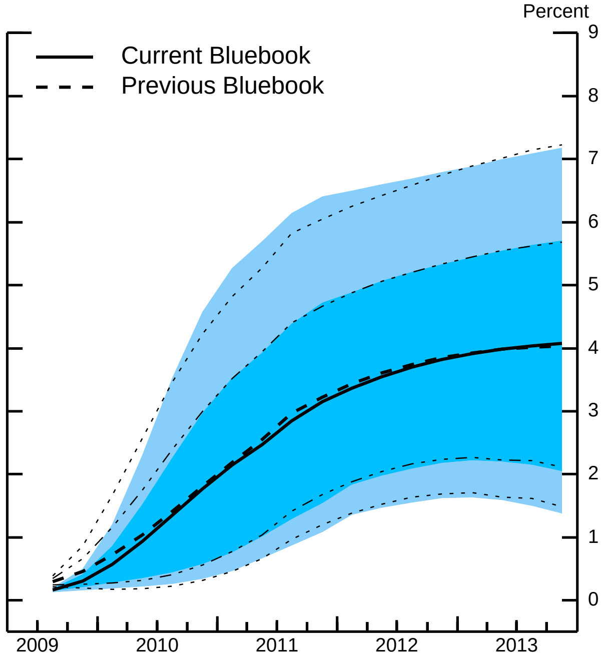
Chart 8

The Policy Outlook in an Uncertain Environment

FRB/US Model Simulations of Estimated Outcome-Based Rule



Information from Financial Markets



Note: In both panels, the dark and light shading represent the 70 and 90 percent confidence intervals respectively. In the right-hand panel, the results labeled as "Previous Bluebook" have been generated using the revised estimation procedure noted in the text.

Near-Term Prescriptions of Simple Policy Rules

	Constrained Policy		Unconstrained Policy	
	2009Q3	2009Q4	2009Q3	2009Q4
Taylor (1993) rule	**0.13**	**0.13**	**-0.95**	**-0.84**
Previous Bluebook	*0.13*	*0.13*	*-0.03*	*-0.12*
Taylor (1999) rule	**0.13**	**0.13**	**-4.80**	**-4.72**
Previous Bluebook	*0.13*	*0.13*	*-3.21*	*-3.34*
First-difference rule	**0.13**	**0.13**	**-0.28**	**-0.48**
Previous Bluebook	*0.13*	*0.13*	*-0.51*	*-0.90*
Estimated outcome-based rule	**0.13**	**0.13**	**-0.79**	**-1.81**
Previous Bluebook	*0.13*	*0.13*	*-0.56*	*-1.26*
Estimated forecast-based rule	**0.13**	**0.13**	**-0.74**	**-1.76**
Previous Bluebook	*0.13*	*0.13*	*-0.61*	*-1.46*

Memo

	2009Q3	2009Q4
Greenbook assumption	0.13	0.13
Fed funds futures	0.18	0.21
Median expectation of primary dealers	0.13	0.13
Blue Chip forecast (August 1, 2009)	0.20	0.20

Note: In calculating the near-term prescriptions of these simple policy rules, policymakers' long-run inflation objective is assumed to be 2 percent. Appendix B provides further background information.

shifted down by about 15 basis points since the previous Bluebook.[12] Still, futures quotes appear to price in a significant probability that the eventual policy tightening could be more rapid than is suggested by FRB/US simulations with the outcome-based rule. As in the previous Bluebook, the 70 percent confidence intervals include a funds rate of 3 percent for the end of 2010.

The lower panel of Chart 8 provides near-term prescriptions from simple policy rules. As shown in the left-hand columns, all of the prescriptions are at the effective lower bound. The right-hand columns show the prescriptions that would be implied by these rules if the lower bound was not imposed. These unconstrained rules uniformly imply negative funds rates. With the exception of the first-difference rule, the prescribed interest rates are markedly lower than in the June Bluebook, reflecting the downward revision in estimates of the output gap. The funds rates implied by the Taylor (1993) and Taylor (1999) rules are affected most strongly by the output gap revision: their average second-half 2009 values decreased by about ¾ percent and 1½ percent, respectively, compared to the June Bluebook.

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[12] For this Bluebook, the expected funds rate path has been estimated from Eurodollar quotes—instead of the previously used forward rate agreements—as well as implied three-month forward rates from swaps. To facilitate comparison, the upper right panel of Chart 8 displays the expected path and the confidence intervals for the current and previous Bluebooks based on the revised estimation procedure.

POLICY ALTERNATIVES

This Bluebook presents three main policy alternatives—labeled A, B, and C—for the Committee's consideration. A variant of B, labeled B', also is presented. Table 1 gives an overview of key policy elements of these alternatives, and draft statements are provided on the following pages.

Each of the three main alternatives maintains an unchanged target range of 0 to ¼ percent for the federal funds rate, but the alternatives differ with respect to the size and timing of the Federal Reserve's large-scale asset purchases (LSAPs). Under Alternative A, the Committee would increase its purchases of Treasury securities and potentially extend the period of time over which it expects to hold the funds rate at a very low rate. Alternative B would essentially maintain the current stance of monetary policy while specifying a phase-out strategy for the purchases of Treasury securities. Under Alternative C, the Committee would trim the size of the LSAPs and shorten the anticipated period of time over which its target range for the funds rate would be likely to remain extraordinarily low.

All of the alternatives refer to the recent improvements in financial market conditions and provide generally similar descriptions of the incoming information on economic activity and inflation, but each alternative provides a distinct characterization of the economic outlook. Alternative A states that "the pace of economic contraction has abated significantly," whereas Alternatives B and C adopt a somewhat more optimistic tone and note that "economic activity is leveling out." Alternative C also indicates that "downside risks are diminishing." As in June, all three alternatives reiterate the Committee's expectation that inflation "will remain subdued for some time."

In characterizing the LSAP program, Alternatives B and C note that the Federal Reserve is currently in the process of buying the previously announced maximum amount of $300 billion in Treasury securities. These two alternatives introduce new language stating that the Committee has decided to "gradually slow the pace" of purchases to promote "a smooth transition in markets" and that these transactions are now expected to be completed by the end of October. Alternative B' preserves the same language regarding the phase-out strategy for the current program of purchases of Treasury securities but indicates that the Committee is "prepared to consider resuming" its purchases of Treasury securities. In contrast, Alternative A raises the amount of purchases of Treasury securities by $150 billion and indicates that the "full amount" of $450 billion will be purchased by year-end; this alternative does not mention a phase-out strategy for these transactions.

Under Alternatives A and B, the overall size of the Federal Reserve's purchases of agency MBS and agency debt would remain at the previously announced levels of $1.25 trillion and $200 billion, respectively. However, Alternative A would indicate that the Committee anticipates completing the "full amount" of agency MBS purchases, whereas Alternative B leaves open the possibility that total purchases will not reach the maximum amount; moreover, by not specifying a phase-out strategy, this alternative preserves more scope for the Committee to choose to expand these purchases at a later date. Alternative C states that the Committee has decided to "gradually slow the pace" of its purchases of agency MBS and agency debt and now anticipates that these purchases will only cumulate to about $1 trillion and $150 billion, respectively. All alternatives state that these transactions would be completed by the end of this year.[13]

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[13] At the point when the Committee considers the strategy for completing its purchases of agency MBS and agency debt, it could adjust this language to indicate that these transactions would likely taper off into early 2010, as recommended by the Desk. See the August 4, 2009, Desk memorandum "Tapering of Large-Scale Asset Purchases."

Table 1: Overview of Alternative Language for the August 11-12, 2009 FOMC Announcement

<table>
<tr><th></th><th rowspan="2">June FOMC</th><th colspan="4">August Alternatives</th></tr>
<tr><th></th><th>A</th><th colspan="2">B / B'</th><th>C</th></tr>
<tr><td colspan="6">Forward Guidance on Funds Rate Path</td></tr>
<tr><td></td><td>“for an extended period”</td><td>same as in June or “at least through mid-2010”</td><td colspan="2">“for an extended period”</td><td>“at least through the end of this year”</td></tr>
<tr><td colspan="6">Treasury Securities Purchases</td></tr>
<tr><td>Total Amount</td><td>up to $300 billion</td><td>“full amount” of $450 billion</td><td colspan="2">$300 billion</td><td>“roughly $300 billion”</td></tr>
<tr><td>Pace</td><td>-----</td><td>-----</td><td colspan="2">pace will “gradually slow”</td><td>pace will “gradually slow”</td></tr>
<tr><td>Completion</td><td>by autumn</td><td>by year-end</td><td colspan="2">by the end of October</td><td>by the end of October</td></tr>
<tr><td colspan="6">Agency MBS Purchases</td></tr>
<tr><td>Total Amount</td><td>up to $1.25 trillion</td><td>“full amount” of $1.25 trillion</td><td colspan="2">up to $1.25 trillion</td><td>“will cumulate to about $1 trillion”</td></tr>
<tr><td>Pace</td><td>-----</td><td>-----</td><td colspan="2">-----</td><td>pace will “gradually slow”</td></tr>
<tr><td>Completion</td><td>by year-end</td><td>by year-end</td><td colspan="2">by year-end</td><td>by year-end</td></tr>
<tr><td colspan="6">Agency Debt Purchases</td></tr>
<tr><td>Total Amount</td><td>up to $200 billion</td><td>up to $200 billion</td><td colspan="2">up to $200 billion</td><td>“will cumulate to... about $150 billion”</td></tr>
<tr><td>Pace</td><td>-----</td><td>-----</td><td colspan="2">-----</td><td>pace will “gradually slow”</td></tr>
<tr><td>Completion</td><td>by year-end</td><td>by year-end</td><td colspan="2">by year-end</td><td>by year-end</td></tr>
<tr><td colspan="6">Evaluation of LSAP Timing and Overall Amounts</td></tr>
<tr><td></td><td>adjustments to all LSAPs will continue to be evaluated</td><td>adjustments to all LSAPs will continue to be evaluated</td><td>adjustments to agency debt and agency MBS will continue to be evaluated</td><td>“prepared to consider resuming” Treasury purchases; adjustments to agency debt and agency MBS will continue to be evaluated</td><td>adjustments to all LSAPs will continue to be evaluated</td></tr>
</table>

June FOMC Statement

Information received since the Federal Open Market Committee met in April suggests that the pace of economic contraction is slowing. Conditions in financial markets have generally improved in recent months. Household spending has shown further signs of stabilizing but remains constrained by ongoing job losses, lower housing wealth, and tight credit. Businesses are cutting back on fixed investment and staffing but appear to be making progress in bringing inventory stocks into better alignment with sales. Although economic activity is likely to remain weak for a time, the Committee continues to anticipate that policy actions to stabilize financial markets and institutions, fiscal and monetary stimulus, and market forces will contribute to a gradual resumption of sustainable economic growth in a context of price stability.

The prices of energy and other commodities have risen of late. However, substantial resource slack is likely to dampen cost pressures, and the Committee expects that inflation will remain subdued for some time.

In these circumstances, the Federal Reserve will employ all available tools to promote economic recovery and to preserve price stability. The Committee will maintain the target range for the federal funds rate at 0 to 1/4 percent and continues to anticipate that economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period. As previously announced, to provide support to mortgage lending and housing markets and to improve overall conditions in private credit markets, the Federal Reserve will purchase a total of up to $1.25 trillion of agency mortgage-backed securities and up to $200 billion of agency debt by the end of the year. In addition, the Federal Reserve will buy up to $300 billion of Treasury securities by autumn. The Committee will continue to evaluate the timing and overall amounts of its purchases of securities in light of the evolving economic outlook and conditions in financial markets. The Federal Reserve is monitoring the size and composition of its balance sheet and will make adjustments to its credit and liquidity programs as warranted.

August FOMC Statement – Alternative A

1. Information received since the Federal Open Market Committee met in **June** suggests that the pace of economic contraction **has abated significantly**. Conditions in financial markets have improved **somewhat further** in recent **weeks**. Household spending has **continued to show** signs of stabilizing but remains constrained by ongoing job losses, **sluggish income growth,** lower housing wealth, and tight credit. Businesses appear to **have made** progress in bringing inventory stocks into better alignment with sales but are **still** cutting back on fixed investment and staffing.
2. The prices of energy and other commodities have risen of late. However, substantial resource slack is likely to dampen cost pressures, and the Committee expects that inflation will remain subdued for some time.
3. **With the anticipated economic recovery likely to be weak initially and inflation expectations well-anchored, the Committee has decided to provide additional monetary stimulus by increasing its purchases of Treasury securities to $450 billion, up from the previously announced amount of as much as $300 billion**. To provide support to mortgage lending and housing markets and to improve overall conditions in private credit markets, the Federal Reserve **is in the process of purchasing** $1.25 trillion of agency mortgage-backed securities. **The Committee anticipates completing the full amounts of its purchases of Treasury and mortgage-backed securities by year-end. The Committee will also buy** up to $200 billion of agency debt by the end of this year. The Committee will continue to evaluate the timing and overall amounts of its purchases of securities in light of the evolving economic outlook and conditions in financial markets. [The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and continues to anticipate that economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period. | **The Committee anticipates that economic conditions are likely to warrant maintaining the 0 to ¼ percent target range for the federal funds rate at least through mid-2010**].

August FOMC Statement – Alternative B

1. Information received since the Federal Open Market Committee met in **June** suggests that economic **activity** is **leveling out**. Conditions in financial markets have improved **somewhat further** in recent **weeks**. Household spending has **continued to** show signs of stabilizing but remains constrained by ongoing job losses, **sluggish income growth,** lower housing wealth, and tight credit. Businesses are **still** cutting back on fixed investment and staffing but **have made** progress in bringing inventory stocks into better alignment with sales. Although economic activity is likely to remain weak for a time, the Committee continues to anticipate that policy actions to stabilize financial markets and institutions, fiscal and monetary stimulus, and market forces will contribute to a gradual resumption of sustainable economic growth in the context of price stability.
2. The prices of energy and other commodities have risen of late. However, substantial resource slack is likely to dampen cost pressures, and the Committee expects that inflation will remain subdued for some time.
3. In these circumstances, the Federal Reserve will employ all available tools to promote economic recovery and to preserve price stability. The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and continues to anticipate that economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period. As previously announced, to provide support to mortgage lending and housing markets and to improve overall conditions in private credit markets, the Federal Reserve will purchase a total of up to $1.25 trillion of agency mortgage-backed securities and up to $200 billion of agency debt by the end of the year. In addition, the Federal Reserve **is in the process of buying** $300 billion of Treasury securities. **To promote a smooth transition in markets as its purchases of Treasury securities come to an end, the Committee has decided to gradually slow the pace of these transactions and expects them to be completed by the end of October.** The Committee will continue to evaluate the timing and overall amounts of its purchases of **agency debt and mortgage-backed** securities in light of the evolving economic outlook and conditions in financial markets. The Federal Reserve is monitoring the size and composition of its balance sheet and will make adjustments to its credit and liquidity programs as warranted.

August FOMC Statement – Alternative B'

1. Information received since the Federal Open Market Committee met in **June** suggests that economic **activity** is **leveling out**. Conditions in financial markets have improved **somewhat further** in recent **weeks**. Household spending has **continued to** show signs of stabilizing but remains constrained by ongoing job losses, **sluggish income growth,** lower housing wealth, and tight credit. Businesses are **still** cutting back on fixed investment and staffing but **have made** progress in bringing inventory stocks into better alignment with sales. Although economic activity is likely to remain weak for a time, the Committee continues to anticipate that policy actions to stabilize financial markets and institutions, fiscal and monetary stimulus, and market forces will contribute to a gradual resumption of sustainable economic growth in the context of price stability.

2. The prices of energy and other commodities have risen of late. However, substantial resource slack is likely to dampen cost pressures, and the Committee expects that inflation will remain subdued for some time.

3. In these circumstances, the Federal Reserve will employ all available tools to promote economic recovery and to preserve price stability. The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and continues to anticipate that economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period. As previously announced, to provide support to mortgage lending and housing markets and to improve overall conditions in private credit markets, the Federal Reserve will purchase a total of up to $1.25 trillion of agency mortgage-backed securities and up to $200 billion of agency debt by the end of the year. In addition, the Federal Reserve **is in the process of buying** $300 billion of Treasury securities. **To promote a smooth transition in markets as the current program of purchases of Treasury securities comes to an end, the Committee has decided to gradually slow the pace of these transactions and expects them to be completed by the end of October. The Committee is prepared to consider resuming its purchases of Treasury securities** in light of the evolving economic outlook and conditions in financial markets**, and it** will continue to evaluate the timing and overall amounts of its purchases of **agency debt and mortgage-backed** securities. The Federal Reserve is monitoring the size and composition of its balance sheet and will make adjustments to its credit and liquidity programs as warranted.

August FOMC Statement – Alternative C

1. Information received since the Federal Open Market Committee met in **June** suggests that economic **activity is leveling out and that downside risks are diminishing**. Household spending has **continued to show** signs of stabilizing but remains constrained by ongoing job losses, **sluggish income growth,** lower housing wealth, and tight credit. Businesses are **still** cutting back on fixed investment and staffing but **have made** progress in bringing inventory stocks into better alignment with sales. **Meanwhile,** conditions in financial markets have improved **further** in recent **weeks**. Although economic activity is likely to remain weak for a time, the Committee anticipates that policy actions to stabilize financial markets and institutions, fiscal and monetary stimulus, and market forces will continue to contribute to a gradual resumption of sustainable economic growth in a context of price stability.
2. The prices of energy and other commodities have risen of late. However, substantial resource slack is likely to dampen cost pressures, and the Committee expects that inflation will remain subdued for some time.
3. **In view of the improved economic outlook, the Committee has judged that some reduction in overall monetary stimulus is appropriate. The Committee now expects that its purchases of agency mortgage-backed securities (MBS) and agency debt will cumulate to about $1 trillion and about $150 billion, respectively, somewhat less than the previously announced maximum amounts**. The Federal Reserve **is nearing completion of its purchase of roughly** $300 billion of Treasury securities. **To promote a smooth transition in markets as its purchases of Treasury securities, agency debt, and agency MBS come to an end, the Committee has decided to gradually slow the pace of these transactions. Consistent with these adjustments, the Committee now expects that its purchases of Treasury securities will be completed by the end of October, and it continues to anticipate that its purchases of agency debt and MBS will be completed by the end of the year**. The Committee will continue to evaluate the timing and overall amounts of its purchases of securities in light of the evolving economic outlook and conditions in financial markets. The Federal Reserve is carefully monitoring the size and composition of its balance sheet and will make adjustments to its credit and liquidity programs as warranted. The Committee **now** anticipates that economic conditions are likely to warrant **maintenance of the current 0 to ¼ percent range for** the federal funds rate **at least through the end of this year**.

THE CASE FOR ALTERNATIVE B

If policymakers believe that the policy stimulus already in train will likely be sufficient to foster a satisfactory economic recovery, the Committee could decide to reaffirm its forward guidance regarding the funds rate, continue implementing its previously announced LSAPs, and provide additional information about its plan for winding down purchases of Treasury securities, as in **Alternative B**. Maintaining the current stance of monetary policy might be particularly appealing if the Committee shares the staff's assessment that economic growth will gradually pick up in coming quarters as the financial system continues to heal and the housing sector shows further signs of improvement. Since the Federal Reserve's purchases of Treasury securities are scheduled to be completed by autumn, the Committee may view this meeting as the appropriate time to clarify its strategy for phasing out these purchases, while deferring consideration of the strategy for completing its other LSAP programs to a subsequent meeting. In particular, as recommended by the Desk, the Committee might want to slow the pace of transactions so that these purchases taper off instead of ending abruptly, thereby minimizing the risk of financial market dislocations.[14]

While economic and financial news since June has generally been positive, the Committee—like the staff—may interpret this information as largely confirming its modal outlook for economic activity and inflation and hence may see no compelling reason to modify the current stance of monetary policy. Indeed, the Greenbook-consistent measure of short-run r^* from the FRB-US model is the same as in June. Moreover, reiterating that the federal funds rate is likely to remain exceptionally low "for an extended period" remains consistent with the funds rate path implied by the estimated outcome-based rule (Chart 8). Even if meeting participants believe that prospects for economic growth have improved somewhat further since June, the

[14] See the August 4, 2009, Desk memorandum "Tapering of Large-Scale Asset Purchases."

Committee may still see considerable uncertainty about the outlook and may prefer to wait for more definitive signs of recovery before modifying its forward policy guidance.

Policymakers may view the strength of the prospective recovery as not fully satisfactory, but they may nonetheless believe that providing further monetary stimulus through expanded LSAPs would entail costs that would likely outweigh the potential benefits. For example, Committee participants may be concerned that additional purchases of longer-term assets could magnify the size of losses on the Federal Reserve's portfolio under scenarios involving a sharp increase in short-term interest rates over the next few years. Expanding the System's purchases of Treasury securities might be viewed as particularly problematic if policymakers judged that such an announcement could trigger renewed concerns about possible future monetization of federal budget deficits and hence push up inflation risk premiums. Even a modest increase in the size of the LSAPs might be viewed by investors as signaling a greater likelihood of further expansions that could threaten the viability of the Committee's exit strategy.

Alternative B indicates that the Committee will continue to evaluate the timing and overall amounts of the Federal Reserve's purchases of agency debt and agency MBS but does not mention further adjustments to the purchases of Treasury securities; the absence of any such reference might well be seen by market analysts as suggesting that the Committee would not be inclined to resume large-scale purchases of Treasury securities even if financial or economic conditions deteriorated. However, if policymakers perceive an appreciable probability that additional purchases of Treasury securities could become warranted in coming months, they might prefer language like that of Alternative B', which states that the Committee is "prepared to consider resuming its purchases of Treasury securities in light of the evolving economic outlook and conditions in financial markets."

The release of a statement such as that suggested for Alternative B should have muted effects on financial markets. The Desk's survey of primary dealers indicates that investors generally expect the Committee's statement at this meeting will include some reference to recent improvements in economic and financial conditions. Moreover, investors expect the Committee to reiterate its forward policy guidance and place very low odds on the announcement of any substantial change in the size of the Federal Reserve's LSAP programs. Accordingly, there would likely be little change in short- and long-term yields, equity prices, or the foreign exchange value of the dollar.

THE CASE FOR ALTERNATIVE A

If policymakers are concerned that the economic outlook is unacceptably weak and judge that additional monetary stimulus would be appropriate, the Committee could decide to expand the total amount of purchases of Treasury securities and to extend the timeframe for conducting those purchases, as in **Alternative A**. Although the staff has marked up slightly its forecast for economic growth, the output gap in the Greenbook remains in excess of 7 percent over the next two years, the unemployment rate declines only slowly from its projected 10 percent peak, and core inflation hovers around 1 percent. With protracted resource slack and inflation below levels seen by most participants as consistent with the Federal Reserve's dual mandate, this outlook suggests that further monetary stimulus might be appropriate. According to the optimal control simulations depicted in Chart 7, the real federal funds rate would be substantially lower and would foster significantly better outcomes for employment and inflation were it not for the fact that the nominal funds rate is constrained by the effective lower bound. Furthermore, the Committee may judge that signs of economic and financial stabilization are quite tentative and that significant uncertainties remain as to the timing and extent of the economic recovery, perhaps along the lines of the "Intensified Financial Fragility" scenario in the Greenbook. Given these considerations, the Committee might consider it appropriate to apply more monetary stimulus by expanding the LSAP programs.

Even though the Committee did not modify the stance of monetary policy at the June meeting, policymakers may judge that an expansion of LSAPs is appropriate at the present juncture. In particular, the Committee's uncertainty about the effects of these purchases on the economy may have diminished since March—the last time the Committee adjusted the size of the LSAPs. Also, since June investors have apparently become more confident about the viability of the Federal Reserve's exit strategy, perhaps giving the Committee greater flexibility with regard to expanding the size of its balance sheet. In these circumstances, the Committee may see increased LSAPs as a useful tool to strengthen aggregate demand and to promote a return of inflation to rates that the Committee considers most consistent with the dual mandate.

The Committee may see expanded purchases of Treasury securities as the most suitable means for providing additional monetary stimulus while minimizing adverse effects on financial market functioning. The current flow of the Federal Reserve's purchases of Treasury securities is relatively small compared with new issuance of those securities, suggesting that purchases could be increased without a significant risk of creating market distortions. In contrast, the Desk has already encountered challenges in maintaining a pace of agency MBS purchases consistent with reaching the previously announced maximum amount; hence, expanded purchases of those securities might not be feasible or desirable. Expanded purchases of agency debt could generate significant distortions in the markets for those securities, especially in the absence of significant balance sheet growth of the housing GSEs.

An announcement along the lines of Alternative A is not expected by market participants and predicting the effects of such a statement is difficult. Judging by recent experience, the announcement of an additional $150 billion in Treasury purchases is likely to reduce longer-term yields about 10 to 20 basis points. Equity prices would probably edge up, and the foreign exchange value of the dollar might well decline. Inflation compensation could increase if the Committee's decision prompted renewed investor concerns about possible monetization of the debt. All of these effects could be magnified if market participants saw the increase in asset purchases as opening the door to yet further increases in such transactions.

In considering ways to provide additional monetary stimulus, policymakers could also choose to indicate that maintaining the current target range for the federal funds rate would likely be warranted "at least through mid-2010," rather than reiterating that "economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period." Futures quotes indicate that some financial market participants anticipate a much earlier onset of funds rate tightening than assumed in the Greenbook. Thus, such an adjustment of the Committee's forward policy guidance would likely cause some investors to mark down their expectations regarding the degree of tightening that is likely to occur over the next year or so.

THE CASE FOR ALTERNATIVE C

If policymakers are substantially more optimistic than the staff regarding the economic outlook, the Committee might choose to trim the size of the LSAPs and to adjust its language regarding the anticipated period over which the funds rate would be likely to remain extraordinarily low, as in **Alternative C**. Under this alternative, the Committee would begin a gradual withdrawal of monetary stimulus by announcing a tapering off of the LSAP program. It would also revise its stated expectation for a very low federal funds rate so that it extends "at least through the end of this year."

This language would likely be seen by market participants as pointing to a somewhat earlier end to the period of very low funds rates than implied by the Committee's recent statements.

With economic activity leveling off and conditions in financial markets improving steadily, members may anticipate a more rapid unwinding of financial strains than assumed by the staff, a possibility explored in the "Faster Pace of Financial Recovery" scenario in the Greenbook. Members may be especially concerned that, should bankers' attitudes toward lending improve rapidly, the large amount of reserves in the banking system could bring about a strong expansion of bank credit, providing considerable stimulus to aggregate demand. Members may believe that such risks would be moderated by reducing the Committee's planned asset purchases and thus lowering the accumulation of reserves in the banking system.

A less optimistic outlook for aggregate supply—especially in light of the comprehensive NIPA revisions—and the attendant consequences for inflation might also incline the Committee to begin withdrawing monetary stimulus sooner rather than later. For example, the Committee might see substantial benefits of moving preemptively towards a firmer stance of monetary policy to help ensure that long-term inflation expectations do not rise above levels consistent with price stability. (The "Higher Inflation Expectations" scenario in the Greenbook illustrates this possibility.) Indeed, survey measures of long-term inflation expectations and the five-year forward measure of inflation compensation have edged higher over recent months, despite high levels of unemployment and resource slack. Policymakers may see a reduction in the Committee's planned asset purchases as likely to reduce market concerns about the Federal Reserve's strategy and capacity for winding down the LSAP program, reducing the size of the Federal Reserve's balance sheet, and eventually raising the federal funds rate. A reduction in such concerns could help ensure that inflation expectations remain well anchored.

The publication of Alternative C would come as quite a surprise to market participants. The Desk's survey indicates that primary dealers uniformly expect that the Committee's statement at this meeting will reiterate the same forward policy guidance as in recent FOMC statements. Only a quarter of survey participants indicated that they expect the federal funds rate to be raised above its effective lower bound by next June, while another half expect the initial rate increase to occur later this year, and the remainder do not expect tightening before 2011. Thus, the release of a statement along the lines of Alternative C would likely cause short- and longer-term interest rates to rise sharply, and equity prices to drop, while the exchange value of the dollar would probably appreciate. Forward inflation compensation might decline if the Committee's decision caused investors to mark down their inflation expectations at longer horizons.

Long-Run Projections of the Balance Sheet and Monetary Base

Under the Federal Reserve's current policy approach, the size of the Federal Reserve's balance sheet is driven by the evolution of its assets, specifically, the scale of asset purchases and demand for Federal Reserve liquidity programs and credit facilities. Total liabilities are determined by total assets, and the composition of liabilities depends on currency demand and other factors on the liability side, with reserve balances determined as a residual.

Three balance sheet scenarios are presented here; they differ in their assumptions regarding asset purchases. The first scenario is a baseline scenario, which includes large-scale asset purchases roughly in line with the quantities previously announced by the FOMC: $300 billion of Treasury securities by October; $150 billion of agency debt by the end of this year; and $1.25 trillion of agency mortgage-backed securities (MBS) by the end of this year. This baseline scenario corresponds to Alternative B in the Policy Alternatives section of this Bluebook. The second scenario corresponds to Alternative A in the Policy Alternatives section, in which purchases of Treasury securities are increased by $150 billion to $450 billion, and the purchases continue through the end of this year. The third scenario corresponds to Alternative C in the Policy Alternatives section, in which the total quantity of agency MBS purchases is reduced by $250 billion to $1 trillion.

To construct the projections, we made assumptions about all components of the balance sheet other than reserve balances, which are the residual item. Details on the assumptions are available in Appendix C. On the asset side of the balance sheet, the baseline scenario path of large-scale asset purchases matches the assumed path in the Greenbook. In this scenario, Treasury securities purchases are expected to taper off gradually through October and to cumulate to $300 billion. All three scenarios assume that the assets purchased are held to maturity and not replaced. Reflecting concerns that a higher level of purchases could distort pricing and compromise market liquidity, agency debt purchases are projected to cumulate to $150 billion, somewhat less than the $200 billion announced upper limit of the program. Thereafter, agency debt holdings decline slowly for the remainder of the forecast period as they mature. Purchases of agency MBS are scheduled to be completed by the end of this year; however, due to expected settlement lags and prepayments, agency MBS holdings under Alternatives A and B peak at $1.24 trillion in March 2010, a slightly lower level than the total amount purchased and a few months after purchases have ceased. For the Alternative C scenario, although total purchases are less, the pattern for agency MBS holdings is similar, and holdings peak at $960 billion. For all scenarios, a slower-than-historical-average path for the prepayment of agency MBS implies that more than half of the agency MBS purchased are still on the balance sheet in 2016.

The projections for liquidity and credit programs are the same in all three scenarios. The Term Asset-Backed Securities Loan Facility (TALF) is assumed to reach a peak of $165 billion at the end of the second quarter of 2010, with $120 billion in three-year loans and $45 billion in five-year loans at the peak. TALF loans outstanding reach zero in 2015. The Commercial Paper Funding Facility (CPFF), the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) and the foreign central bank liquidity swap lines are assumed to expire on February 1, 2010; loans outstanding from these facilities wind down to zero by mid-year 2010. Credit extended to AIG and the Federal Reserve's ownership of preferred stock interests in AIG reach zero by 2013. The assets held by Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC are assumed to be sold over time; they reach a minimal level by 2016. Primary, secondary, and seasonal credit sum to about $1 billion from the end of 2010 forward. Only the Term Auction Facility

(TAF) remains sizable at the end of the forecast period. It is projected to swell at year-end 2009 before dropping down to reach a steady-state level of $20 billion at the end of 2010. Finally, the Special Drawing Rights (SDR) certificate account is projected to increase to $27.2 billion, as a result of an assumed monetization of $25 billion in SDRs that is expected to be implemented at the end of August.[15]

On the liability side of the Federal Reserve's balance sheet, all three scenarios assume that currency (Federal Reserve notes in circulation) grows at the same rate as the staff forecast for money stock currency through 2011 and after that point expands at the projected growth rate of nominal GDP in the extended Greenbook forecast. Consistent with the Treasury's most recent quarterly financing estimates, the Treasury's Supplementary Financing Account is projected to remain at $200 billion through December 2009, after which point it is assumed to wind down to zero by the third quarter of 2010. The U.S. Treasury's general account is assumed to return to its historical target level of $5 billion by the end of 2009. All other liabilities other than reverse repurchase agreements and reserve balances are assumed to be constant at their level as of July 31, 2009. Federal Reserve Bank capital is projected to grow in line with its average pace of expansion over the past ten years.

These projections for liabilities and capital, combined with the assumed path for assets, imply a path for reserve balances under each scenario. In all three scenarios, the implied level of reserve balances rises rapidly until the end of 2009 and then increases at a more moderate rate during the first quarter of 2010. In the baseline scenario and Alternative A, reserve balances decline through the end of the forecast period, while in Alternative C, a resumption of open market purchases is required in 2016 to maintain reserve balances at a level of $25 billion.

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15 A discussion of the issues related to the SDR allocation can be found in the memo to the FOMC, "Implications of upcoming SDR allocations," August 4, 2009.

Under all scenarios, the Federal Reserve's balance sheet expands rapidly over the course of 2009. For the baseline scenario, the balance sheet reaches a peak of $2.7 trillion in the first quarter of 2010 and then declines to a level of $1.5 trillion at the end of the projection period. For Alternative A, the peak occurs on the same date, but at a higher level of $2.8 trillion. Assets then decline to roughly the same level as in the baseline scenario. For Alternative C, the balance sheet peaks at $2.4 trillion at the end of 2009, and assets decline to $1.4 trillion at the end of the projection period.[16]

Projections for the growth rates of the monetary base are derived from these balance sheet projections as the growth rate of the sum of Federal Reserve notes in circulation and reserve balances.[17] Under all scenarios, the monetary base expands in the second half of 2009 and into early 2010. In the second half of 2010, however, as increases in asset holdings cease and the liquidity facilities wind down, the monetary base begins to contract; the base continues to decline through the remainder of the projection period despite continued growth in currency.

Relative to the June Bluebook, there are a number of notable changes to the projections. The starting point is different because the size of the balance sheet in July was lower than expected at the time of the last Bluebook, primarily because agency MBS purchases and settlements were smaller than forecasted, and the CPFF

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[16] The composition of Federal Reserve assets in all three of these projections differs notably from historical patterns. Prior to August 2007, U.S. Treasury securities were about 90 percent of assets and the Federal Reserve did not hold any agency mortgage-backed securities. By contrast, under the baseline scenario, Treasuries are projected to account for only around 30 percent of total assets at the end of 2009 and rise to just 36 percent of total assets at the end of the projection period. Even under Alternative A, Treasury securities account for only about one-third of assets at the end of 2009.

[17] The calculated growth rates of the monetary base presented in the table are based on an approximation for month-average values.

wound down faster than expected. For asset purchases in the baseline scenario, three changes affect the forecast: The rate of Treasury securities purchases was modified, and the completion date of the program was extended from September to October; agency debt purchases were reduced; and some agency MBS settlements were pushed from 2009 into 2010 in order to reflect expected settlement lags. For liquidity and credit programs, the projection for TAF now includes an uptick in demand at the end of the year. Also, TAF is assumed to become a permanent policy tool, remaining at a level of $20 billion through the end of the forecast period. The TALF is assumed to extend a somewhat lower volume of loans than previously. Some of the other lending facilities are now seen as running off slightly faster than was projected last round in light of the improvement in financial markets. In contrast, the SDR certificate account was revised upward by $25 billion from about $2 billion reflecting the monetization of the assumed allocation of SDRs. On balance, total assets at year-end 2009 are about $240 billion lower in this projection compared with that presented in the June Bluebook, mostly a result of the change in assumptions about agency MBS settlement. By the end of the projection period in 2016, however, total assets are a little above that in the June Bluebook projection, reflecting the permanent addition of the TAF and the monetization of the SDRs.

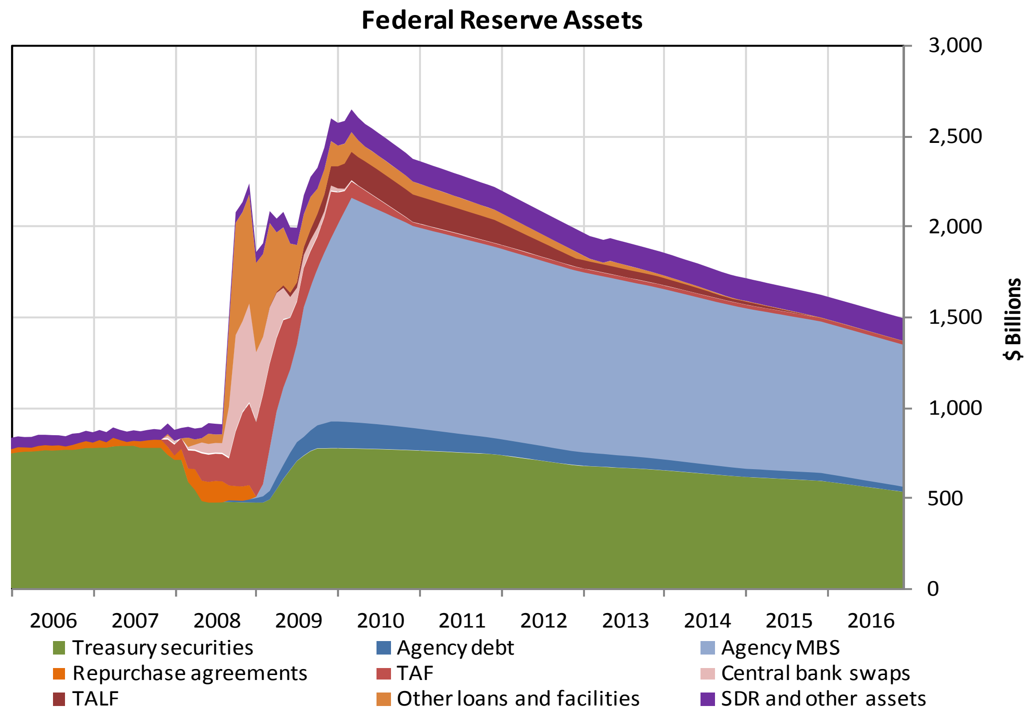
On the liabilities side, the staff has made only modest changes to the projections relative to the June Bluebook. The growth rate of currency was marked down somewhat in 2011, reflecting a reassessment of currency growth for the last year of our money projection period. The Supplementary Financing Account is now assumed to stay at its current level of $200 billion somewhat longer, based on statements made by the Treasury in its last quarterly financing estimates. The level of reserve balances is somewhat lower at the end of this year, primarily reflecting the shift in agency MBS settlement timing. However, from mid-2010 forward, the increases in TAF outstanding and in the SDR certificate account balance, as well as a lower projected level for currency, lead to a somewhat higher level of reserve balances.

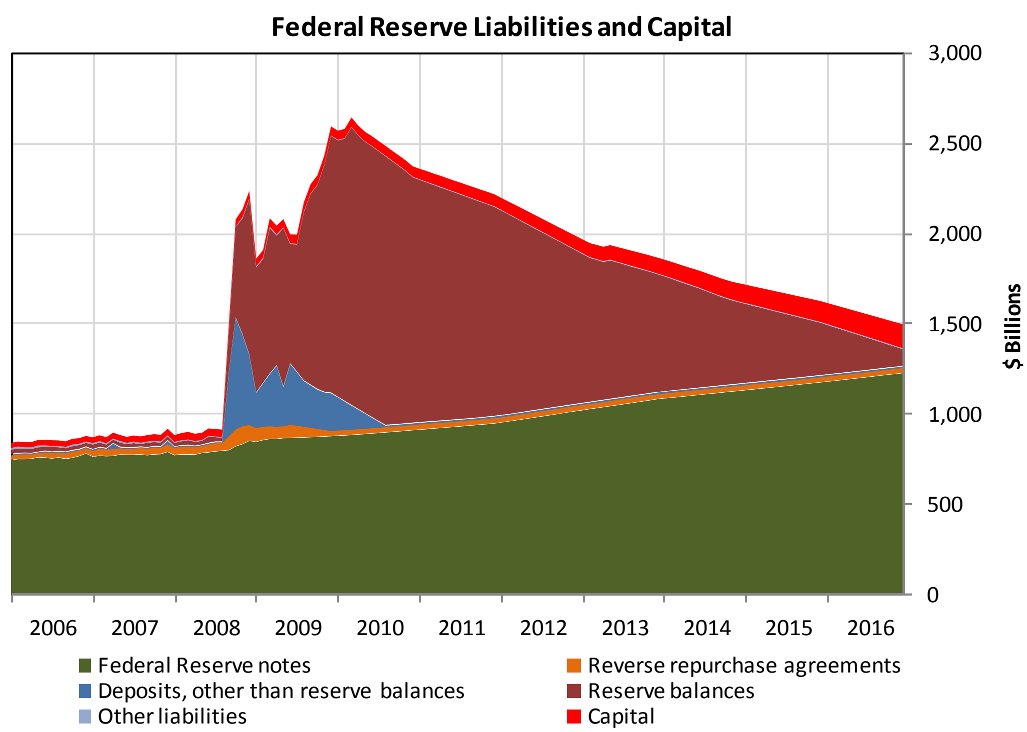
The extended Greenbook projection shows the target federal funds rate rising from the current 0 to ¼ percent range to 2.45 percent over the course of 2012. Under the operating procedures employed before the financial crisis, the projected level of reserve balances at the end of 2012 of approximately $850 billion would not have been consistent with a federal funds rate significantly above zero. If the interest rate paid on excess reserve balances becomes an effective floor for the federal funds rate, a higher target rate could be achieved even with quite elevated reserve balances simply by raising the excess reserves rate. The experience last autumn, however, may suggest that other tools may be needed to augment the rate paid on excess reserves to control the funds rate. The projection for the balance sheet implicitly assumes that alternative operating procedures can be put into place to achieve the path for the federal funds rate assumed in the Greenbook projection; such procedures might employ a range of tools such as reverse repurchase agreements, outright sales of securities, a term deposit facility, or other strategies. The balance sheet effects of these tools, however, are not included in these projections.

Growth Rates for Monetary Base				
Date	Baseline	Alternative A	Alternative C	*Memo:* June Baseline
		Percent, annual rate		
		Monthly		
Jun-09	-31.0	-31.0	-31.0	-52.1
Jul-09	-16.4	-16.4	-16.4	-0.4
Aug-09	96.8	102.7	59.3	99.3
Sep-09	116.4	115.9	70.9	97.3
Oct-09	59.7	75.4	44.1	103.1
Nov-09	57.6	88.5	48.7	95.7
Dec-09	80.2	97.6	74.1	102.1
Jan-10	42.9	48.7	34.5	49.8
Feb-10	8.6	7.5	-2.3	-6.4
Mar-10	29.9	27.6	21.1	-6.4
		Quarterly		
Q2 2009	27.4	27.4	27.4	24.9
Q3 2009	23.9	25.2	10.2	22.7
Q4 2009	82.6	99.7	58.6	108.2
Q1 2010	44.7	53.5	35.6	48.0
Q2 2010	11.3	10.3	8.1	-7.1
Q3 2010	-2.6	-2.4	0.4	-15.6
Q4 2010	-10.8	-10.2	-8.7	-19.0
		Annual-Q4 to Q4		
2009	58.9	65.0	46.1	65.9
2010	10.5	12.6	8.8	0.7
2011	-7.7	-7.7	-7.6	-7.7
2012	-10.2	-10.8	-10.7	-12.1
2013	-7.1	-7.4	-7.3	-10.2
2014	-8.3	-8.8	-8.5	-10.1
2015	-6.6	-7.0	-6.7	-7.8
2016	-8.7	-10.0	-4.4	-8.1

Note: Not seasonally adjusted.

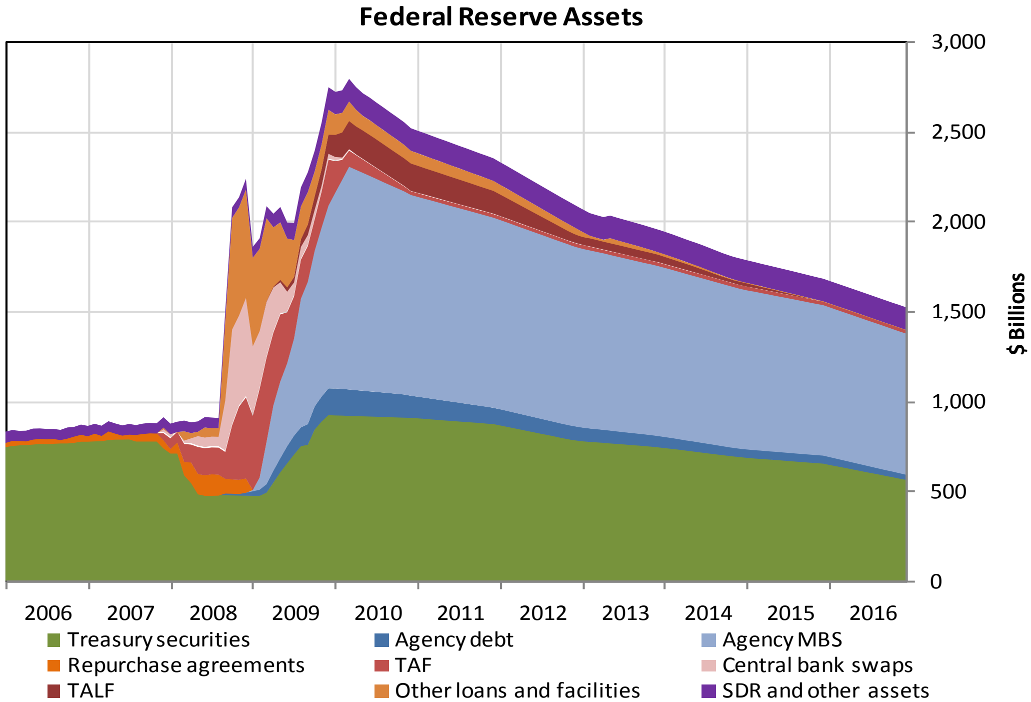
Baseline Scenario

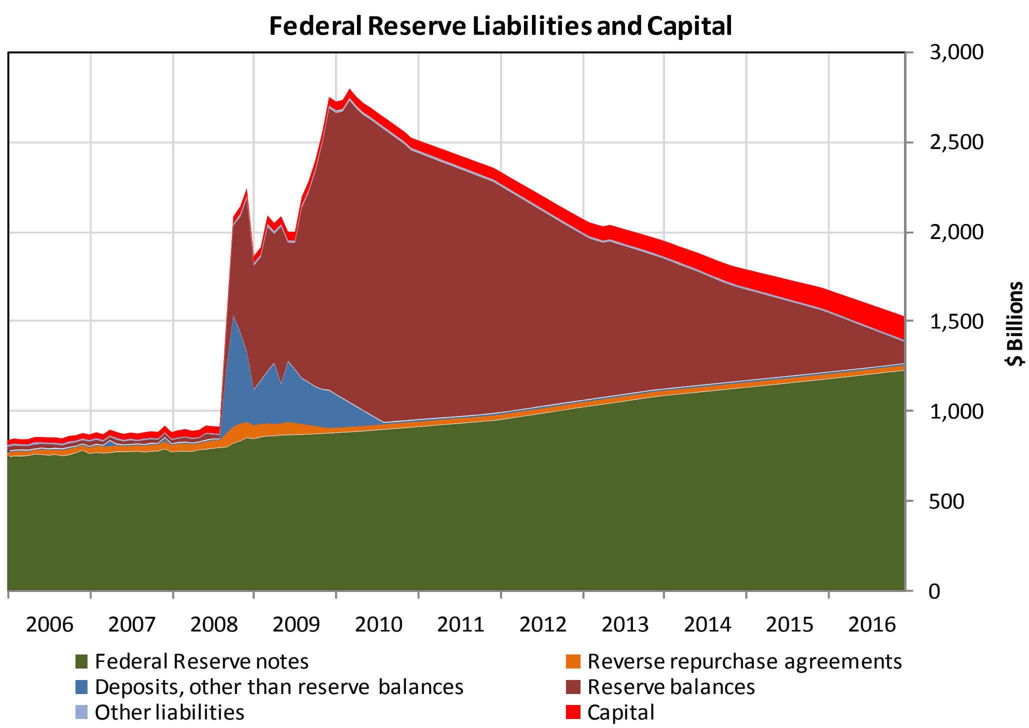




Source. Federal Reserve H.4.1 statistical release and staff calculations.

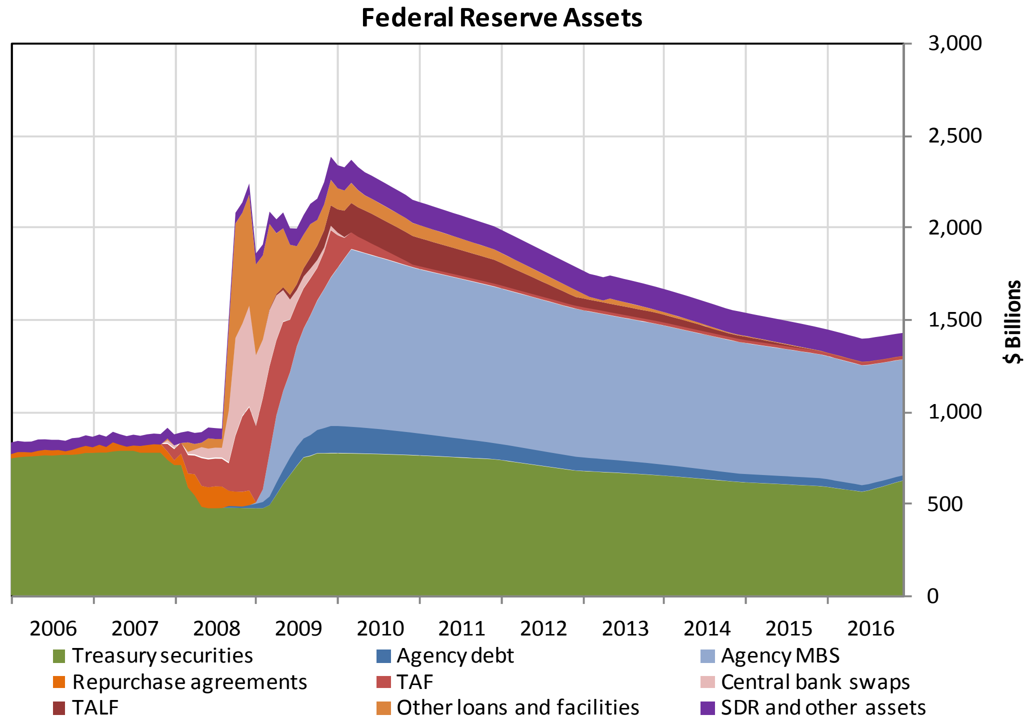
Alternative A

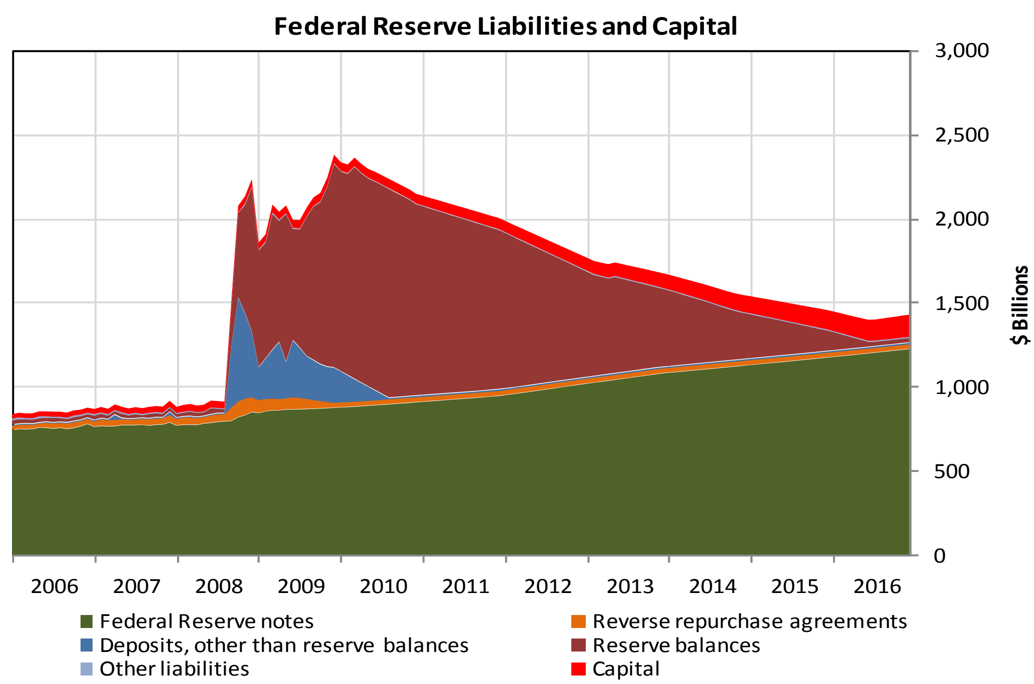




Source. Federal Reserve H.4.1 statistical release and staff calculations.

Alternative C





Source. Federal Reserve H.4.1 statistical release and staff calculations.

BANK CREDIT, DEBT, AND MONEY FORECAST

The outlook for nonfederal debt growth and bank credit expansion is relatively weak, consistent with continued financial market strains and the staff's forecast of a quite anemic economic recovery. M2 is also likely to be weak as a result of slow income growth and a continued gradual reallocation of household wealth toward riskier assets.

Bank credit is projected to decline at an average annual rate of about 2 percent over the second half of this year, reflecting persistent weakness in all major loan categories. In 2010, as economic activity strengthens and lending standards gradually ease, growth of bank credit is forecasted to step up to around 3¾ percent, slightly lower than the rate of expansion in nominal income. C&I loans are expected to follow the same general trajectory, contracting at an average annual rate of almost 4 percent in the second half of 2009 and growing only about 1 percent in 2010. Real estate loans on banks' books, a category that includes loans secured by both commercial and residential real estate, are projected to run off through the end of 2009, reflecting slowing refinancing activity and continued loan sales to the GSEs. In addition, the continued deterioration in the credit quality of banks' commercial real estate loan portfolios is projected to exert considerable drag on real estate lending, which is expected to remain very weak until the second half of 2010. With weak demand and tight credit conditions, consumer loans are expected to contract about 5¼ percent over the second half of this year and then grow about 2½ percent next year as consumer spending increases and unemployment levels off. Growth in securities holdings is expected to be fairly strong through 2010 as banks continue to favor safe and liquid assets amid weak demand for loans and concerns about credit quality.

Domestic nonfinancial sector debt is projected to expand at an average annual rate of about 5 percent in the second half of this year, reflecting rapid growth of federal debt and a moderate rise in state and local government debt. In contrast, private-sector debt is expected to remain nearly flat. Staff projects that federal debt will continue to increase rapidly through the end of 2010 but that borrowing by households will continue to contract and debt growth of nonfinancial businesses will remain extremely light by historical standards. Although the level of overall household debt is forecasted to begin to edge up next year as the economy improves, the rise will be limited by the elevated unemployment rate, continued deleveraging by households, and lending standards that ease only gradually. Despite the expected further improvement in conditions in capital markets, borrowing by nonfinancial businesses will also likely remain sluggish through the end of the forecast period, in part because the low level of capital expenditures should limit the demand for external funds.

M2 is projected to contract over the second half of this year as households continue to reallocate some of their wealth toward riskier assets. The runoff in M2 is accounted for by declines in small time deposits and money market mutual funds amid very low interest rates on those instruments, as well as a slowing in the rate of growth of liquid deposits. In 2010, M2 is forecast to increase less rapidly than nominal GDP, as improvements in economic and financial market conditions continue to reduce demand for M2 assets.

Growth Rates for M2
(percent, annual rate)

		Greenbook Forecast*
Monthly Growth Rates		
	Jan-09	12.1
	Feb-09	4.0
	Mar-09	10.4
	Apr-09	-7.7
	May-09	9.2
	Jun-09	3.6
	Jul-09	-3.5
	Aug-09	-4.9
	Sep-09	-1.8
	Oct-09	0.2
	Nov-09	0.4
	Dec-09	0.5
	Jan-10	0.5
	Feb-10	0.5
	Mar-10	0.6
	Apr-10	0.8
	May-10	1.0
	Jun-10	1.5
Quarterly Growth Rates		
	2008 Q3	4.0
	2008 Q4	14.3
	2009 Q1	12.9
	2009 Q2	2.6
	2009 Q3	-0.6
	2009 Q4	-0.7
	2010 Q1	0.5
	2010 Q2	0.8
Annual Growth Rates		
	2008	8.3
	2009	3.5
	2010	2.2
Growth From	To	
Jul-09	Dec-09	-1.1
2008 Q2	2009 Q2	8.7
2009 Q2	2009 Q4	-0.7

* This forecast is consistent with nominal GDP and interest rates in the Greenbook forecast.
Actual data through July 27, 2009; projections thereafter.

DIRECTIVE

The June directive and draft language for the August directive are provided below.

JUNE FOMC MEETING

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, agency MBS, and longer-term Treasury securities 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 Committee anticipates that the combination of outright purchases and various liquidity facilities outstanding will cause the size of the Federal Reserve's balance sheet to expand significantly in coming months. The Desk is expected to purchase up to $200 billion in housing-related agency debt by the end of this year. The Desk is expected to purchase up to $1.25 trillion of agency MBS by the end of the year. The Desk is expected to purchase up to $300 billion of longer-term Treasury securities by the end of the third quarter. 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.

AUGUST FOMC MEETING — ALTERNATIVE A

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, agency MBS, and longer-term Treasury securities 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 purchase about $1.25 trillion of agency MBS, about $450 billion of longer-term Treasury securities, and up to $200 billion in housing-related agency debt by the end of this year. 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 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.

AUGUST FOMC MEETING — ALTERNATIVE B/B'

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, agency MBS, and longer-term Treasury securities 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 purchase up to $200 billion in housing-related agency debt and up to $1.25 trillion of agency MBS by the end of the year. The Desk is expected to purchase about $300 billion of longer-term Treasury securities by the end of October, gradually slowing the pace of these purchases until they are completed. 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 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.

AUGUST FOMC MEETING — ALTERNATIVE C

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, agency MBS, and longer-term Treasury securities 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 purchase about $150 billion in housing-related agency debt and about $1 trillion of agency MBS by the end of the year. The Desk is expected to purchase roughly $300 billion of longer-term Treasury securities by the end of October. The Desk is expected to gradually slow the pace of its purchases of agency debt, agency MBS, and Treasury securities until such purchases are completed. 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 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 A: MEASURES OF THE EQUILIBRIUM REAL RATE

The equilibrium real rate is the real federal funds rate that, if maintained, would be projected to return output to its potential level over time. The short-run equilibrium rate is defined as the rate that would close the output gap in twelve quarters given the corresponding model's projection of the economy. The medium-run concept is the value of the real federal funds rate projected to keep output at potential in seven years, under the assumption that monetary policy acts to bring actual and potential output into line in the short run and then keeps them equal thereafter. The TIPS-based factor model measure provides an estimate of market expectations for the real federal funds rate seven years ahead.

The actual real federal funds rate is constructed as the difference between the nominal rate and realized inflation, where the nominal rate is measured as the quarterly average of the observed federal funds rate, and realized inflation is given by the log difference between the core PCE price index and its lagged value four quarters earlier. If the upcoming FOMC meeting falls early in the quarter, the lagged inflation measure ends in the last quarter. For the current quarter, the nominal rate is specified as the target federal funds rate on the Bluebook publication date.

Measure	Description
Single-equation Model	The measure of the equilibrium real rate in the single-equation model is based on an estimated aggregate-demand relationship between the current value of the output gap and its lagged values as well as the lagged values of the real federal funds rate.
Small Structural Model	The small-scale model of the economy consists of equations for six variables: the output gap, the equity premium, the federal budget surplus, the trend growth rate of output, the real bond yield, and the real federal funds rate.
EDO Model	Estimates of the equilibrium real rate using EDO—an estimated dynamic-stochastic-general-equilibrium (DSGE) model of the U.S. economy—depend on data for major spending categories, price and wages, and the federal funds rate as well as the model's structure and estimate of the output gap.
FRB/US Model	Estimates of the equilibrium real rate using FRB/US—the staff's large-scale econometric model of the U.S. economy—depend on a very broad array of economic factors, some of which take the form of projected values of the model's exogenous variables.
Greenbook-consistent	Two measures are presented—based on the FRB/US and the EDO models. Both models are matched to the extended Greenbook forecast. Model simulations determine the value of the real federal funds rate that closes the output gap conditional on the extended baseline.
TIPS-based Factor Model	Yields on TIPS (Treasury Inflation-Protected Securities) reflect investors' expectations of the future path of real interest rates. The TIPS-based measure of the equilibrium real rate is constructed using the seven-year-ahead instantaneous real forward rate derived from TIPS yields as of the Bluebook publication date. This forward rate is adjusted to remove estimates of the term and liquidity premiums based on a three-factor arbitrage-free term-structure model applied to TIPS yields, nominal yields, and inflation.

Estimates of the real federal funds rate depend on the proxies for expected inflation used. The table below shows estimated real federal funds rates based on lagged core PCE inflation, the definition used in the Equilibrium Real Federal Funds Rate chart; lagged four-quarter headline PCE inflation; and projected four-quarter headline PCE inflation beginning with the next quarter. For each estimate of the real rate, the table also provides the Greenbook-consistent measure of the short-run equilibrium real rate and the average actual real federal funds rate over the next twelve quarters.

Proxy used for expected inflation	Actual real federal funds rate (current value)	Greenbook-consistent measure of the equilibrium real funds rate (current value)	Average actual real funds rate (twelve-quarter average)
Lagged core inflation	-1.5	-2.7	-0.9
Lagged headline inflation	0.3	-2.6	-0.9
Projected headline inflation	-1.4	-2.8	-1.1

APPENDIX B: ANALYSIS OF POLICY PATHS AND CONFIDENCE INTERVALS

RULE SPECIFICATIONS

For the following rules, i_t denotes the federal funds rate for quarter t, while the explanatory variables include the staff's projection of trailing four-quarter core PCE inflation (π_t), inflation two and three quarters ahead ($\pi_{t+2|t}$ and $\pi_{t+3|t}$), the output gap in the current period and one quarter ahead ($y_t - y_t^*$ and $y_{t+1|t} - y_{t+1|t}^*$), and the three-quarter-ahead forecast of annual average GDP growth relative to potential ($\Delta^4 y_{t+3|t} - \Delta^4 y_{t+3|t}^*$), and π^* denotes an assumed value of policymakers' long-run inflation objective. The outcome-based and forecast-based rules were estimated using real-time data over the sample 1988:1-2006:4; each specification was chosen using the Bayesian information criterion. Each rule incorporates a 75 basis point shift in the intercept, specified as a sequence of 25 basis point increments during the first three quarters of 1998. The first two simple rules were proposed by Taylor (1993, 1999). The prescriptions of the first-difference rule do not depend on assumptions regarding r^* or the level of the output gap; see Orphanides (2003).

Outcome-based rule	$i_t = 1.20 i_{t-1} - 0.39 i_{t-2} + 0.19[1.17 + 1.73\,\pi_t + 3.66(y_t - y_t^*) - 2.72(y_{t-1} - y_{t-1}^*)]$
Forecast-based rule	$i_t = 1.18 i_{t-1} - 0.38 i_{t-2} + 0.20[0.98 + 1.72\,\pi_{t+2\|t} + 2.29(y_{t+1\|t} - y_{t+1\|t}^*) - 1.37(y_{t-1} - y_{t-1}^*)]$
Taylor (1993) rule	$i_t = 2 + \pi_t + 0.5(\pi_t - \pi^*) + 0.5(y_t - y_t^*)$
Taylor (1999) rule	$i_t = 2 + \pi_t + 0.5(\pi_t - \pi^*) + (y_t - y_t^*)$
First-difference rule	$i_t = i_{t-1} + 0.5(\pi_{t+3\|t} - \pi^*) + 0.5(\Delta^4 y_{t+3\|t} - \Delta^4 y_{t+3\|t}^*)$

FRB/US MODEL SIMULATIONS

Prescriptions from the two empirical rules are computed using dynamic simulations of the FRB/US model, implemented as though the rule were followed starting at this FOMC meeting. The dotted line labeled "Previous Bluebook" is based on the current specification of the policy rule, applied to the previous Greenbook projection. Confidence intervals are based on stochastic simulations of the FRB/US model with shocks drawn from the estimated residuals over 1969-2008.

INFORMATION FROM FINANCIAL MARKETS

The expected funds rate path is based on Eurodollar quotes and implied three-month forward rates from swaps, and the confidence intervals for this path are constructed using prices of interest rate caps.

NEAR-TERM PRESCRIPTIONS OF SIMPLE POLICY RULES

These prescriptions are calculated using Greenbook projections for inflation and the output gap. Because the first-difference rule involves the lagged funds rate, the value labeled "Previous Bluebook" for the current quarter is computed using the actual value of the lagged funds rate, and the one-quarter-ahead prescriptions are based on this rule's prescription for the current quarter.

REFERENCES

Taylor, John B. (1993). "Discretion versus policy rules in practice," *Carnegie-Rochester Conference Series on Public Policy*, vol. 39 (December), pp. 195-214.

——————— (1999). "A Historical Analysis of Monetary Policy Rules," in John B. Taylor, ed., *Monetary Policy Rules*. The University of Chicago Press, pp. 319-341.

Orphanides, Athanasios (2003). "Historical Monetary Policy Analysis and the Taylor Rule," *Journal of Monetary Economics*, vol. 50 (July), pp. 983-1022.

APPENDIX C: LONG-RUN PROJECTIONS OF THE BALANCE SHEET AND MONETARY BASE

This appendix presents more detail on the assumptions underlying the long-run projections of the Federal Reserve's balance sheet and the monetary base shown in the section entitled "Long-Run Projections of the Balance Sheet and Monetary Base."

GENERAL ASSUMPTIONS

The projections are constructed on a monthly frequency from August 2009 to December 2016. The few balance sheet items that are not discussed below are assumed to be constant over the projection period at the level for July 31, 2009. The projections for all major asset and liability categories are summarized in the charts and table that follow the bullet points.

ASSETS

Asset Purchases

- The baseline scenario incorporates only those asset purchases roughly in line with those that have been announced.
    - The Desk purchases a total of $300 billion of Treasury securities, $150 billion of agency debt, and $1.25 trillion of agency MBS.
    - Purchases of Treasury securities are expected to be completed by October 2009, and purchases of agency debt and agency MBS are to be completed by year-end 2009.
    - The maturity distribution of the Treasuries purchases is based on FRBNY Markets Group internal forecasts. The maturities of most purchases are between two and ten years, with the weighted average maturity being a little over six years.
    - No sales are assumed, and maturing securities are not rolled over. As a result, total holdings of Treasury securities decline as issues mature. Treasury securities previously held in the SOMA portfolio are assumed to be reinvested as they mature. Agency debt holdings peak at $150 billion in 2009, and decline slowly over the remainder of the forecast horizon.
    - Due to expected settlement lags and forecasts of dollar rolls and prepayments, agency MBS holdings peak at $1.24 trillion in March 2010, a slightly lower level than the amount purchased. For agency MBS, the rate of prepayment is based on rough estimates from the Desk. The historically low coupon on these securities implies a relatively slow prepayment rate. As a result, at the end of 2016, $785 billion of the $1.25 trillion of MBS purchased remains on the balance sheet.
- In the scenario corresponding to Alternative A, purchases of Treasury securities are increased by $150 billion to $450 billion by the end of the year. No other changes to the assumptions are made, and securities mature at the same rate as in the baseline scenario.
- In the scenario corresponding to Alternative C, purchases of agency MBS are decreased by $250 billion to $1.0 trillion by the end of the year. No other changes to the assumptions are

made, and securities mature at the same rate as in the baseline scenario. However, by the end of the projection period, the expansion of currency and capital combined with a runoff of other assets necessitates the resumption of standard open market purchases to maintain reserve balances at a level of $25 billion. It is assumed that the Desk purchases shorter-dated Treasury securities to satisfy this need.

Liquidity Programs and Credit Facilities

- Primary credit is assumed to decline moderately from its current level to $1 billion by the end of 2010 and remain at that level thereafter. Secondary credit is assumed to be zero for the entire projection period.
- Term Auction Facility (TAF) credit is assumed to increase temporarily in response to year-end pressures at the end of 2009 before dropping down to reach a steady state level of $20 billion at the end of 2010, remaining there until the end of the projection period.
- Foreign central bank liquidity swaps decline with improved market functioning and fall to zero a few months following the expiration date of the program on February 1, 2010.
- Credit extended to and preferred stock interests in AIG wind down by the end of 2013.[1] In addition, the assets held by Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC are assumed to be sold over time and reach a nominal level by 2016.
- The Term Asset-Backed Securities Loan Facility (TALF), based partly on its slow initial uptake, is assumed to peak at $165 billion, well below the $1 trillion limit.
  - TALF loans with a three-year maturity reach $120 billion by the program's assumed expiration date of March 31, 2010. A portion of these loans are expected to prepay, and the quantity outstanding reaches zero by the end of 2012.
  - TALF loans with a five-year maturity reach $45 billion by the end of June 2010. These loans are assumed to be held to maturity, and the quantity outstanding reaches zero by the end of 2015.
- Reflecting improvements in market conditions, the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) is expected to wind down to zero by September 2009. Credit extended through the Commercial Paper Funding Facility (CPFF) winds down to zero a few months after the facility expires on February 1, 2010.

LIABILITIES

- Currency (Federal Reserve notes in circulation) grows in line with the staff forecast for money stock currency through the end of 2011. From 2011 to the end of the projection period, currency grows at the same rate as nominal GDP as projected in the extended Greenbook forecast.

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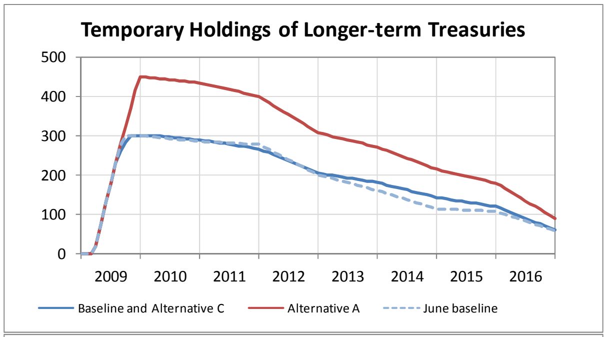
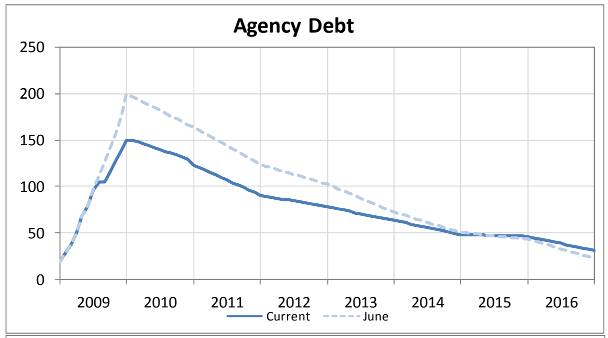
[1] On March 2, the Federal Reserve and Treasury jointly announced a restructuring of the government's assistance to AIG. As part of this restructuring, the revolving credit facility will be reduced in exchange for preferred interests in two SPVs created to hold all the common stock of two AIG subsidiaries. It is assumed that the total size of the assistance to AIG is unaffected by this restructuring, and thus there is no impact on reserves and the monetary base.

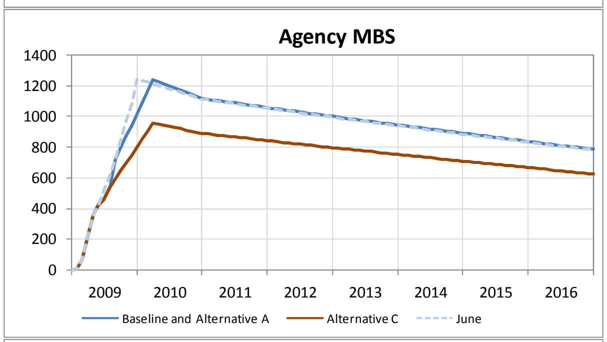
- The U.S. Treasury's general account returns to its historical target level of $5 billion by the end of 2009. This account remains constant at that level over the forecast period.
- The Treasury's Supplementary Financing Account is projected to wind down to zero by the third quarter of 2010, and remain at zero for the rest of the of the forecast period.
- Reverse repurchase agreements with foreign official and international accounts are expected to decrease to $30 billion by the end of 2010 as these funds move to other investments.
- Capital is expected to grow at 15 percent per year, in line with the average rate of the past ten years.
- Reserve balances of depository institutions are assumed to be determined by the evolution of the assets and other liabilities of the Federal Reserve. As the asset side of the balance sheet contracts, so do reserve balances. Over the projection period, reserve balances in the baseline scenario are expected to fall to $91 billion.

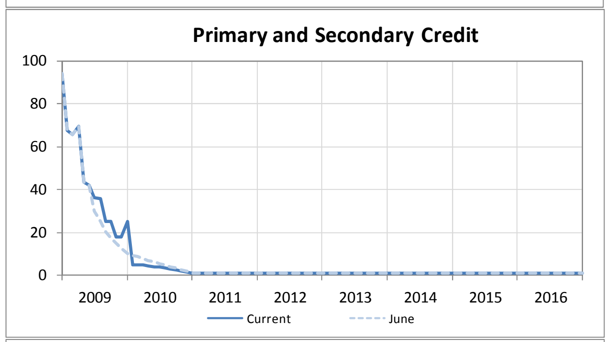
APPENDIX C: INDIVIDUAL BALANCE SHEET ITEM PROFILES

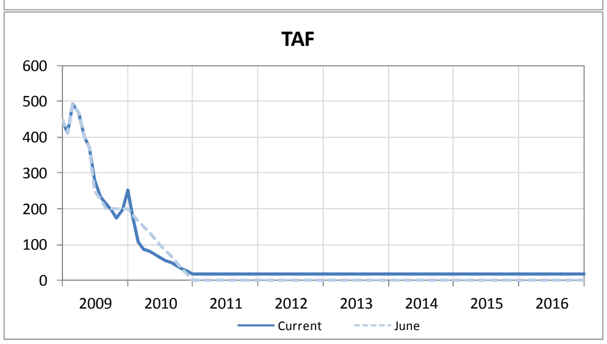
Asset purchases and Federal Reserve liquidity programs and credit facilities

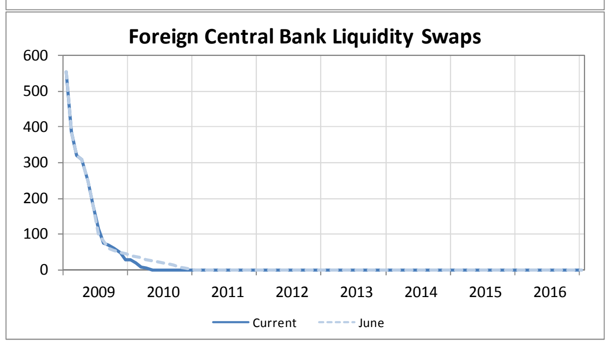


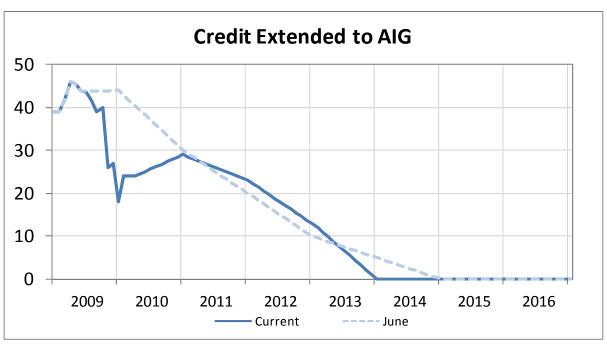


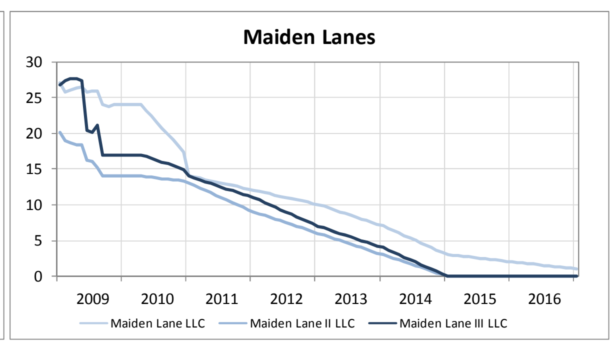








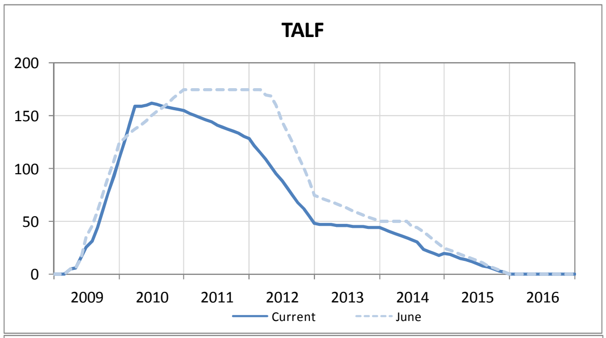


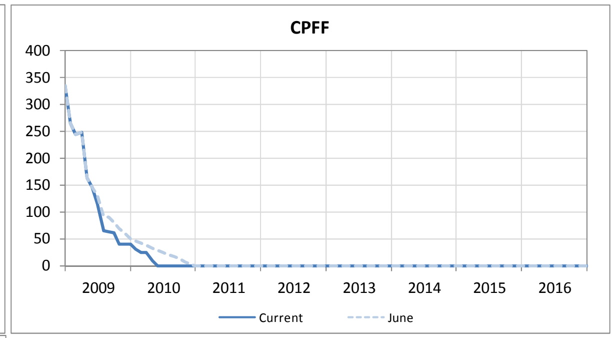


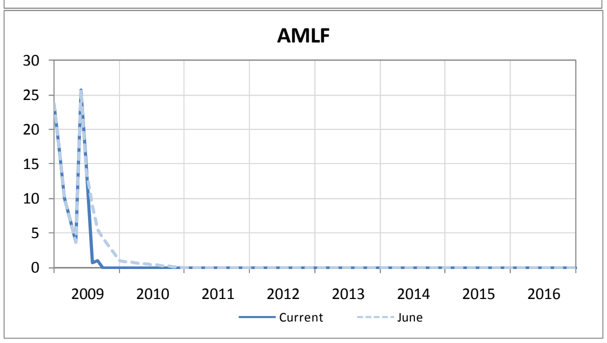
Note: All values are in billions of dollars.

APPENDIX C: INDIVIDUAL BALANCE SHEET ITEM PROFILES, CONTINUED

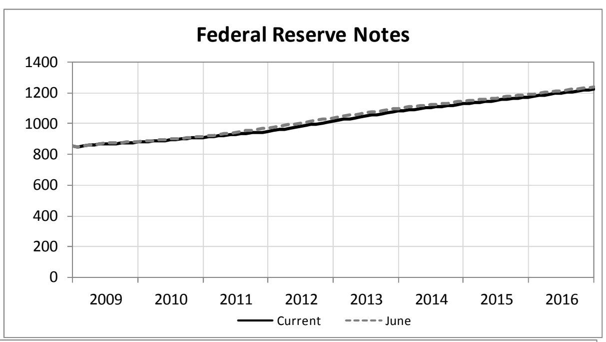
Federal Reserve liquidity programs and credit facilities, continued

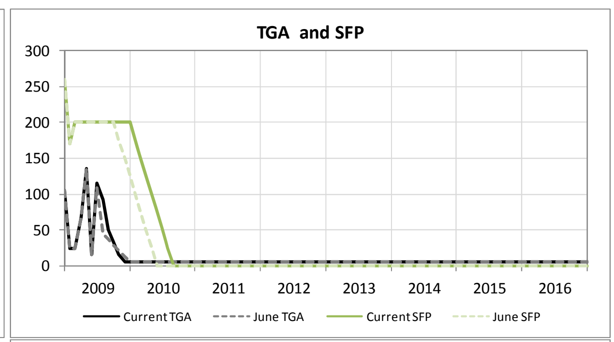


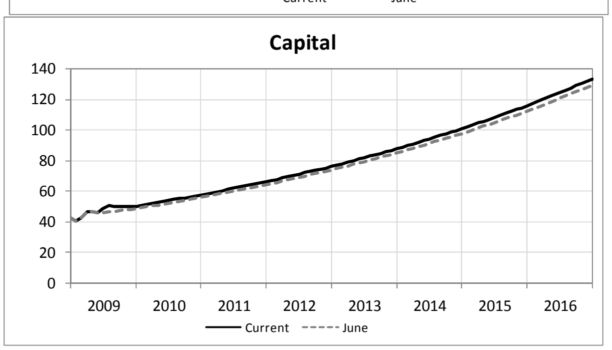


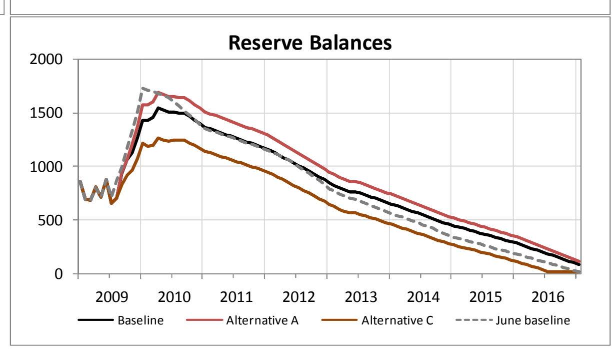


Federal Reserve liabilities and capital









Note: All values are in billions of dollars.

Appendix C: Table
Federal Reserve Balance Sheet: End-of-Year Projections -- Baseline Scenario

	Jul 31, 2009	2009	2010	2011	2012	2013	2014	2015	2016
		End-of-Year							
		$ Billions							
Total assets	1,997	2,599	2,377	2,222	1,989	1,870	1,726	1,627	1,499
Selected assets:									
Liquidity programs for financial firms	346	310	21	21	21	21	21	21	21
Primary, secondary, and seasonal credit	36	25	1	1	1	1	1	1	1
Term auction credit (TAF)	234	255	20	20	20	20	20	20	20
Foreign central bank liquidity swaps	76	30	-	-	-	-	-	-	-
Primary Dealer Credit Facility (PDCF)	-	-	-	-	-	-	-	-	-
Asset-Backed Commercial Paper Money Market Mutual Fund Liquidty Facility (AMLF)	1	-	-	-	-	-	-	-	-
Lending though other credit facilities	97	150	155	129	48	44	20	-	-
Net portfolio holdings of Commercial Paper Funding Facility (CPFF)	66	40	-	-	-	-	-	-	-
Term Asset-Backed Securities Loan Facility (TALF)	31	110	155	129	48	44	20	-	-
Support for specific institutions	104	73	70	55	36	14	3	2	1
Credit extended to AIG	42	18	29	23	13	-	-	-	-
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC	62	55	41	32	23	14	3	2	1
Securities held outright	1,354	1,941	2,006	1,891	1,759	1,665	1,557	1,479	1,351
U.S. Treasury securities	705	775	765	742	680	656	618	595	535
Agency securities	106	150	124	91	79	64	49	47	32
Agency mortgage-backed securities	543	1,016	1,117	1,058	1,000	945	890	837	785
Memo: TSLF	3	75	-	-	-	-	-	-	-
Repurchase agreements	0	0	0	0	0	0	0	0	0
Special drawing rights certificate account	2	27	27	27	27	27	27	27	27
Total liabilities	1,947	2,549	2,320	2,155	1,913	1,782	1,626	1,511	1,366
Selected liabilities:									
Federal Reserve notes in circulation	869	879	912	949	1,017	1,084	1,130	1,176	1,228
Reserve balances of depository institutions	704	1,423	1,361	1,160	849	651	449	288	91
U.S. Treasury, general account	93	5	5	5	5	5	5	5	5
U.S. Treasury, supplemental financing account	200	200	-	-	-	-	-	-	-
Total capital	50	50	58	66	76	87	101	116	133

Source: Federal Reserve H.4.1 statistical release and staff calculations.