Prefatory Note

The attached document represents the most complete and accurate version available based on original files from the FOMC Secretariat at the Board of Governors of the Federal Reserve System.

Please note that some material may have been redacted from this document if that material was received on a confidential basis. Redacted material is indicated by occasional gaps in the text or by gray boxes around non-text content. All redacted passages are exempt from disclosure under applicable provisions of the Freedom of Information Act.

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Class I FOMC – Restricted Controlled (FR)

September 17, 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 continued to become more supportive of economic activity over the intermeeting period. Despite economic data that appeared to be about in line with expectations, Treasury yields declined over the period as statements by policy makers were seen as consistent with a flatter path for interest rates and term premiums apparently fell. Risk spreads narrowed a bit further, and equity prices rose, on net, over the period. On balance, conditions in short-term funding markets showed some additional signs of improvement, and borrowing from Federal Reserve facilities declined further over the intermeeting period. In contrast, bank credit remained very weak, with the runoff particularly notable for business loans. Moreover, spreads on commercial and industrial loan rates increased further to a very high level.

Financial market conditions abroad also improved over the intermeeting period. Equity prices increased in most advanced foreign economies and emerging markets, although they decreased in Japan and China. With several foreign central banks underscoring their commitments to keep interest rates low for an extended period, yields on sovereign debt generally fell. The dollar depreciated against most major currencies.

MONETARY POLICY EXPECTATIONS AND TREASURY YIELDS

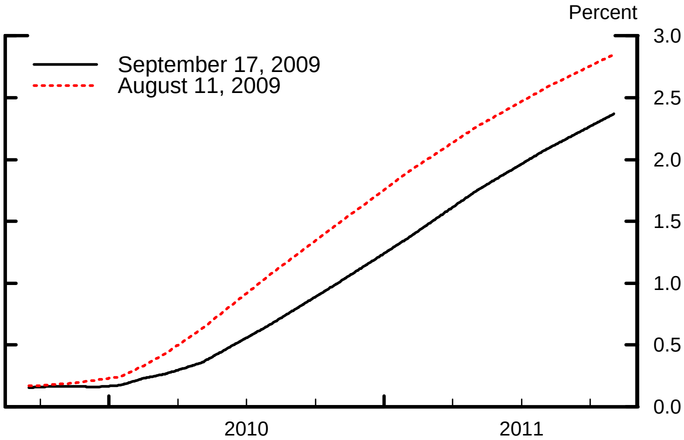
The Committee's statement following the August FOMC meeting was broadly in line with market expectations, and subsequent price action was muted, with both nominal and real Treasury yields edging down. Market participants reportedly took particular note of the reiteration of the "extended period" language, of the indication that "economic activity is leveling out," and of the decision to gradually slow the pace of Treasury securities purchases. Investors also noted the continued discussion of reserve management tools that could be employed in the context of a withdrawal of policy accommodation. The release of the minutes on September 2 also generated little market reaction, although mention of the Committee's discussion about the possible tapering of agency debt and mortgage-backed securities (MBS) purchases garnered attention, as did comments indicating that the economy would likely recover only slowly in the second half of the year. [1]

Futures quotes combined with the staff's standard assumptions about term premiums imply that policy expectations for the second half of 2010 and for 2011 shifted down about 30 to 55 basis points over the intermeeting period (Chart 1). Futures rates now suggest that investors do not expect the first increase in the federal funds target rate until the second quarter of 2010, slightly later than at the time of the last FOMC meeting and closer to expectations obtained from survey data. Indeed, the Desk's September dealer survey results indicated that all but 3 of the 17 respondents expect the first target rate increase to occur during or after the third quarter of 2010. This prediction was essentially unchanged from the August survey; the lack of change – along with a decline in policy uncertainty measured from implied volatility from options

[1] The effective federal funds rate averaged 0.15 percent over the intermeeting period. Trading volumes were roughly constant throughout the period, and the intraday standard deviation averaged 4 basis points. Market participants speculated recently that the impending decline in the Treasury's supplementary financing account and the resulting increase in reserve balances may put some downward pressure on the effective federal funds rate.

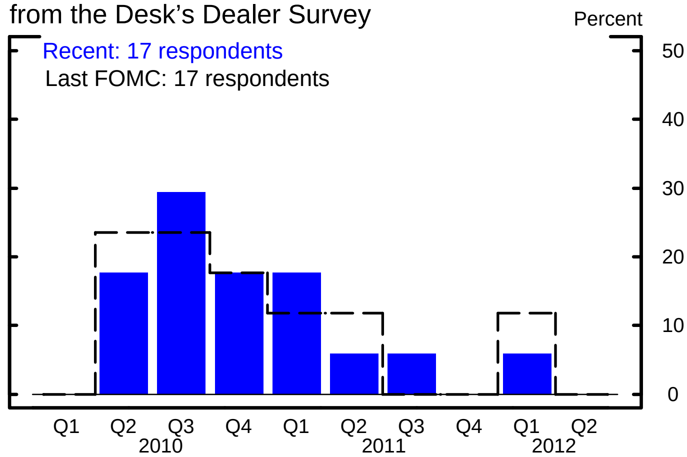
Chart 1
Interest Rate Developments

Expected federal funds rates



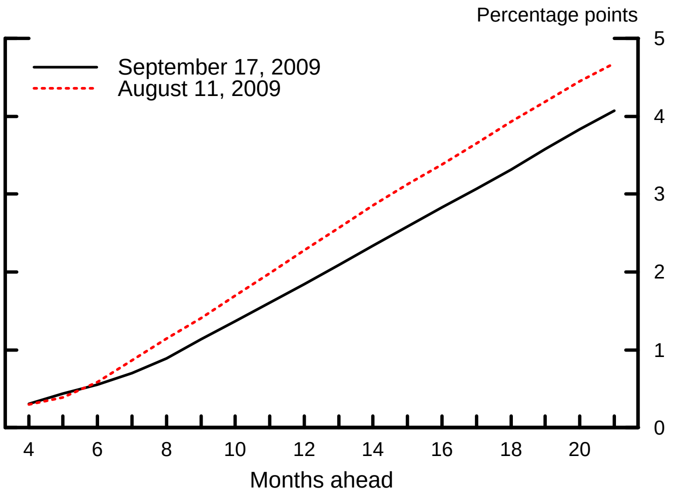
Note. Estimates from federal funds and Eurodollar futures, with an allowance for term premiums and other adjustments.
Source. CME Group.

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



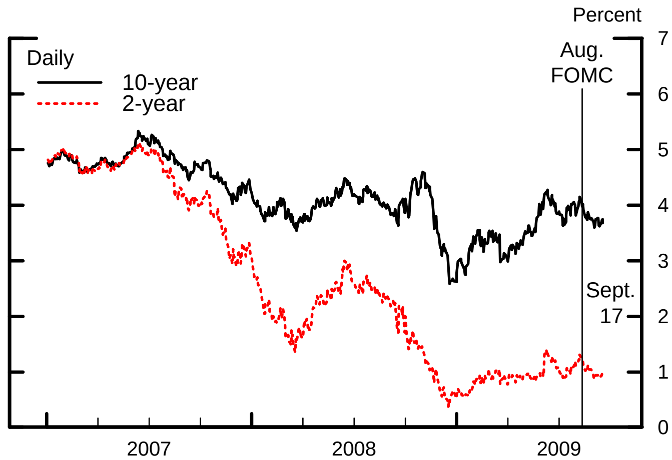
Source. Federal Reserve Bank of New York.

Eurodollar implied volatility term structure*



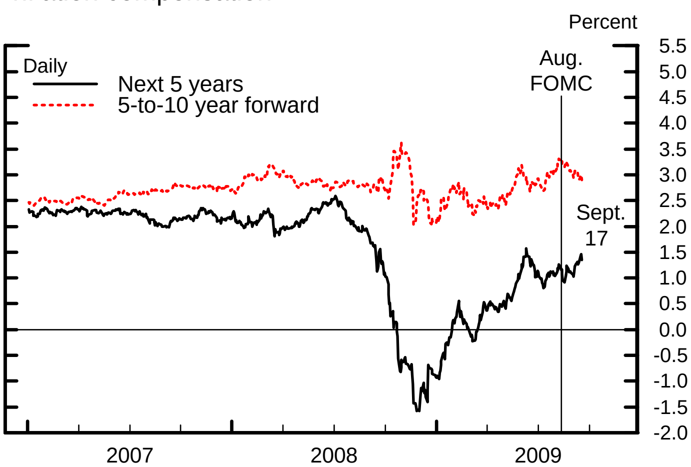
*Width of a 90 percent confidence interval computed from the term structures for the expected federal funds rate and implied volatility.
Source. Bloomberg.

Nominal Treasury yields



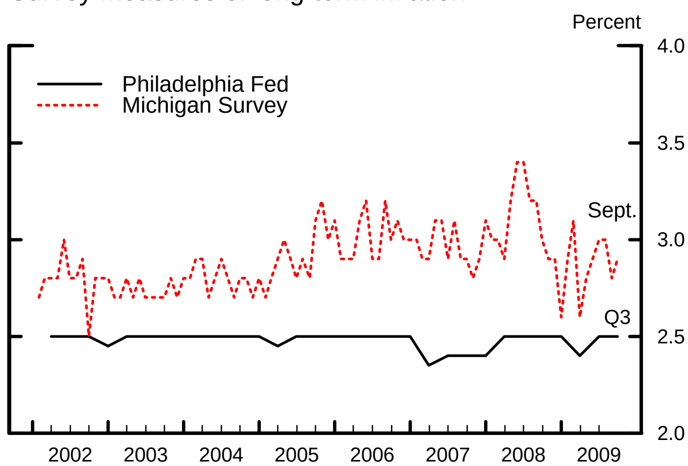
Note. Par yields from a smoothed nominal off-the-run Treasury yield curve.
Source. Staff estimates.

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. and Staff estimates.

Survey measures of long-term inflation



Source. Survey of Professional Forecasters; Reuters/University of Michigan.

on interest rate futures – suggests that at least part of the decline in the policy path owed to lower term premiums, which are not captured in staff models.

Nominal Treasury yields declined, on net, across the curve over the intermeeting period. Against the backdrop of weak economic activity and a benign outlook for inflation, investors may have simply concluded that a lower path of interest rates would be more consistent with the likely pace of economic recovery. As with shorter-term rates, however, some of the decline in longer-term yields may have reflected lower term premiums.

Yields on five-year Treasury inflation-protected securities fell more than their nominal counterparts, leaving five-year inflation compensation 20 basis points higher, while five-year inflation compensation five years ahead declined by roughly 35 basis points. The reduction in forward inflation compensation unwound some of the run-up in this measure over the preceding intermeeting period. Staff models indicate that recent fluctuations in this measure mainly reflect changes in liquidity and inflation risk premiums rather than changes in inflation expectations. Readings on long-term inflation expectations from surveys were about flat over the period.

Auctions of $254 billion in Treasury coupon securities across the term structure were conducted during the intermeeting period. Most auctions were well received, with stop-out rates close to or lower than when-issued rates just prior to the auctions and bid-cover ratios near or above average. Indirect bidding participation continued to be strong, led by demand from foreign accounts and investment funds.

CAPITAL MARKETS

Broad equity indexes rose about 6 to 10 percent, on net (Chart 2). Implied volatility as measured by the VIX ended the period a bit lower. The equity risk premium – measured by the staff's estimate of the expected real equity return over the next ten years relative to the real ten-year Treasury yield – edged down over the period, but remains elevated.

Developments regarding banks were mixed over the period. While equity prices for large banks rose 10 percent, stock prices for regional and smaller banks were about unchanged. Market participants reportedly continue to be concerned about smaller institutions' exposure to the commercial real estate sector. In addition, 21 depository institutions failed over the intermeeting period, likely contributing further to the reduction in investor confidence in smaller banks. Meanwhile, CDS spreads for banks were about unchanged on balance over the period. Despite the fact that spreads on nonguaranteed senior unsecured debt increased somewhat over the period, issuance continued in August at roughly the rate posted in July. While none of the debt issued in August carried an FDIC guarantee, so far in September, one firm, Citigroup, has issued $5 billion in FDIC-guaranteed debt.[2]

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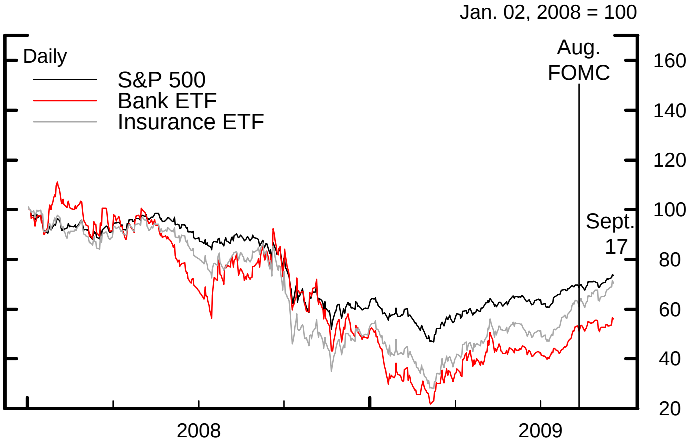
[2] On September 9, the FDIC issued a notice of proposed rulemaking presenting an option for extending the Debt Guarantee Program (DGP), a component of the Temporary Liquidity Guarantee Program. Under the option, the DGP would expire as indicated in the current regulation; however, the FDIC would establish a limited six-month emergency guarantee facility under which the FDIC would guarantee senior unsecured debt issued on or before April 30, 2010. Market participants reportedly noted that use of the emergency guarantee facility would likely be very limited as the high participation cost and stringent application requirements would attach significant stigma to its use.

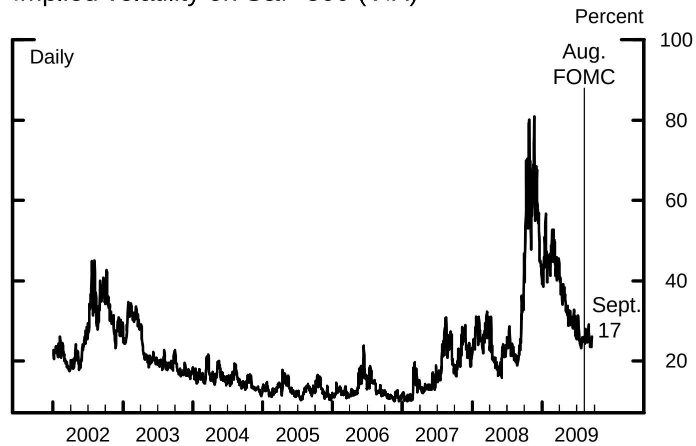
Chart 2
Asset Market Developments

Equity prices



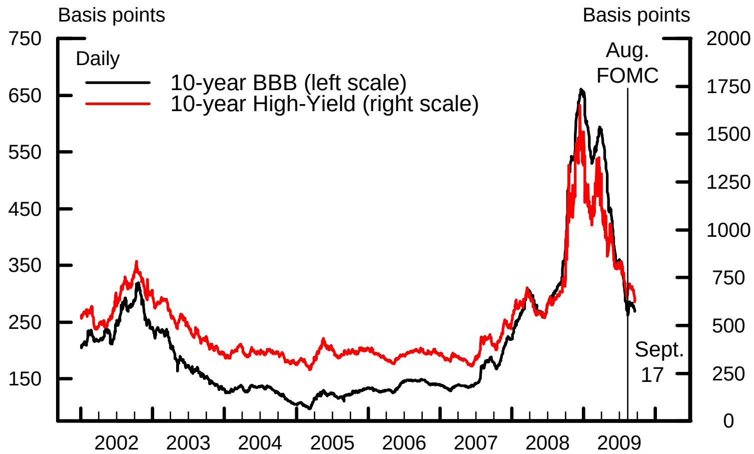
Note. There are 24 banks included in the Bank ETF and 24 insurance companies included in the Insurance ETF.
Source. Keefe Bruyette & Woods (KBW) and Bloomberg.

Implied volatility on S&P 500 (VIX)



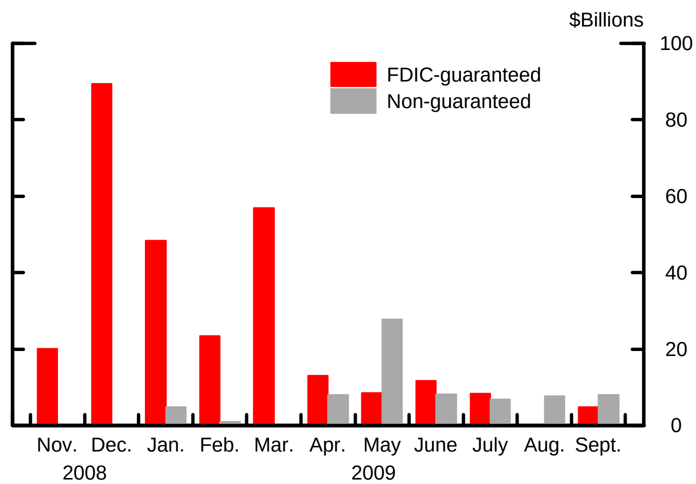
Source. Chicago Board Options Exchange.

Corporate bond spreads



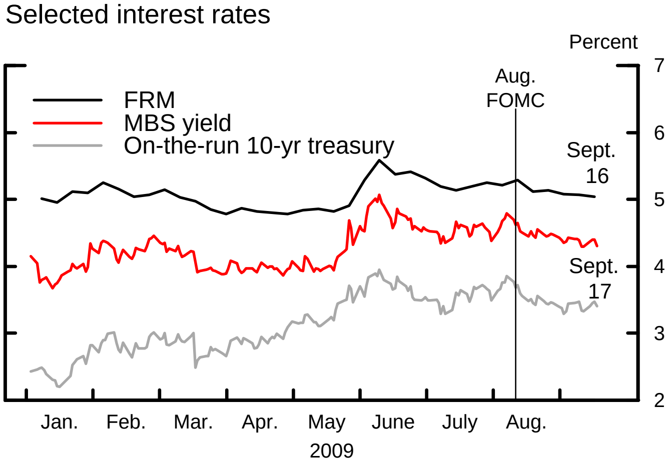
Note. Measured relative to an estimated off-the-run Treasury yield curve.
Source. Merrill Lynch and Staff estimates.

Senior unsecured debt issuance



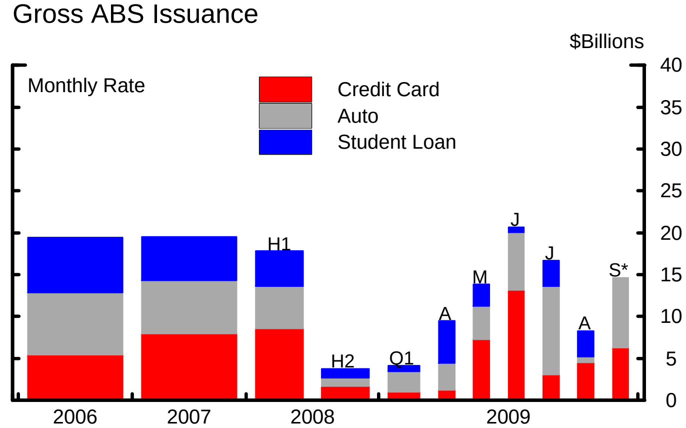
Note. September issuance is through September 17.
Source. Bloomberg and Staff estimates.

Selected interest rates



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

Gross ABS Issuance



*Actual issuance as of September 11, 2009.
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.

In the broader corporate bond market, risk spreads edged down further over the period. While indexes of investment-grade corporate CDS spreads ended the period little changed on balance, those of speculative-grade CDS spreads narrowed appreciably. Municipal bond yields declined, on net, resulting in very little change in the ratio of municipal bond yields to those on comparable-maturity Treasury securities.

The new-issue market for commercial mortgage-backed securities remained closed as conditions in the commercial real estate sector continued to be quite weak. Commercial property prices fell further in the second quarter, reaching a level about one-third below their peak in 2007. Delinquencies on commercial mortgages held by banks continued to rise in the second quarter, and the delinquency rate on securitized commercial mortgages remained near its historical high in July. Commercial real estate sales ticked up in August but remained well below historical norms. Indexes of CDS spreads on AAA tranches of commercial mortgages were little changed on net, over the intermeeting period.

Interest rates on 30-year conforming fixed-rate residential mortgages retraced a portion of the increase recorded in the late spring and ended the intermeeting period at about 5 percent, down roughly 20 basis points over the intermeeting period. Yields on agency MBS also trended down in line with the yields on Treasury securities. Reflecting the lower interest rates on mortgages early this spring, issuance of MBS by the housing-related GSEs remained very strong in July.

In the consumer sector, spreads on AAA-rated consumer-loan asset-backed securities (ABS) have now retraced almost entirely the run-up seen over the past year. Delinquencies on consumer loans remained elevated, and charge-offs on such loans at commercial banks increased further in the second quarter. Gross issuance of consumer-loan ABS proceeded at a pace well above that recorded earlier in the year, and issuance (at least in some sectors) appeared to be somewhat less reliant on Term Asset-Backed Securities Loan Facility (TALF) financing. Despite the improved conditions in ABS markets, overall consumer credit registered a noteworthy decline in July, contracting at a 10½ percent annual rate, after falling at a 6½ pace in the second quarter.

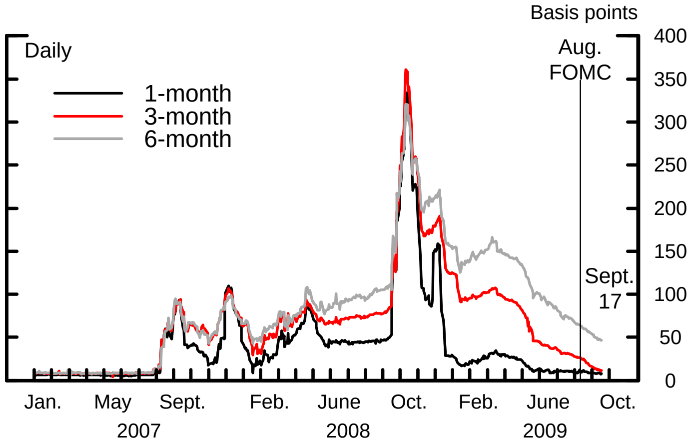
MARKET FUNCTIONING

Functioning and liquidity improved modestly or held steady in most financial markets over the intermeeting period. Spreads between Libor and overnight index swaps (OIS) at the three- and six-month maturities narrowed somewhat further; however, tiering in the interbank market reportedly remained substantial (Chart 3). Bid-asked spreads and haircuts for most types of repurchase agreements were little changed, and no bids were submitted at either of the Term Securities Lending Facility auctions during the period. Spreads on A2/P2-rated commercial paper and AA-rated asset-backed commercial paper fluctuated near the bottom of the ranges established since the beginning of the crisis. Average fitting errors in staff yield curve models for nominal Treasury issues were little changed, but those for TIPS securities declined further. Trading volume for Treasury securities was little changed, but remained relatively low.

Some improvements in functioning and liquidity were also evident in the corporate bond market. The median estimated bid-asked spreads for both speculative- and investment-grade bonds edged lower, and the average range of CDS dealer contributions narrowed a bit further. However, the basis between

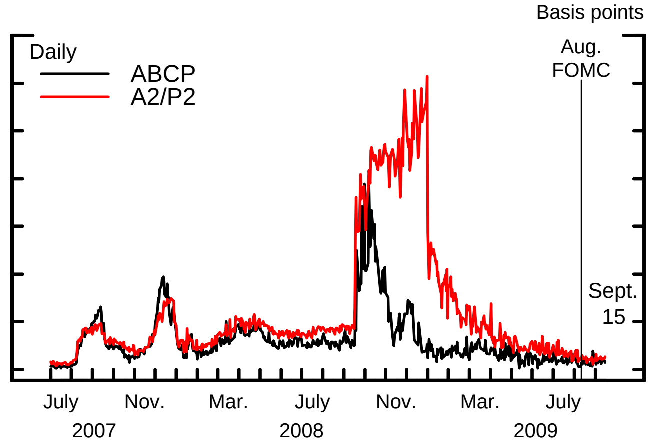
Chart 3
Market Functioning

Spreads of Libor over OIS



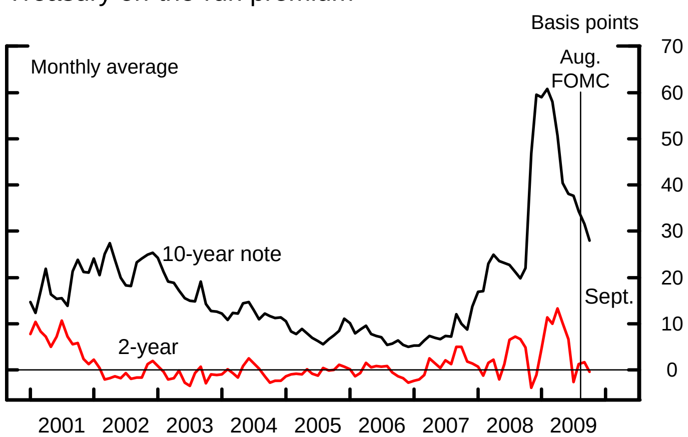
Note. Libor quotes are taken at 6:00 a.m., and OIS quotes are observed at the close of business of the previous trading day.
Source. Bloomberg.

Spreads on 30-day commercial paper



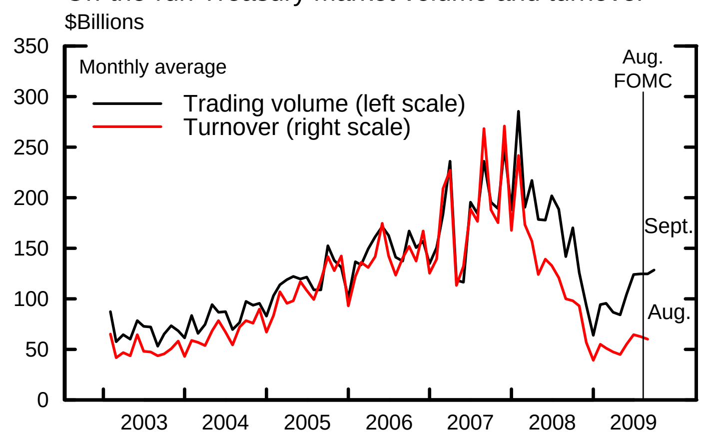
Note. The ABCP spread is the AA ABCP rate minus the AA nonfinancial rate. The A2/P2 spread is the A2/P2 nonfinancial rate minus the AA nonfinancial rate.
Source. Depository Trust & Clearing Corporation.

Treasury on-the-run premium



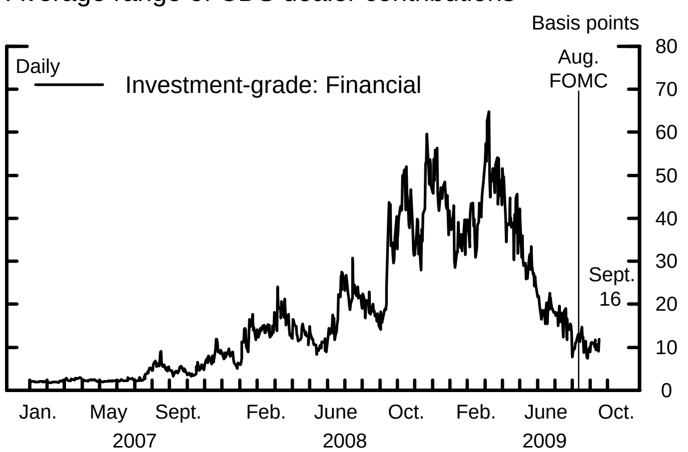
Note. Computed as the spread of the yield read from an estimated off-the-run yield curve over the on-the-run Treasury yield. September observation is the month-to-date average.
Source. Staff estimates.

On-the-run Treasury market volume and turnover



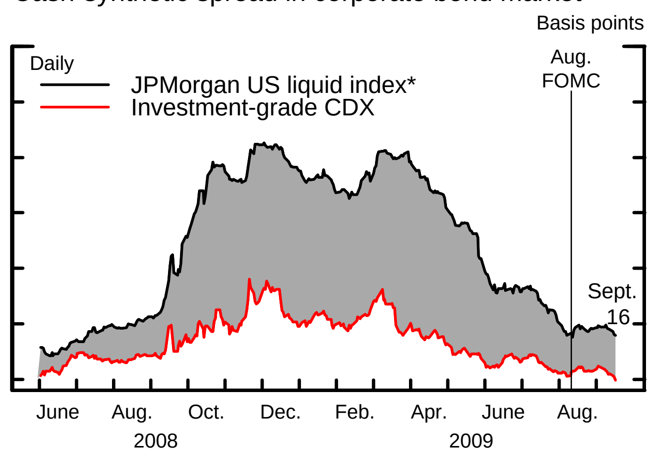
Note. Turnover is trading volume divided by total outstanding at the end of the month. September observation for trading volume is the month-to-date average.
Source. BrokerTec Interdealer Market Data and Bloomberg.

Average range of CDS dealer contributions



Source. Markit.

Cash-synthetic spread in corporate bond market



*Spread to swaps.
Source. JPMorgan.

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 – was little changed at a level that remains somewhat high by historical standards.

Total Federal Reserve assets increased about $135 billion over the intermeeting period as increased holdings of securities outpaced declines in credit supplied through liquidity and credit facilities. (See box entitled "Balance Sheet Developments during the Intermeeting Period.) Reflecting further improvements in market conditions, the Federal Reserve announced that the amount offered at the September Term Auction Facility (TAF) auctions would be reduced another $25 billion to $75 billion. For the two auctions that took place over the intermeeting period, propositions continued to fall short of the amounts offered, and the auctions stopped out at their minimum bid rates. The TALF was the only facility to register an increase over the period. The $6.5 billion in loans issued under the September 3 TALF operation supported roughly $16.8 billion in ABS issuance; this ratio is the lowest ratio of TALF support to issuance to date. The low ratio partly reflects the narrowing of ABS spreads. In addition, a large proportion of the deals were backed by prime auto loans, which have tended to rely less on TALF financing.

BANK CREDIT, DEBT, AND MONEY

Total assets at commercial banks decreased at an average annual rate of almost 12 percent in July and August, as declines in bank credit more than offset a significant increase in cash assets that owed to higher levels of reserves. Indeed, bank credit continued to contract rapidly in August, declining at nearly an 11 percent annual rate. As in July, all major loan components decreased. Commercial and industrial (C&I) loans dropped at a 28 percent annual pace

Balance Sheet Developments during the Intermeeting Period

Since the August FOMC meeting, the Federal Reserve's total assets edged up to about $2.1 trillion.[1] As a result of ongoing asset purchases, securities held outright increased by $191 billion, which more than offset the $60 billion decline in lending through liquidity and credit facilities.

The Open Market Desk purchased $34 billion in Treasury securities, $15 billion in agency debt securities, and $142 billion in agency mortgage-backed securities (MBS) during the intermeeting period.[2,3] In contrast, most of the System's other liquidity and credit programs contracted further, reportedly due to improvements in global bank funding markets and market participants' desire to reduce their reliance on government sponsored programs for funding. Term auction credit declined $38 billion, foreign central bank liquidity swaps declined $14 billion, and primary credit declined $5 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 to zero.

Use of facilities supporting money funds and the commercial paper market also declined as a result of improvements in market conditions. Credit extended by the Commercial Paper Funding Facility (CPFF) decreased $15 billion. Loans made under the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) fell by $35 million to $79 million. Term Asset-Backed Securities Loan Facility (TALF) loans increased $14 billion over the intermeeting period. Roughly $7 billion of this increase represents loans extended under the TALF operation conducted on August 6, 2009 and settled on August 13, 2009. The two TALF operations conducted during the intermeeting period were also of relatively modest size. The first loan subscription, totaling $2.1 billion, funded legacy commercial mortgage-backed securities (CMBS). The second loan subscription, totaling $6.5 billion, financed issuance of asset-backed securities collateralized by auto, credit card, student, small business, and mortgage-servicing-advance loans.

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[1] These data are through September 16, 2009.
[2] The figures for securities holdings reflect only trades that have settled. Over the intermeeting period, the Open Market Desk committed to purchase, but has not settled, an additional $113 billion of MBS, on net.
[3] On August 17, the Federal Reserve Bank of New York announced that it reduced the number of external investment managers for the agency mortgage-backed securities purchase program from four to two; one investment manager provides trade execution and the other provides analysis. The first settlement with one external investment manager went smoothly. On September 1, the Open Market Desk began to accept on-the-run agency debt securities for purchase in order to mitigate market dislocations and promote overall market functioning.

On the liability side of the Federal Reserve's balance sheet, the U.S. Treasury's general account decreased $30 billion. The Treasury's supplementary financing account remained unchanged at $200 billion, but the Treasury announced its intention to reduce supplementary financing balances over the next several weeks to preserve flexibility in conducting debt-management policy as outstanding debt approaches the federal debt ceiling. Reserve balances of depository institutions increased $101 billion over the intermeeting period.

Federal Reserve Balance Sheet

Billions of dollars

	Change since last FOMC	Current (09/16/2009)	Maximum level	Date of maximum level
Total assets	**133**	**2,143**	**2,256**	**12/17/08**
Selected assets:				
Liquidity programs for financial firms	-57	286	1,247	11/06/08
Primary, secondary, and seasonal credit	-5	29	114	10/28/08
Term auction credit (TAF)	-38	196	493	03/11/09
Foreign central bank liquidity swaps	-14	61	586	12/04/08
Primary Dealer Credit Facility (PDCF)	0	0	156	09/29/08
Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF)	0	0	152	10/01/08
Lending through other credit facilities	-1	87	351	01/23/09
Net portfolio holdings of Commercial Paper Funding Facility LLC (CPFF)	-15	43	351	01/23/09
Term Asset-Backed Securities Loan Facility (TALF)	14	44	44	09/11/09
Support for specific institutions	-2	101	118	04/02/09
Credit extended to AIG, net	-2	39	91	10/27/08
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC	0	61	75	12/30/08
Securities held outright*	191	1,570	1,570	09/16/09
U.S. Treasury securities	34	760	791	08/14/07
Agency securities	15	125	125	09/16/09
Agency mortgage-backed securities**	142	685	685	09/16/09
Memo: Term Securities Lending Facility (TSLF)	-3	0	236	10/01/08
Total liabilities	**133**	**2,092**	**2,213**	**12/04/08**
Selected liabilities:				
Federal Reserve notes in circulation	2	874	877	09/09/09
Reserve balances of depository institutions	101	863	955	05/20/09
U.S. Treasury, general account	30	72	137	10/23/08
U.S. Treasury, supplemental financing account	0	200	559	10/22/08
Other deposits	0	0	53	04/14/09
Total capital	**0**	**51**	**53**	**09/15/09**

* Par value.

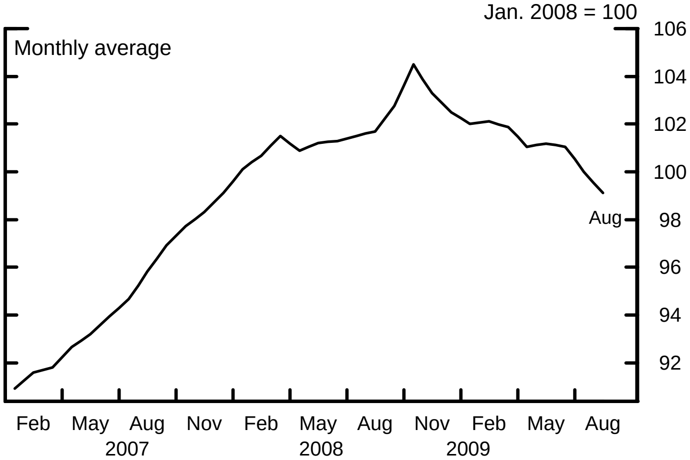
** Includes only mortgage-backed security purchases that have already settled. Over the intermeeting period, the Open Market Desk committed to purchase an additional $113 billion of MBS, on net.

(Chart 4). Market commentary suggests bank loan demand remained weak in part because proceeds from a portion of high-yield bond issuance were used to repay leveraged loans. In addition, according to the results of the Survey of Terms of Business Lending conducted in August, the weighted-average spread of C&I loan rates over comparable-maturity market rates increased further. However, the average spread on loans to the subset of lower-risk borrowers edged down. The contraction in commercial real estate lending intensified last month, with large decreases posted by both large and small domestic banks. Some large banks reported substantial originations of residential mortgages, but that development was more than offset by increased sales of such loans to the GSEs, resulting in a 15 percent annualized decrease in on-balance-sheet holdings in August. Home equity and consumer loans also continued to fall. Consistent with the recent runoff in total assets, banks shed managed liabilities again in August.

Debt of the private domestic nonfinancial sector is estimated to have run off at an annual rate of 1¾ percent in the second quarter, as the levels of both household and nonfinancial business debt fell. Household mortgage debt declined at an annual rate of about 1½ percent in the second quarter while nonmortgage consumer credit shrank at an annual rate of 6½ percent. On net, nonfinancial debt financing likely stepped down again in August, as sizable issuance of nonfinancial bonds was more than offset by the decrease in C&I lending. Net issuance of commercial paper was about flat as firms apparently continued to substitute toward longer-term financing. Federal government debt growth remained elevated, while state and local government borrowing picked up with the improved conditions in the municipal bond market.

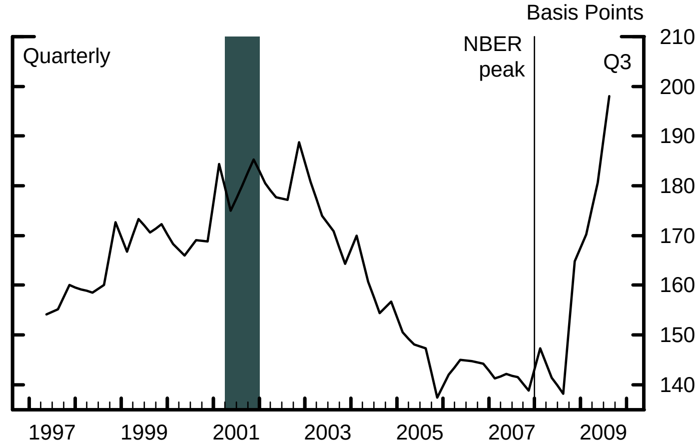
Chart 4
Debt and Money

Bank credit



Source. Federal Reserve.

C&I loan rate spreads*



Source: Survey of Terms of Business Lending.
*The spread over market interest rate on an instrument of comparable maturity adjusted for changes in non-price loan characteristics.

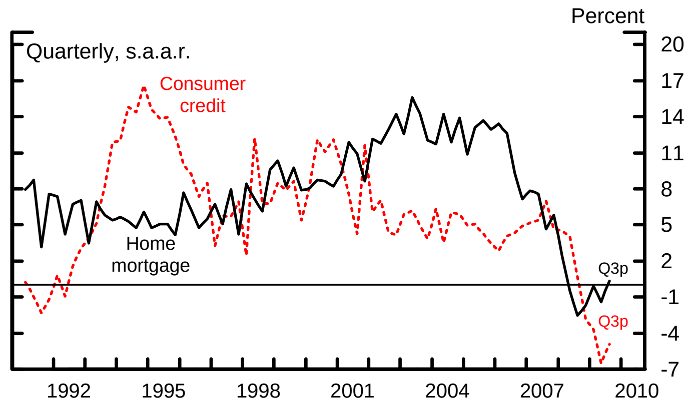
Growth of debt of nonfinancial sectors

Percent, s.a.a.r.

	Total	Business	Household	Government
2007	8.7	13.5	6.6	6.1
2008	6.0	5.4	0.3	17.5
Q1	5.4	7.8	3.0	6.7
Q2	3.3	6.4	0.3	4.4
Q3	8.2	5.1	-0.5	28.6
Q4	6.4	1.8	-1.7	26.7
2009				
Q1	4.1	-0.2	-1.1	18.0
Q2	4.8	-1.8	-1.7	23.2
Q3p	4.1	-1.5	-0.3	17.0

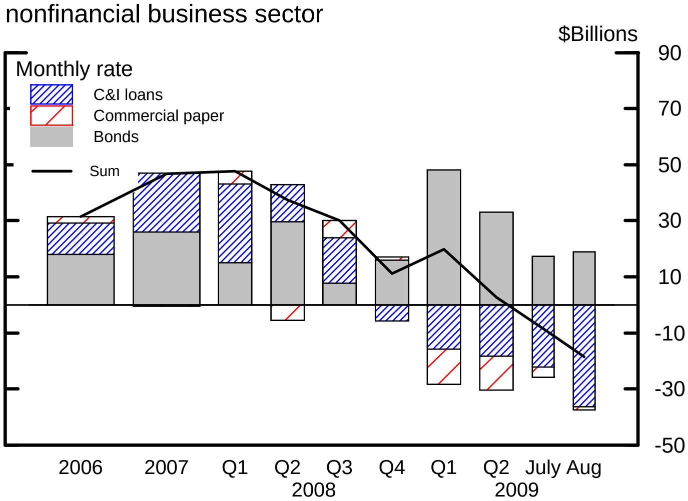
Source. Flow of Funds.
p Projected.

Growth of debt of household sector



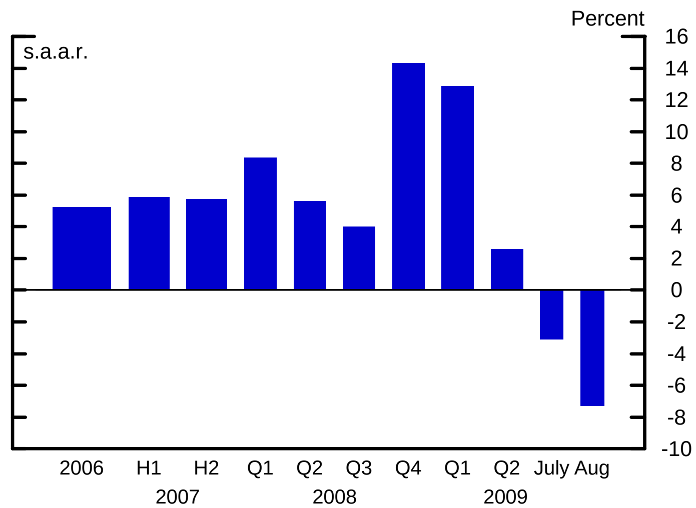
Source. Flow of Funds, Federal Reserve G.19 release.
p Projected.

Changes in selected components of debt of nonfinancial business sector



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.

Growth of M2



Source. Federal Reserve.

Overall, domestic nonfinancial sector debt is estimated to have increased at an annual rate of 4¾ percent in the second quarter, up from 4 percent in the first quarter. In the third quarter, domestic nonfinancial debt is projected to expand at annual rate of 4 percent, with household and nonfinancial business debt contracting further and government borrowing remaining rapid.

The contraction in M2 steepened in August. (See box "Why Is Money Growth So Weak?") The expansion in liquid deposits slowed further, and runoffs in small time deposits and retail money market mutual funds accelerated, likely in part a result of investors' increased appetite for riskier assets as the economy shows signs of recovery. Currency expanded in recent months at much slower rates than in the fourth quarter of 2008 and the first quarter of 2009. Staff estimates suggest this deceleration caused by a moderation in foreign demand for U.S. banknotes coupled with solid domestic demand. The monetary base increased at about a 9 percent annual rate on balance over July and August as Federal Reserve asset purchases more than offset declining usage of most Federal Reserve liquidity and credit facilities.

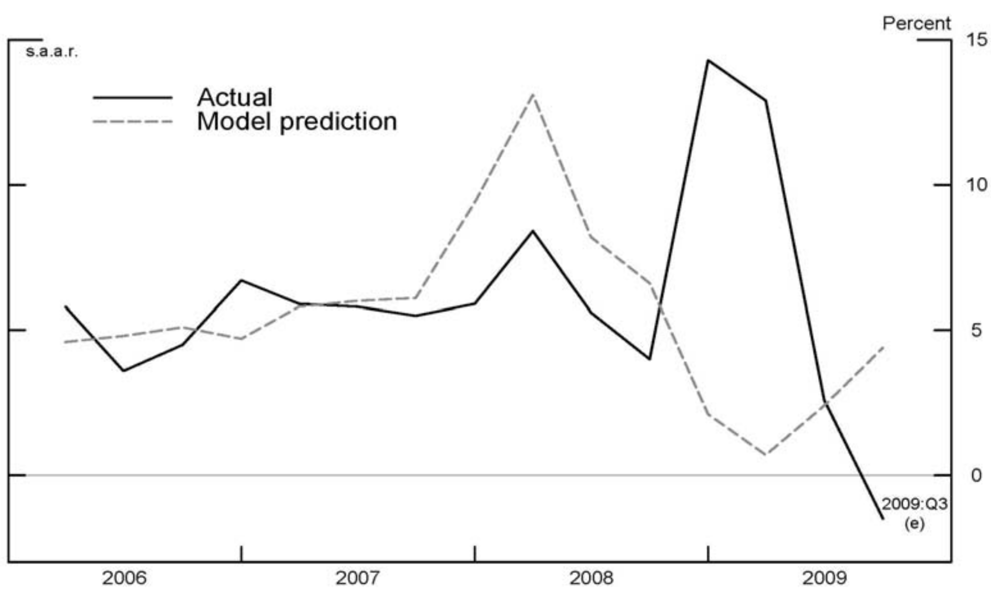
Foreign Developments

The trade-weighted index of the exchange value of the dollar against the major foreign currencies has declined 2½ percent since August 10. Most of this depreciation occurred recently and may be attributable in part to investors' reduced perceptions of risk. In contrast, the exchange value of the dollar against the currencies of our other important trading partners has increased slightly over the period, as the dollar has appreciated 2½ percent against the Mexican peso. This appreciation came after the Bank of Mexico signaled that it would scale back its foreign exchange intervention.

Why Is Money Growth So Weak?

M2 grew at a tepid pace in the second quarter of this year and contracted appreciably over July and August. Steep declines in small time deposits and retail money market mutual funds (MMMFs) accounted for the contraction; liquid deposits and currency, while still growing moderately, also decelerated from their earlier pace. As shown in the figure, this recent behavior follows robust money growth late last year and early in 2009 (the solid line). In general, the recent weakness (and prior strength) of M2 growth cannot be explained by a model based on the historical relationships of M2 with nominal income and opportunity costs (model predictions portrayed by the dashed line). Instead, two factors appear to account for the recent low growth. First, declining bank credit and revised rules regarding deposit insurance premiums have likely led banks to bid less aggressively for deposits than they had in the past.[1] Second, with financial markets healing, the appetite for risk among investors evidently recovering, and returns on M2 assets quite low, households are apparently reallocating their wealth away from the relative safety and liquidity of M2 assets.

M2 Growth Rate



[1] As of the second quarter of 2009, the FDIC began including brokered deposits in excess of 10 percent of an institution's domestic deposits in the metrics used to price an institution's deposit insurance.

As shown in Table 1, the expansion in liquid deposits, the largest component of M2, picked up late last year amid the turmoil in financial markets. Growth remained robust through the second quarter of 2009 as the FDIC's Temporary Liquidity Guarantee Program (TLGP), which provides unlimited insurance on non-interest-bearing transaction accounts at participating banks, likely made such deposits especially attractive to depositors during the crisis.[2] Small time deposits also surged in late 2008, as some depository institutions bid aggressively for these funds amid strained conditions in wholesale funding markets. Later, as conditions in funding markets began to improve, and as banks began to shrink their balance sheets, rates offered on these deposits fell and small time deposits began to contract. Similarly, as MMMF rates hovered near zero, balances at such funds ran off sharply. Thus, the shift away from M2 assets is likely being boosted by the exceptionally low rates paid on M2 deposits. Notably, the outflows from M2 have coincided with robust flows into long-term mutual funds, especially bond funds.

Table 1: Growth of M2 and Major Components

(percent, seasonally adjusted annual rate)

	M2	Liquid Deposits[1]	Small Time Deposits	Retail MMMF	Currency
2008:Q1	8.4	6.9	2.0	30.7	-1.2
2008:Q2	5.6	6.8	-3.1	12.6	3.1
2008:Q3	4.0	3.2	11.6	-2.8	7.1
2008:Q4	14.3	9.8	35.5	9.3	13.7
2009:Q1	12.9	20.6	0.2	-7.6	16.0
2009:Q2	2.6	12.6	-16.3	-23.9	6.9
July – August 2009	-5.2	6.0	-29.6	-43.0	3.7
Memo: Level, August 2009 ($B)	8,298	5,317	1,218	899	858

[1] Includes non-interest bearing transaction accounts (demand deposits), other checkable deposits, and savings accounts (including money market deposit accounts, or MMDAs).

The recent decline in M2 deposits is consistent with commercial banks' reduced funding needs. Loans on banks' books have contracted steeply this year in response to weak loan demand and tight lending standards and terms, and banks' securities holdings have expanded only modestly. As a result, banks have pared

[2] Funds swept from noninterest-bearing transaction accounts to noninterest-bearing savings accounts are also covered by the TLGP.

their managed liabilities considerably over the course of the year, and M2 deposits at banks have edged back, on average, since mid-year.

Table 2: Growth of Commercial Bank Sources and Uses of Funds

(percent, seasonally adjusted annual rate)

	Sources			Uses			*Memo:*
	M2 Deposits[1]	Managed Liabilities[2]	All Other[3]	Loans	Securities	All Other[4]	Total Assets[5]
2008:Q1	3.9	11.9	25.1	12.4	0.5	20.6	11.3
2008:Q2	3.9	3.5	-9.3	1.5	1.2	6.2	0.9
2008:Q3	7.9	3.0	-6.4	2.3	7.3	9.3	3.1
2008:Q4	18.8	37.7	6.2	2.0	18.1	104.1	22.9
2009:Q1	14.5	-25.5	3.2	-7.1	-0.3	8.9	-2.6
2009:Q2	9.1	-15.2	-12.3	-6.6	6.4	-5.6	-3.8
July – August 2009	-0.3	-15.1	-33.6	-18.2	7.6	-14.2	-11.7
Memo: Level, August 2009 ($B)	5,653	3,890	2,264	6,886	2,315	2,798	11,807

[1] Includes liquid and small time deposits at commercial banks. Based on weekly data reported on Wednesdays that exclude primary obligations.

[2] Includes large time deposits, net due to related foreign offices, and nonbank borrowing (including from the Federal Reserve).

[3] Includes borrowings from banks, some trading liabilities, and equity.

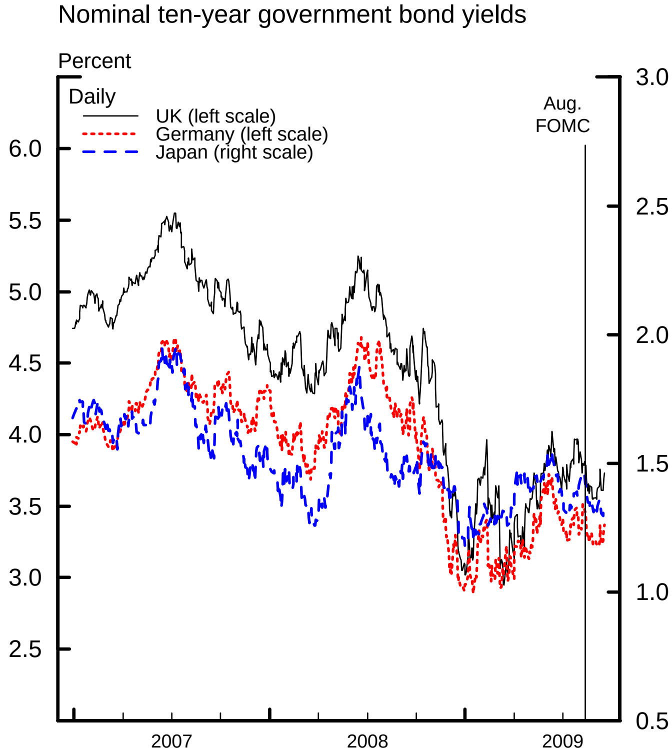
[4] Includes interbank loans, cash (including reserve balances), trading assets, and other assets.

[5] Unlike loans, total assets are net of banks’ allowance for loan and lease losses, which currently stands at about $192 billion.

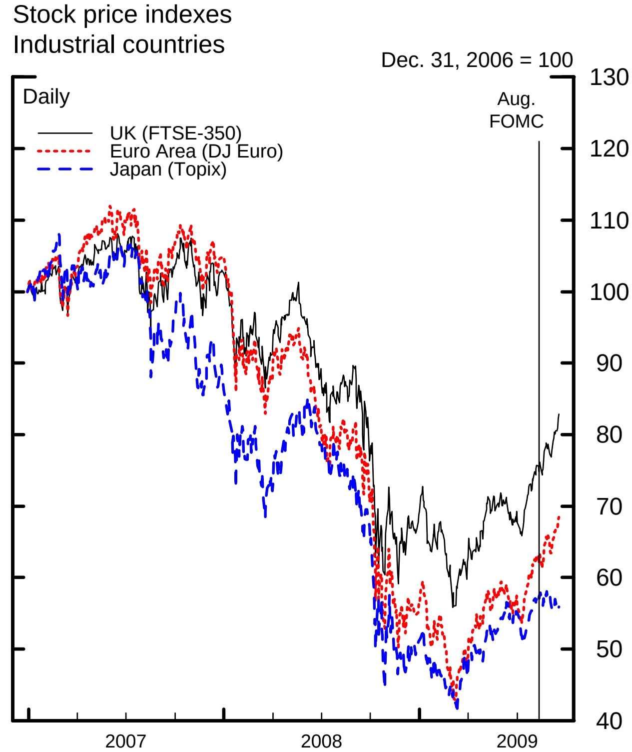
Headline stock indexes in Europe increased about 9 percent, which market participants partly attributed to upbeat economic data releases, but the Japanese stock market was down about 3 percent. CDS spreads on emerging market sovereign debt declined moderately, and equity prices in most major emerging market economies rose. One exception is China's A-shares, which declined about 6 percent. Part of this decline was associated with media reports that authorities were taking actions to moderate the pace of loan growth in China.

Despite the release of upbeat economic indicators, expected policy rates over the next two years and sovereign yields declined in most major industrial economies (Chart 5). Market participants attributed part of these movements to major central banks emphasizing their commitments to keeping interest rates low. The European Central Bank left its main policy rate unchanged at 1 percent, as expected, but surprised markets by announcing that it will offer banks twelve-month funds at only 1 percent at its upcoming long-term refinancing operation. The Bank of England (BoE) released its quarterly Inflation Report, which market participants interpreted as more pessimistic than had been expected on the outlook for recovery. In connection with the release, Governor King expressed concern that the remuneration of all reserves at Bank Rate, introduced along with its quantitative easing program in March, created a disincentive for banks to turn those reserves into other assets. Some market participants expect the BoE to revert to a framework in which reserves exceeding a particular level are remunerated at a penalty.

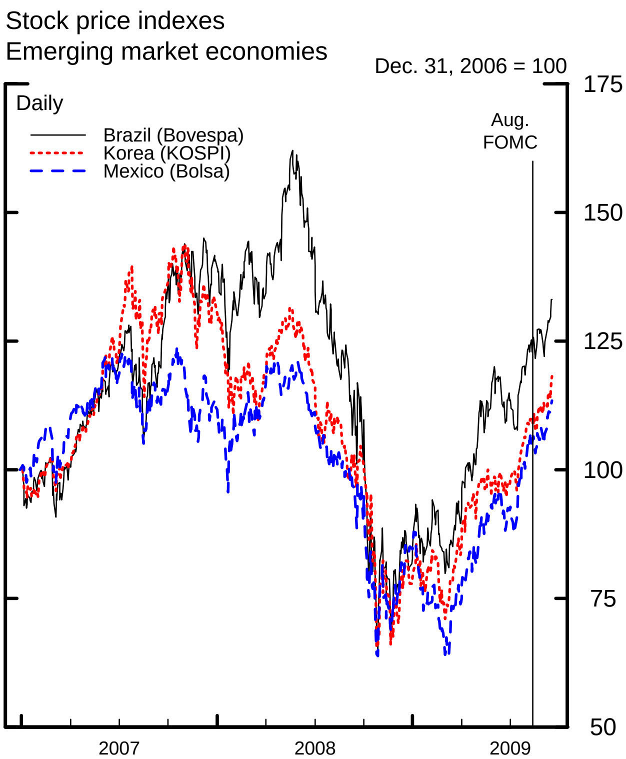
Chart 5
International Financial Indicators



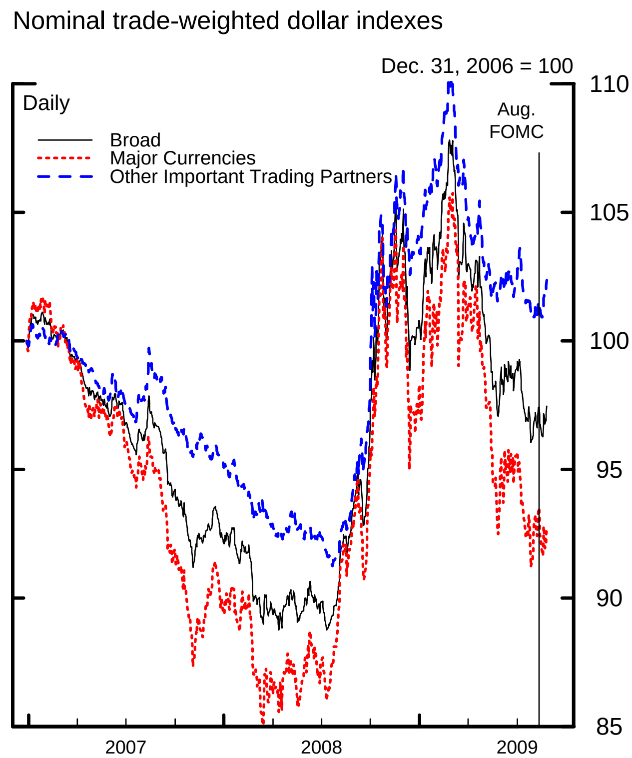
Source. Bloomberg.



Source. Bloomberg.



Source. Bloomberg.



Source. FRBNY and Bloomberg.

Note. Last daily observation is for September 17, 2009.

ECONOMIC OUTLOOK

Information received since the August meeting provides further evidence that economic activity has begun to recover from its severe downturn. The staff has revised up its forecast based on the accumulation of better-than-expected data on economic activity. With the sharp decline in residential investment apparently over and business spending on equipment and software likely to recover sooner than previously anticipated, the staff now anticipates that real GDP growth will increasingly exceed the growth of potential output over the second half of this year and through 2011.[3] As a consequence, the unemployment rate is projected to decline steadily in 2010 and 2011, although it remains nearly 8 percent at the end of the forecast period. Core and headline PCE inflation are projected to slow, reaching 1 percent in 2011.

As in August, the staff outlook assumes that the federal funds rate will remain at its current level through 2011. The staff has made no change in its assumptions about the sizes of the Federal Reserve's large-scale asset purchase (LSAP) programs. However, agency debt and agency MBS purchases are assumed to be completed a quarter later than in the August Greenbook.[4] The staff continues to anticipate that fiscal policy will contribute about 1 percentage point, on average, to real GDP growth in 2009 and 2010, but will be roughly neutral in 2011. In response to favorable news on the housing market in recent months, the staff now projects markedly less house price depreciation through next year than in the August Greenbook, and a slight appreciation in 2011.

[3] The current Greenbook includes projections for 2011 in the medium-term outlook and 2014 in the long-term outlook for the first time.

[4] Purchases of $300 billion in Treasury securities are assumed to be completed by the end of October; $150 billion in agency debt and $1.25 trillion in agency MBS are projected to be finished by the end of the first quarter of 2010.

The staff projects longer-term Treasury yields and 30-year fixed mortgage rates to edge up through 2011, with little change in the spread between the two rates. In contrast, yields on investment-grade corporate bonds are projected to decline substantially, as improvements in financial markets and the economic outlook lead to a ¾ percentage point narrowing in risk spreads by the end of 2011. Similarly, the equity risk premium is expected to continue to decline over coming quarters and stock prices are projected to rise at a brisk annual rate of about 14 percent over the next two years. The availability of bank credit to firms and households is expected to increase over time but remain tight by historical standards. The real foreign exchange value of the dollar is assumed to fall at a 2½ percent annual rate over 2010 and 2011. Based on readings from futures markets, the staff expects oil prices to rise gradually to about $77 per barrel for West Texas Intermediate by the end of 2011; this path is about $5 per barrel lower than in the August Greenbook.

Against this backdrop, the staff now expects real GDP to grow at an annual rate of about 2¾ percent during the second half of 2009, compared with 1¼ percent in the August Greenbook, and to expand about 3½ percent in 2010 and about 4½ percent in 2011. The unemployment rate is projected to peak at nearly 10 percent late this year and then to decline to about 9¼ percent by the end of 2010, which is about ½ percentage point lower than in the August Greenbook. Unemployment is projected to decline further over 2011 to slightly under 8 percent—still well above the staff's estimate of the NAIRU, which has been revised up to 5¼ percent over the forecast horizon. In light of the current and prospective level of economic slack, as well as inflation expectations that are expected to remain reasonably well anchored, the staff projects core PCE inflation to slow to 1¼ percent in the second half of this year and to about 1 percent in 2010 and 2011. With energy prices rising at a diminishing rate, total PCE inflation is projected to be about 2 percent in the second half of 2009, 1¼ percent in 2010, and 1 percent in 2011.

Looking further ahead, the staff assumes that the funds rate will rise steadily starting in early 2012, climbing to about 2½ percent by the end of that year and to 3¾ percent in 2013, before leveling out at 4 percent in 2014. The staff forecasts that real GDP will grow nearly 5 percent in 2012 but then decelerate to about 2¾ percent by 2014. With GDP growth outpacing growth in potential output, which is forecast to average about 2¾ percent per year over this period, the unemployment rate is projected to fall rapidly for a time before stabilizing at about 4¾ percent, close to the staff's estimate of the NAIRU in 2014. Inflation expectations remain well anchored and as growth returns to trend, total PCE inflation slowly rises to about 1¾ percent by 2014, still below the inflation objectives implicit in the majority of policymakers' longer-run projections.

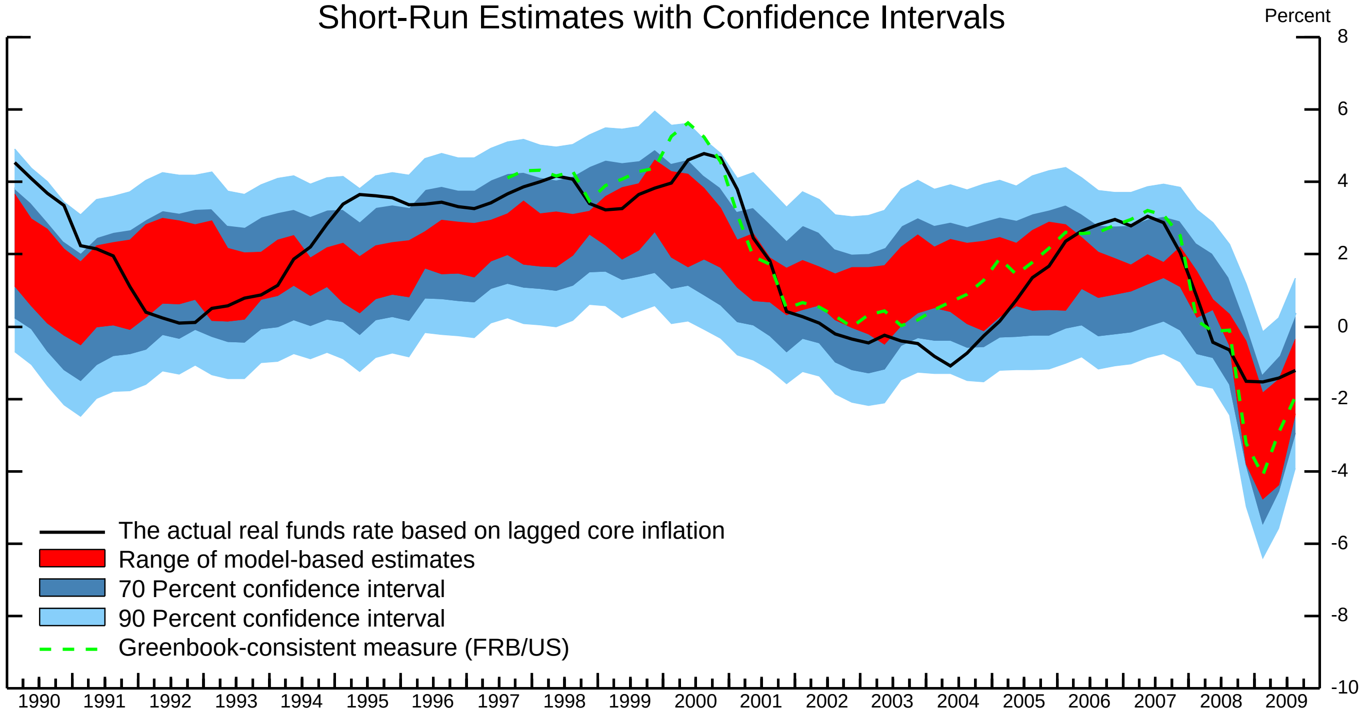
MONETARY POLICY STRATEGIES

As shown in Chart 6, estimates of *r**—the value of the real federal funds rate that would close the output gap within twelve quarters—have risen substantially since the August Bluebook. Though all the estimates of short-run *r** remain negative, they are no longer uniformly well below the actual real federal funds rate. The different *r** estimates have increased for various reasons, but all were substantially boosted by the effects of stronger-than-expected incoming economic data on the staff assessment of the current level of aggregate demand, and its implications for future slack in the various models. The Greenbook-consistent measures of short-run *r** from the FRB/US and EDO models stand at -1.9 and -3.1 percent, respectively, while the FRB/US and EDO model-based estimates of short-run *r** are -2.4 and -0.3 percent, respectively. The changes in the FRB/US and EDO *r** estimates largely reflect the improved economic outlook implied by incoming data but they also have been affected by the respecification and reestimation of the models that followed the comprehensive NIPA revision in July.[5] The estimate of short-run *r** produced by the single-equation model is now -1.3 percent, about 100 basis points higher than in the August Bluebook, while the *r**

[5] If the previous version of the FRB/US model is used, the Greenbook-consistent *r** measure for the current Bluebook is -2.2 percent. This means that 50 basis points of the rise in *r** are due to the improved outlook and 30 basis points are due to changes in the in the FRB/US model. The Greenbook-consistent *r** measure using the prior vintage of the EDO model is -3.3 percent, implying that 170 basis points of the rise in the EDO-based *r** come from the better outlook and 20 basis points from changes in the EDO model.

Chart 6
Equilibrium Real Federal Funds Rate

Short-Run Estimates with Confidence Intervals



Short-Run and Medium-Run Measures

	Current Estimate	*Previous Bluebook*
Short-Run Measures		
Single-equation model	-1.3	*-2.4*
Small structural model	-1.1	*-3.0*
EDO model	-0.3	*-2.3*
FRB/US model	-2.4	*-4.1*
Confidence intervals for four model-based estimates		
70 percent confidence interval	-3.0 to 0.4	
90 percent confidence interval	-3.9 to 1.3	
Greenbook-consistent measures		
EDO model	-3.1	*-5.0*
FRB/US model	-1.9	*-2.7*
Medium-Run Measures		
Single-equation model	1.3	*1.2*
Small structural model	1.3	*1.5*
Confidence intervals for two model-based estimates		
70 percent confidence interval	0.4 to 2.2	
90 percent confidence interval	-0.2 to 2.9	
TIPS-based factor model	2.0	*2.0*
Memo		
Actual real federal funds rate	-1.2	*-1.5*

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.

estimate based on the small structural model is -1.1 percent, about 200 basis points higher than in the previous Bluebook.[6]

Chart 7 shows the results of optimal control simulations of the FRB/US model. These simulations use the extended staff forecast as a starting point. Policymakers are assumed to place equal weight on keeping core PCE inflation close to a 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 under these simulations is constrained by the zero lower bound, with the nominal funds rate remaining at the lower bound until early 2012 (black solid lines). The unemployment rate at the end of 2011 is well above the NAIRU, and core PCE inflation is appreciably below the 2 percent goal.[7]

Chart 7 also displays the optimal control results that would be obtained if the nominal funds rate were not constrained by the zero bound (blue dashed lines). Under this unconstrained policy, the funds rate falls to about -4¾ percent by late next year and does not turn positive until 2012. The unconstrained funds rate in 2010 and 2011, although negative, is consistently more than 100 basis points above that shown in the August Bluebook, reflecting the staff's stronger forecast of aggregate demand. The improved economic outlook and the reestimation of the FRB/US model imply an appreciably faster decline in the unemployment rate than in the previous

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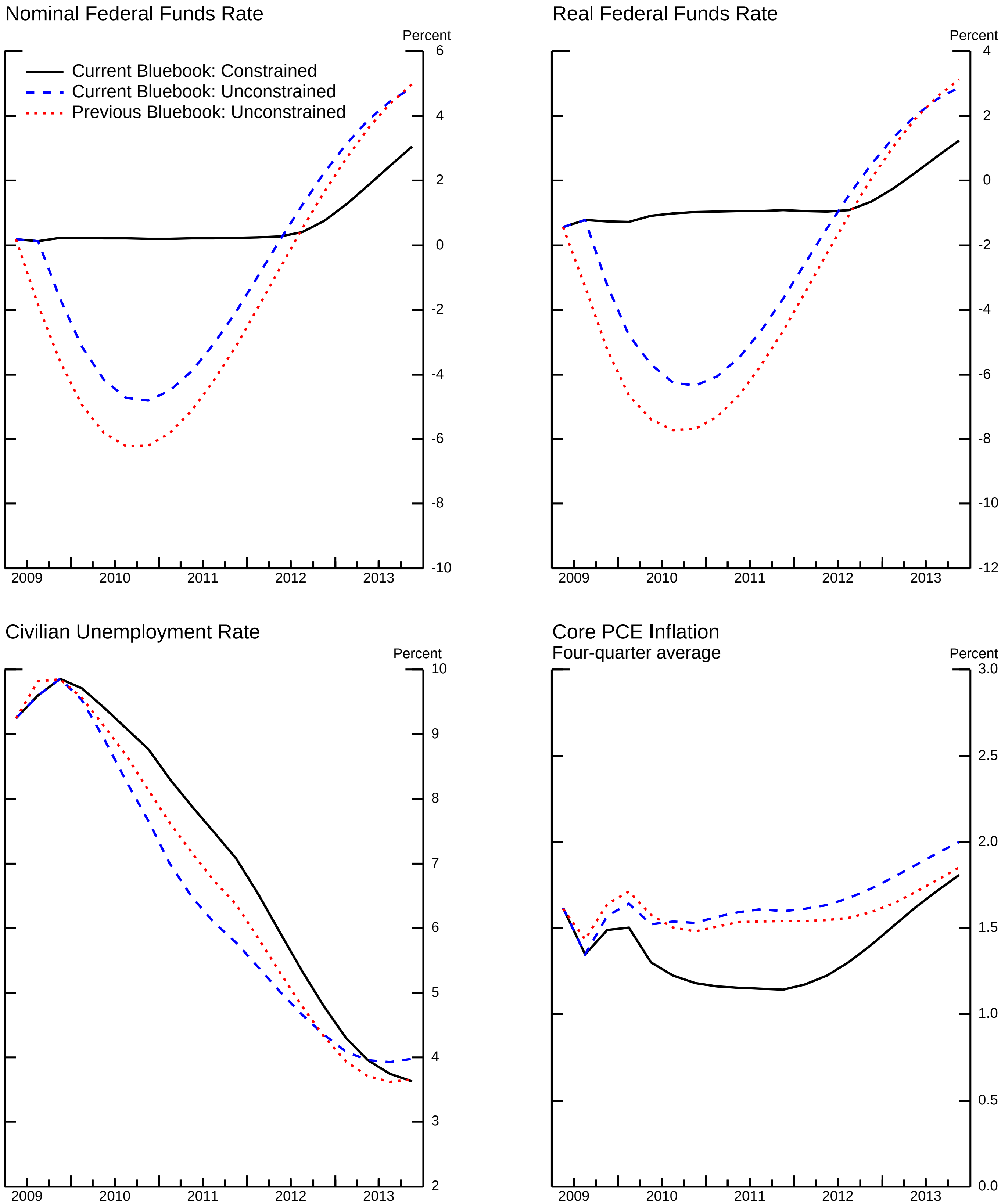
[6] The single-equation and small structural models have not changed since the August Bluebook.

[7] In the current projection, the staff estimate of the NAIRU is 5¼ percent, a 25 basis point increase over the previous Greenbook estimate.

Chart 7

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



Bluebook, while the unconstrained optimal path for core PCE inflation in 2010 and 2011 is broadly similar to that shown in the previous Bluebook.[8]

Also consistent with the improved outlook, the outcome-based policy rule prescribes a higher path for the federal funds rate than in the August Bluebook, as shown in Chart 8, with the rate starting to move above the effective lower bound in 2011Q4, one quarter earlier than in August. In contrast, based on the staff's standard assumption about term premiums, market participants' expectations regarding the path of the federal funds rate over the next few years appear to have shifted down by about 50 basis points. However, as noted earlier, at least part of the apparent decline in investors' expectations may reflect a decline in term premiums.

The lower panel of Chart 8 provides near-term prescriptions from simple policy rules. For the constrained rules, the current prescriptions are uniformly at the effective lower bound, except for the prescription from the first-difference rule. The first-difference rule prescribes that the funds rate be raised when there is an increase in expected output growth. The rule therefore calls for an increase in the funds rate as the recovery gains strength. The right-hand columns show the prescriptions that would be implied by these rules if the lower bound was not imposed. While the first-difference rule prescribes a positive interest rate, the remaining rules' unconstrained prescriptions are for negative policy rates. In every case, however, these prescribed values are less negative than in the previous Bluebook, consistent with the staff's improved assessment of the outlook.

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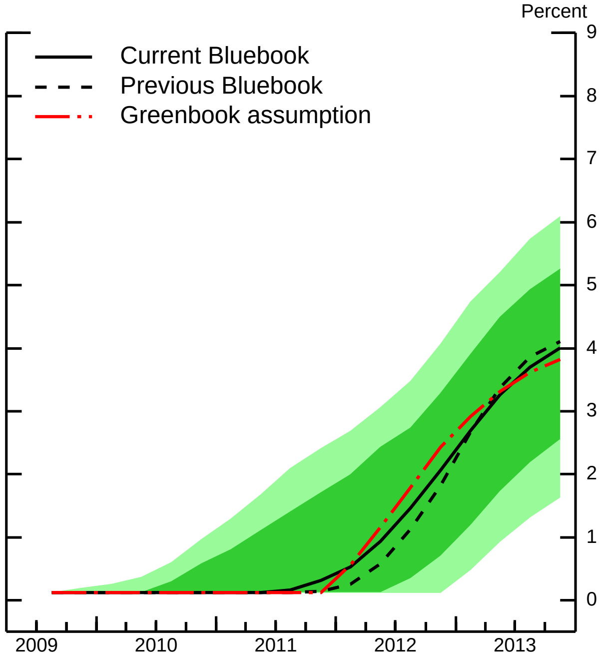
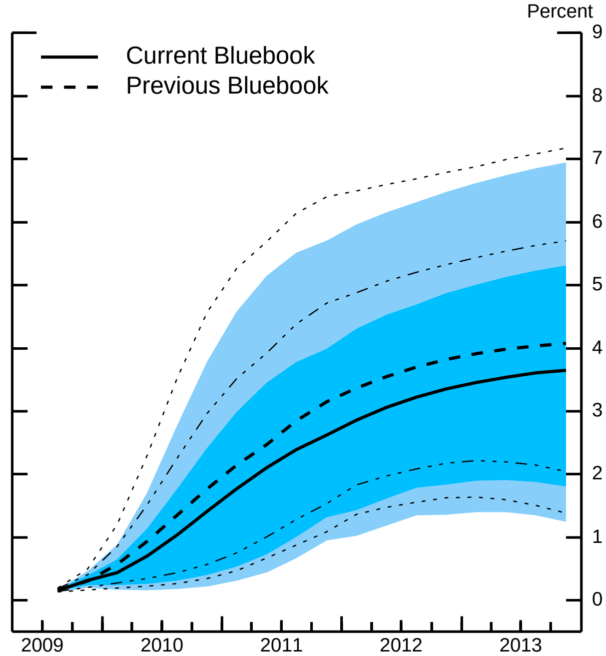
[8] Real economic activity is considerably more sensitive to interest rate movements in the reestimated version of FRB/US model than in the previous version. The model revision thus contributes to a faster decline in the unemployment rate in the optimal control simulations.

Chart 8

The Policy Outlook in an Uncertain Environment





Note: In both panels, the dark and light shading represent the 70 and 90 percent confidence intervals respectively.

Near-Term Prescriptions of Simple Policy Rules

	Constrained Policy		Unconstrained Policy	
	2009Q4	2010Q1	2009Q4	2010Q1
Taylor (1993) rule	**0.13**	**0.13**	**-0.32**	**-0.24**
Previous Bluebook	*0.13*	*0.13*	*-0.84*	*-0.83*
Taylor (1999) rule	**0.13**	**0.13**	**-3.79**	**-3.62**
Previous Bluebook	*0.13*	*0.13*	*-4.72*	*-4.66*
First-difference rule	**0.22**	**0.39**	**0.22**	**0.39**
Previous Bluebook	*0.13*	*0.13*	*-0.48*	*-0.50*
Estimated outcome-based rule	**0.13**	**0.13**	**-0.40**	**-1.00**
Previous Bluebook	*0.13*	*0.13*	*-1.81*	*-2.55*
Estimated forecast-based rule	**0.13**	**0.13**	**-0.44**	**-1.08**
Previous Bluebook	*0.13*	*0.13*	*-1.76*	*-2.52*

Memo

	2009Q4	2010Q1
Greenbook assumption	0.13	0.13
Fed funds futures	0.16	0.23
Median expectation of primary dealers	0.13	0.13
Blue Chip forecast (September 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.

POLICY ALTERNATIVES

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

Each of the three alternatives maintains the 0 to ¼ percent target range for the federal funds rate and the previously announced plan to purchase $300 billion of Treasury securities by the end of October, but the alternatives differ with respect to the size and timing of the Federal Reserve's purchases of agency MBS and agency debt. Under Alternative A, the Committee would increase its purchases of agency MBS to "a total of $1.5 trillion" (from the previous "up to $1.25 trillion") and would extend the time over which purchases would be completed through the second quarter of 2010. The increase would provide additional macroeconomic stimulus, while the extension would permit the pace of transactions to be tapered until completion to promote a smooth transition in markets (although this tapering is not explicitly noted in the statement). Language about the amounts and timing of agency debt purchases (up to $200 billion by the end of the year) would be as in the August statement. Alternative B would essentially maintain the current stance of monetary policy but specify a tapering strategy for the purchases of agency MBS and agency debt: The pace would gradually slow, with purchases completed either by the end of the first quarter of 2010 or, in a variant of this alternative, by sometime in the second quarter of 2010. In recognition of the pending completion of Treasury security purchases and the gradual scaling down of the Federal Reserve's liquidity programs, Alternative B notes that the Federal Reserve will use "a range of tools" rather than "all available tools" to promote economic recovery and preserve price stability. Under Alternative C, the size of agency MBS purchases would be reduced to "about $1 trillion" and that of agency debt to "about $150 billion," from their previously announced maximums, and the pace of purchases would be gradually reduced until their completion by year-end. Alternative C also makes more explicit the conditionality of the funds rate target on the evolution of the economic outlook by changing the language that characterizes the period over which the target range is likely to remain extraordinarily low.

Each alternative provides a distinct characterization of the economic outlook. Alternative A states that economic activity "is leveling out" but notes that the economic recovery could be relatively weak. Alternatives B and C are progressively more optimistic, with Alternative B saying that economic activity has "picked up following its severe downturn" and Alternative C stating explicitly that the data suggest a "recovery in economic activity has begun." All three alternatives acknowledge some further improvement in financial market conditions. Alternatives B and C note increased activity in the housing sector. As in the August statement, all three alternatives reiterate the Committee's expectation that inflation "will remain subdued for some time." To explain this view, Alternatives A and B note that "substantial resource slack [is] likely to continue to dampen cost pressures," while Alternatives B and C state that "inflation expectations [are] apparently well anchored." Alternative A also notes that "inflation has fallen considerably over the past year."

Table 1: Overview of Alternative Language for the September 22-23, 2009 FOMC Announcement

	August FOMC	September Alternatives A	September Alternatives B	September Alternatives C
Forward Guidance on Funds Rate Path				
	"for an extended period"	"for an extended period"	"for an extended period"	"So long as inflation remains well contained … until it has greater assurance that the economic recovery will be sustained"
Treasury Securities Purchases				
Total Amount	$300 billion	$300 billion	$300 billion	$300 billion
Pace	pace will "gradually slow"	-----	-----	-----
Completion	by the end of October	by the end of October	by the end of October	by the end of October
Agency MBS Purchases				
Total Amount	"up to" $1.25 trillion	"a total of" $1.5 trillion	"up to" $1.25 trillion	"a total of about" $1 trillion
Pace	-----	-----	pace will "gradually slow"	pace will "gradually slow"
Completion	by the end of the year	through the second quarter of 2010	by the end of the first quarter of 2010 **OR** in the second quarter of 2010	by the end of the year
Agency Debt Purchases				
Total Amount	"up to" $200 billion	"up to" $200 billion	"up to" $200 billion	"a total of about" $150 billion
Pace	-----	-----	pace will "gradually slow"	pace will "gradually slow"
Completion	by the end of the year	by the end of the year	by the end of the first quarter of 2010 **OR** in the second quarter of 2010	by the end of the year
Evaluation of LSAP Timing and Overall Amounts				
	adjustments to timing and amounts of all LSAPs will continue to be evaluated	adjustments to timing and amounts of all LSAPs will continue to be evaluated	adjustments to timing and amounts of all LSAPs will continue to be evaluated	adjustments to timing and amounts of all LSAPs will continue to be evaluated

August FOMC Statement

Information received since the Federal Open Market Committee met in June suggests that economic activity is leveling out. Conditions in financial markets have improved 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 are 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 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 these purchases of Treasury securities are completed, the Committee has decided to gradually slow the pace of these transactions and anticipates that the full amount will be purchased by the end of October. 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.

September FOMC Statement – Alternative A

1. Information received since the Federal Open Market Committee met in **August indicates** that economic activity is leveling out**, and** conditions in financial markets have improved **somewhat** further. Businesses **have made** progress in bringing inventory stocks into better alignment with sales. **However, household spending is sluggish, job losses are ongoing, and credit remains tight. Although the Committee continues to anticipate a resumption of economic growth** in a context of price stability, **absent further policy action the economic recovery could be relatively weak, with slack in resource utilization diminishing quite slowly**.

2. **Inflation has fallen considerably over the past year. With** substantial resource slack likely **to continue** to dampen cost pressures, the Committee expects that inflation will remain subdued for some time.

3. **To promote a sustained economic recovery and higher resource utilization, the Committee has decided to provide additional monetary stimulus by increasing its purchases of agency mortgage-backed securities to a total of $1.5 trillion, up from the previously announced amount of as much as $1.25 trillion, and to extend these purchases through the second quarter of 2010. As previously announced,** the Federal Reserve is in the process of buying $300 billion of Treasury securities by the end of October and up to $200 billion of agency debt by the end of the year. The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and continues to anticipate that **low levels of resource utilization and subdued inflation** are likely to warrant exceptionally low levels of the federal funds rate for an extended period. 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.

September FOMC Statement – Alternative B

1. Information received since the Federal Open Market Committee met in **August** suggests that economic activity **has picked up following its severe downturn**. Conditions in financial markets have improved further**, and activity in the housing sector has increased**. Household spending **seems to be** 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**, though at a slower pace; they continue to make** progress in bringing inventory stocks into better alignment with sales. 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 **support** a **strengthening** of economic growth **and a gradual return to higher levels of resource utilization** in a context of price stability.
2. **With** substantial resource slack likely **to continue** to dampen cost pressures **and with inflation expectations apparently well anchored**, the Committee expects that inflation will remain subdued for some time.
3. In these circumstances, the Federal Reserve will **continue to** employ **a range of** 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. 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. **The Committee will gradually slow the pace of its purchases in order to promote a smooth transition in markets and anticipates that they will be completed [by the end of the first quarter | in the second quarter] of 2010. As previously announced,** the Federal Reserve**'s purchases** of $300 billion of Treasury securities **will be completed** by the end of October **2009**. 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.

September FOMC Statement – Alternative C

4. Information received since the Federal Open Market Committee met in **August** suggests that **a recovery in** economic activity **has begun**. Conditions in financial markets have improved further. **Consumer** spending **seems to be** stabilizing **but has yet to show sustained strength**. **Activity in the housing sector has increased.** Businesses are still cutting back on fixed investment and staffing**, though at a slower pace; they continue to make** progress in bringing inventory stocks into better alignment with sales. The Committee anticipates that policy actions to stabilize financial markets and institutions, fiscal and monetary stimulus, and market forces will **support** a **strengthening** of economic growth in a context of price stability.
5. **With inflation expectations apparently well anchored**, the Committee expects that inflation will remain subdued for some time.
6. **In view of improving economic and financial market conditions, the Committee now plans to purchase a total of about $1 trillion of agency mortgage-backed securities and about $150 billion of agency debt, somewhat less than the previously announced maximum amounts. To promote a smooth transition in markets, the Committee will gradually slow the pace of its purchases until their expected completion** by the end of the year. **As previously announced,** the Federal Reserve**'s purchases** of $300 billion of Treasury securities will be **completed** by the end of October. 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. **So long as inflation remains well contained,** the Committee will maintain the target range for the federal funds rate at **its exceptionally low level** of 0 to ¼ percent **until it has greater assurance that the economic recovery will be sustained**. The Committee will continue to evaluate timing and overall amounts of its purchases of securities in light of the evolving economic outlook and conditions in financial markets.

THE CASE FOR ALTERNATIVE B

If policymakers believe that the policy stimulus already in train is likely to foster the most satisfactory economic outcomes feasible given current economic circumstances, the Committee could reaffirm its forward guidance regarding the funds rate and continue implementing its previously announced large-scale asset purchases (LSAPs), while providing additional information regarding the winding-down process, as in **Alternative B**. Maintaining the current stance of monetary policy might be appealing if the Committee shares the staff's assessment that incoming economic and financial news is consistent with inflation remaining subdued and economic growth picking up to an acceptable pace in coming quarters as financial market conditions and the housing sector continue to improve. While the staff's forecast has been revised up, projected employment growth remains modest, with the level of private payroll employment at the end of 2011 still about 1 million below its pre-recession peak, suggesting that a very accommodative stance of monetary policy remains appropriate. Although the improved outlook has led to sizable increases in the Greenbook-consistent measures of short-run r^* since August, these measures are still negative. The anticipation 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, despite the upward shift in this path since the August Bluebook (Chart 8).

Even if some participants now foresee a more rapid resumption of economic growth and a stronger recovery than in the Greenbook (similar to the Greenbook's "V-Shaped Recovery" alternative scenario), they may prefer to wait for more definitive signs of this stronger recovery before modifying their policy stance, given the uncertainties surrounding the economic outlook and the approaching expiration of some government programs that have been supporting growth. Even under the more robust conditions of this scenario, the Taylor rule does not prescribe a policy tightening until early 2011.

Alternatively, policymakers may view the prospective economic recovery with its protracted return to full employment as less than satisfactory, but they may believe that the potential benefits of providing further monetary stimulus through expanded LSAPs are likely to be outweighed by the potential costs. These costs include potential losses on the Federal Reserve's portfolio under scenarios involving a sharp increase in short-term interest rates over the next few years, the possibility that an expanded balance sheet could lead to higher inflation expectations, and the increased complications that a larger balance sheet could entail for the Committee's exit strategy.

The Committee may find it desirable to slow the pace of its agency MBS and agency debt transactions so that these purchases taper off instead of ending abruptly, thereby minimizing the risk of financial market disruptions.[9] This approach would be consistent with the gradual slowing of the pace of Treasury purchases announced in August and with market expectations that the Federal Reserve will adopt a similar strategy for the agency debt and agency MBS programs (as indicated by responses to the Desk's survey of primary dealers). Implementing the slowing without changing the total maximum amount to be purchased would necessitate extending the time over which the purchases would be completed. Alternative B suggests two possible end dates for the purchases: the end of the first quarter or sometime in the second quarter of 2010.

To the extent that the primary influence of the programs is through the cumulative effect that they generate on the publicly available stocks of securities

[9] See the September 16, 2009, Desk memorandum, "Tapering of Agency MBS and Agency Debt LSAPs."

rather than through the pace of new purchases, the choice between these end dates would probably make little difference to the macroeconomic effect of the asset purchases. But the desire to taper purchases as they end is predicated on the belief that the pace of asset purchases affects asset prices to some degree, even if stock effects dominate. Extending the timeframe would allow for a more gradual tapering, thereby helping to alleviate market participants' concerns that there could be an abrupt price reaction upon the Fed's exiting the market. The Committee might also consider the longer extension desirable because it would allow for more flexibility in the path of future purchases, so that the total amounts purchased could be better calibrated to changes in the economic outlook. For example, the Committee might value the optionality in a strategy that initially involved appreciably smaller weekly purchases than at present. Such a strategy would provide more opportunities for the Committee to evaluate, based on the evolution of the economic outlook, whether to end purchases before the maximum levels are reached or to raise the level of purchases. However, the cost of greater optionality for the Committee is that it entails less certainty for market participants. In addition, the longer extension means a reduced flow of purchases, given no change in the total amount purchased. Policymakers who view the flow of purchases as having a significant macroeconomic impact may see the reduced flows entailed in the longer extension as a cost.

A statement such as that suggested for Alternative B would be close to market expectations and would likely have muted effects in financial markets. The Desk's survey of primary dealers indicates that they uniformly expect no change in the funds rate target or in the maximum sizes of the LSAPs. Nearly all the dealers said they expect the Federal Reserve to adopt a tapering strategy for agency debt and agency MBS, with the median survey respondent anticipating completion by the end of the first quarter of 2010. Accordingly, if the Committee chooses to extend its purchases through the first quarter of next year, there would likely be little immediate change in short- and long-term yields, equity prices, or the foreign exchange value of the dollar. Extending purchases into the second quarter of 2010 might put some upward pressure on long-term yields in the near term to the extent that flow effects are important and also to the extent that market participants view the reduced pace of sales over a longer period as signaling higher odds that the Committee will ultimately choose to purchase smaller quantities than currently anticipated. However, at least to some degree, extending purchases into the second quarter would mean lower long-term yields during that period than otherwise. Also, market participants may perceive the revision in language from the Federal Reserve's using "all available tools" to "a range of tools" as indicating less chance of future increases in the LSAPs, but currently, investors appear to be putting little weight on an expansion.

THE CASE FOR ALTERNATIVE C

If policymakers view the incoming data as pointing to more underlying momentum in the nascent recovery than they previously anticipated and are at least as optimistic as the staff regarding the economic outlook, they might choose to trim the size of the LSAPs and to adjust the language regarding the anticipated period over which the funds rate is likely to remain extraordinarily low, as in **Alternative C**. Under this alternative, the Committee would announce lower amounts of planned purchases of agency MBS and agency debt compared with the current maximum amounts and would revise the stated expectation for a very low federal funds rate. Instead of "for an extended period," the statement would say: "So long as inflation remains well contained, the Committee will maintain the target range for the federal funds rate at its exceptionally low level of 0 to ¼ percent until it has greater assurance that the economic recovery will be sustained." The revised language has the benefit of being more explicit that the stance of monetary policy will depend on the evolution of the economic outlook, which may prove useful as a first step in preparing the public and the markets for an eventual increase in the federal funds rate target. The change in language would likely be seen by market participants as pointing to an earlier end to the period of extraordinarily low funds rates than is implied by the Committee's recent statements.

Participants might prefer Alternative C if they viewed the continued improvement in financial market conditions and the significant upward revision in the staff forecast as suggesting that less monetary policy support from the Federal Reserve is required and, given the improvement in the housing sector, that a reduction in the maximum amount of purchases of mortgage-related assets, in particular, could be appropriate.

Participants might also prefer not to purchase the previously announced maximum amounts if they saw greater upside risks to inflation than does the staff. (The "Early Liftoff" scenario in the Greenbook, which couples a strong rebound in growth with an increase in inflation expectations, illustrates the possible need to remove policy accommodation earlier than in the baseline.) Participants might, for example, have some concern that if bankers' attitudes toward lending were to shift rapidly with the improvement in the economic outlook, the large amount of reserves in the banking system could bring about a larger and more rapid expansion of bank credit, fueling even stronger aggregate demand growth, and potentially leading to significantly increased upward pressure on prices. The recently announced reduction in the Treasury's Supplementary Financing Program, which will increase the amount of reserves in the banking system and likely put some downward pressure on the funds rate, may also be a consideration. The Committee may believe that such risks would be moderated by purchasing less than the previously announced maximum amounts, thereby lowering the accumulation of reserves in the banking system.

Moreover, participants may perceive less slack in the economy than in the staff forecast if they view the very large negative shock of the financial crisis and the ensuing recession as having lowered the level and growth rate of potential output more sharply over the forecast horizon than assumed by the staff. A less optimistic outlook for aggregate supply, and the attendant consequences for inflation, might incline the Committee to scale back the LSAPs. In addition, if policymakers put less weight on output gaps and more weight on inflation expectations when forecasting inflation, they may prefer to slow the growth of the Federal Reserve's balance sheet if they are concerned that its rapid expansion could fuel inflation expectations; for the same reason, they may also want to signal an earlier increase in the federal funds rate target than suggested in the Committee's recent policy statements.

The adoption of Alternative C would surprise market participants. As noted above, primary dealers expect LSAPs to reach their previously announced maximums. Moreover, fewer than 20 percent of the dealers indicated that they expect the federal funds rate to be raised above its effective lower bound by next June; another half expect the initial rate increase to occur later next year, and the remainder expect tightening to begin in 2011 or later. Indeed, over the intermeeting period, the implied path of the federal funds rate based on futures quotes and the staff's standard assumptions about term premiums has shifted downward. Even if some of that decline was a result of decreasing term premiums, it appears that market participants expect rates to remain unchanged for at least as long as they did at the time of the last meeting. Thus, the release of a statement along the lines of Alternative C would likely cause short- and medium-term interest rates to rise sharply, and equity prices to drop, while the foreign exchange value of the dollar would probably appreciate. Forward inflation compensation might decline over time if the Committee's decision caused investors to mark down their inflation expectations at longer horizons.

THE CASE FOR ALTERNATIVE A

If the Committee views the staff's economic outlook, with its very protracted return to full employment, as unacceptably weak despite the upward revision, or if participants are not convinced that the recent data are signaling the start of a sustained economic recovery, policymakers may judge that additional monetary stimulus would be appropriate. In this case, they could decide to expand the amount of agency MBS purchases, be more definitive about the total amount to be purchased, and extend the timeframe for conducting those transactions, as in **Alternative A**. Although the staff has marked up its forecast for economic growth significantly, the unemployment rate declines only slowly—it is projected to be still above 9 percent at the end of next year and just under 8 percent at the end of 2011—and core inflation hovers around 1 percent for several years, a level below the inflation objectives implicit in individual policymakers' longer-run projections. Moreover, the Committee may judge that the staff forecast is overly optimistic on both the growth and inflation fronts. The recent better-than-expected data might have been driven importantly by temporary factors (like the Cash-for-Clunkers program) and thus, may be overstating the degree of underlying momentum of the economy. Recent increases in house prices may not be sustained if foreclosures rise appreciably faster or by a greater amount than in the Greenbook forecast. If so, the apparent bottoming out in the housing market could be illusory. In addition, the decline in bank lending and M2 may be interpreted as pointing to weaker growth than in the staff forecast. Given the significant deceleration in wages and hourly compensation during the recession, policymakers might see a significant risk of greater disinflation than in the staff forecast, as discussed in the Greenbook alternative scenario, "Greater Disinflation."

Based on the outlook for economic growth and inflation, as well as the downside risks to that outlook, the Committee might conclude that further monetary stimulus is warranted. In addition, given the experience to date, the Committee may now be more confident that the LSAPs are lowering mortgage rates and that a further expansion in LSAPs would be effective in supporting aggregate demand. Based on the staff's ongoing analysis, the Committee may also be more confident that the

FOMC has the necessary tools to exit from this period of extraordinarily low interest rates despite a further expansion of the Federal Reserve's balance sheet. Furthermore, the public may have become more confident in the viability of the Federal Reserve's exit strategy now that it has been explained in speeches and testimony by Committee members and other participants. Thus, the perceived benefits of increased LSAPs may have risen while the perceived costs may have declined. If so, the Committee may judge that increasing the LSAPs at this juncture, even with the improved outlook, is desirable for fostering better economic outcomes. Being more explicit that the Committee plans to purchase the full $1.5 trillion, rather than "up to" the increased maximum, would likely result in a larger economic impact.

The Desk would likely encounter challenges if it were to significantly step up the pace of agency MBS purchases. Thus, the Committee might judge that in order to expand the amount of these purchases without having adverse effects on market functioning, the timeframe for their completion would need to be expanded. Extending the timeframe to the end of the second quarter of 2010 would allow for a gradual reduction in the pace of purchases as they near completion. Expanding the amount of purchases of agency debt (or even buying the maximum $200 billion) could generate significant distortions in the markets for those securities, so this is not proposed in Alternative A.

An announcement along the lines of Alternative A would surprise market participants. Judging by recent experience, the announcement of an additional $250 billion in agency MBS could generate an initial drop in mortgage yields and spreads to Treasuries. 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 the size of the Federal Reserve's balance sheet and future inflation. 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.

LONG-RUN PROJECTIONS OF THE BALANCE SHEET AND MONETARY BASE

Three balance sheet scenarios are presented in this section; they differ in terms of the size and timing of large-scale asset purchases. The baseline scenario corresponds to the variant of Alternative B in the Policy Alternatives section, which has agency MBS purchases of $1.25 trillion and agency debt purchases of $150 billion both completed by the end of the first quarter of 2010. The second scenario corresponds to Alternative A, in which purchases of agency MBS are increased by $250 billion to $1.5 trillion and completed by the end of the first quarter of 2010. Purchases of agency debt are equal to those in the baseline in terms of size but are completed by the end of this year rather than at the end of the first quarter of 2010.[10] The third scenario corresponds to Alternative C, in which the quantity of agency MBS purchases is reduced by $250 billion to $1 trillion and agency debt purchases stop at $150 billion. Both sets of purchases are completed by the end of 2009. All scenarios include purchases of Treasury securities in line with the quantity and timing previously announced by the FOMC, that is $300 billion of total purchases completed by the end of October this year.

To construct the projections, we made assumptions about each component of the balance sheet. Details on the assumptions are available in Appendix C. On the asset side of the balance sheet, the path of large-scale asset purchases in the baseline scenario matches the assumed path in the Greenbook. All three scenarios assume that the assets purchased are held to maturity and not replaced. Due to expected settlement lags and prepayments, agency MBS holdings under each alternative peak at a slightly lower level than the total amount purchased and a few months after purchases have ceased. For all scenarios, an assumed slower-than-historical-average

[10] 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, below the announced $200 billion upper limit of the program under Alternatives A and B.

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 essentially the same in all three scenarios. The Term Asset-Backed Securities Loan Facility (TALF) is assumed to reach a peak of $137 billion at the end of the second quarter of 2010, with $87 billion in three-year loans and $50 billion in five-year loans at the peak. TALF loans outstanding reach zero in 2015. The Commercial Paper Funding Facility (CPFF) and the foreign central bank liquidity swap lines are assumed to expire on February 1, 2010; funds extended through 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 are essentially nil 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 beyond 2010 at a steady-state level of $20 billion. In the near term, we assume that the TAF will be scaled down. In particular, the amounts offered at 84-day auctions will eventually decrease to zero and term lengths will be reduced so that these loans mature at the same time as 28-day loans. By January 2010, only 28-day auctions will be held. At the end of 2009, the TAF projection assumes that the full amount offered of $125 billion is taken down, but subsequently demand drops and the TAF reaches the steady state level by the end of April 2010. Finally, the Special Drawing Rights (SDR) certificate account is projected to increase by $10 billion, to $12 billion, by the end of 2011, as a result of an assumed monetization of an allocation of SDRs.[11]

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[11] 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.

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.

Reflecting the Treasury's announcement regarding the Supplementary Financing Program (SFP), the Supplementary Financing Account (SFA) is projected to run down to $15 billion by October 2009 and remain there through the end of the year. Subsequently, under the assumption that the Congress raises the debt ceiling, the balances in the SFA return to $200 billion during the first quarter of 2010 and remain at this level through the end of 2015 in the baseline scenario. At this point, reserve balances are falling towards $25 billion and, as a result, the SFP is assumed to begin to wind down. The U.S. Treasury is assumed to continue its recent pattern of maintaining all of its operating balances in the Treasury general account (TGA) over the next year. We assume that the Treasury eventually puts in place a new cash management system in conjunction with the implementation of new legislation and systems and the TGA then returns to its historical level of $5 billion in 2011. All other liabilities with the exception of reverse repurchase agreements (with foreign official and international accounts) and reserve balances are assumed to be constant at their level as of August 31, 2009. Federal Reserve Bank capital is projected to grow in line with its average pace of expansion over the past ten years.

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 $2.4 trillion in the second quarter of 2010 and then declines to a level of $1.4 trillion at the end of the projection period. For Alternative A, the peak also occurs in the second quarter of 2010 but at a higher level of $2.6 trillion. Assets then decline to roughly $1.6 trillion at the end of 2016. For Alternative C, the balance sheet peaks at

$2.2 trillion at the end of 2009, and assets decline to $1.4 trillion at the end of the projection period.[12]

Balance Sheet Projections Summary

	Alternative A	Alternative B	Alternative C
Total Assets			
Peak month	June 2010	June 2010	December 2009
Peak amount	$2.6 trillion	$2.4 trillion	$2.2 trillion
December 2016	$1.6 trillion	$1.4 trillion	$1.4 trillion
Agency MBS			
Total Purchased	$1.5 trillion	$1.25 trillion	$1.0 trillion
December 2016	$0.9 trillion	$0.7 trillion	$0.5 trillion
Reserve Balances			
Peak month	June 2010	June 2010	December 2009
Peak amount	$1.4 trillion	$1.2 trillion	$1.1 trillion

These projections for liabilities and capital, combined with the assumed path for assets, largely imply a path for reserve balances under each scenario. Note, however, that the level of reserve balances was considered in determining the projected use of credit and liquidity facilities, so the projected path is not purely a residual. In all three scenarios, the implied paths of reserve balances rise rapidly until the end of 2009. The timing of the peak and the eventual decline in the size of the balance sheet differs across alternatives, however. In the scenarios corresponding to Alternatives A and B, reserve balances peak in June of 2010, whereas in Alternative C, they peak in

[12] 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 33 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.

December of this year. Reserve balances decline as the balance sheet shrinks in all scenarios, but in Alternative C, a resumption of open market purchases is assumed in 2016 to maintain reserve balances at a level of $25 billion.

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.[13] After contracting in the third quarter of this year the monetary base is projected to expand rapidly in the fourth quarter under all scenarios. At a quarterly frequency, the monetary base continues to expand for the first three quarters of 2010 for Alternative A and B. In 2011, however, as securities holdings trend lower and the liquidity facilities wind down, the monetary base begins to contract. For Alternative C, in which asset purchases end in 2009, the monetary base begins to contract in the first quarter of 2010. For all three alternatives, the monetary base continues to contract as assets mature and the balance sheet shrinks. For Alternatives B and C, this contraction is reversed near the end of the projection horizon.

Relative to the August Bluebook, there are a number of notable changes to the projections. The initial size of the balance sheet at the end of August was $95 billion lower than projected at the time of the last Bluebook, primarily because agency MBS purchases and settlements were smaller than forecasted. The pattern of purchases of agency debt and agency MBS has been modified in the new projections, as the completion dates of the programs were extended from the end of this year to the end of the first quarter of 2010 under the baseline scenario. For the liquidity and credit programs, the projection for the TAF no longer includes an uptick at the end of the year. 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

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

faster than was projected last round in light of the improvement in financial markets and more widely available liquidity and credit. On balance, total assets at year-end 2009 are about $356 billion lower in this projection compared with that presented in the August Bluebook, mostly a result of the change in assumptions about the TAF and the timing of agency MBS purchases. By the end of the projection period in 2016, however, total assets are not much different than the level projected in the August Bluebook because the primary changes to the baseline scenario between the two Bluebooks are related to the timing, rather than the level, of large-scale assets purchases.

On the liabilities side, the staff has made significant changes to the projections relative to the August Bluebook. The path for the SFA is very different. In the near term, the account is drawn down to a very low level until the beginning of 2010. Thereafter, the account is assumed to return to its previous $200 billion level until the program is run down as reserve balances approach $25 billion late in the projection period. In the last Bluebook the SFA was expected to be drawn down to zero by the second half of 2010. Moreover, the TGA is now assumed to return to its historical level at the end of 2010 rather than this year. On net, the level of reserve balances is about $244 billion lower at the end of this year, primarily reflecting the slower pace of agency MBS purchases and a lower use of the TAF over year-end. The level of reserve balances remains considerably below that projected in the August Bluebook through the projection period primarily as a result of the new assumption with regards to the SFA.

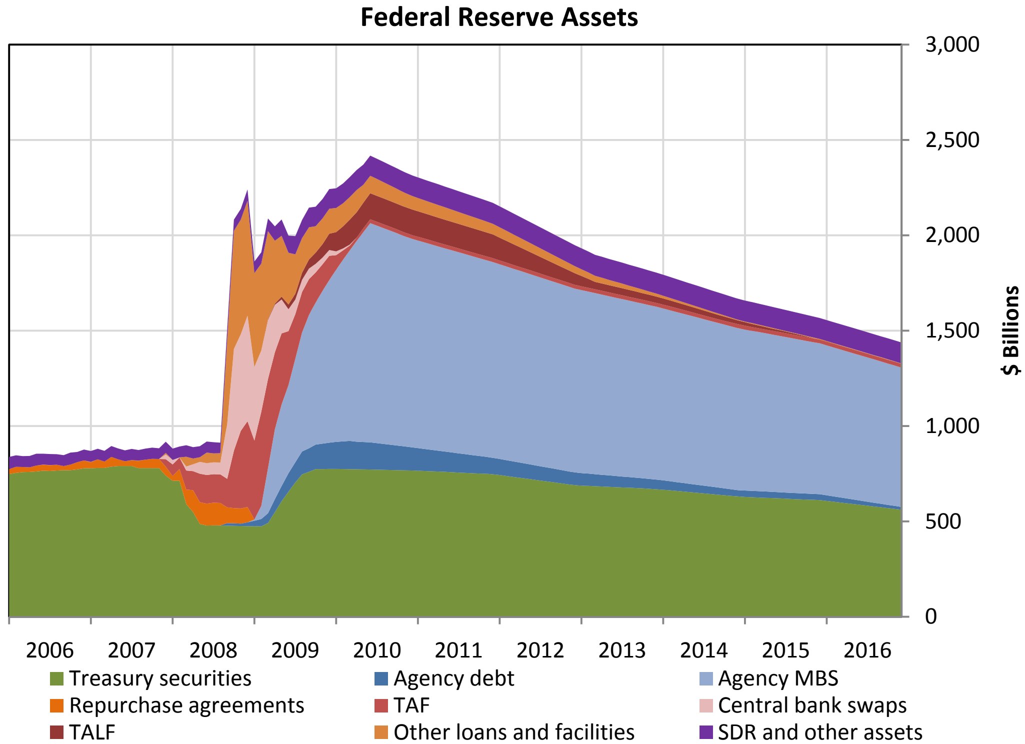
The extended Greenbook projection shows the target federal funds rate rising from the current 0 to ¼ percent range to 2.4 percent over the course of 2012. Under the operating procedures employed before the financial crisis, the projected level of reserve balances at the end of 2012 of approximately $600 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. Such a path is implicit in these projections. The experience last autumn, however, when the effective federal funds rate fell well below the rate paid on excess reserves, may suggest that other tools could be needed to improve the control over the funds rate. Such tools might include 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.

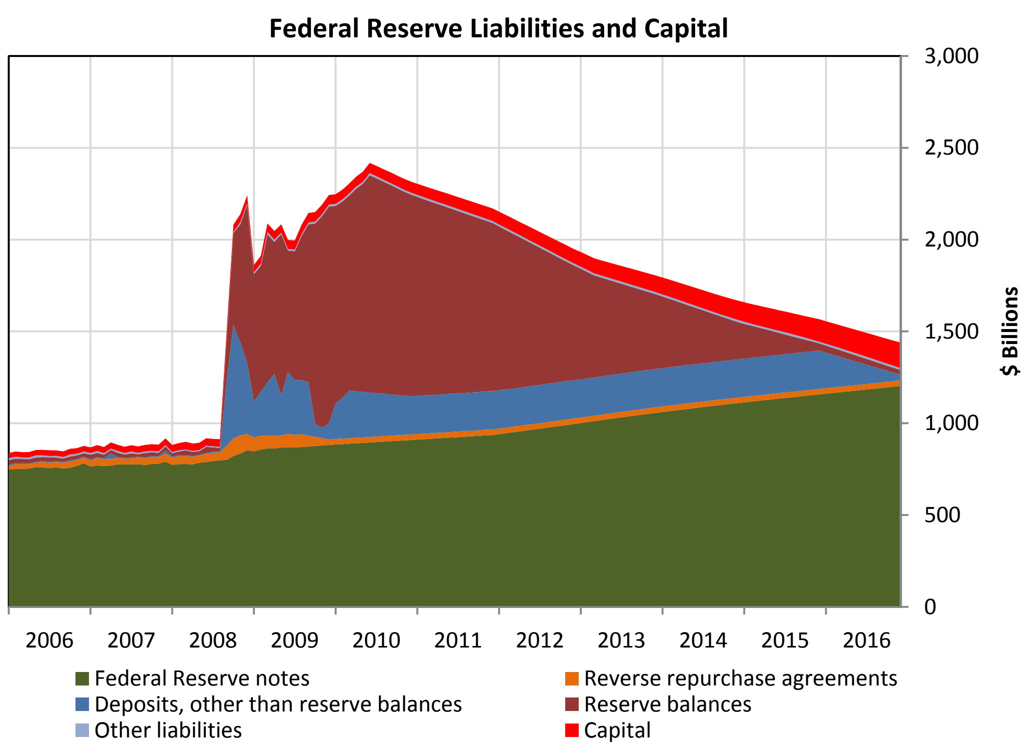
Growth Rates for Monetary Base

Date	Baseline	Alternative A	Alternative C	*Memo:* August baseline
		Percent, annual rate		
		Monthly		
Jun-09	-31.0	-31.0	-31.0	-31.0
Jul-09	-35.5	-35.5	-35.5	-16.4
Aug-09	6.4	6.4	6.4	96.8
Sep-09	38.5	47.8	47.8	116.4
Oct-09	109.1	125.8	106.9	59.7
Nov-09	94.2	107.5	74.2	57.6
Dec-09	27.1	40.3	9.3	80.2
Jan-10	-20.0	-7.3	-39.9	42.9
Feb-10	-30.7	-19.2	-54.5	8.6
Mar-10	-2.5	7.8	-26.3	29.9
		Quarterly		
Q2 2009	27.4	27.4	27.4	27.4
Q3 2009	-11.5	-10.5	-10.5	23.9
Q4 2009	73.4	87.0	67.5	82.6
Q1 2010	1.8	14.1	-18.4	44.7
Q2 2010	7.5	18.2	-21.8	11.3
Q3 2010	9.6	14.2	-7.0	-2.6
Q4 2010	-6.9	-7.2	-6.3	-10.8
		Annual - Q4 to Q4		
2009	42.8	47.3	41.4	58.9
2010	3.0	10.1	-12.8	10.5
2011	-7.4	-7.3	-7.5	-7.7
2012	-11.6	-11.1	-12.7	-10.2
2013	-9.9	-9.5	-10.7	-7.1
2014	-9.8	-9.4	-2.9	-8.3
2015	-8.8	-8.5	0.9	-6.6
2016	1.1	-8.6	3.4	-8.7

Note: Not seasonally adjusted.

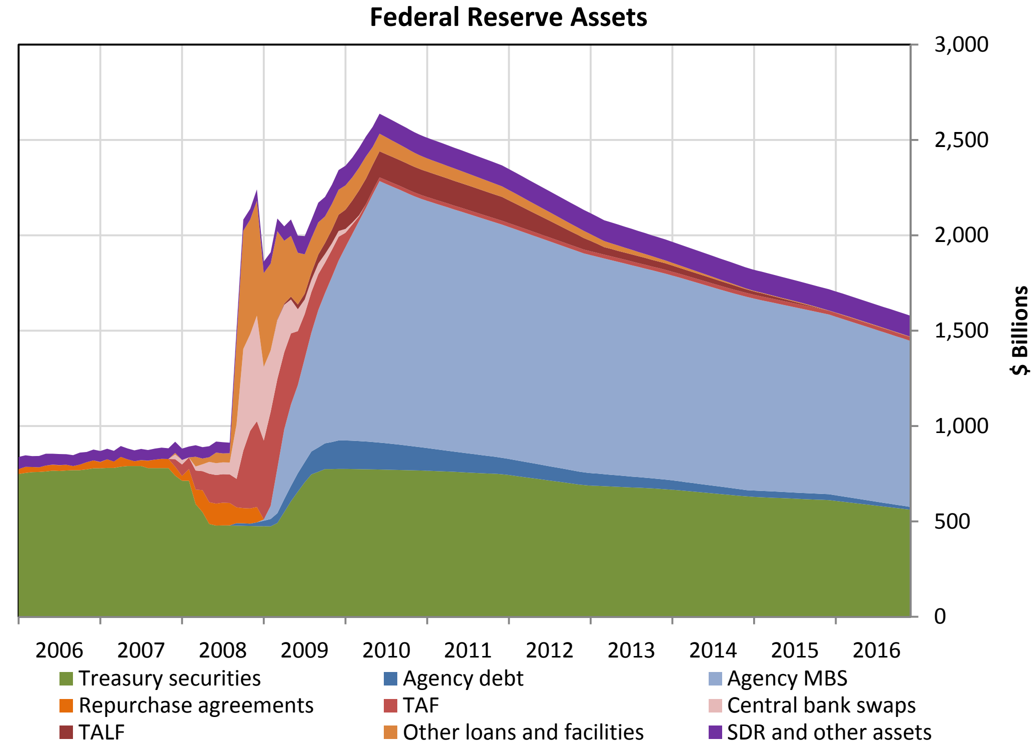
Baseline Scenario

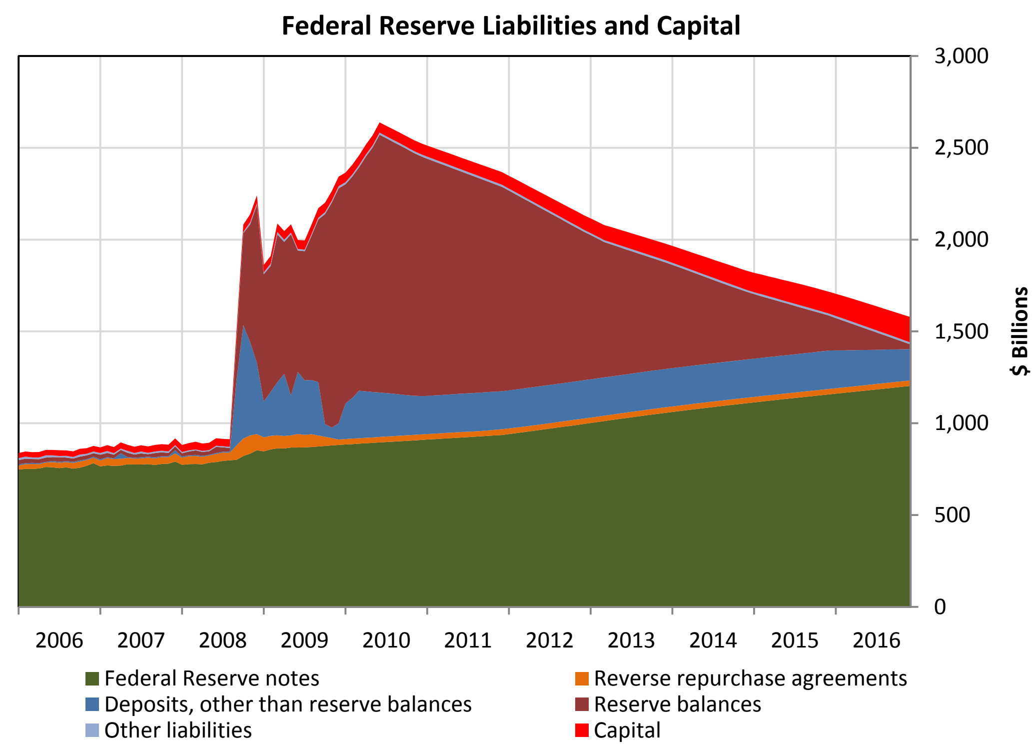




Source. Federal Reserve H.4.1 statistical release and staff calculations.

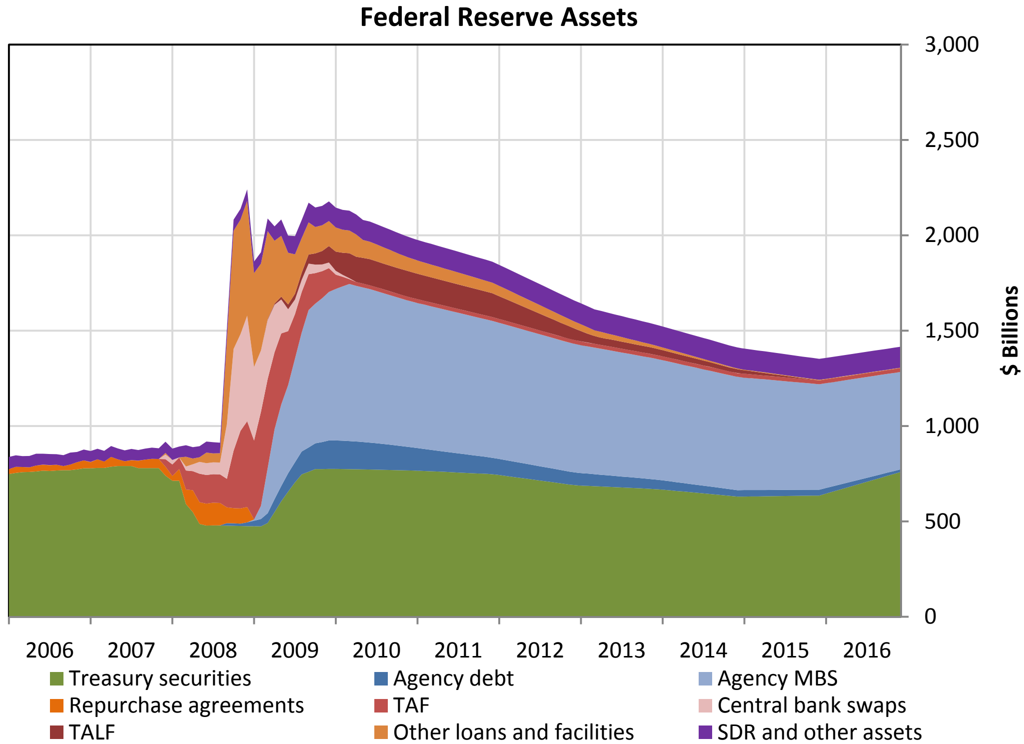
Alternative A

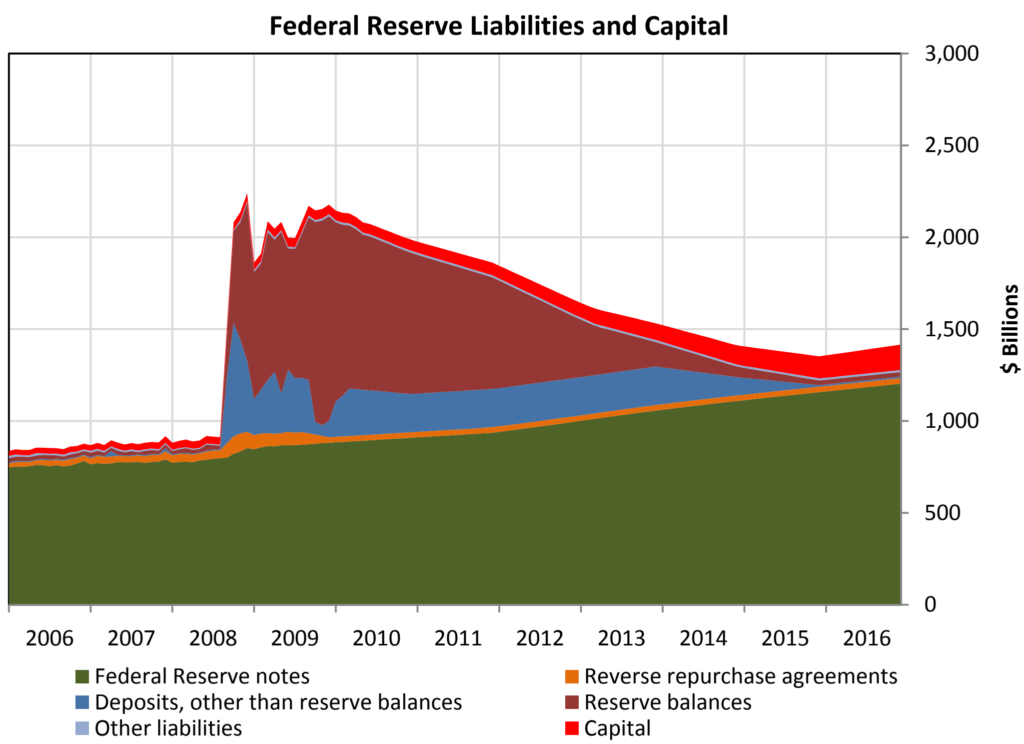




Source. Federal Reserve H.4.1 statistical release and staff calculations.

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 continues to be quite weak, consistent with the staff's forecast of a moderate economic recovery and only gradual improvement in the health of the banking system. M2 is also likely to be weak as a result of slow income growth, anemic increases in bank credit, and a continued gradual reallocation of household wealth toward riskier assets.

Bank credit is forecast to contract 4½ percent this year. This is a sharper drop than previously projected and reflects persistent declines in most major loan categories through the fourth quarter of 2009 that are only partially offset by purchases of securities. This would be the first annual decline in nominal bank credit since 1948. Growth in bank credit is expected to increase gradually to about 4¼ percent in 2010 and 6½ percent in 2011, a bit more than in the previous projection, reflecting the staff's improved outlook for economic activity over the forecast period. However, loan growth remains particularly weak until late in 2010, partly reflecting concern among lenders about further deterioration in credit quality and its potential impact on their own capital positions.

Domestic nonfinancial sector debt is projected to expand at an annual rate of about [5] percent through 2011, reflecting continued rapid growth of federal debt, a moderate rise in state and local government debt, and a gradual resumption of growth in household and business borrowing. Federal debt is projected to increase rapidly over the forecast period because of continued large deficits. State and local government borrowing is expected to slow from its recent rapid pace, in part because stimulus grants will finance some of the projected rise in the sector's capital outlays. Private-sector debt is expected to pick up gradually. Growth in household debt is forecast to begin to edge up early next year as the economy improves, but the rise will be constrained by the elevated unemployment rate, continued deleveraging by households, and lending standards that ease only gradually. Despite expected further improvement in conditions in capital markets, borrowing by nonfinancial businesses is expected to remain sluggish over the next several years, owing to weakness in commercial real estate markets and relatively tight lending standards at banks.

M2 is projected to continue contracting in the fourth quarter of 2009 and the first quarter of 2010 as households reallocate more of their wealth toward riskier assets. The contraction is accounted for by substantial declines in small time deposits and retail money market mutual funds, which partly reflect low and declining interest rates on those instruments. Over the course of next year, M2 is forecast to increase less rapidly than nominal GDP, as the run-off of safe-haven M2 assets continues amid improvements in economic and financial market conditions. In 2011, the staff expects M2 to accelerate to about 5 percent, somewhat less than the growth rate of nominal GDP.

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	-7.6
	May-09	9.1
	Jun-09	3.6
	Jul-09	-3.1
	Aug-09	-7.3
	Sep-09	0.8
	Oct-09	-3.5
	Nov-09	-3.2
	Dec-09	-3.0
	Jan-10	-2.1
	Feb-10	-0.5
	Mar-10	1.6
	Apr-10	2.9
	May-10	3.2
	Jun-10	3.3
	Jul-10	4.2
	Aug-10	4.2
	Sep-10	4.2
Quarterly Growth Rates		
	2009 Q1	12.9
	2009 Q2	2.6
	2009 Q3	-0.8
	2009 Q4	-2.8
	2010 Q1	-1.7
	2010 Q2	2.3
	2010 Q3	3.9
Annual Growth Rates		
	2008	8.3
	2009	3.0
	2010	2.2
Growth From	To	
Aug-09	Dec-09	-2.2
2008 Q3	2009 Q3	6.3
2009 Q3	2010 Q1	-1.8

* This forecast is consistent with nominal GDP and interest rates in the Greenbook forecast. Actual data through August 31, 2009; projections thereafter.

DIRECTIVE

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

AUGUST 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 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.

SEPTEMBER 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 $300 billion of longer-term Treasury securities by the end of October, gradually slowing the pace of these purchases until they are completed. The Desk is expected to purchase up to $200 billion in housing-related agency debt by the end of the year and about $1.5 trillion of agency MBS by the end of the second quarter of 2010. 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.

SEPTEMBER FOMC MEETING — ALTERNATIVE 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 complete purchases of about $300 billion of longer-term Treasury securities by the end of October, and up to $200 billion in housing-related agency debt and up to $1.25 trillion of agency MBS [by the end of the first quarter of 2010 | in the second quarter of 2010], gradually slowing the pace of these purchases as they near completion. The Committee anticipates that outright purchases of securities will cause the size of the Federal Reserve's balance sheet to expand significantly in coming months. The 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.

SEPTEMBER 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 $300 billion of longer-term Treasury securities by the end of October, and about $150 billion in housing-related agency debt and about $1.0 trillion of agency MBS by the end of the year, gradually slowing the pace of these purchases as they near completion. The Committee anticipates that outright purchases of securities will cause the size of the Federal Reserve's balance sheet to expand significantly in coming months. The 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	-1.2	-1.9	-0.8
Lagged headline inflation	0.8	-1.9	-0.7
Projected headline inflation	-1.2	-2.0	-0.8

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	$i_t = 1.18 i_{t-1} - 0.38 i_{t-2} + 0.20[0.98 + 1.72\,\pi_{t+2\mid t} + 2.29(y_{t+1\mid t} - y_{t+1\mid t}^*) - 1.37(y_{t-1} - y_{t-1}^*)]$
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	$i_t = i_{t-1} + 0.5(\pi_{t+3\mid t} - \pi^*) + 0.5(\Delta^4 y_{t+3\mid t} - \Delta^4 y_{t+3\mid t}^*)$

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.

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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 September 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 August 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 large-scale 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 the end of the first quarter of 2010.
  - The maturity distribution of the Treasury securities purchased 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 of Treasury securities are assumed, and maturing securities are not rolled over. As a result, total holdings of Treasury securities decline as issues mature. Treasury securities held in the SOMA portfolio prior to the initiation of the large-scale asset purchase are assumed to be reinvested as they mature.
  - Agency debt holdings peak at $147 billion in March of 2010, and decline slowly over the remainder of the forecast horizon as they mature.
  - Due to expected settlement lags and prepayments, agency MBS holdings peak at $1.15 trillion in June 2010, a slightly lower level than the amount purchased. For agency MBS, the rate of prepayment is based on estimates from one of the investment managers. The historically low coupon on these securities implies a relatively slow prepayment rate. As a result, at the end of 2016, $731 billion of the $1.25 trillion of MBS purchased remains on the balance sheet.
- In the scenario corresponding to Alternative A, purchases of agency MBS are increased by $250 billion to $1.5 trillion and the purchases (but not settlement) are completed by the first quarter of 2010. The purchases are spread equally over the coming months until the

completion date. Agency debt purchases amount to $150 billion and are completed by the end of 2009.

- In the scenario corresponding to Alternative C, purchases of agency MBS are decreased by $250 billion to $1 trillion. Moreover, the purchases (but not settlement) are completed by the end of 2009. Purchases are decreased equally over the over the remaining months of 2009. Agency debt purchases mirror those in the scenario corresponding to Alternative A.
- By the end of the projection period in the scenario corresponding to Alternative C, 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 Treasury securities to satisfy these needs.

Liquidity Programs and Credit Facilities

- The assumptions about the liquidity programs and credit facilities are the same across Alternatives.
- 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.
- Only the Term Auction Facility (TAF) remains sizable beyond 2010 at a steady-state level of $20 billion. In the near term, we assume that the TAF will be scaled down. In particular, the amounts offered at 84-day auctions will eventually decrease to zero and term lengths will be reduced so that these loans mature at the same time as 28-day loans. By January 2010, only 28-day auctions will be held. At the end of 2009, the TAF projection assumes that the full amount offered of $125 billion is taken down, but subsequently demand drops and the TAF reaches the steady state level by the end of April 2010.
- 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.[14] 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 $137 billion in June 2010, well below the $1 trillion limit.
    - TALF loans with a three-year maturity reach $87 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 the first quarter of 2013.
    - TALF loans with a five-year maturity reach $50 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) and Primary Dealer Credit Facility (PDCF)

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[14] 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 not directly affected by this restructuring.

are expected to continue to be unused. Credit extended through the Commercial Paper Funding Facility (CPFF) winds down to zero a few months after the facility expires on February 1, 2010.

Other

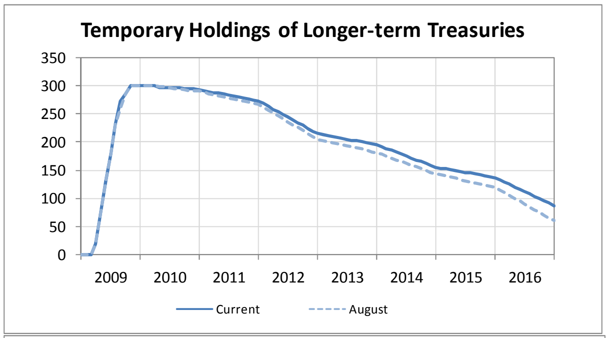
- The Special Drawing Rights (SDR) certificate account is projected to increase by $10 billion, to $12 billion, by the end of 2011, as a result of an assumed monetization of the allocation of SDRs.

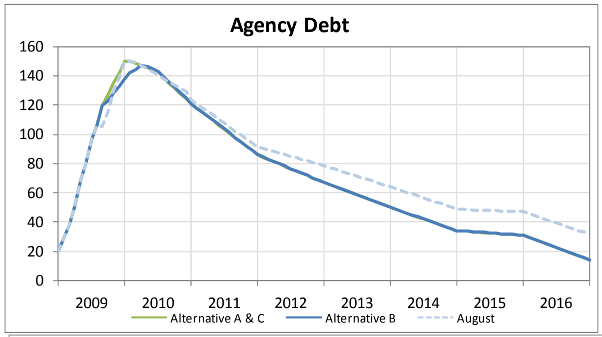
LIABILITIES

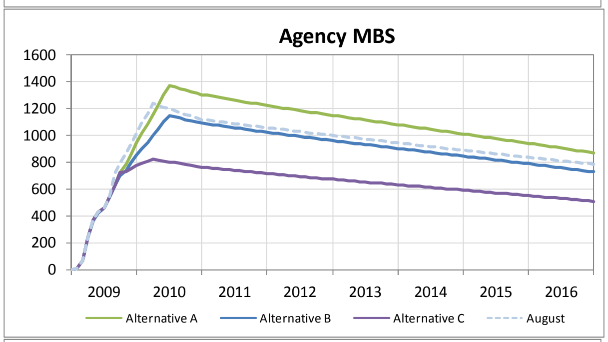
- Currency (Federal Reserve notes in circulation) grows in line with the staff forecast for money stock currency through the end of 2011. From 2011 to the end of the projection period, currency grows at the same rate as nominal GDP as projected in the extended Greenbook forecast.
- The U.S. Treasury's general account (TGA) is projected to follow the Staff forecast of Treasury's end of period total cash balance without the Supplementary Financing Program (SFP) through March 2010. In essence, this assumption implies that the Treasury continues to maintain all of its operating cash at the Federal Reserve over that period. Thereafter, the TGA returns to its historical target level of $5 billion by the end of 2010. This account remains constant at that level over the forecast period.
- In the near term, movements in the Treasury's Supplementary Financing Account (SFA) reflect constraints Treasury faces with the debt limit. Reflecting the Treasury's announcement regarding the SFP, the SFA is projected to run down to $15 billion by October 2009 and remain there through the end of the year. Subsequently, under the assumption that the Congress raises the debt ceiling, the balances in the SFA return to $200 billion during the first quarter of 2010 and remains at this level through the end of 2015. At this point, reserve balances are falling towards $25 billion and, as a result, the Supplementary Financing Program is assumed to run down.
- Reverse repurchase agreements with foreign official and international accounts are expected to decrease to $30 billion by the end of 2009 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.
- As the asset side of the balance sheet expands and contracts, so do reserve balances. Over the projection period, reserve balances in the baseline scenario are expected to peak at $1.2 trillion and then fall to $25 billion.

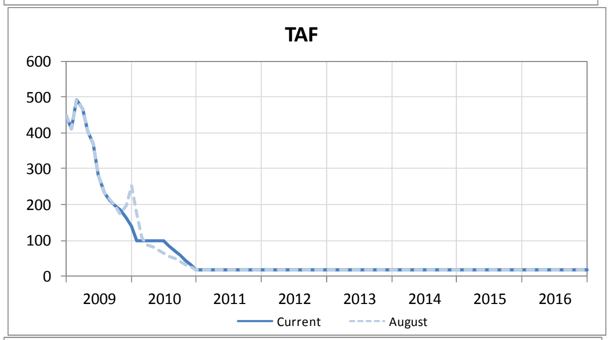
APPENDIX C: INDIVIDUAL BALANCE SHEET ITEM PROFILES

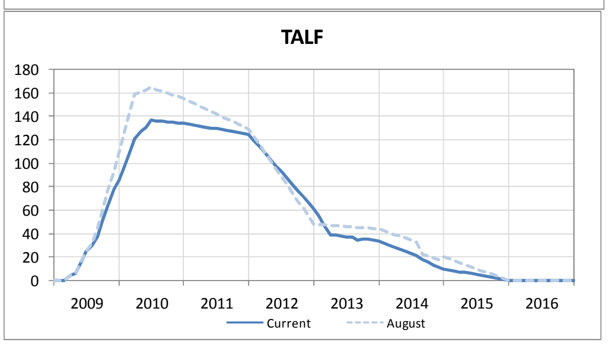
Asset purchases and Federal Reserve liquidity programs and credit facilities

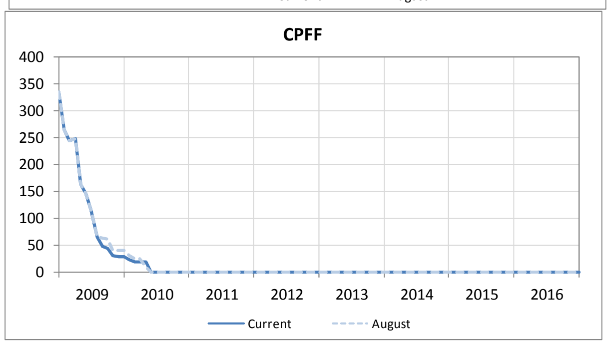




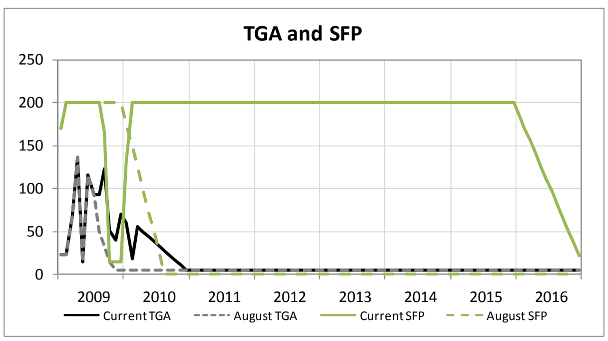


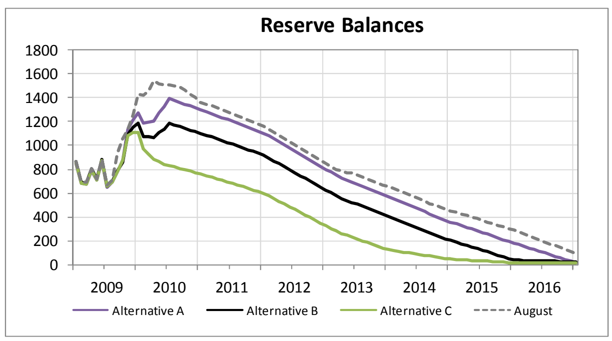






Federal Reserve liabilities and capital





Note: All values are in billions of dollars.

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

	Aug 31, 2009	2009	2010	2011	2012	2013	2014	2015	2016
		End-of-Year							
		$ Billions							
Total assets	2,081	2,243	2,316	2,171	1,949	1,805	1,667	1,567	1,439
Selected assets:									
Liquidity programs for financial firms	309	185	21	21	21	21	21	21	21
Primary, secondary, and seasonal credit	33	30	1	1	1	1	1	1	1
Term auction credit (TAF)	212	125	20	20	20	20	20	20	20
Foreign central bank liquidity swaps	63	30	0	0	0	0	0	0	0
Primary Dealer Credit Facility (PDCF)	0	0	0	0	0	0	0	0	0
Asset-Backed Commercial Paper Money Market Mutual Fund Liquidty Facility (AMLF)	0	0	0	0	0	0	0	0	0
Lending though other credit facilities	85	114	134	125	61	34	20	0	0
Net portfolio holdings of Commercial Paper Funding Facility (CPFF)	48	28	0	0	0	0	0	0	0
Term Asset-Backed Securities Loan Facility (TALF)	37	86	134	125	61	34	20	0	0
Support for specific institutions	101	73	70	55	36	14	3	2	1
Credit extended to AIG	39	18	29	23	13	0	0	0	0
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	1,492	1,768	1,983	1,860	1,721	1,626	1,513	1,434	1,307
U.S. Treasury securities	747	775	768	748	690	670	630	612	562
Agency securities	119	138	121	86	67	50	34	31	14
Agency mortgage-backed securities	625	855	1,094	1,026	964	906	849	791	731
Memo: TSLF	0	0	0	0	0	0	0	0	0
Repurchase agreements	0	0	0	0	0	0	0	0	0
Special drawing rights certificate account	2	5	10	12	12	12	12	12	12
Total liabilities	2,030	2,191	2,256	2,102	1,870	1,714	1,562	1,446	1,300
Selected liabilities:									
Federal Reserve notes in circulation	870	882	909	937	996	1,059	1,111	1,158	1,204
Reserve balances of depository institutions	783	1,180	1,098	916	624	406	203	39	25
U.S. Treasury, general account	93	70	5	5	5	5	5	5	5
U.S. Treasury, supplemental financing account	200	15	200	200	200	200	200	200	22
Total capital	52	52	60	69	79	91	105	120	138

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