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)

JANUARY 21, 2010

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 remained supportive of economic growth over the intermeeting period. Corporate bond spreads fell substantially and broad equity indexes edged higher, on net. Yields on longer-dated Treasury securities were about unchanged and market-based measures of near-term inflation compensation rose modestly. The dollar rose against most other major currencies. The expected path of monetary policy moved lower over the period, reportedly as a result of Federal Reserve communications that were read as suggesting that policy would be accommodative for somewhat longer than previously expected. Markets exhibited few, if any, signs of strain in connection with the pending expiration of several extraordinary Federal Reserve lending facilities in early February and the ongoing tapering of purchases of agency mortgage-backed securities and agency debt. Consistent with the stability and improved liquidity observed in funding markets over recent months, borrowing from Federal Reserve facilities declined further over the period.

The level of private-sector debt contracted in the fourth quarter as a result of continued declines in the debt of households and businesses. However, federal borrowing remained robust, supporting a modest expansion in total domestic nonfinancial sector debt. Banks largely stopped tightening lending standards outside of the commercial real estate sector, but modest net fractions continued to tighten terms. Commercial bank loans declined in December as standards and terms remained tight and loan demand weakened further.

MONETARY POLICY EXPECTATIONS AND TREASURY YIELDS

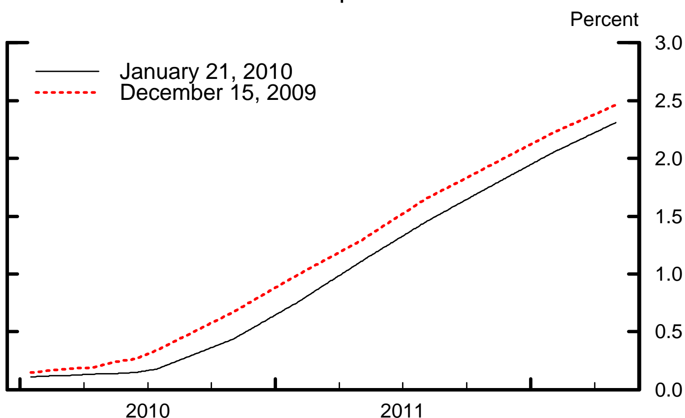
The FOMC's decision to keep the target range for the federal funds rate unchanged at the December meeting and its retention of the "extended period" language in the statement were widely anticipated and elicited little reaction in markets. However, market participants apparently viewed statements by some Federal Reserve officials over the intermeeting period and the minutes of the December meeting as suggesting policy would likely be accommodative for somewhat longer than they had been expecting. Investors were reportedly surprised by the statement in the minutes that a few members of the Committee "observed that it might become desirable at some point in the future to provide more policy stimulus by expanding the planned scale of the Committee's large-scale asset purchases" and by the indication that only one member saw improvements in financial markets and the economic outlook as potentially warranting asset sales. Incoming economic data were, on balance, in line with market expectations and had little net impact on implied policy rates, except for the weaker-than-expected December employment report which was interpreted by market participants as providing additional support for continued accommodation.[1]

Futures quotes combined with the staff's standard assumption of a one-basis point-per-month term premium in interbank rates imply that policy expectations moved modestly lower over the intermeeting period (Chart 1). Futures rates now suggest that market participants anticipate that the target federal funds rate will be increased beginning in the third quarter of 2010 and will reach about 2 percent by the end of 2011. The timing of the lift-off is roughly consistent with results from the January survey of primary dealers. That survey indicated that about two-thirds of respondents expect the first rate increase to occur by the end of 2010, in line with

[1] The effective federal funds rate averaged 0.11 percent over the intermeeting period, and the intraday standard deviation averaged 3.3 basis points.

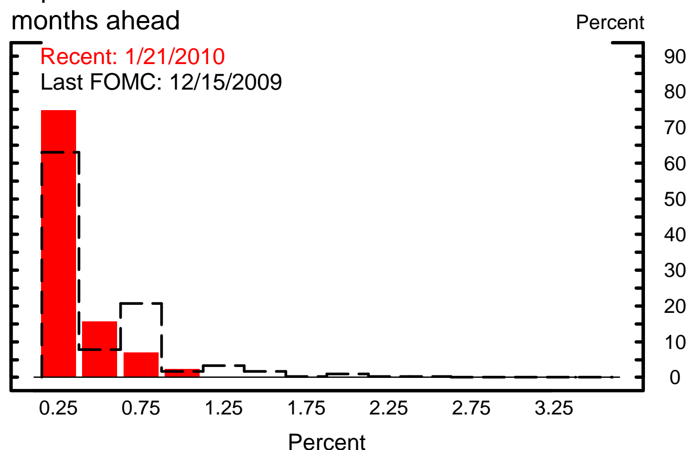
Chart 1
Interest Rate Developments

Central tendencies of the expected federal funds rate



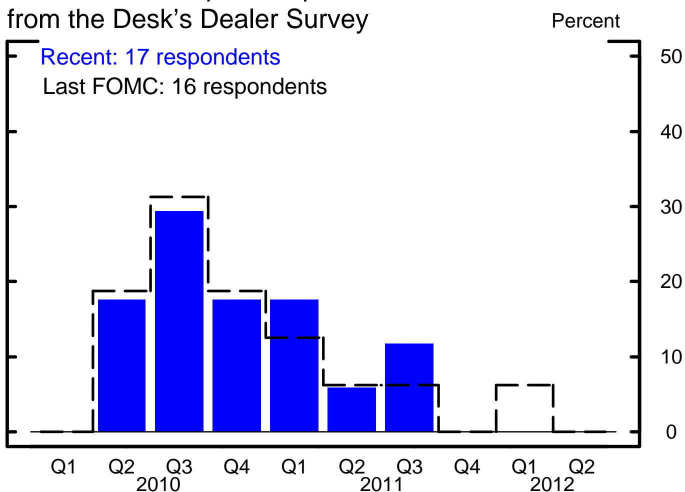
Note. Mean is estimated from federal funds and Eurodollar futures and includes an allowance for term premiums and other adjustments.
Source. CME Group.

Implied distribution of federal funds rate six months ahead



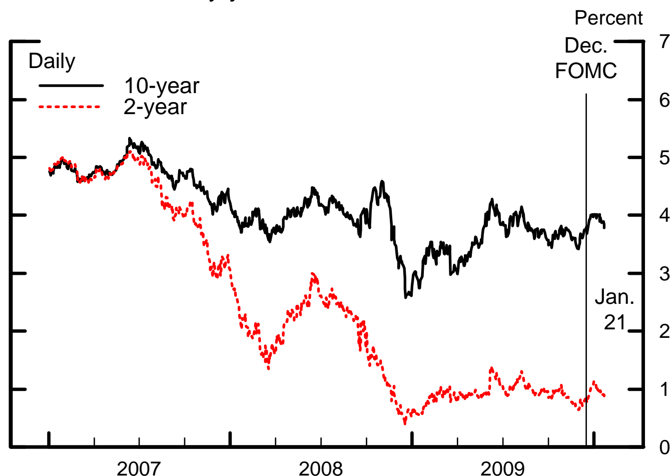
Note. Derived from options on Eurodollar futures contracts, with term premium and other adjustments to estimate the distribution of the federal funds rate.
Source. CME Group.

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



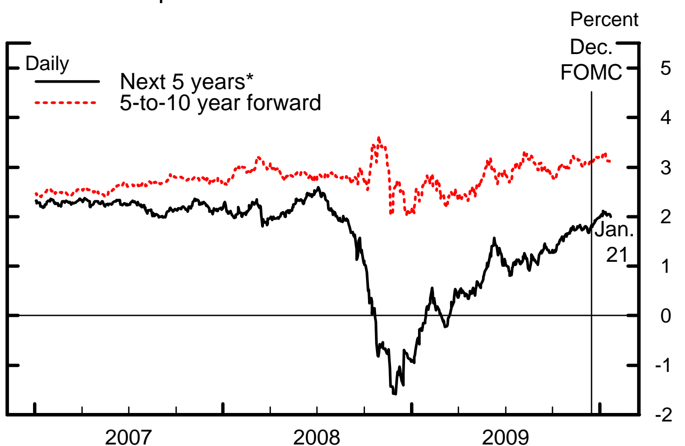
Source. Federal Reserve Bank of New York.

Nominal Treasury yields



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

Inflation compensation



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

10-year Treasury implied volatility

Note. 10-year Treasury note implied volatility derived from options on futures contracts.
Source. Bloomberg.

what was observed in the December survey. Staff models suggest that term premiums were unchanged over the intermeeting period and are about in line with our standard assumption.

In contrast to the decline in the expected policy path, yields on two-year and ten-year nominal Treasury securities were about unchanged, on net, amid some notable volatility. Yields on five-year TIPS, however, fell somewhat over the intermeeting period, leaving near-term inflation compensation about 15 basis points higher. Staff models indicate that a rise in inflation expectations (which likely owed in part to the sharp rise in oil prices over the intermeeting period), higher inflation risk premiums, and improved liquidity conditions in the TIPS market contributed about equally to the rise in near-term inflation compensation. Five-year inflation compensation five years ahead moved down slightly, while survey measures of long-term inflation expectations were about unchanged.

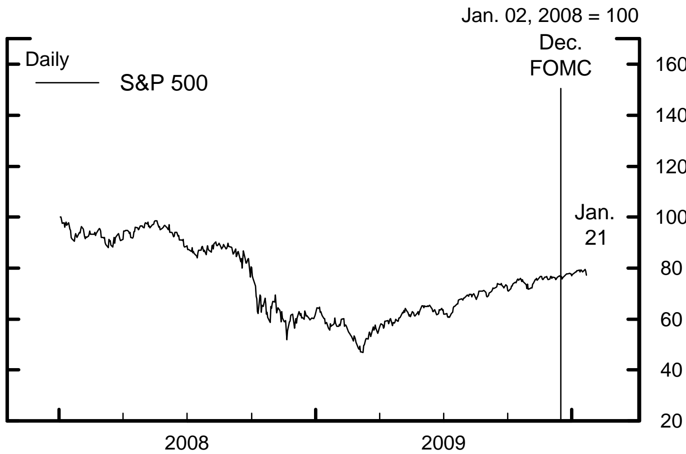
The Treasury auctioned $202 billion in coupon securities of various maturities over the intermeeting period. The auctions were generally well received. On December 24, Congress approved an increase in the debt ceiling of $290 billion, which provides the Treasury with several more months of borrowing capacity. Market participants reported that the passage of only a relatively small increase in the debt ceiling resulted in continued market uncertainty about the future of the Supplementary Financing Program.

CAPITAL MARKETS

Broad equity price indexes rose about 1 percent, on balance, over the intermeeting period. Stock prices trended higher over much of the period as incoming data reportedly confirmed investors' beliefs that the economy was continuing to recover (Chart 2). Analysts' forecasts of year-ahead earnings were little changed through mid-January, while option-implied volatility on the S&P 500 index continued to decline.

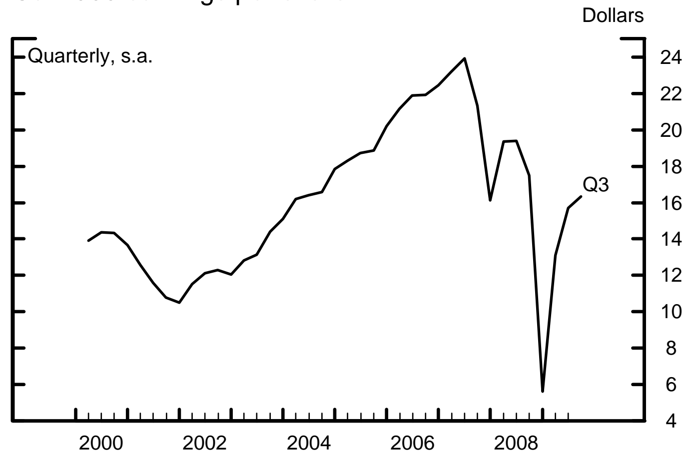
Chart 2
Asset Market Developments

Equity prices



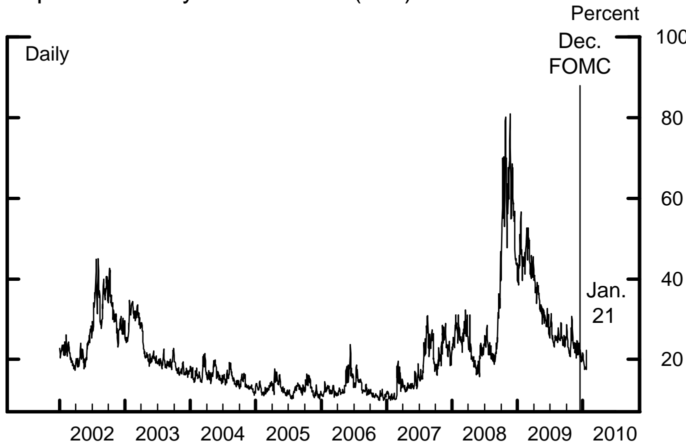
Source. Bloomberg.

S&P 500 earnings per share



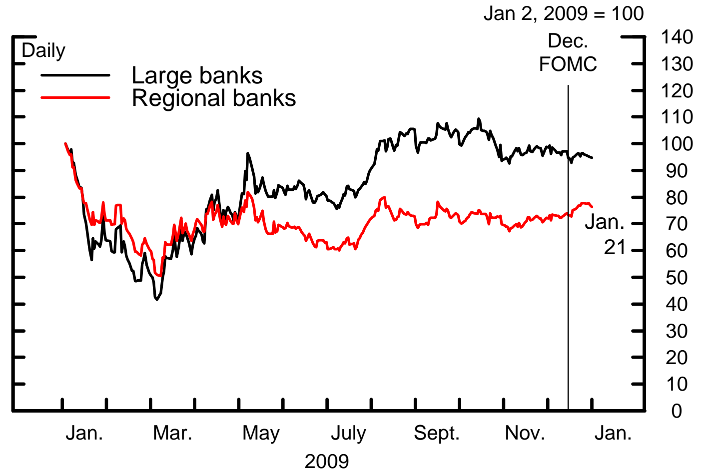
Source. Thomson Financial.

Implied volatility on S&P 500 (VIX)



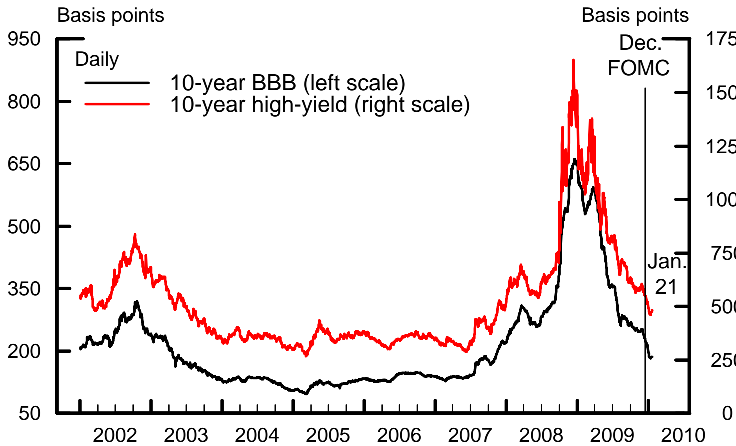
Source. Chicago Board Options Exchange.

Bank ETFs



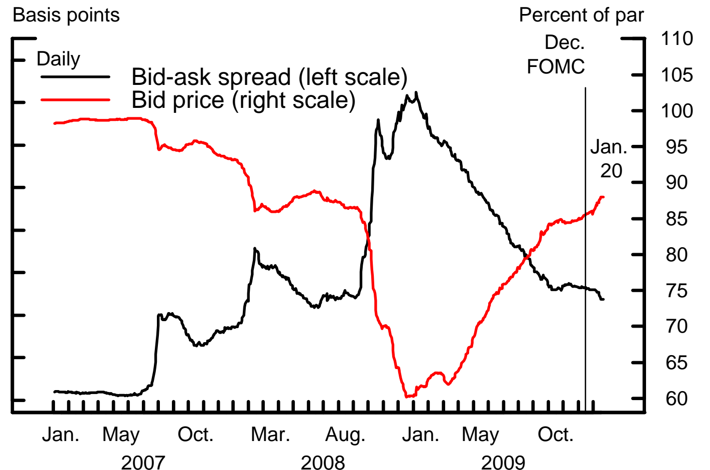
Note. Large banks ETF includes 24 banks. Small banks ETF includes 51 banks.
Source. Bloomberg.

Corporate bond spreads



Note. Measured relative to a smoothed nominal off-the-run Treasury yield curve.
Source. Merrill Lynch and staff estimates.

Secondary loan market pricing



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

However, equity prices retraced most of those gains recently on concerns about potential downside risks to the global recovery and the Administration's proposal to limit the size of financial institutions and restrict their trading activity. The equity premium, measured as the staff's estimate of the expected real return on equities over the next ten years relative to the real 10-year yield on Treasury securities, was little changed over the intermeeting period and remained well above levels observed during the past decade.

Financial sector shares, on the whole, outperformed the broader market during the period. Available fourth-quarter earnings reports have generally been in line with market expectations. Capital market trading revenues moderated more than expected and net interest margins declined due to reduced loan levels and higher non-performing loans; changes in delinquency rates were mixed. Following Bank of America's equity offering in early December, both Wells Fargo and Citigroup issued shares, and all three used the proceeds to repay TARP capital. Including these three repayments, the eight major financial institutions that received initial disbursements of funds under the TARP in October of 2008 have all now repurchased the preferred equity shares that they issued to the government. Late in the period, the announcement of the Financial Crisis Responsibility Fee and the Administration's proposal regarding financial institutions' size and trading activity pressured financial shares lower and boosted spreads on their credit default swaps as market participants assessed the potential impact of these proposals on the affected institutions.[2]

Yields on both investment- and speculative-grade corporate bonds declined over the intermeeting period, leaving their spreads over Treasury yields lower by about 45 and 65 basis points, respectively. Spreads on investment-grade corporate bonds have

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[2] The proposed fee would consist of a 15 basis point levy on total assets less Tier 1 capital and FDIC-assessed deposits and would be applied to firms with over $50 billion in total consolidated assets that own insured depository institutions and broker-dealers.

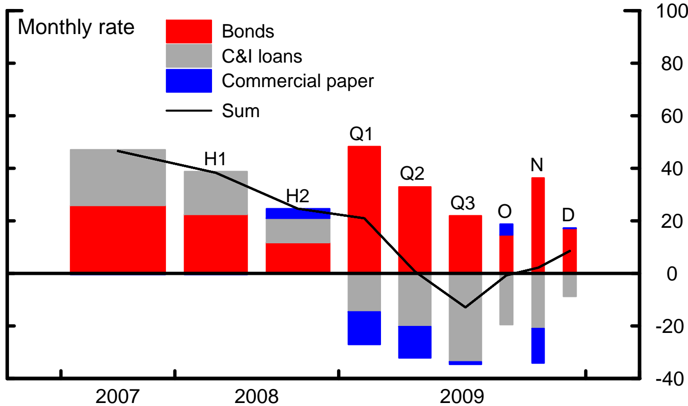
moved back to levels last seen in late 2007. The recent decline appears to owe in part to continued strong net inflows into taxable bond mutual funds. On balance, the credit quality of nonfinancial firms improved slightly in recent months. Based on data through the fourth quarter, the pace of downgrades of nonfinancial bonds was about the same as that of upgrades, although the bonds of a single domestic automaker accounted for much of the latter. The year-ahead expected default frequency for nonfinancial firms from Moody's KMV fell only slightly in January, but the six-month trailing corporate bond default rate has dropped sharply and now stands below 1 percent, a level that is comparable to averages over the last decade before the downturn.

Overall, net debt financing by nonfinancial businesses was near zero in the fourth quarter, after having dipped into negative territory in the third quarter (Chart 3). Adjusting for the normal slowing of issuance around year-end, gross issuance of investment-grade bonds remained robust in December (and in early January). However, commercial paper outstanding was little changed and C&I loans continued to decline sharply. In contrast, net equity issuance by nonfinancial firms was negative during the quarter for the first time since 2008, due to a rebound in cash-financed mergers. For financial firms, public equity issuance surged in conjunction with the repayment of TARP capital, while gross bond issuance continued to be somewhat slower than observed in the third quarter.

Over the intermeeting period, the average interest rate on 30-year conforming fixed-rate mortgages increased slightly, on net, to 5 percent. Yields on agency mortgage-backed securities (MBS) were unchanged, even as net issuance of MBS by Fannie Mae and Freddie Mac dropped sharply in November, partly reflecting seasonal factors. The tapering of MBS purchases and the anticipated completion of such transactions by the end of the first quarter have yet to have a discernable impact on MBS spreads as purchase amounts continue to outpace mortgage origination. The

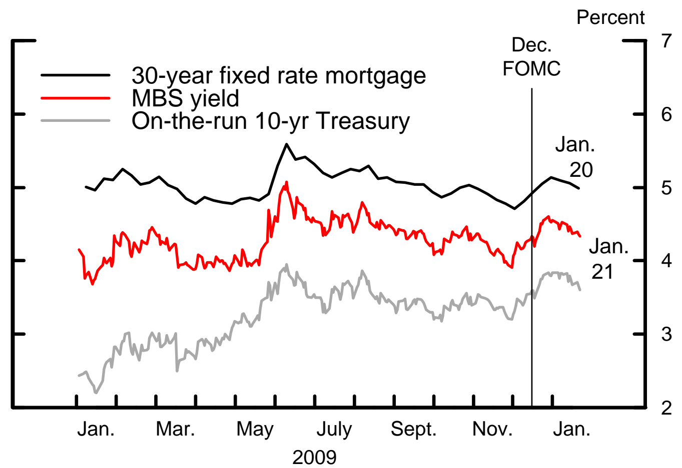
Chart 3
Credit Market Developments

Changes in selected components of debt of the nonfinancial business sector



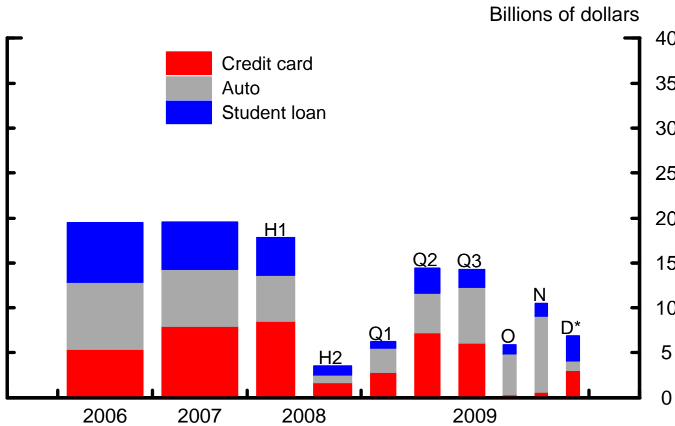
Note. CP and C&I loans are seasonally adjusted; bonds are not.
Source. Depository Trust & Clearing Corporation, Thomson Financial, and Federal Reserve H.8 release.

Select interest rates



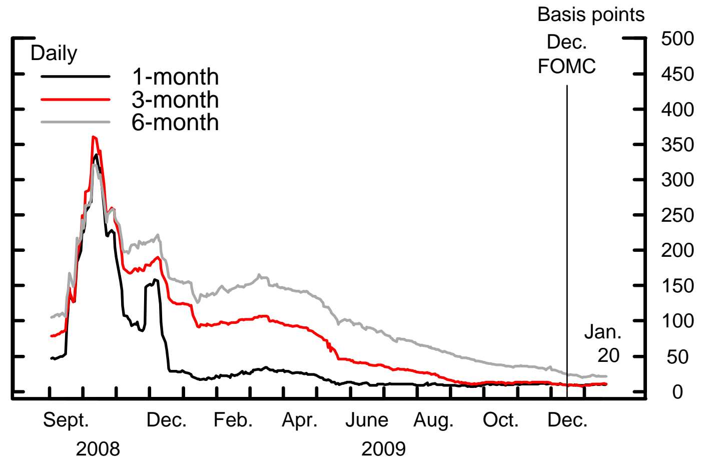
Note. Data are business daily except for the 30-year fixed rate mortgage which is weekly.
Source. Bloomberg.

Gross ABS issuance



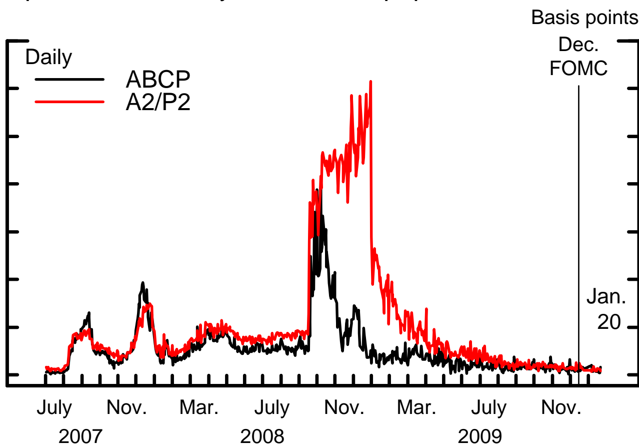
*As of January 15, 2010, there has been no issuance in January.
Note. Auto ABS include car loans and leases and financing for buyers of motorcycles.
Source. Inside MBS & ABS, Merrill Lynch, Bloomberg, and the Federal Reserve.

Libor over OIS spreads



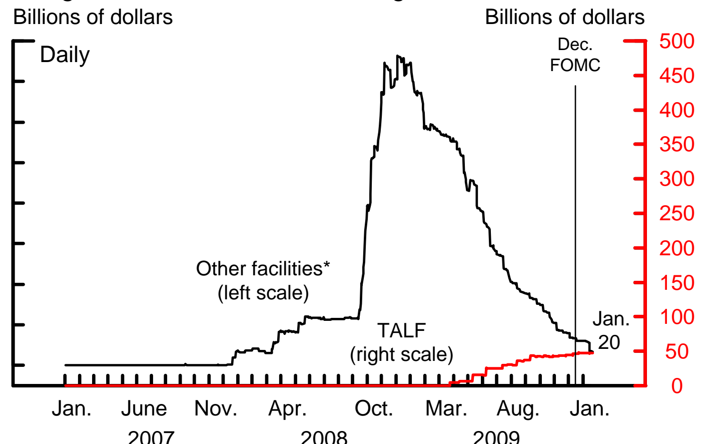
Source. British Bankers' Association and Prebon.

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.

Usage of TALF and other lending facilities



* Includes primary, secondary, and seasonal credit; TAF; PDCF; dollar liquidity swaps; CPFF; and AMLF.
Source. Federal Reserve.

Desk's survey of mortgage market analysts indicates that market participants expect MBS spreads to rise by an average of 20 to 25 basis points in March and April as purchases come to an end. Analysts noted, however, that there was considerable uncertainty about the possible effects of the end of the purchase program.

On December 24th, the Treasury expanded its capital commitment to Fannie Mae and Freddie Mac to any amount necessary to offset cumulative reductions in net worth over the next three years. Market participants generally welcomed the news, although it elicited little immediate price reaction. Analysts suggested that the announcement failed to resolve long-run uncertainty surrounding the status of these government-sponsored enterprises (GSEs) and, partly as a consequence, they remain unsure whether the commitment will encourage the return of investors who have reduced their holdings of agency debt and MBS. Additionally, at year-end the Treasury allowed its unused GSE Credit Facility as well as its MBS purchase program to expire.

Revolving and nonrevolving consumer credit continued to contract in November and delinquency rates on consumer loans remained high. Credit card interest-rate spreads continued to widen, likely reflecting several factors, including lenders' preparations for the implementation of the CARD Act next month, regulatory and accounting changes which increase the cost of funds, and the continued high rate of charge-offs. In contrast, spreads of rates on new auto loans over those on comparable-maturity Treasuries dropped further in December as captive finance companies offered lower rates to spur sales. Consumer ABS issuance was about flat in December, although credit card issuance picked up relative to previous months following the FDIC's announcement of a temporary extension of safe harbor rules

regarding its handling of securitized assets should a sponsoring bank be taken into receivership.[3]

MARKET FUNCTIONING AND FEDERAL RESERVE PROGRAMS

Conditions in short-term funding markets remained stable over the intermeeting period. Year-end pressures were generally modest amid ample liquidity. One- and three-month Libor-OIS spreads remained low while six-month spreads edged down somewhat further. Spreads of rates on A2/P2-rated commercial paper and AA-rated ABCP over the AA nonfinancial rate were also little changed. Demand for Treasury bills in the cash and repo markets was strong around year-end. Elevated demand persisted in subsequent weeks amid the seasonal decline in bills outstanding and the reduction in the Supplementary Financing Program, resulting in continued downward pressure on both bill yields and short-term Treasury repo rates. No signs of stress in short-term funding markets were visible in association with the impending expiration of several extraordinary Federal Reserve lending facilities on February 1.[4] Indicators of functioning in other markets were largely unchanged.[5] Consistent with these developments, borrowing from Federal Reserve facilities declined further over the period.

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[3] The box entitled "The Effects of FAS 166 and FAS 167 on Commercial Banks" on pages 10-11 of the December 10, 2009, Bluebook provides additional information.

[4] The facilities set to expire are the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, the Commercial Paper Funding Facility, the Primary Dealer Credit Facility, and the Term Securities Lending Facility. In addition, the temporary liquidity swap arrangements with foreign central banks are expected to expire on February 1.

[5] Market participants continue to evaluate the potential impact of the Financial Crisis Responsibility Fee on market functioning. Leverage created through the use of repurchase agreements would not be exempt from the fee under the announced structure, leading some market participants to suggest that imposition of the fee could raise the cost of financing and put modest pressure on short-term interest rates.

Two TALF operations settled during the intermeeting period: a CMBS operation for $1.3 billion in mid-December and an ABS operation for $1.1 billion in early January. (See box entitled "Balance Sheet Developments during the Intermeeting Period.") The January TALF operation supported the issuance of only one ABS, likely because of the proximity of the holiday season. Preliminary indications suggest that the February and March ABS subscriptions are likely to be substantial as market participants seek to take advantage of the TALF program before its expiration.

The Federal Reserve proposed amendments to Regulation D in late December that would enable the establishment of a term deposit facility. Under the proposal, Federal Reserve Banks would offer interest-bearing term deposits to eligible institutions through an auction mechanism. The news was generally well received by markets and elicited little price response.

FOREIGN MARKET DEVELOPMENTS

Over the intermeeting period, benchmark sovereign yields in the advanced foreign economies displayed some volatility but ended little changed on net (Chart 4). Global sovereign bond offerings have been reasonably well received since the start of the year, although mounting fiscal concerns have made investors more reluctant to hold debt issued by the Greek government. As a result, the spread between 10-year Greek and German sovereign yields has increased 60 basis points to almost 3 percentage points. Investors have also displayed increasing concern about fiscal problems in Spain and Portugal, though spreads over German debt for these countries are closer to 1 percentage point.

The European Central Bank (ECB), the Bank of England (BOE), the Bank of Japan (BOJ), and the Bank of Canada (BOC) held their policy rates constant over the period. The BOE kept the size of its asset purchase facility at £200 billion and announced that it expected to reach this limit by the end of this month. The

Balance Sheet Developments during the Intermeeting Period

The Federal Reserve's total assets edged up to about $2.3 trillion over the intermeeting period.[1] As a result of ongoing asset purchases, securities held outright increased by $78 billion, which more than offset the $61 billion net decline in lending through liquidity and credit facilities.

The Open Market Desk purchased $5 billion in agency debt securities and $74 billion in agency mortgage-backed securities (MBS) during the intermeeting period.[2] In contrast, most of the System's liquidity and credit programs contracted further. Consistent with the continued improvement in short-term funding markets over recent months, term auction credit declined $47 billion, foreign central bank liquidity swaps declined $13 billion, and primary credit declined $4 billion. Net portfolio holdings of Commercial Paper Funding Facility LLC (CPFF) declined $1 billion to $13 billion, of which $8 billion is commercial paper.[3] Lending under the Primary Dealer Credit Facility (PDCF) and under the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) remained at zero during the intermeeting period. Securities lent through the Term Securities Lending Facility (TSLF) also remained at zero.[4] The final scheduled Schedule 2 TSLF operation was held on January 7, 2010; it garnered no participation. As previously announced, the final day for operations under the foreign central bank liquidity swaps, the CPFF, the PDCF, and the AMLF is expected to be February 1, 2010. Credit extended through these liquidity facilities now stands at about $9 billion.

Lending through the Term Asset-Backed Securities Loan Facility (TALF) edged up $1 billion over the period. Two TALF operations settled during the intermeeting period. About $1.3 billion in loans backed by commercial mortgage-backed securities (CMBS) were extended in December, and about $1.1 billion in loans against non-mortgage asset-backed securities (ABS) were extended in January. This increase in lending was offset by about $1.4 billion in loan prepayments. The January CMBS subscription, which took place on January 20, saw $1.5 billion in loan requests backed by legacy CMBS; these loans will settle on January 28.

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[1] These data are through January 20, 2010.

[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 $79 billion of MBS, on net.

[3] The remaining assets of CPFF LLC are investments of the fees paid by issuers that have sold commercial paper to the facility.

[4] Securities lent through TSLF do not affect the level of Federal Reserve assets because the Federal Reserve retains ownership of the securities lent.

On the liability side of the Federal Reserve's balance sheet, the U.S. Treasury's general account increased $127 billion, while the Treasury's supplementary financing account (SFA) decreased $10 billion. The Treasury reduced the level of the SFA to $5 billion to allow greater flexibility in debt management as it approached the debt ceiling last year. Reserve balances of depository institutions decreased $74 billion over the intermeeting period.

Federal Reserve Balance Sheet

Billions of dollars

	Change since last FOMC	Current (1/20/2010)	Maximum level	Date of maximum level
Total assets	**18**	**2,255**	**2,295**	**01/13/10**
Selected assets:				
Liquidity programs for financial firms	-64	56	1,247	11/06/08
Primary, secondary, and seasonal credit	-4	16	114	10/28/08
Term auction credit (TAF)	-47	39	493	03/11/09
Foreign central bank liquidity swaps	-13	1	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	-0	61	351	01/23/09
Net portfolio holdings of Commercial Paper Funding Facility LLC (CPFF)	-1	13	351	01/23/09
Term Asset-Backed Securities Loan Facility (TALF)	1	48	48	12/22/09
Support for specific institutions	3	113	118	04/02/09
Credit extended to AIG, net	3	23	91	10/27/08
Preferred interests in AIA Aurora LLC and ALICO Holdings LLC	+0	25	25	01/20/10
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC	-0	65	75	12/30/08
Securities held outright*	78	1,910	1,910	01/20/10
U.S. Treasury securities	+0	777	791	08/14/07
Agency securities	5	162	162	01/20/10
Agency mortgage-backed securities**	74	971	971	01/20/10
Memo: Term Securities Lending Facility (TSLF)	0	0	236	10/01/08
Total liabilities	**19**	**2,203**	**2,243**	**01/13/10**
Selected liabilities:				
Federal Reserve notes in circulation	-3	879	890	12/29/09
Reserve balances of depository institutions	-74	1,063	1,169	11/27/09
U.S. Treasury, general account	127	170	187	12/31/09
U.S. Treasury, supplementary financing account	-10	5	559	10/22/08
Other deposits	-27	+0	53	04/14/09
Total capital	**-1**	**52**	**55**	**12/01/09**

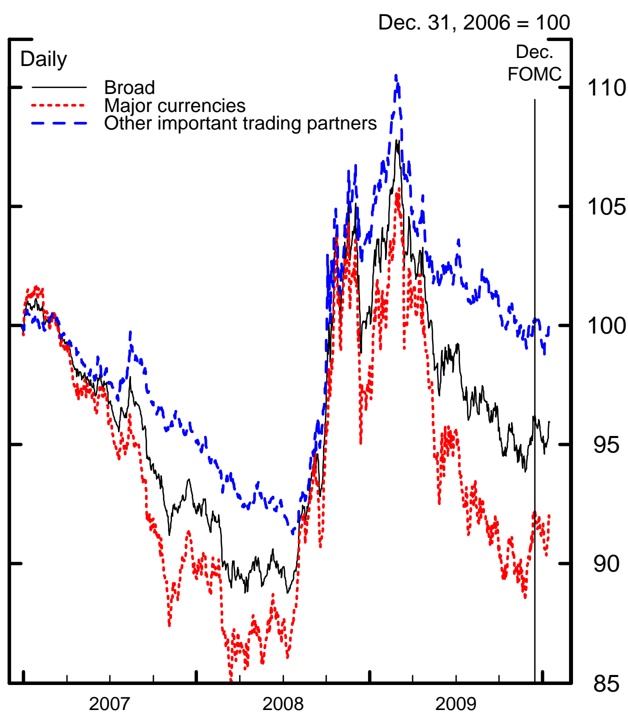
+0 (-0) denotes positive (negative) value rounded to zero.

* 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 $79 billion of MBS, on net. Total MBS purchases are about $1,149 billion.

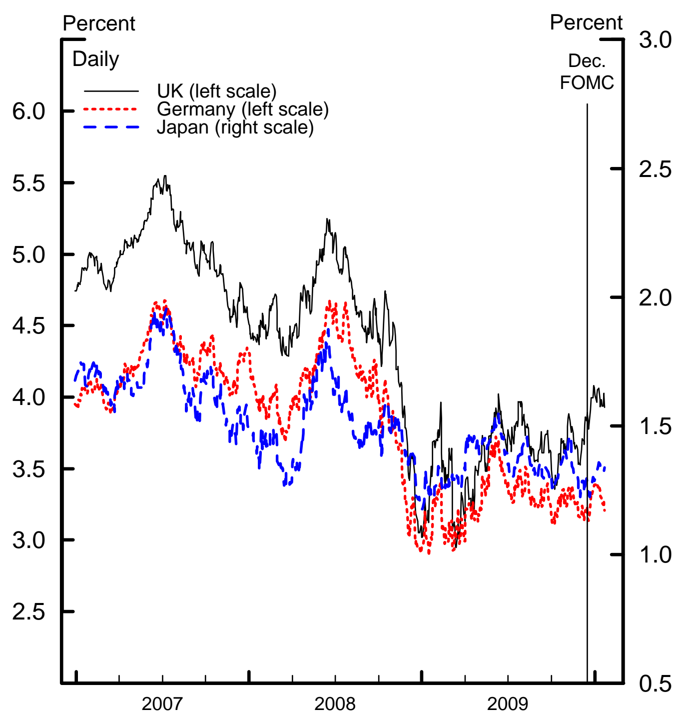
Chart 4
International Financial Indicators

Nominal trade-weighted dollar indexes



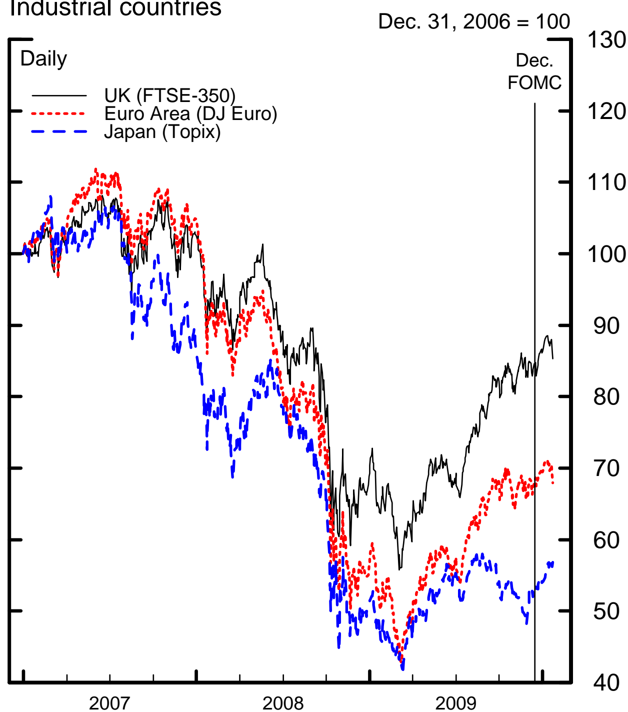
Source. Federal Reserve.

Nominal 10-year government bond yields



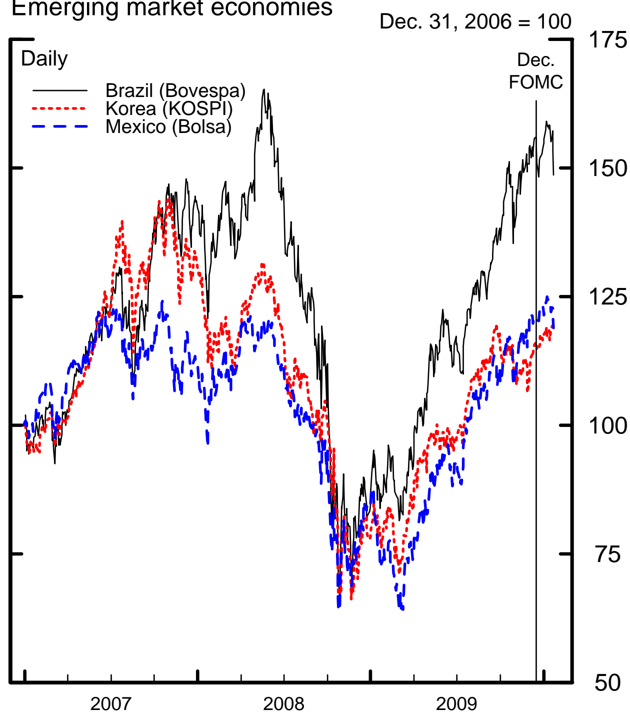
Source. Bloomberg.

Stock price indexes
Industrial countries



Source. Bloomberg.

Stock price indexes
Emerging market economies



Source. Bloomberg.

Note. Last daily observation is for January 21, 2010.

announcement was widely expected, and gilt yields moved little in response. Market participants continue to expect that the BOE and the BOC will raise rates in the second half of this year, while they expect the ECB will raise rates early in 2011 and that the BOJ will keep its policy rate at its current low level for at least two more years.

Foreign equity prices ended the intermeeting period mixed. Although stock price changes in most countries remained in positive territory for much of the period, news that the People's Bank of China had moved in the direction of tighter monetary policy caused a correction in many stock markets. European financial stocks declined about 4 percent, as early profit reports for the fourth quarter from a few banks rekindled some concern as to the health of the banking system.

The broad nominal index of the dollar rose almost 1 percent. The dollar appreciated 1 percent against the yen and over 3 percent against the euro, seemingly driven by a growing realization that U.S. growth prospects appear considerably better than those in Europe and Japan. Concerns regarding the risks that policy tightening by China might pose for the global recovery also seemed to drive the dollar higher against many currencies late in the period.

DEBT, BANK CREDIT, AND MONEY

The level of private-sector debt appears to have fallen in the fourth quarter as a result of further declines in both household and nonfinancial business debt (Chart 5). Federal government debt expanded significantly, albeit a bit less than in previous quarters, while state and local government debt continued to expand at a moderate pace. All told, the growth rate of domestic nonfinancial sector debt is projected to have declined from an annual rate of 2¾ percent in the third quarter to 2 percent in the fourth quarter.

Chart 5
Debt and Money

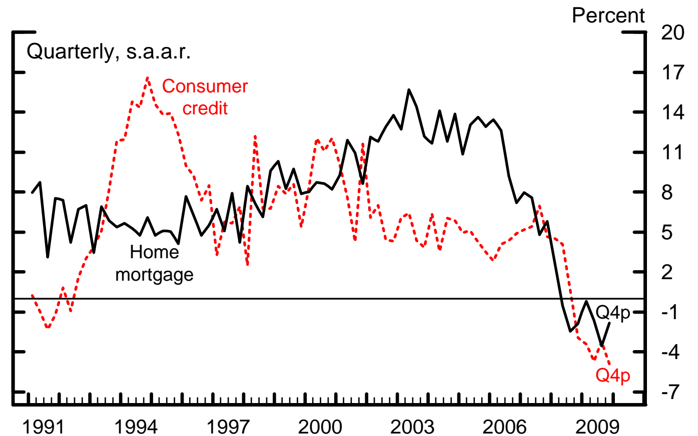
Growth of debt of nonfinancial sectors

Percent, s.a.a.r.

	Total	Business	Household	Government
2007	8.7	13.4	6.6	6.1
2008	5.9	5.1	0.2	17.5
H1	4.4	7.1	1.7	5.6
H2	7.2	3.1	-1.1	28.6
2009				
Q1	4.3	0.6	-1.2	17.9
Q2	4.5	-2.1	-1.6	22.0
Q3	2.8	-2.4	-2.7	16.9
Q4 p	2.0	-0.6	-2.2	9.3

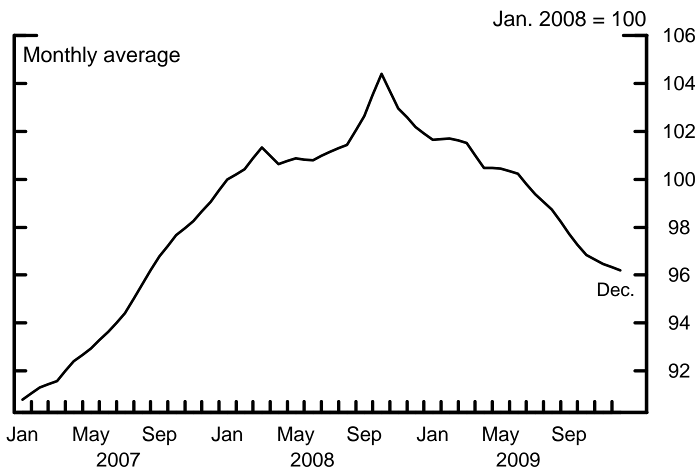
Source. Flow of Funds.
p Projected.

Growth of debt of household sector



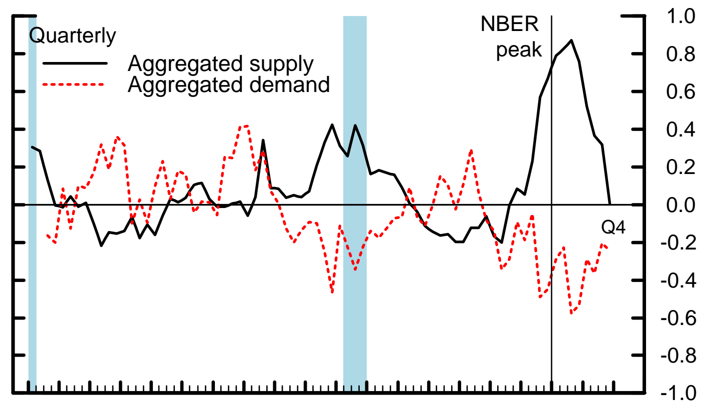
Source. Flow of Funds, Federal Reserve G.19 release.
p Projected.

Bank loans



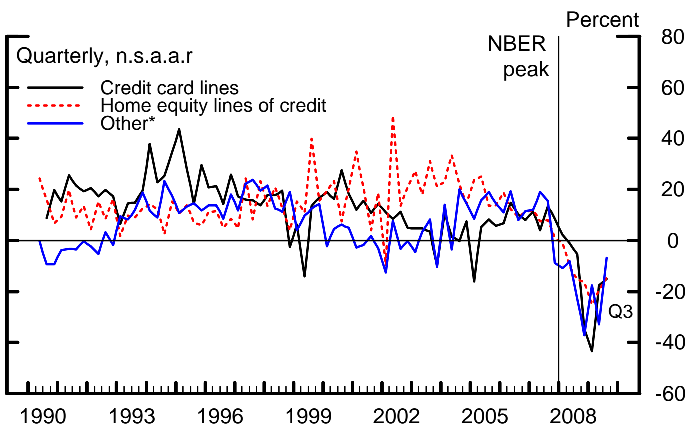
Source. Federal Reserve.

Index of supply and demand for bank loans



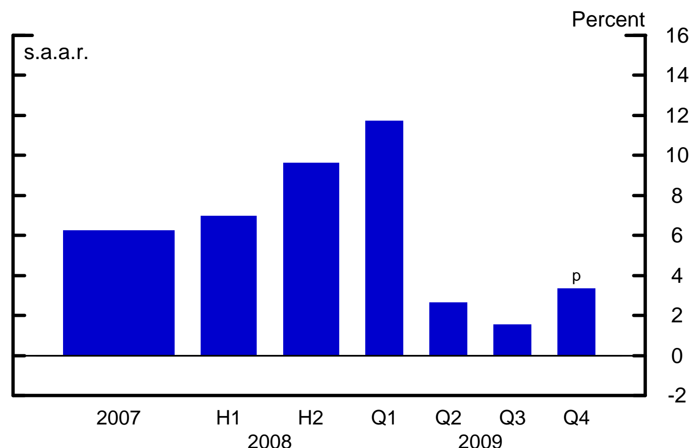
Note. The composite index of changes in loan demand can be interpreted as the net percentage of core loans on SLOOS respondents' balance sheets that were in categories for which banks reported a strengthening in loan demand.
Source. Senior Loan Officer Opinion Survey.

Growth in unused commitments



Source. Call Report data, adjusted for the effects of merger and failure activity involving large thrift institutions.
*Total unused commitments excluding home equity and credit cards.

Growth of M2



Source. Federal Reserve.
p Preliminary.

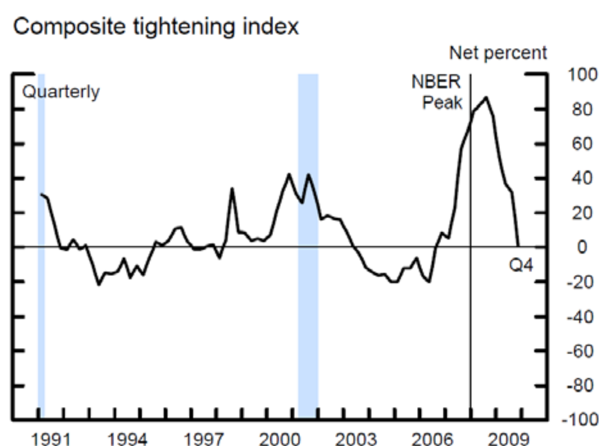
Bank credit contracted at a somewhat slower pace in December than earlier in the fall. However, the moderation was due to increased growth in banks' Treasury and agency securities holdings; total loans contracted more steeply than in November. C&I loans plummeted at large domestic banks and foreign banks, while the contraction at other domestic banks was milder. Banks' holdings of closed-end residential mortgages edged up again in December, but home equity loans continued to run off. Consumer loans originated by banks continued to fall in December, reflecting ongoing weakness in credit card loans. According to the January Senior Loan Officer Opinion Survey, banks left standards on most categories of loans to businesses and households little changed during the fourth quarter, while small net fractions of banks tightened terms on most major loan types. The exception was commercial real estate loans, where standards and terms continued to be tightened by a significant fraction of respondents. The demand for loans generally weakened further. (See box entitled "Interpretation of the January Senior Loan Officer Opinion Survey.") The drop in bank credit in December more than offset a further increase in cash and equivalent assets (a category that includes reserve balances), and total bank assets continued to trend lower.

M2 expanded at a 2 percent annual rate in December, a slight deceleration from its relatively modest growth earlier in the fourth quarter.[6] Growth in liquid deposits remained robust, but small time deposits and retail money market mutual funds continued to run off. Currency grew at an annualized rate of around ½ percent in December, with the modest pace of expansion likely a result of continued moderation of demands for U.S. currency from abroad. The monetary base was roughly flat in

[6] Staff recently revised measures of the money stock and its components to incorporate updated seasonal factors and a new quarterly benchmark. The net effect of the inclusion of updated seasonal factors and the benchmark was to lower the growth rate of M2 by about ½ percentage point in the first half of 2009 and increase the growth rate by roughly 1 percentage point in the second half of 2009.

Interpretation of the January Senior Loan Officer Opinion Survey

The January Senior Loan Officer Opinion Survey (SLOOS) suggests that the prolonged bout of tightening of credit standards at U.S. commercial banks came to an end in the fourth quarter of last year for most types of loans. As shown in the panel below, the staff's composite index of the change in credit standards on all major categories of loans to both businesses and households fell to about zero in the latest survey, indicating that banks left their credit standards essentially unchanged, on net, in the fourth quarter. Credit conditions, however, remain very tight, given banks' pronounced moves over the past two years toward much more stringent lending standards and terms.



Note. The index represents the net percentage of core loans on SLOOS respondents' balance sheets that were in categories for which banks reported a tightening of standards.

The staff has developed a number of statistical models that allow one to estimate the unanticipated changes in banks' lending standards over time. In essence, these models attempt to remove from the change in standards reported in the SLOOS the effects on standards of changes in loan demand, the economic outlook, and other variables likely to play an important role in the determination of banks' credit policies. One model used to make such adjustments is a small-scale vector autoregression (VAR) that includes real GDP growth, inflation, the growth of banks' core lending capacity (defined as the sum of core loans outstanding and unused core loan commitments), a corporate bond credit spread index, the federal funds rate, and the change in aggregate credit standards. This simple model incorporates the effects on aggregate credit standards of only a small set of macroeconomic variables and cannot incorporate bank-specific factors that may also influence changes in banks' credit policies. An alternative model developed by the staff explains *bank-level* indexes of the change in credit standards using indicators of bank-specific conditions as well as changes in expected macroeconomic conditions from the Survey of Professional Forecasters.[1]

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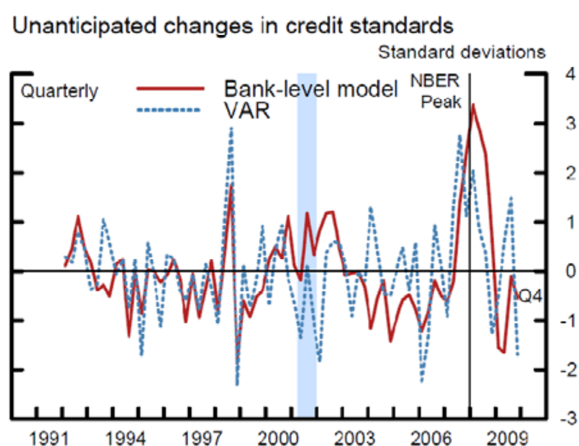
[1] Among bank-specific explanatory variables are profitability indicators such as the bank's net interest margin and the parent bank holding company's realized return on equity; indicators of credit quality and capital adequacy such as delinquency rates and leverage ratios; and indicators that capture differences in the

The solid red line in the panel below depicts the unanticipated changes in credit standards implied by the bank-level model, whereas the dotted blue line shows the unanticipated changes in standards based on the small-scale VAR model. Negative indicate an easing of the banks' credit standards not caused by the other variables in the model; positive values, conversely, represent a tightening of credit standards independent of the effects of the other variables. Both estimates are subject to considerable coefficient and model uncertainty; in addition, each of the empirical approaches faces significant challenges in identifying exogenous moves in credit standards and probably fails to account fully for the effects on bank lending standards of the various traditional and nontraditional policy actions taken by the Federal Reserve and the federal government to mitigate the effects of the recent crisis.



Subject to these caveats, both models indicate that credit standards eased in the fourth quarter relative to the changes in standards the models would project based on the explanatory variables. In absolute terms, this unanticipated easing of standards was considerably smaller when estimated using the bank-level model than when estimated using the VAR model. In both models, this relative easing of credit standards—in the absence of other shocks—provides an impetus to growth in banks' core lending capacity and economic activity over the coming year.

composition of assets and liabilities across banks. In addition, the model includes the realized equity volatility of the parent bank holding company to control for difference in riskiness across banks; a bank-specific index of the change in loan demand as reported in the SLOOS; and bank fixed effects, which capture any (time-invariant) unobservable differences among the respondent banks. Because banks' changes in credit standards tend to be fairly persistent, the model also includes a lag of the dependent variable.

December as the effect on reserves of gradually diminishing purchases under the Federal Reserve's large-scale asset purchase programs was mostly offset by a further contraction in credit outstanding under liquidity and credit facilities and an increase in the U.S. Treasury's general account.

Economic Outlook

On balance, the staff forecast has changed little from that presented in the December Greenbook. The incoming information on final sales was about as expected, on net, with stronger readings on business equipment outlays offsetting somewhat weaker federal purchases, net exports, and housing activity. A smaller-than-expected inventory reduction appears to have provided a temporary boost to real GDP growth last quarter that is expected to be substantially reversed in this and the next few quarters. The information received since December on wages and prices also was in line with the staff expectations. Accordingly, the staff outlook for real activity this year and next is only a bit stronger and the projection for inflation is about unchanged.

As in the December Greenbook, the staff assumes that the target for the federal funds rate will remain unchanged until the last quarter of 2011. No significant changes have been made to the assumptions regarding the magnitude or timing of the Federal Reserve's LSAP programs.[7] Fiscal policy is expected to add about 1 percentage point to real GDP growth in 2010 but to exert a slight drag on growth in 2011, the same as in the December Greenbook. House prices are projected to decline somewhat further this year as foreclosures increase, and then rise a bit in 2011 as demand picks up more notably.

Interest rates on 30-year fixed-rate mortgages and longer-term Treasury securities are projected to rise through 2011, with the spread between them widening about 25 basis points as the Federal Reserve completes its purchases of agency MBS. By contrast, yields on investment-grade corporate bonds are expected to remain about flat this year and to increase less than Treasury yields next year, as risk spreads narrow

[7] Purchases of $1.25 trillion of agency MBS and about $175 billion of agency debt are projected to be completed by the end of the first quarter of 2010.

somewhat further against a backdrop of continued improvements in the economic outlook. With the equity risk premium also expected to narrow, stock prices are projected to rise at an annual rate of around 15 percent over the next two years. Bank lending conditions are anticipated to ease gradually over time but to remain tighter than their average over the past decade. The real foreign exchange value of the dollar is assumed to depreciate at about a 2¾ percent pace, on average, over 2010 and 2011. The spot price of West Texas intermediate crude oil currently stands at about $76 per barrel, and based on readings from futures markets, the staff projects it to rise to about $84 per barrel by late 2011; relative to the December Greenbook assumption, these prices are about $3 per barrel higher in the near term and $2 per barrel lower in the longer run.

Against this backdrop, the staff expects real GDP to grow about 3½ percent in 2010 and about 4¾ percent in 2011. Following a trajectory similar to that in the last Greenbook, the unemployment rate is projected to rise a notch to 10.1 percent this quarter and then decline gradually to about 9½ percent at the end of 2010 and 8¼ percent at the end of 2011, well above the staff's 5¼ percent estimate of the NAIRU over this period.[8] With inflation expectations stable and economic slack forecast to remain substantial, the staff projects core PCE inflation to slow from 1½ percent in 2009 to about 1¼ percent in 2010 and to edge down to just above 1 percent in 2011. Total PCE inflation has been running at around 2½ percent in recent quarters, boosted by higher oil prices, but is expected to moderate to just under 1½ percent in 2010 and then decline a bit further next year.

Looking further ahead, the staff assumes that the federal funds rate will rise steadily starting in the fourth quarter of 2011, climbing to 3¾ percent by late 2014.

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[8] As noted in the Greenbook, the "effective" NAIRU is, at about 6¼ percent, appreciably higher because of the effects of extended and emergency unemployment benefits on the measured unemployment rate.

The staff forecasts that real GDP will expand 4½ percent in 2012 before decelerating to 3¼ percent in 2014. Potential output is forecast to rise at an average pace of about 2½ percent per year from 2012 through 2014, and so with real GDP growth outstripping that of potential, the unemployment rate falls to about 5¼ percent in 2014, about in line with the staff's estimate of the NAIRU. Longer-term inflation expectations remain stable and, as the output gap steadily closes, total PCE inflation slowly rises to about 1¾ percent by 2014, still somewhat below the central tendency of policymakers' long-run projections for inflation.

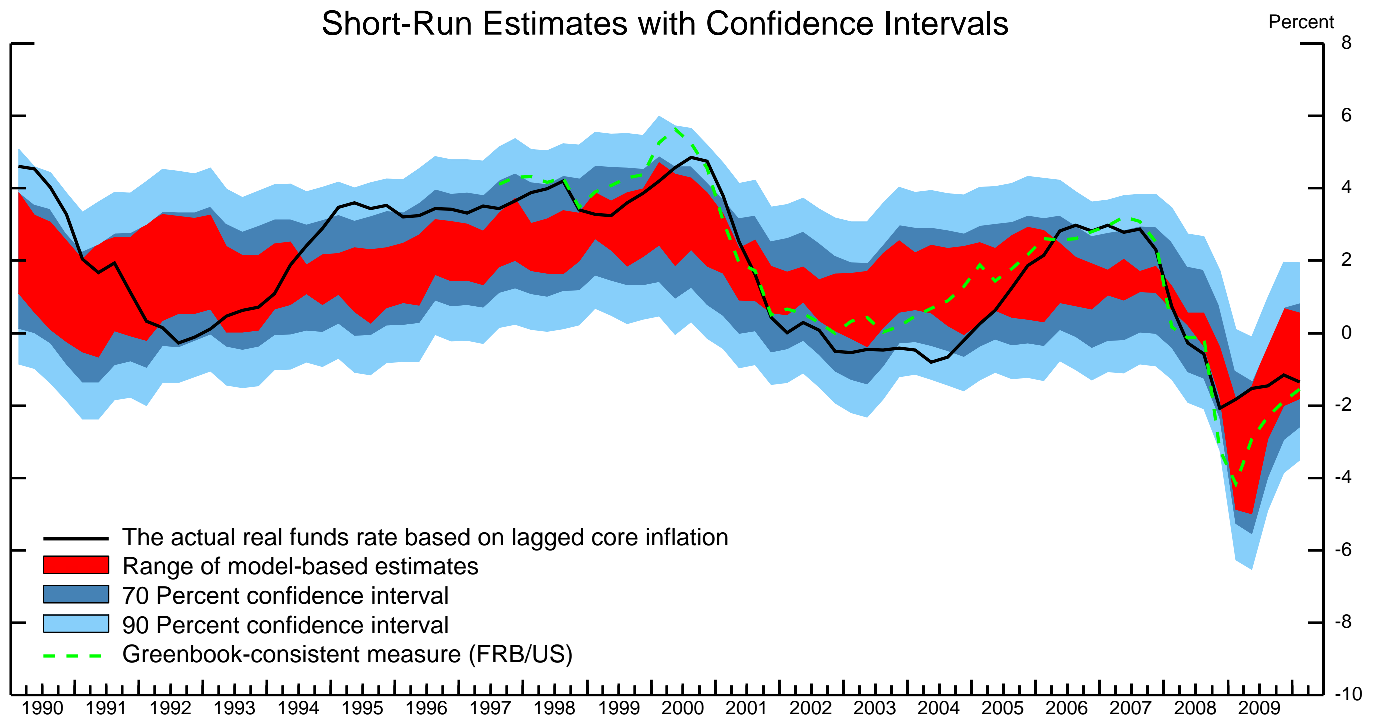
MONETARY POLICY STRATEGIES

Chart 6 displays estimates of short-run *r**, defined as the real federal funds rate that, if maintained over time, would return output to potential in twelve quarters. The Greenbook-consistent short-run *r** estimate generated by the FRB/US model is -1.5 percent, 40 basis points higher than its value in December. Nevertheless, this estimate remains about 20 basis points below the actual real federal funds rate. The Greenbook-consistent *r** estimate associated with the EDO model has increased by a larger amount (100 basis points), but, at -2.3 percent, remains even further below the actual real funds rate.

Two factors account for the increases in the Greenbook-consistent *r** estimates. The first is the upward revision to the staff's assessment of the recent level of economic activity, which reduces the size of the output gap that needs to be closed in the subsequent twelve quarters. As can be seen by comparing the first two columns in the table in Chart 6, the slightly narrower output gap produces only a small increase in the FRB/US model's Greenbook-consistent *r** estimate, but is responsible for a 25 basis point increase in the EDO model's Greenbook-consistent *r** estimate.[9] The second reason for the increase in the *r** estimates is the one-quarter shift of the time window used in the calculations. The twelve-quarter window now begins in 2010Q1; the twelve-quarter horizon in the December Bluebook began in 2009Q4. Less policy stimulus is now required because the output gap that needs to be closed at the end of the current window is smaller than the output gap at the end of the window that began in the fourth quarter of 2009. As examination of the middle and final columns

[9] The second column in the table, "Current Estimate as of Previous Bluebook," gives the estimate of *r** in the current quarter that would be obtained using the December Bluebook assumptions regarding the current quarter. This new column helps indicate the degree of the movement in *r** that is due to changed assessments of current economic activity.

Chart 6
Equilibrium Real Federal Funds Rate



Short-Run and Medium-Run Measures

	Current Estimate	*Current Estimate as of Previous Bluebook*	*Previous Estimate*
Short-Run Measures			
Single-equation model	-1.2	*-1.5*	*-1.9*
Small structural model	-1.1	*-1.3*	*-1.4*
EDO model	0.6	*0.8*	*0.5*
FRB/US model	-1.8	*-1.9*	*-2.1*
Confidence intervals for four model-based estimates			
70 percent confidence interval	-2.6 to 0.9		
90 percent confidence interval	-3.5 to 1.9		
Greenbook-consistent measures			
EDO model	-2.3	*-2.5*	*-3.3*
FRB/US model	-1.5	*-1.6*	*-1.9*
Medium-Run Measures			
Single-equation model	1.2	*1.2*	*1.2*
Small structural model	1.9	*1.7*	*1.8*
Confidence intervals for two model-based estimates			
70 percent confidence interval	0.6 to 2.5		
90 percent confidence interval	-0.3 to 3.0		
TIPS-based factor model	2.0		*2.0*
Memo			
Actual real federal funds rate	-1.3		*-1.4*

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.

of the table shows, the rolling forward of the window accounts for the bulk of the rise in the Greenbook-consistent *r** estimates.

The Greenbook-consistent *r** estimate from the EDO model has increased more than the corresponding Greenbook-consistent estimate from FRB/US because aggregate demand is effectively less sensitive to changes in the real funds rate than it is in the FRB/US model. (See the box, "The Equilibrium Real Rate (*r**): Concepts, Measurement, and Policy Implications," for further details.) As a result, when the output gap that needs to be closed becomes narrower, there is a larger decline in the required policy stimulus in the EDO model than in FRB/US.

The remaining four *r** estimates shown in Chart 6 do not condition on the staff outlook. All of these estimates of *r** have increased, primarily because of the shift in the twelve-quarter window for the *r** calculation, and to a lesser extent because of the higher assessment of current economic activity. The *r** estimates generated using the small structural model and the FRB/US model are both about 30 basis points higher than in December, and the single-equation model's *r** estimate is about 70 basis points higher. All three of these estimates are near or below the current level of the real funds rate of about -1.3 percent. By contrast, the EDO model's estimate of *r**, at about 60 basis points, is well above the actual real rate, reflecting that model's projection of a robust recovery combined with its assessment that there is less slack at present than the staff estimates.

Chart 7 shows the results of optimal control simulations of the FRB/US model. These simulations use the extended staff baseline projection, which incorporates the liquidity and credit actions of the Federal Reserve, 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 (adjusted for the temporary effects of emergency and extended unemployment benefits on the

The Equilibrium Real Rate (r^*): Concepts, Measurement, and Policy Implications

The Board staff produces several estimates of the equilibrium real federal funds rate, r^*, for each Bluebook. Short-run r^* is defined as the value of the real funds rate that, if sustained, would be projected to close the output gap twelve quarters in the future. Short-run r^* estimates can be interpreted as a summary measure of the factors affecting aggregate demand, relative to aggregate supply, over that twelve-quarter period. In any particular model, the greater the amount of slack, the lower the real funds rate required to close the output gap.

It is important to note that estimates of r^* are not prescriptions for the appropriate setting of the funds rate. The calculation of r^* does not involve any consideration of the path of inflation, and hence it does not incorporate potentially important monetary policy tradeoffs. In addition, the r^* measure is based on a criterion of closing the output gap at a given horizon, and consequently takes no account of the path of the output gap before and after that horizon. Finally, r^* is associated with a policy that fixes the value of the real funds rate for the coming twelve quarters. Therefore, this concept does not recognize how the trajectories for output and inflation might be improved via policy adjustments over time.

Different models produce different estimates of r^*, even when conditioning on the same outlook, because they differ with regard to the estimated dynamics of the economy. In the Bluebook, short-run r^* values are reported based on a single-equation model, a small structural model, the FRB/US model, and the EDO model. The FRB/US and EDO models are each used to compute two estimates of r^*, one conditioned on the staff's extended Greenbook projection and the other based on the models' own projections.

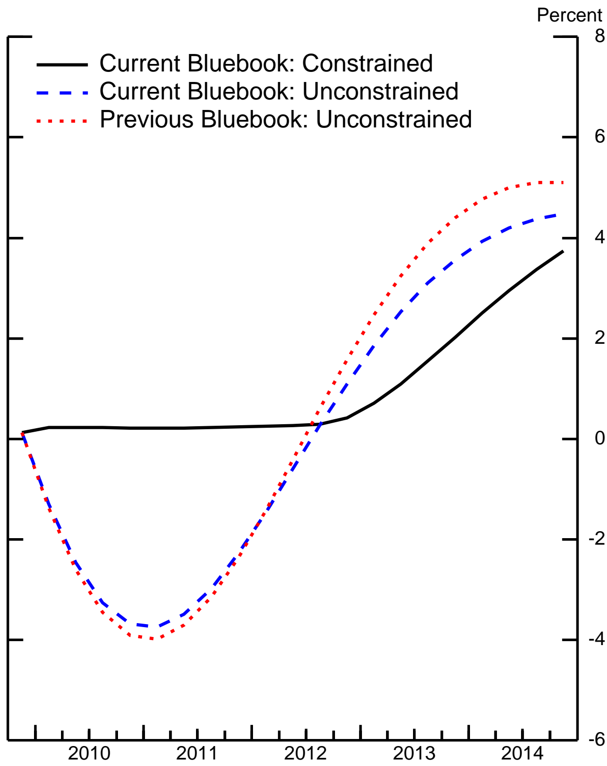
The two *Greenbook-consistent* estimates of r^* reported in the Bluebook take as given the staff outlook and assessment of the current degree of slack. The estimates vary because the FRB/US and EDO models do not generate identical responses of slack to changes in the policy rate. Rather, the two models embed different assumptions about the effects of the federal funds rate on broader financial conditions and the reaction of aggregate demand to those conditions. These differences tend to imply that aggregate demand is somewhat less sensitive to changes in the real federal funds rate in EDO than in FRB/US; thus, for a given change in projected slack, the EDO model will imply a larger change in the estimate of r^*. As shown in Chart 6 of the Bluebook, the Greenbook-consistent short-run r^* estimate generated by FRB/US is 40 basis points higher than its

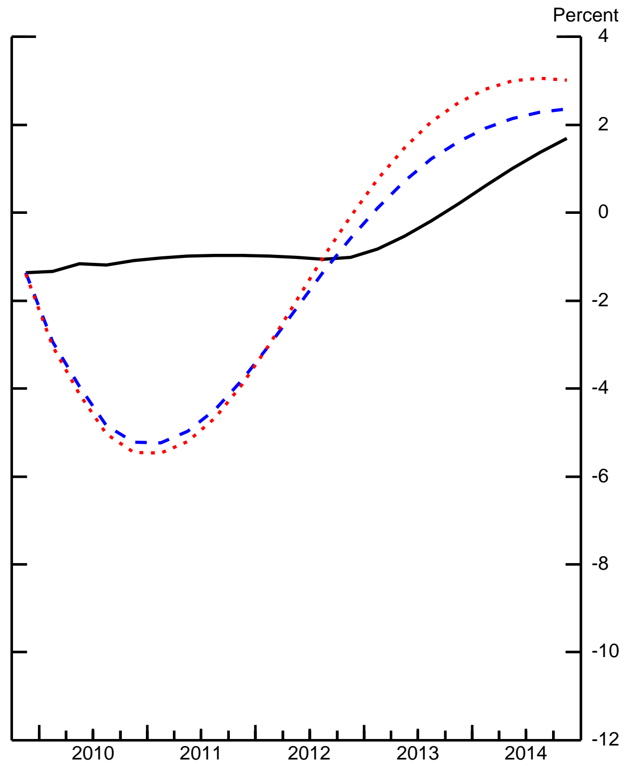
December value, while the corresponding EDO estimate has increased 100 basis points.

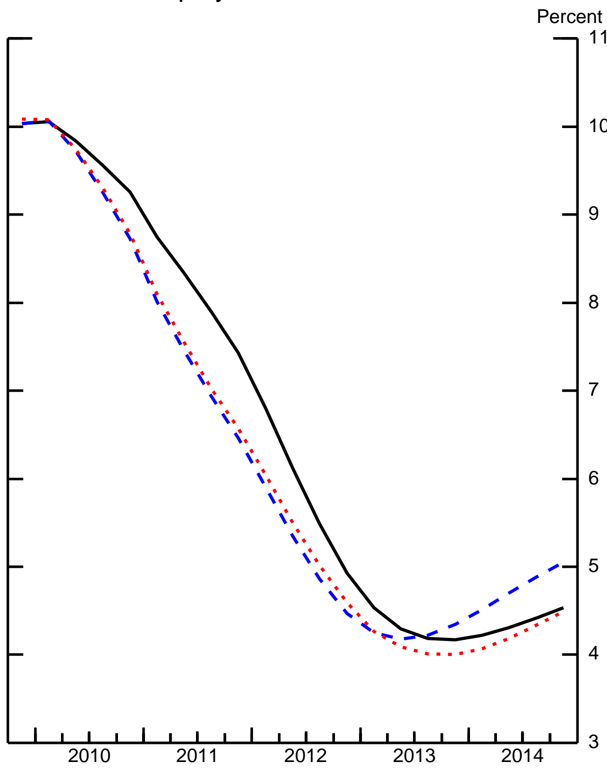
The *model-based* FRB/US and EDO estimates of *r** are conditioned on the respective models' projections of the output gap. Accordingly, these two measures can differ not only because the models incorporate different sensitivities of slack to changes in monetary policy—as with the Greenbook-consistent estimates, but also because the models have different perspectives on current resource utilization and the outlook for the economic expansion. In the current Bluebook, the *r** estimate generated by the FRB/US model is about -1¾ percent. By contrast, the EDO model-based estimate of *r**, at about 60 basis points, is well above the actual real rate. The EDO model estimates less slack currently and forecasts a stronger economic recovery than envisioned in either the FRB/US projection or in the Greenbook. Such alternative views about the economic outlook, when combined with different characterizations of the monetary transmission mechanism, allow the model-based *r** estimates potentially to convey information beyond that contained in the Greenbook-consistent *r** measures.

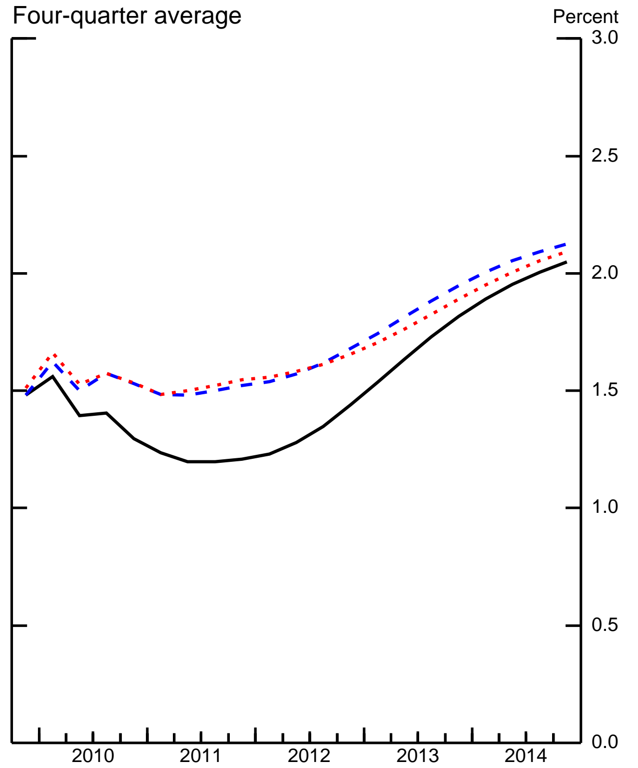
Chart 7

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









measured unemployment rate), and on minimizing changes in the federal funds rate. As in recent Bluebooks, optimal monetary policy in these simulations is constrained by the effective lower bound, and the nominal funds rate does not leave this bound until the second half of 2012 (black solid lines). Under this policy, the unemployment rate would be projected to remain above the NAIRU until late 2012, while core PCE inflation would stay appreciably below the 2 percent goal until late 2013.

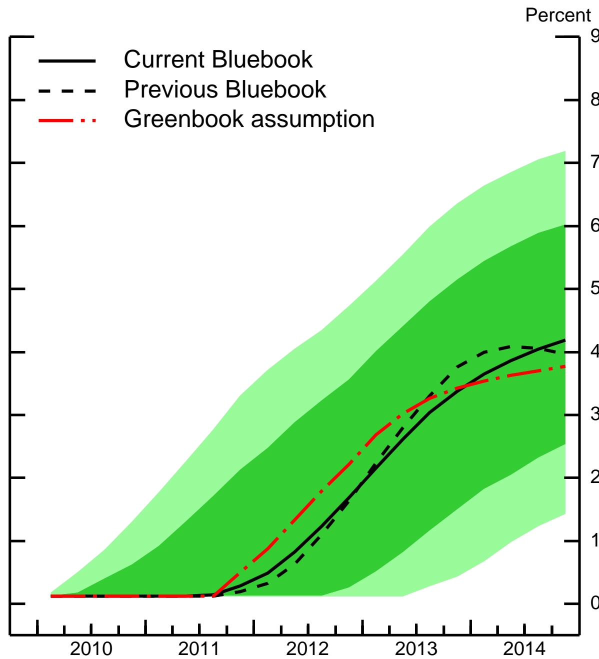
Chart 7 also displays the optimal control results obtained if the nominal funds rate were not constrained by the effective lower bound (blue dashed lines). Absent the constraint, a more accommodative policy stance would allow real activity to recover faster and bring the inflation trajectory closer to the assumed 2 percent goal. The unconstrained policy path for 2010 and 2011 is moderately higher than in December, reflecting the slight upward revision to the staff's assessment of aggregate demand.

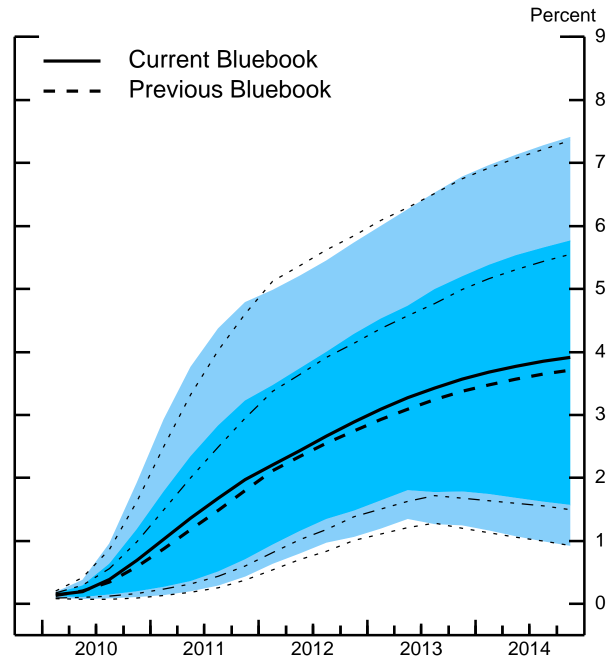
As shown in Chart 8, the prescriptions of the outcome-based estimated policy rule are similar to those shown in the previous Bluebook. The federal funds rate rises from the effective lower bound in 2011Q4 (upper-left panel). According to stochastic simulations of the FRB/US model, the 90 percent confidence interval for the funds rate in 2011Q4 runs from the effective lower bound to about 3.3 percent. Market participants' expectations of the path of the funds rate beyond 2010 have shifted up a little since the December Bluebook; the expected funds rate between 2011 and 2013 averages about 15 basis points higher than at the time of the previous Bluebook (upper-right panel).[10] Financial market quotes imply that the 90 percent confidence interval for the federal funds rate in 2011Q4 is about 0.4 percent to about 4.8 percent; the width of this interval is slightly greater than that in the previous Bluebook.

[10] A considerable part of this shift in market expectations took place after the December Bluebook was completed but prior to the December FOMC meeting.

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	
	2010Q1	2010Q2	2010Q1	2010Q2
Taylor (1993) rule	**0.13**	**0.13**	**-0.33**	**-0.43**
Previous Bluebook	*0.13*	*0.13*	*-0.30*	*-0.46*
Taylor (1999) rule	**0.13**	**0.13**	**-3.92**	**-3.84**
Previous Bluebook	*0.13*	*0.13*	*-3.92*	*-3.92*
Estimated outcome-based rule	**0.13**	**0.13**	**-0.48**	**-1.05**
Previous Bluebook	*0.13*	*0.13*	*-0.38*	*-0.98*
Estimated forecast-based rule	**0.13**	**0.13**	**-0.40**	**-0.90**
Previous Bluebook	*0.13*	*0.13*	*-0.38*	*-0.93*
First-difference rule	**0.35**	**0.69**	**0.35**	**0.69**
Previous Bluebook	*0.39*	*0.67*	*0.39*	*0.67*

Memo

	2010Q1	2010Q2
Greenbook assumption	0.13	0.13
Fed funds futures	0.12	0.14
Median expectation of primary dealers	0.13	0.13
Blue Chip forecast (January 1, 2010)	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.

The lower panel of Chart 8 provides near-term prescriptions from simple policy rules under constrained policy. The two variants of the Taylor rule and the two estimated policy rules would keep the federal funds rate at its effective lower bound over the next two quarters. When this bound is not imposed, all four rules prescribe funds rates that are lower (more negative) than in the previous Bluebook, reflecting a slight downward revision to the staff projection for core PCE inflation (the measure used in the rules). In contrast, the first-difference rule—because it responds to economic growth and does not take the level of resource utilization into account—prescribes an upward trajectory for the policy rate, with the funds rate increasing to about 70 basis points in 2010Q2.

POLICY ALTERNATIVES

This Bluebook presents three policy alternatives—labeled A, B, and C—for the Committee's consideration. The characterization of the economic outlook differs somewhat across the three alternatives, and each alternative presents a different set of judgments about the anticipated funds rate path, adjustments to the amount and timing of agency MBS purchases, and prospects for engaging in asset sales. Table 1 provides an overview of the key elements of these alternatives. Draft statements are provided in subsequent pages, followed by a summary of the case for each alternative.

Alternative A refers to the recent pickup in economic activity but points to the sluggishness of housing activity, the weak labor market, and the prospects for a subpar recovery in the absence of further monetary stimulus. Alternative B notes the continued strengthening of economic activity, the abatement of deterioration in the labor market, and the likelihood of a moderate pace of recovery. Alternative C indicates that the economy is growing at a solid rate and that the labor market is stabilizing and concludes that a sustainable recovery is now under way.

All three alternatives point out that overall inflation has been boosted recently by higher energy prices. Alternatives A and B each indicate that substantial resource slack continues to restrain cost pressures and that longer-term inflation expectations remain stable, making it likely that inflation will be subdued for some time. Alternative C refers to appropriate monetary policy adjustments and stable longer-term inflation expectations—but not to resource slack—in projecting that inflation will return to levels consistent with price stability.

All three alternatives would maintain the target range of 0 to ¼ percent for the federal funds rate during the upcoming intermeeting period. As in recent statements, Alternatives A and B indicate that the Committee expects the funds rate to remain

"exceptionally low...for an extended period." Alternative C modifies the forward guidance by using the phrase "low...for some time."

Alternative A expands the amount of agency MBS purchases by $250 billion and indicates that these transactions will continue through the end of the third quarter. Alternatives B and C do not make any changes to the amounts or timing of the Federal Reserve's previously announced securities purchases. Alternative B states that the Committee will continue to evaluate its purchases of securities based on the economic outlook and financial conditions, leaving the door open to adjusting its purchases should circumstances warrant. Alternative C indicates that the Committee will be evaluating the size and composition of its holdings of securities, thereby signaling that asset sales could be used to manage the Federal Reserve's balance sheet. The reference to the Federal Reserve's "holdings"—rather than "purchases"—is also presented as a variant of Alternative B, as denoted by the square brackets.

All three alternatives conclude with identical language about the Federal Reserve's plans for winding down its special liquidity programs. Most of these facilities—the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, the Commercial Paper Funding Facility, the Primary Dealer Credit Facility, and the Term Securities Lending Facility—would be closed on February 1, and the temporary swap lines with other central banks would also expire that day. The TAF would continue to be scaled back in February and March, and the decision of whether to conduct any subsequent TAF auctions would be considered further over coming weeks. Finally, the TALF would expire on June 30 for loans backed by new-issue CMBS and on March 31 for loans backed by all other types of collateral.

Table 1: Overview of Alternative Language for the January 26-27, 2010 FOMC Announcement

	December FOMC	January Alternatives A	January Alternatives B	January Alternatives C
Economic Activity				
Recent Developments	"has continued to pick up"	"has continued to pick up"	"has continued to strengthen"	"is increasing at a solid rate"
Labor Markets	"the deterioration... is abating"	"the deterioration... is abating"		"the labor market is stabilizing"
Financial Markets	"conditions have become more supportive"	---	"conditions remain supportive"	"conditions have continued to become more supportive"
Other Factors	fiscal and monetary stimulus, market forces	"housing activity remains sluggish"	"bank lending continues to contract"	---
Outlook	"likely to remain weak for a time"	further monetary stimulus warranted by prospects for subpar recovery	pace of recovery "likely to be moderate"	sustainable recovery "now under way"
Inflation				
Recent Developments	---	energy prices have risen but core inflation has remained low	energy prices have risen	inflation somewhat elevated by pickup in energy prices
Key Factors	substantial resource slack, stable expectations	substantial resource slack, stable expectations		appropriate monetary policy adjustments, stable expectations
Outlook	"will remain subdued for some time"	"likely to be subdued for some time"		"will be at levels consistent with price stability"
Forward Guidance on Funds Rate Path				
	"exceptionally low... for an extended period"	"exceptionally low...for an extended period"		"low...for some time"
Agency MBS Purchases				
Amount	$1.25 trillion	$1.5 trillion	$1.25 trillion	
Timing	by the end of the first quarter	by the end of the third quarter	by the end of the first quarter	
Evaluation of Balance Sheet Adjustments				
	"the timing and overall amounts of its purchases of securities"	"the timing and overall amounts of its purchases of securities"	"its purchases [*or* holdings] of securities"	"the size and composition of its securities holdings"

December FOMC Statement

Information received since the Federal Open Market Committee met in November suggests that economic activity has continued to pick up and that the deterioration in the labor market is abating. The housing sector has shown some signs of improvement over recent months. Household spending appears to be expanding at a moderate rate, though it remains constrained by a weak labor market, modest income growth, lower housing wealth, and tight credit. Businesses are still cutting back on fixed investment, though at a slower pace, and remain reluctant to add to payrolls; they continue to make progress in bringing inventory stocks into better alignment with sales. Financial market conditions have become more supportive of economic growth. 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 contribute to a strengthening of economic growth and a gradual return to higher levels of resource utilization in a context of price stability.

With substantial resource slack likely to continue to dampen cost pressures and with longer-term inflation expectations stable, the Committee expects that inflation will remain subdued for some time.

The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and continues to anticipate that economic conditions, including low rates of resource utilization, subdued inflation trends, and stable inflation expectations, 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 is in the process of purchasing $1.25 trillion of agency mortgage-backed securities and about $175 billion of agency debt. In order to promote a smooth transition in markets, the Committee is gradually slowing the pace of these purchases, and it anticipates that these transactions will be executed by the end of the first quarter of 2010. 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.

In light of ongoing improvements in the functioning of financial markets, the Committee and the Board of Governors anticipate that most of the Federal Reserve's special liquidity facilities will expire on February 1, 2010, consistent with the Federal Reserve's announcement of June 25, 2009. These facilities include the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, the Commercial Paper Funding Facility, the Primary Dealer Credit Facility, and the Term Securities Lending Facility. The Federal Reserve will also be working with its central bank counterparties to close its temporary liquidity swap arrangements by February 1. The Federal Reserve expects that amounts provided under the Term Auction Facility will continue to be scaled back in early 2010. The anticipated expiration dates for the Term Asset-Backed Securities Loan Facility remain set at June 30, 2010, for loans backed by new-issue commercial mortgage-backed securities and March 31, 2010, for loans backed by all other types of collateral. The Federal Reserve is prepared to modify these plans if necessary to support financial stability and economic growth.

January FOMC Statement—Alternative A

1. Information received since the Federal Open Market Committee met in **December** suggests that economic activity has continued to pick up and that the deterioration in the labor market is abating. Household spending **is** expanding at a moderate rate **but** remains constrained by a weak labor market, modest income growth, lower housing wealth, and tight credit. **Business spending on equipment and software appears to be picking up, but investment in structures is still contracting and firms** remain reluctant to add to payrolls. **Recent data indicate that** housing **activity remains sluggish and the level of foreclosures continues to be elevated. In light of the weakness in labor markets and prospects for a subpar economic recovery, the Committee judges that further monetary stimulus is warranted.**

2. **Energy prices have risen in recent months, but core inflation has remained low.** With substantial resource slack continuing to **restrain** cost pressures and longer-term inflation expectations stable, inflation **is likely to be** subdued for some time.

3. To provide **further** support to mortgage lending and housing markets and to **promote a more robust economic recovery in a context of price stability, the Committee decided to expand its purchases** of agency mortgage-backed securities **to a total of $1.5 trillion, up from the previously announced amount of** $1.25 trillion; the Committee anticipates that these transactions will be executed by the end of the **third** quarter. The Federal Reserve is **also** in the process of purchasing about $175 billion of agency debt, **and** the Committee anticipates that **those** transactions will be executed by the end of the first quarter. The Committee will continue to evaluate the timing and overall amounts of its purchases of securities in light of the evolving economic outlook and conditions in financial markets. The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and continues to anticipate that economic conditions, including low rates of resource utilization, subdued inflation trends, and stable inflation expectations, are likely to warrant exceptionally low levels of the federal funds rate for an extended period.

4. In light of improve**d** functioning of financial markets, the Federal Reserve **will be closing** the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, the Commercial Paper Funding Facility, the Primary Dealer Credit Facility, and the Term Securities Lending Facility on February 1, **as previously announced**. **In addition, the** temporary liquidity swap arrangements **between** the Federal Reserve **and other** central bank**s will expire on** February 1. **The** amounts provided under the Term Auction Facility will continue to be scaled back, **with $50 billion in 28-day credit to be offered at the next auction on February 8; the Federal Reserve expects to offer $25 billion in 28-day credit on March 8 and will consider whether to conduct further auctions beyond that date**. The anticipated expiration dates for the Term Asset-Backed Securities Loan Facility remain set at June 30 for loans backed by new-issue commercial mortgage-backed securities and March 31 for loans backed by all other types of collateral. The Federal Reserve is prepared to modify these plans if necessary to support financial stability and economic growth.

January FOMC Statement—Alternative B

1. Information received since the Federal Open Market Committee met in **December** suggests that economic activity has continued to **strengthen** and that the deterioration in the labor market is abating. Household spending **is** expanding at a moderate rate **but** remains constrained by a weak labor market, modest income growth, lower housing wealth, and tight credit. **Business spending on equipment and software appears to be picking up, but investment in structures is still contracting and employers** remain reluctant to add to payrolls. **Firms have brought** inventory stocks into better alignment with sales. **While bank lending continues to contract,** financial market conditions **remain** supportive of economic growth. Although **the pace of** economic **recovery** is likely to **be moderate** for a time, the Committee anticipates a gradual return to higher levels of resource utilization in a context of price stability.

2. **Energy prices have risen in recent months. However,** with substantial resource slack continuing to **restrain** cost pressures and with longer-term inflation expectations stable, inflation **is likely to be** subdued for some time.

3. The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and continues to anticipate that economic conditions, including low rates of resource utilization, subdued inflation trends, and stable inflation expectations, 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 is in the process of purchasing $1.25 trillion of agency mortgage-backed securities and about $175 billion of agency debt. In order to promote a smooth transition in markets, the Committee is gradually slowing the pace of these purchases, and it anticipates that these transactions will be executed by the end of the first quarter. The Committee will continue to evaluate its purchases [*or* **holdings**] of securities in light of the evolving economic outlook and conditions in financial markets.

4. In light of improve**d** functioning of financial markets, the Federal Reserve **will be closing** the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, the Commercial Paper Funding Facility, the Primary Dealer Credit Facility, and the Term Securities Lending Facility on February 1, **as previously announced**. **In addition, the** temporary liquidity swap arrangements **between** the Federal Reserve **and other** central bank**s will expire on** February 1. **The** amounts provided under the Term Auction Facility will continue to be scaled back, **with $50 billion in 28-day credit to be offered at the next auction on February 8; the Federal Reserve expects to offer $25 billion in 28-day credit on March 8 and will consider whether to conduct further auctions beyond that date**. The anticipated expiration dates for the Term Asset-Backed Securities Loan Facility remain set at June 30 for loans backed by new-issue commercial mortgage-backed securities and March 31 for loans backed by all other types of collateral. The Federal Reserve is prepared to modify these plans if necessary to support financial stability and economic growth.

January FOMC Statement—Alternative C

1. Information received since the Federal Open Market Committee met in **December** suggests that economic activity **is increasing at a solid rate** and that the labor market **is stabilizing**. Financial market conditions have **continued to** become more supportive of economic growth. Household spending **is** expanding at a moderate rate. **Business spending on equipment and software appears to be picking up, and firms have brought** inventory stocks into better alignment with sales. **With a sustainable** economic **recovery now under way,** the Committee anticipates a gradual return to higher levels of resource utilization.

2. **Inflation has been somewhat elevated recently, reflecting a pickup in energy prices, but** longer-term inflation expectations **have remained** stable. The Committee expects that, **with appropriate monetary policy adjustments,** inflation will **be at levels consistent with price stability**.

3. The Committee will maintain the target range for the federal funds rate at 0 to ¼ percent and continues to anticipate that economic conditions, including low rates of resource utilization, subdued inflation trends, and stable inflation expectations, are likely to warrant low levels of the federal funds rate for **some time**. The Federal Reserve is in the process of purchasing $1.25 trillion of agency mortgage-backed securities and about $175 billion of agency debt. In order to promote a smooth transition in markets, the Committee is gradually slowing the pace of these purchases and anticipates that these transactions will be executed by the end of the first quarter. The Committee will continue to evaluate the **size and composition** of its securities **holdings** in light of the evolving economic outlook and conditions in financial markets.

4. In light of improve**d** functioning of financial markets, the Federal Reserve **will be closing** the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, the Commercial Paper Funding Facility, the Primary Dealer Credit Facility, and the Term Securities Lending Facility on February 1, **as previously announced**. **In addition, the** temporary liquidity swap arrangements **between** the Federal Reserve **and other** central bank**s will expire on** February 1. **The** amounts provided under the Term Auction Facility will continue to be scaled back, **with $50 billion in 28-day credit to be offered at the next auction on February 8; the Federal Reserve expects to offer $25 billion in 28-day credit on March 8 and will consider whether to conduct further auctions beyond that date**. The anticipated expiration dates for the Term Asset-Backed Securities Loan Facility remain set at June 30 for loans backed by new-issue commercial mortgage-backed securities and March 31 for loans backed by all other types of collateral. The Federal Reserve is prepared to modify these plans if necessary to support financial stability and economic growth.

THE CASE FOR ALTERNATIVE B

If policymakers judge that the pace of economic recovery is likely to be moderate, that inflation is likely be subdued for some time, and that these outcomes are the best that can be achieved under current circumstances, then the Committee could choose to reiterate its forward policy guidance and to carry out the remainder of its previously announced securities purchases, as in Alternative B. Members may anticipate that aggregate demand will continue to be damped over coming quarters by a variety of factors, including weak labor market conditions, tight credit conditions for households and small businesses, and the waning effects of fiscal stimulus. Indeed, consistent with this outlook, both of the Greenbook-consistent measures of short-run r^* remain at low levels, and the staff projects resource slack to diminish only gradually over the next several years. Moreover, with longer-term inflation expectations stable and with core inflation running at a fairly steady rate between 1¼ and 1½ percent, members may be reasonably confident that overall inflation—which has been boosted recently by higher energy prices—will moderate significantly going forward. Thus, the Committee may continue to judge that exceptionally low levels of the funds rate are likely to be warranted for an extended period.

Even if policymakers are not satisfied with the outlook for protracted resource slack and for inflation at rates persistently below those consistent with their dual objectives, they might conclude that an increase in LSAPs would be undesirable at this juncture. As in recent meetings, the Committee may continue to view the likely benefits of such a policy action as being outweighed by the risks associated with a significant further expansion of the Federal Reserve's balance sheet. Indeed, members may be concerned that an announcement of expanded agency MBS purchases could have a counterproductive impact on private borrowing rates and hence on economic activity if the announcement undermined investors' confidence in

the Federal Reserve's exit strategy and hence led them to demand greater compensation for inflation risk in nominal lending contracts.

Nonetheless, given the approaching completion of the previously announced LSAPs, the Committee may find it helpful to note that the Federal Reserve would consider further securities purchases under some circumstances. The spreads of agency MBS yields and conventional mortgage rates over those on comparable Treasuries have remained near their historical lows over recent weeks, and the staff projects that these spreads will widen about 30 basis points over the next few months. However, some analysts anticipate that the agency MBS spread could shift upward as much as 75 or 100 basis points, with an associated rise in mortgage rates that could adversely impact the housing sector and potentially even hinder the recovery of the broader economy. Thus, members may see substantial benefits to stating that "The Committee will continue to evaluate its purchases of securities in light of the evolving economic outlook and conditions in financial markets."

The Committee might also prefer issuing such a statement because it suggests that the Federal Reserve is not likely to engage in asset sales in the near term. In particular, policymakers might be concerned that heightened prospects of asset sales could raise the level of uncertainty in the agency MBS market, potentially disrupting market functioning, impairing liquidity conditions, and pushing up term premiums.[11] As a result, members may view asset sales as likely to remain on the back burner, at least temporarily, given the Federal Reserve's development of other balance sheet tools such as reverse repos and the term deposit facility.[12]

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[11] See the staff notes on "Strategies for Asset Sales and Redemptions" and "Balance Sheet Management Issues in the Longer Term" that were sent to the Committee on January 19.

[12] See the note on "Strategies for Sequencing the Use of Reserve Draining Tools and Changes in Policy Rates" that was sent to the Committee on January 19.

The financial market reaction to a statement like that of Alternative B would likely be muted. The Desk's survey indicates that primary dealers are not anticipating any changes in the Committee's forward policy guidance at this meeting and that they do not expect any further changes in the size or composition of the Federal Reserve's LSAPs. Moreover, market quotes on fed funds futures and options indicate that investors expect the funds rate to remain within the current target range at least through the third quarter and hence would probably not be surprised if the Committee's announcement at this meeting expresses the same forward policy guidance as in recent statements. Thus, there would likely be little change in bond yields, equity prices, or the foreign exchange value of the dollar.

Policymakers might also wish to consider a variant of Alternative B that refers to the Committee's evaluation of its securities "holdings" instead of its "purchases". That variant might be particularly appealing to members who judge that asset sales should be used as a tool for influencing financial market conditions and for shrinking the overall size of the Federal Reserve's balance sheet, perhaps well in advance of the onset of funds rate firming. Such a variant might also be seen as helpful in conveying that the Committee is disinclined towards any further LSAP expansion but has not ruled out that policy option.

A statement like this variant of Alternative B would probably cause a substantial shift in investors' expectations about the anticipated trajectory of the Federal Reserve's securities holdings. The Desk's survey indicates that none of the primary dealers expect the Federal Reserve to sell any securities during the first two quarters of this year; indeed, about three-fourths of the primary dealers do not anticipate any asset sales by the Federal Reserve over the next several years, and the remainder expect only modest amounts of such sales. Thus, yields on agency MBS, agency debt, and Treasury securities could increase significantly in response to a Committee

announcement along these lines, and the levels of actual and implied volatility in these markets would also tend to move up. Implied volatility in the agency MBS market might also be boosted over the near term as investors perceived reduced prospects that the Federal Reserve would engage in further purchases of agency MBS during the second quarter, even if rates began rising sharply around the time of completion of its previously announced LSAPs.

THE CASE FOR ALTERNATIVE C

If policymakers are confident that a sustainable economic recovery is now under way and see substantial upside risks to the inflation outlook in the absence of appropriate near-term monetary policy adjustments, then the Committee might wish to issue a statement that shortens the horizon over which the funds rate is likely to remain low and that raises the possibility of active unwinding of the Federal Reserve's securities holdings, as in Alternative C. To the extent that inflation outcomes are seen as linked mainly to expected inflation rather than to resource slack, members may view the level of forward inflation compensation and the degree of dispersion in professional forecasters' longer-run inflation projections as worrisome indicators that inflation expectations may not be anchored very firmly. Under such circumstances, policymakers might judge that moving promptly to commence the withdrawal of extraordinary policy stimulus would play a key role in maintaining the public's confidence in the Federal Reserve's commitment to foster price stability.

Participants may view the pace of economic recovery over coming quarters as mainly determined by the speed of structural adjustments rather than the extent of growth in aggregate demand, so that continuing to keep the real funds rate below zero for an extended period might be seen as likely to push up the inflation rate while having only a modest impact in stimulating real economic activity. Moreover, with risk spreads having declined substantially and banks no longer tightening standards on

C&I loans or consumer credit, participants may be increasingly concerned about the possibility that the extraordinarily high level of excess reserves held by the banking system might generate a brisk turnaround in lending and rapid growth in broad monetary aggregates that could exert significant upward pressure on inflation. Even if the probability of such an outcome is judged to be low, the magnitude of the adverse consequences in such circumstances might warrant a shift to policies aimed at shrinking the size of the Federal Reserve's balance sheet over coming months.

Thus, policymakers may judge that the size and composition of the Federal Reserve's portfolio should be actively managed via asset sales rather than relying exclusively on the redemption of maturing securities and on other tools such as reverse repos and the term deposit facility. Asset sales may be viewed as particularly helpful in communicating the Committee's commitment to permanent reductions in the balance sheet and thereby facilitate the anchoring of longer-term inflation expectations. Moreover, in light of the marked improvements in financial market functioning since last spring, Committee members may anticipate that selling agency debt and agency MBS would have only modest effects on their yields relative to those of other securities.

The adoption of a statement like that of Alternative C would greatly surprise financial market participants. At present, investors understand the phrase "exceptionally low levels of the funds rate" as pointing to the current target range of 0 to 25 basis points, and hence the abbreviated phrase "low levels of the funds rate" would probably be viewed as referring to rates of around 1 or 2 percent that would still be quite low by historical standards. Moreover, Alternative C uses the phrase "for some time" to refer to the duration over which the funds rate target would remain at low levels—not the time horizon preceding the onset of funds rate firming. Thus, investors would be likely to interpret a statement like that of

Alternative C as conveying the Committee's intention to commence tightening quite soon—perhaps as early as March—and to move fairly quickly to raise the funds rate target to a level of around 1 or 2 percent. Short-term interest rates would shift up substantially. In addition, as noted above, term premiums on agency MBS and Treasury securities would likely shift upward as a result of heightened prospects that the Federal Reserve might actively reduce its "holdings" of securities over coming months. As a result, longer-term yields would rise. Forward measures of inflation compensation might decline if investors became less concerned about risks to the longer-term inflation outlook. Equity prices would likely decline, and the foreign exchange value of the dollar would increase.

THE CASE FOR ALTERNATIVE A

If meeting participants are concerned about prospects for a subpar recovery and believe that further monetary stimulus would help improve the outlook for economic activity and inflation, then they might wish to expand the amount of the Federal Reserve's agency MBS purchases by $250 billion and extend the horizon of those purchases through the third quarter of this year, as in Alternative A. With these adjustments, agency MBS purchases could continue over coming months at an average rate of around $10 billion per week, about the same as the volume of the Desk's purchases over recent weeks.

Participants, like the staff, may view the pace of economic recovery as likely to be slow—with the unemployment rate still above 8 percent at the end of next year—and see inflation running persistently below the rates they judge to be most consistent with the Federal Reserve's dual mandate. With such an outlook, policymakers might conclude that expanded monetary stimulus is warranted to promote a more robust recovery in a context of price stability. Moreover, recent staff work on developing various tools for draining reserves may have strengthened participants' confidence

that additional securities can be purchased at this stage without undermining the Committee's ability to withdraw monetary stimulus at the appropriate time.

Members might see an even stronger rationale for providing additional monetary stimulus if their outlook is substantially weaker than that of the Greenbook or if they judge the risks to economic activity and inflation to be mainly tilted to the downside. For example, incoming information on retail sales and nonfarm payrolls might be read as suggesting that the economic recovery will be even more protracted, perhaps similar to the "Weaker Aggregate Demand" alternative scenario in the Greenbook. Furthermore, while the staff projects that core inflation will only decline slightly over coming quarters, participants may place greater probability on outcomes in which the persistence of substantial resource slack weighs more heavily on labor compensation and hence causes a steeper downward trajectory for inflation.

Policymakers may also judge that augmenting the Federal Reserve's agency MBS purchases would be especially helpful at the current juncture in order to mitigate increases in mortgage rates that could impair the recuperation of housing markets and undermine the economic recovery. Indeed, conventional mortgage rates have moved up a quarter percentage point since mid-December, and in the absence of any agency MBS purchases beyond those previously announced, the staff anticipates a further increase of more than a quarter percentage point over the next few months. Such increases in home loan rates might be viewed as particularly undesirable under current circumstances in which housing activity remains sluggish while the level of foreclosures continues to be elevated.

An announcement like that of Alternative A would come as a surprise to market participants, since they do not appear to be anticipating any changes in the overall size or composition of the Federal Reserve's LSAPs. Staff estimates suggest that

a $250 billion increase in agency MBS purchases might reduce mortgage rates and other longer-term yields by about 10 to 25 basis points. Equity prices might rise, while the foreign exchange value of the dollar would likely decline. Inflation compensation could increase if the Committee's announcement undermined investors' confidence in the viability of the Federal Reserve's exit strategy.

LONG-RUN PROJECTIONS OF THE BALANCE SHEET AND MONETARY BASE

In this section, scenarios for the balance sheet are presented that correspond to the paths for large-scale asset purchases (LSAPs) of agency debt securities and agency MBS proposed in the alternatives discussed in the "Policy Alternatives" section of the Bluebook. The baseline scenario corresponds to Alternative B in this Bluebook. For the baseline, we assume that agency MBS purchases of $1.25 trillion and agency debt securities purchases of $175 billion are executed by the end of the first quarter of 2010. We also present a projection for Alternative A, where the agency MBS purchases are increased by $250 billion to a total of $1.5 trillion and are executed by the end of the third quarter of 2010; purchases of agency debt securities under this alternative remain at $175 billion and are executed by the end of the first quarter of 2010. We do not present balance sheet projections for Alternative C in this Bluebook because the Committee has not yet specified any strategy for asset sales or the use of other reserve draining tools. Each alternative assumes that assets decline gradually over time due to redemptions and prepayments of securities holdings. The announced LSAP purchases in Alternative B and Alternative C are the same, so the baseline projections for assets and reserves can serve as a reference for Alternative C.

Projections for the scenarios are based on assumptions about each component of the balance sheet.[13] Details of these assumptions are described in Appendix C. Substantive revisions to these assumptions, relative to the December Bluebook, are outlined below.

[13] The Greenbook projection assumes that the federal funds rate begins to rise in the fourth quarter of 2011. The balance sheet projections assume that no draining of reserve balances is required to achieve the higher target federal funds rate.

Under the baseline, total assets are slightly higher over most of the projection period than in the December Bluebook. The modest upward revision in the size of the balance sheet is largely the result of a projected increase in the level of agency MBS holdings, which reflects a lower assumed pace of MBS prepayments. The change in the path for prepayments is due largely to the incorporation of a higher assumed mortgage interest rate path. In contrast, total support to AIG was revised down, reflecting expectations regarding the possibility of an initial public offering and the resulting disposition of preferred interests in AIA Aurora LLC & ALICO Holdings LLC.[14] The projected levels of credit extended through Federal Reserve liquidity programs and credit facilities, except for the TALF, fall to zero fairly quickly this year, as in the last Bluebook. Alternative A projects a higher contour of total assets because of the assumed larger purchases of agency MBS.

On the liability side of the balance sheet, given the small increase in the debt ceiling in late December 2009, we assume that the Treasury's Supplementary Financing Account (SFA) remains at its current level of $5 billion until June 2010. We assume that the Congress will pass a substantial boost in the debt ceiling at around that point. After June, the SFA returns to $200 billion, its level in the middle of last year, and remains at this level until near the end of the projection period. As the aggregate level of reserve balances declines to very low levels at the end of the projection period, balances in the SFA are drawn down, falling to zero in the baseline scenario. On net, the revisions in the asset and liability components of the balance sheet imply a moderate upward revision in the level of reserve balances over the majority of the projection period.

[14] On March 2, 2009, the Federal Reserve and Treasury jointly announced a restructuring of the government's assistance to AIG. As part of this restructuring, on December 1, 2009, the revolving credit facility was reduced in exchange for preferred interests in two special purpose vehicles, AIA Aurora LLC and ALICO Holdings LLC, created to hold the outstanding common stock of two AIG subsidiaries.

Balance Sheet Projections Summary

	Alternative A	Baseline
Agency Debt Securities		
Total purchased	$175 billion	$175 billion
December 2016	$19 billion	$19 billion
Agency MBS		
Total purchased	$1.5 trillion	$1.25 trillion
December 2016	$0.87 trillion	$0.71 trillion
Total Assets		
Peak month	September 2010	April 2010
Peak amount	$2.51 trillion	$2.36 trillion
December 2016	$1.54 trillion	$1.47 trillion
Reserve Balances		
Peak month	May 2010	March 2010
Peak amount	$1.38 trillion	$1.30 trillion

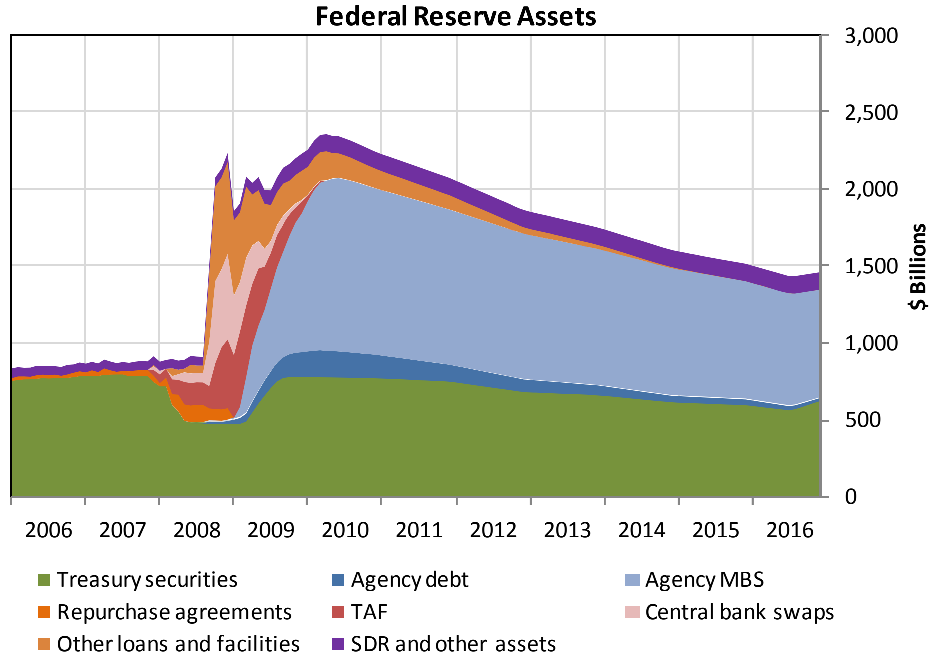
For the baseline scenario, the balance sheet reaches a peak of nearly $2.4 trillion in April 2010. The peak in the balance sheet occurs after the March 31 conclusion of large-scale asset purchases because of substantial lags in settlement of MBS purchases. In Alternative A, the size of the balance sheet peaks at $2.5 trillion, with the peak occurring a few months before all MBS purchases settle because of the runoff of

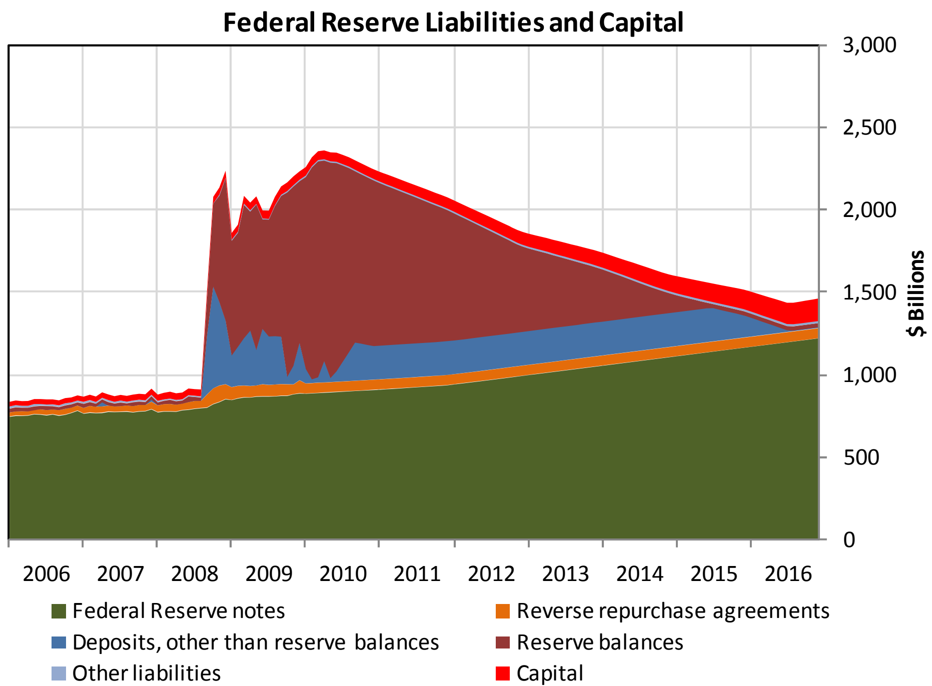
other assets. By the end of 2016, the size of the balance sheet under both scenarios declines to roughly $1.5 trillion.[15]

Reserve balances decline in the second half of 2010 primarily because of the return of the SFA to $200 billion. Since the monetary base is derived from the balance sheet projections of Federal Reserve notes in circulation and reserve balances, and because currency is projected to follow a fairly gradual trajectory, the path of the monetary base in each scenario largely mirrors the path of reserve balances. Specifically, in each scenario, the monetary base peaks at essentially the same time as reserve balances, and as reserve balances decline, the monetary base contracts. Toward the end of the projection period, when reserve balances are assumed to stabilize at $25 billion, the level of the monetary base moves more in line with changes in Federal Reserve notes in circulation.

[15] The composition of Federal Reserve assets in 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, Treasury securities are projected to account for only around 34 percent of total assets at the end of 2010 and rise to just 43 percent of total assets at the end of the projection period.

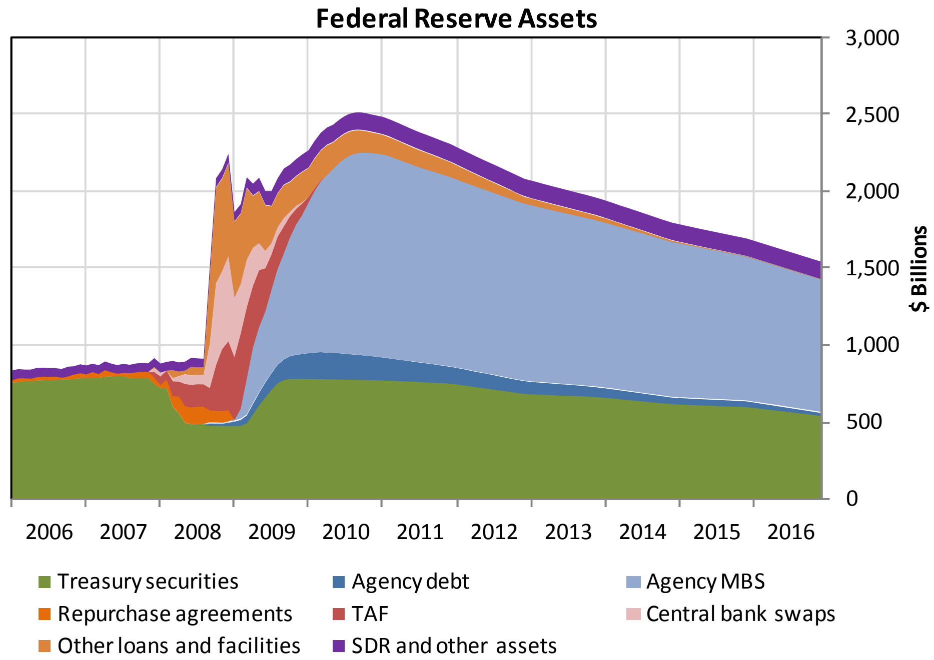
Baseline Scenario (Alternative B)

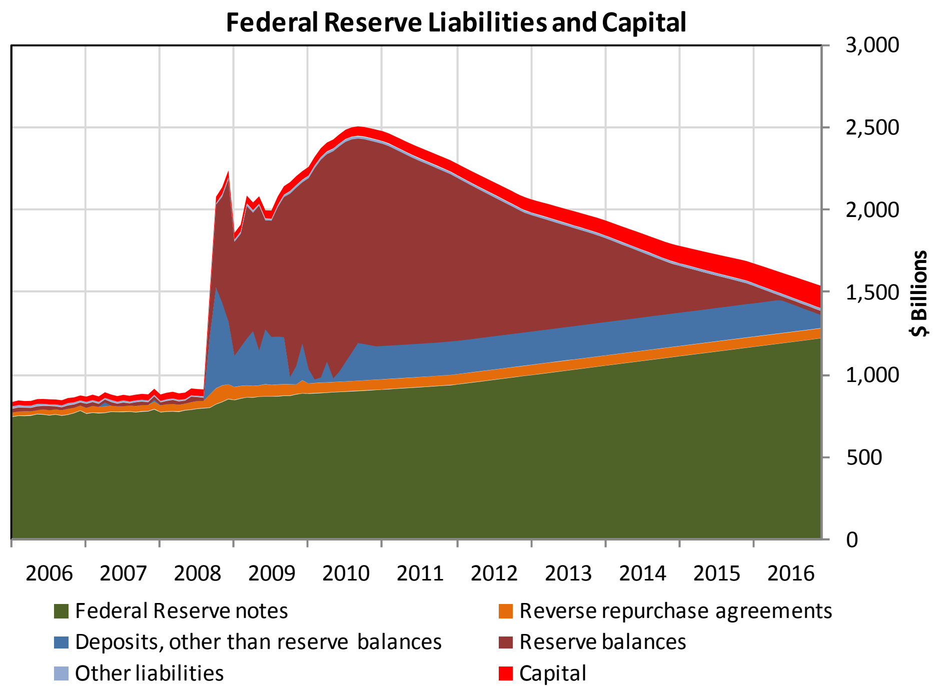




Source. Federal Reserve H.4.1 statistical release and staff calculations.

Alternative A





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

Growth Rates for the Monetary Base			
Date	Baseline	Alternative A	*Memo:* December Baseline
	Percent, annual rate		
	Monthly		
Sep-09	66.9	66.9	66.9
Oct-09	45.5	45.5	45.5
Nov-09	71.6	71.6	71.6
Dec-09	28.9	28.9	51.4
Jan-10	56.0	56.0	14.4
Feb-10	85.9	86.7	-4.5
Mar-10	39.4	44.2	-7.4
Apr-10	-16.3	-5.0	-38.6
May-10	0.5	15.6	4.8
Jun-10	13.0	28.6	20.6
	Quarterly		
Q3 2009	-2.6	-2.6	-2.6
Q4 2009	54.0	54.0	56.8
Q1 2010	59.2	60.0	22.1
Q2 2010	13.8	24.2	-11.7
Q3 2010	-19.1	-1.6	-4.4
Q4 2010	-22.5	-10.7	-7.4
	Annual - Q4 to Q4		
2009	38.9	38.9	39.7
2010	6.7	18.2	-0.6
2011	-8.2	-7.3	-9.2
2012	-11.2	-10.8	-13.1
2013	-8.0	-7.8	-9.4
2014	-10.0	-9.6	-11.3
2015	-4.4	-7.8	0.0
2016	4.2	-4.5	3.9

Note. Not seasonally adjusted. The calculated growth rates of the monetary base presented in the table are based on an approximation for month-average values.

DEBT, BANK CREDIT, AND MONEY FORECASTS

The staff projects that domestic nonfinancial sector debt will expand at an annual rate of 2¾ percent this quarter, with this rise due almost entirely to an increase in federal debt. For 2010 as a whole and in 2011, debt is projected to increase 5¼ percent; this forecast reflects rapid expected growth in federal debt, a moderate rise in state and local government debt, and a gradual turnaround in lending to households and to nonfinancial businesses. After contracting 2 percent last year, household debt is expected to decline a bit further in the current quarter, and then grow tepidly through 2011. Debt of the nonfinancial business sector is projected to edge up in the current quarter after having contracted slightly last year, with strong corporate bond issuance offsetting weak C&I and commercial real estate lending. We expect only a modest rise in business debt over the forecast period, as demand for external funds generally remains soft and the commercial real estate market remains particularly weak.

Commercial bank credit is expected to contract at an annual rate of 3 percent in the first quarter of 2010, reflecting continued drops in loans, especially to businesses. Over the entire year, bank credit is expected to expand just ½ percent, as moderate growth in securities continues to offset declines in loans during the first three quarters. Loans in most categories are expected expand by the fourth quarter, though only weakly, reflecting a pickup in loan demand as the economic recovery gains steam, as well as an improvement in bank health and a gradual easing of standards and terms. Loans are expected to continue growing in 2011, with bank credit advancing 4¼ percent over the year.

M2 is expected to remain flat in the current quarter, as a reallocation of household wealth toward higher-yielding non-M2 assets likely is continuing to weigh on money

demand. As that process wanes over the rest of this year and into 2011, M2 growth is expected to pick up to a pace that is closer to that of nominal GDP.

Growth Rates for M2
(percent, annual rate)

		Greenbook Forecast*
Monthly Growth Rates		
	Jul-09	-0.8
	Aug-09	-3.3
	Sep-09	5.6
	Oct-09	4.1
	Nov-09	3.9
	Dec-09	2.1
	Jan-10	-5.2
	Feb-10	1.9
	Mar-10	2.0
	Apr-10	2.8
	May-10	3.4
	Jun-10	3.6
	Jul-10	3.6
	Aug-10	3.8
	Sep-10	3.9
	Oct-10	3.9
	Nov-10	4.0
	Dec-10	4.0
Quarterly Growth Rates		
	2010 Q1	-0.2
	2010 Q2	2.7
	2010 Q3	3.7
	2010 Q4	3.9
Annual Growth Rates		
	2009	4.9
	2010	2.6
	2011	4.7
Growth From	To	
Dec-09	Jun-10	1.4
2009 Q4	Mar-10	0.3
2009 Q4	Jun-10	1.6

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

DIRECTIVE

The directive from the December meeting and draft language for the January directive are provided below. The staff recommends that the directive issued at this meeting under Alternative B or Alternative C include the following sentence: "The Committee directs the Desk to engage in dollar roll transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS purchases that are to be conducted through the end of March 31, 2010, as directed above."

The Authorization for Domestic Open Market Operations (the "Authorization") permits the Desk to buy and sell agency MBS to the extent necessary to carry out the most recent domestic policy directive. (Dollar roll transactions are a particular method of buying and selling agency MBS on a temporary basis. Dollar roll transactions have proven helpful to the Desk in settling MBS purchases.) If the Committee does not direct execution of agency MBS purchases beyond March 31, the current authorization would not permit the Desk to engage in dollar roll transactions after that date in the process of settling previous MBS purchases.

Including the recommended sentence in the directives for the next several meetings would allow the Desk to conduct such transactions only as needed to settle finally any agency MBS purchased through the end of March 31, 2010, and would make clear to counterparties that the Desk has the necessary authority. The additional sentence would seem not to be needed under Alternative A, as the directive under that alternative would instruct the Desk to continue to purchase MBS through the third quarter, and thus dollar roll transactions would remain authorized through that time as they are at present.

DECEMBER 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 and agency MBS during the intermeeting period with the aim of providing support to private credit markets and economic activity. The timing and pace of these purchases should depend on conditions in the markets for such securities and on a broader assessment of private credit market conditions. The Desk is expected to execute purchases of about $175 billion in housing-related agency debt and about $1.25 trillion of agency MBS by the end of the first quarter of 2010. The Desk is expected to gradually slow the pace of these purchases as they near completion. The Committee anticipates that outright purchases of securities will cause the size of the Federal Reserve's balance sheet to expand significantly in coming months. The 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.

JANUARY 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 and agency MBS during the intermeeting period with the aim of providing support to private credit markets and economic activity. The timing and pace of these purchases should depend on conditions in the markets for such securities and on a broader assessment of private credit market conditions. The Desk is expected to execute purchases of about $175 billion in housing-related agency debt by the end of the first quarter and to execute purchases of about $1.5 trillion of agency MBS by the end of the third quarter. The Desk is expected to gradually slow the pace of these purchases as they near completion. The Committee anticipates that outright purchases of securities will cause the size of the Federal Reserve's balance sheet to expand significantly in coming months. The Committee directs the Desk to engage in dollar roll transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS transactions to be conducted through the end of the third quarter, as directed above. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

JANUARY FOMC MEETING — ALTERNATIVES B AND 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 and agency MBS during the intermeeting period with the aim of providing support to private credit markets and economic activity. The timing and pace of these purchases should depend on conditions in the markets for such securities and on a broader assessment of private credit market conditions. The Desk is expected to execute purchases of about $175 billion in housing-related agency debt and about $1.25 trillion of agency MBS by the end of the first quarter. The Desk is expected to gradually slow the pace of these purchases as they near completion. The Committee anticipates that outright purchases of securities will cause the size of the Federal Reserve's balance sheet to expand significantly in coming months. The Committee directs the Desk to engage in dollar roll transactions as necessary to facilitate settlement of the Federal Reserve’s agency MBS transactions to be conducted through the end of the first quarter, as directed above. The System Open Market Account Manager and the Secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

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	-1.3	-1.5	-0.6
Lagged headline inflation	-1.2	-1.8	-0.8
Projected headline inflation	-1.1	-1.6	-0.6

APPENDIX B: ANALYSIS OF POLICY PATHS AND CONFIDENCE INTERVALS

RULE SPECIFICATIONS

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

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

FRB/US MODEL SIMULATIONS

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

INFORMATION FROM FINANCIAL MARKETS

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

NEAR-TERM PRESCRIPTIONS OF SIMPLE POLICY RULES

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

References

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

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

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

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

This appendix presents the assumptions underlying the projections provided in the section entitled "Long-Run Projections of the Balance Sheet and Monetary Base."

GENERAL ASSUMPTIONS

The balance sheet projections are constructed on a monthly frequency from January 2010 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 observed on December 31, 2009. The projections for all major asset and liability categories are summarized in the charts and table that follow the bullet points.

The Greenbook projection assumes that the federal funds rate begins to rise in the fourth quarter of 2011. The balance sheet projections assume that no draining of reserve balances is required to achieve the higher target federal funds rate.

ASSETS

Asset Purchases

- The baseline scenario, corresponding to Alternative B, incorporates large-scale asset purchases (LSAP) roughly in line with those that have been announced.
    - The Committee purchases $175 billion in agency debt securities and $1.25 trillion in agency MBS; both types of purchases are to be executed by the end of the first quarter of 2010.
        - Agency debt securities and agency MBS are held to maturity and are not replaced. Prepayments of MBS are not reinvested.
        - Holdings of agency debt securities peak at $172 billion in March 2010, and decline slowly over the remainder of the forecast horizon as they mature. The peak is slightly below the announced purchase amount, reflecting maturing agency debt securities already in the SOMA portfolio.
        - Due to expected settlement lags and prepayments, agency MBS holdings peak at $1.1 trillion in June 2010, a somewhat lower level than the amount purchased.[1] For agency MBS, the rate of prepayment is based on estimates from one of the program's investment managers. The historically low coupon on these securities implies a relatively slow prepayment rate. As a result, at the end of 2016, $708 billion of the $1.25 trillion of MBS purchased remain on the balance sheet.
    - The Committee's purchases of $300 billion in U.S. Treasury securities related to the LSAP program were completed by the end of October 2009.

[1] Prepayments include regular payments of principal and repayments of mortgages.

        - The maturity distribution of the Treasury securities purchased as a part of the LSAP program is based on data from the Federal Reserve Bank of New York's Markets Group. The maturities of most purchases are between two and ten years, with the current weighted average maturity being about six years. The first maturity of an LSAP Treasury security will occur in April of this year.
        - No Treasury securities purchased as a part of the LSAP program are sold, 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 LSAP program are assumed to be reinvested as they mature.
- In the scenario corresponding to Alternative A, the Committee increases its purchases of agency MBS by $250 billion to a total of $1.5 trillion and extends the timeframe for these purchases to the end of the third quarter of 2010. The Committee completes its purchase of $175 billion in agency debt securities by the end of the first quarter of 2010.
- Projections for Alternative C are not presented in this Bluebook because the Committee has not yet specified any strategy for asset sales or the use of other reserve draining tools. The announced LSAP purchases in Alternative B and Alternative C are the same, so the baseline projections for assets and reserves can serve as a reference for Alternative C.
- A minimum level of $25 billion is set for reserve balances. To ensure that reserves do not fall below this minimum level, first the U.S. Treasury's Supplementary Financing Account (SFA) is reduced. If this does not generate enough reserves, then Treasury securities are purchased. By the end of the projection period in Alternative B, the expansion of Federal Reserve notes in circulation and capital, combined with a runoff of assets, necessitates not only the reduction of the U.S. Treasury's supplementary financing account to zero, but also the resumption of Treasury securities purchases to maintain reserve balances at a level of $25 billion.

Liquidity Programs and Credit Facilities

- Primary credit declines gradually from its current level to $1 billion by the end of 2011 and remains at that level thereafter. Secondary credit is assumed to be zero over the forecast period.
- The Term Auction Facility (TAF) falls to zero by April 2010 and remains at zero thereafter.
- The Term Asset-Backed Securities Loan Facility (TALF) peaks at $63 billion in March 2010. Credit extended through this facility is assumed to reach zero in the second quarter of 2015, reflecting loan maturities and prepayments.
    - TALF loans are extended with either a three-year or a five-year term.
        - Until loans with a three-year term begin to mature in 2012, the decline in TALF is attributable to prepayments.
        - In 2012, TALF loans outstanding begin to decline more rapidly, reflecting the maturity of three-year loans.

        - After all three-year loans have matured in 2013, TALF declines at a less rapid pace as five-year loans prepay and mature, because the dollar amount of five-year loans is smaller than the dollar amount of three-year loans.
    - TALF three- and five-year loans backed by asset-backed securities other than commercial mortgage-backed securities (CMBS) reach $51 billion by March 2010. A portion of these loans are expected to prepay, and the quantity outstanding reaches zero by the end of the third quarter of 2014.
    - TALF three- and five-year loans backed by CMBS reach $13 billion by June 2010. A portion of these loans are expected to prepay, and the quantity outstanding reaches zero by the end of the second quarter of 2015.
- The Commercial Paper Funding Facility (CPFF) and central bank liquidity swap lines are assumed to expire on February 1, 2010; funds extended through these facilities decline to zero in the first half of 2010 as their credit extensions mature.
- No credit is extended through either the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF) or the Primary Dealer Credit Facility (PDCF) before the facilities expire on February 1, 2010.
- Credit extended to AIG, the sum of the Federal Reserve Bank of New York's extension of revolving credit and its preferred interests in AIA Aurora LLC and ALICO Holdings LLC, drops to $24 billion by the third quarter of 2010 and then declines to zero by the end of 2013.[2]
- The assets held by Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC are sold over time and reach either zero or a nominal level by the end of 2016.
- The assets held by TALF LLC increase to $2 billion by June 2012 and remain at that level through 2014, before dropping down to zero by the end of 2015. Assets held by TALF LLC comprise investments purchased with commitment fees collected by the LLC and from the U.S. Treasury's initial funding. The LLC does not purchase any ABS received by the Federal Reserve Bank of New York in connection with a decision of a borrower not to repay a TALF loan.

Other Assets

- The Special Drawing Rights (SDR) certificate account increases by $2 billion, to $7 billion, by the third quarter of 2011, as a result of an assumed monetization of the recent allocation of SDRs.

LIABILITIES AND CAPITAL

- All liability and capital assumptions are the same across scenarios except where noted below.
- Federal Reserve notes in circulation grow in line with the staff forecast for money stock currency through the end of 2011. From 2011 to the end of the projection period, Federal

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[2] On March 2, 2009, the Federal Reserve and Treasury jointly announced a restructuring of the government's assistance to AIG. As part of this restructuring, on December 1, 2009, the revolving credit facility was reduced in exchange for preferred interests in two special purpose vehicles created to hold common stock of two AIG subsidiaries.

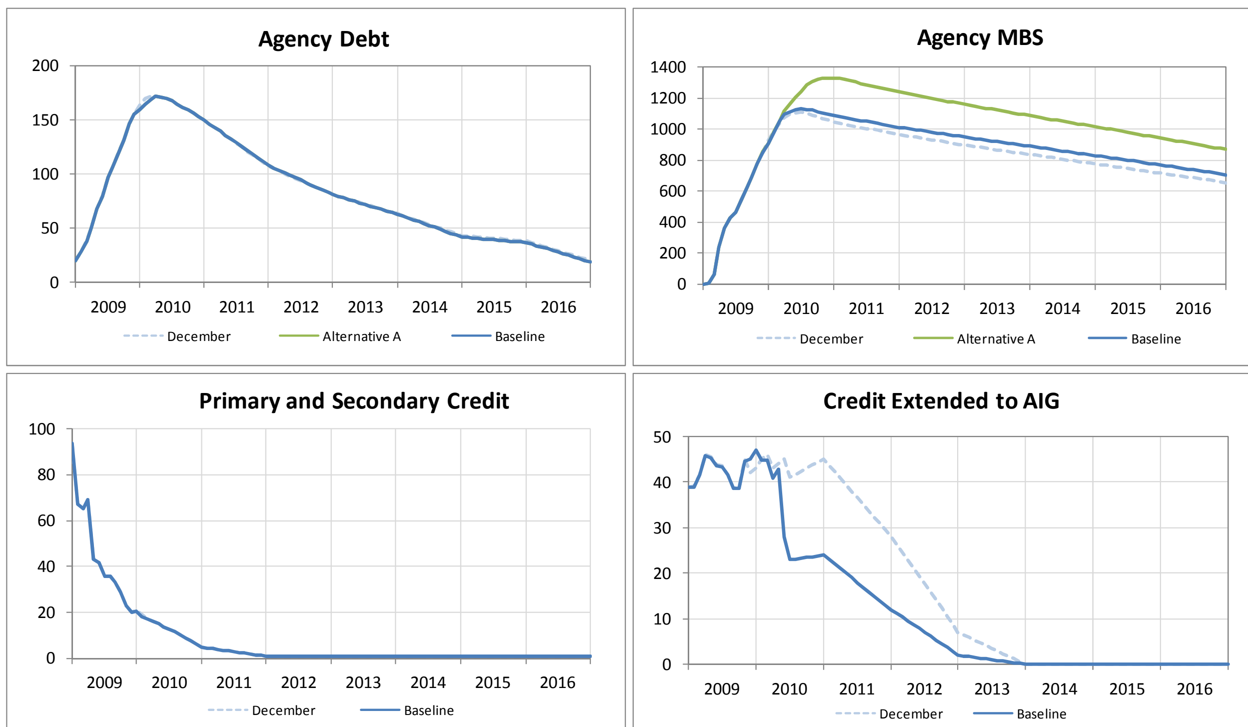
Reserve notes in circulation grow at the same rate as nominal GDP, as projected in the extended Greenbook forecast.

- Reverse repurchase agreements remain roughly at the current level of reverse repurchase agreements with foreign official and international accounts. Some minor fluctuations in the near-term level of reverse repurchase agreements reflect the tests by the Open Market Desk of triparty reverse repurchase agreements with primary dealers.
- The U.S. Treasury's general account (TGA) follows the staff forecast for end-of-month U.S. Treasury operating cash balances through June 2010.[3] Thereafter, the TGA drops back to its historical target level of $5 billion by the end of this year as it is assumed that the Treasury will have implemented a new cash management system that allows it to easily invest funds in excess of $5 billion. The TGA remains constant at $5 billion over the remainder of the forecast period.
- In the near term, movements in the U.S. Treasury's supplementary financing account (SFA) reflect constraints the U.S. Treasury faces with regards to its debt limit. As a result of the modest increase in the debt limit in December, the SFA is forecast to remain at its current level of $5 billion through the second quarter of 2010. Subsequently, under the assumption that the Congress raises the debt limit, the balances in the SFA gradually increase to $200 billion over the third quarter of 2010 and remain at this level in each of the scenarios until the SFA is reduced to ensure reserve balance levels do not fall below $25 billion. The timing of when the SFA is reduced to maintain reserve balance levels of $25 billion varies across the scenarios.
- Federal Reserve capital grows 15 percent per year, in line with the average rate of the past ten years.
- In general, the level of assets of the Federal Reserve drives the level of reserve balances. Increases in the levels of other liability items, such as Federal Reserve notes in circulation and the TGA, along with increases in the level of Reserve Bank capital, drain reserve balances. Reserve balances in the baseline scenario peak earlier and at a lower level than in the Alternative A scenario. However, in both scenarios, reserve balances fall back to $25 billion by the end of the forecast horizon.

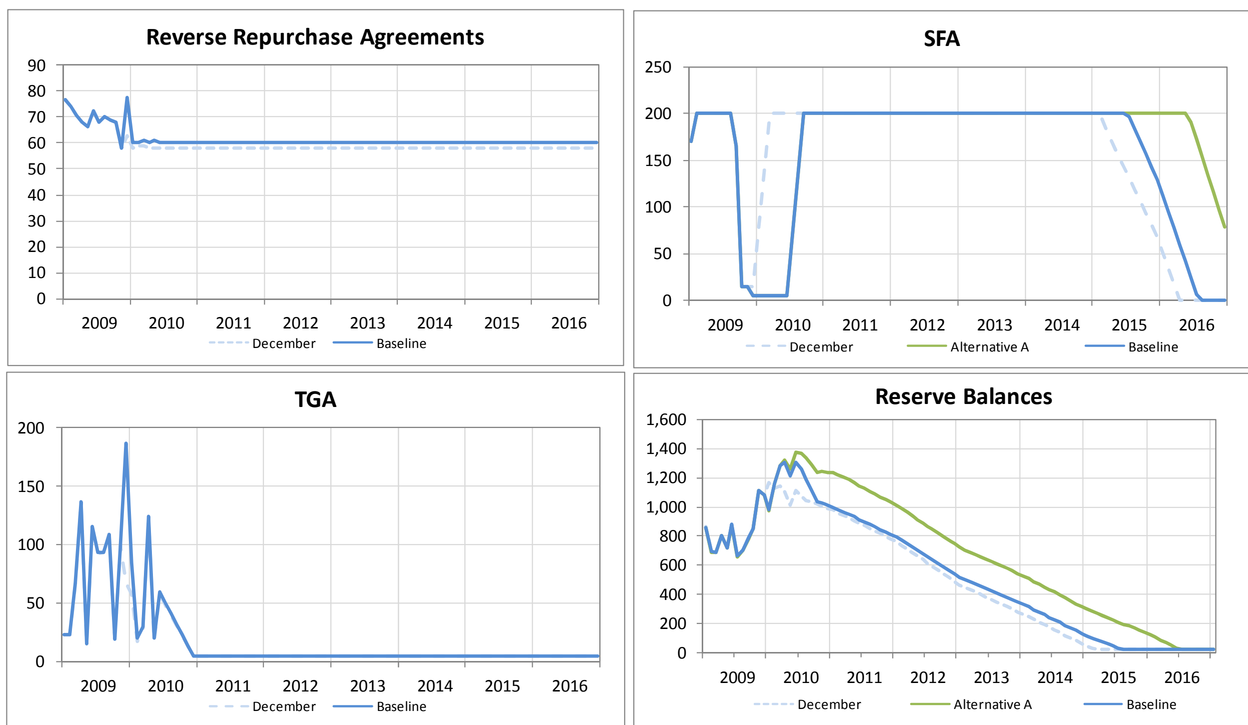
[3] The staff forecast for end-of-month U.S. Treasury operating cash balances includes forecasts of both the TGA and balances associated with the U.S. Treasury's Tax and Loan program. Because balances associated with the Tax and Loan program are $2 billion, for the time being, this forecast is a good proxy for the level of TGA balances.

APPENDIX C: INDIVIDUAL BALANCE SHEET ITEM PROFILES

Asset purchases and Federal Reserve liquidity programs and credit facilities



Federal Reserve liabilities



Note. All values are in billions of dollars.

Appendix C: Table

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

	Dec 31, 2009	2010	2011	2012	2013	2014	2015	2016
		End-of-Year						
		$ Billions						
Total assets	2,237	2,249	2,079	1,870	1,757	1,610	1,520	1,465
Selected assets:								
Liquidity programs for financial firms	107	5	1	1	1	1	1	1
Primary, secondary, and seasonal credit	21	5	1	1	1	1	1	1
Term auction credit (TAF)	76	0	0	0	0	0	0	0
Central bank liquidity swaps	10	0	0	0	0	0	0	0
Primary Dealer Credit Facility (PDCF)	0	0	0	0	0	0	0	0
Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF)	0	0	0	0	0	0	0	0
Lending though other credit facilities	62	60	51	17	13	3	0	0
Net portfolio holdings of Commercial Paper Funding Facility LLC (CPFF)	14	0	0	0	0	0	0	0
Term Asset-Backed Securities Loan Facility (TALF)	48	60	51	17	13	3	0	0
Support for specific institutions	112	65	44	25	14	3	2	1
Credit extended to AIG	47	24	12	2	0	0	0	0
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC	65	41	32	23	14	3	2	1
Securities held outright	1,845	2,007	1,869	1,712	1,614	1,488	1,404	1,350
U.S. Treasury securities	777	770	748	681	661	615	597	623
Agency debt securities	160	150	108	81	63	42	37	19
Agency mortgage-backed securities	908	1,087	1,013	950	890	831	770	708
Repurchase agreements	0	0	0	0	0	0	0	0
Net portfolio holdings of TALF LLC	0	1	1	2	2	2	0	0
Total liabilities	2,186	2,190	2,011	1,792	1,667	1,506	1,401	1,328
Selected liabilities:								
Federal Reserve notes in circulation	888	909	938	994	1,051	1,108	1,165	1,222
Reverse repurchase agreements	78	60	60	60	60	60	60	60
Reserve balances of depository institutions	977	999	792	516	334	117	25	25
U.S. Treasury, general account	187	5	5	5	5	5	5	5
U.S. Treasury, supplementary financing account	5	200	200	200	200	200	129	0
Total capital	51	59	68	78	90	103	119	136

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