

## **Prefatory Note**

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Class II FOMC – Restricted (FR)

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# Report to the FOMC on Economic Conditions and Monetary Policy



## Book A

### Economic and Financial Conditions: Current Situation and Outlook

October 27, 2010

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

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## Domestic Economic Developments and Outlook

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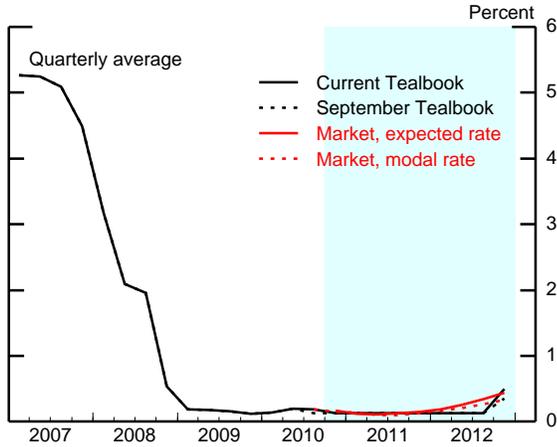
The information that we have received in recent weeks suggests that the economic recovery is proceeding at a subpar pace, as we had envisioned in the September Tealbook. In the labor market, private nonfarm employment growth remained sluggish in September, the unemployment rate held steady at 9.6 percent, and other indicators of labor market activity appear consistent with only lackluster employment gains through year-end. In the housing market, both home sales and housing starts have remained weak in recent months. And, although indicators for business investment in equipment and software and for consumer spending have been stronger than we had expected at the time of the September Tealbook, the pickup in demand has thus far been met in large part through higher imports rather than through an increase in domestic production. Indeed, the most recent indicators of industrial production (IP) have been a little softer than we had anticipated, and we now expect IP to post a small decline in the current quarter, compared with our previous forecast of a slight gain. Putting all of this information together, we project that real GDP will rise at an annual rate of 2 percent in the second half of this year—the same as our September projection.

In this projection, we have assumed that the FOMC will announce its intention at the close of the upcoming meeting to purchase an additional \$600 billion of Treasury securities. As a result, we foresee financial conditions that should be more supportive of economic growth over the medium term. Compared with the September projection, we have assumed lower long-term interest rates, higher stock prices, and a lower foreign exchange value of the dollar. Taken together, these factors support additional growth of real GDP of about  $\frac{1}{4}$  percentage point in each of 2011 and 2012, putting the increases in those years at about  $3\frac{1}{2}$  percent and  $4\frac{3}{4}$  percent respectively. In this environment, we project that the unemployment rate will fall to 9 percent at the end of 2011 and to a little below 8 percent at the end of 2012.

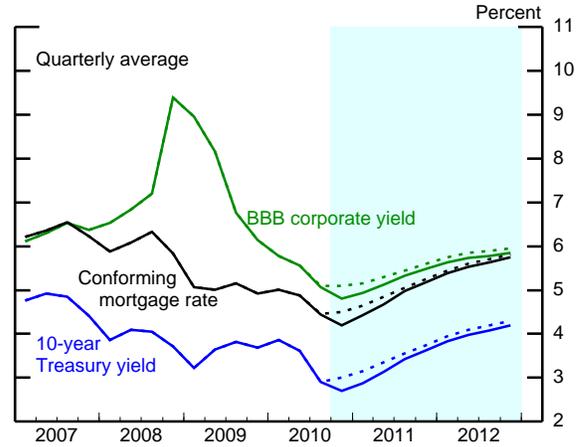
Our projection for inflation is little changed from the last Tealbook. Although recent readings for core consumer price inflation have come in a little lower than we had been expecting, the stronger real activity and higher import prices in this projection point to a little less disinflationary pressure going forward. As a result, we now project that core PCE inflation will edge down from 1.1 percent this year to 1.0 percent in both 2011 and 2012—a touch higher than our September projection. With energy prices expected to

## Key Background Factors Underlying the Baseline Staff Projection

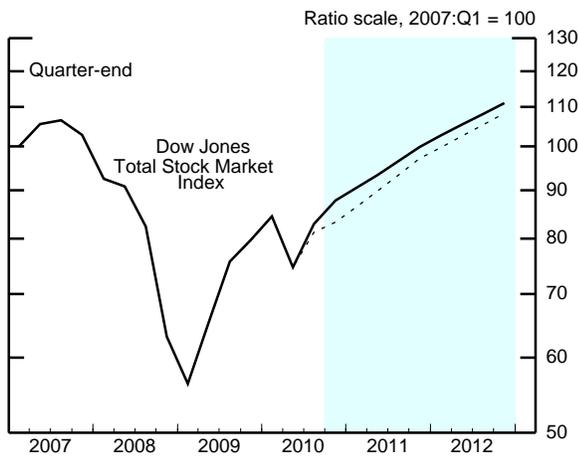
Federal Funds Rate



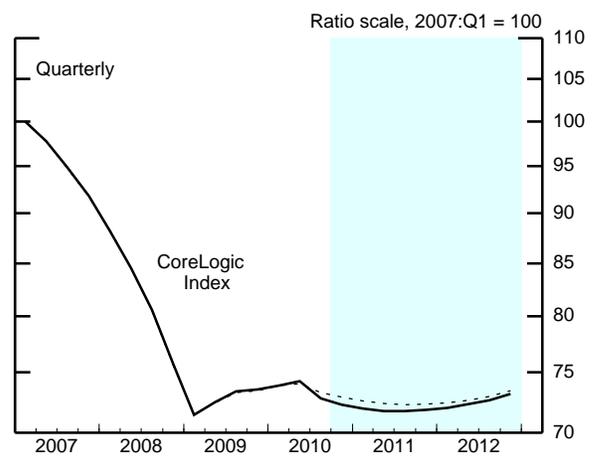
Long-Term Interest Rates



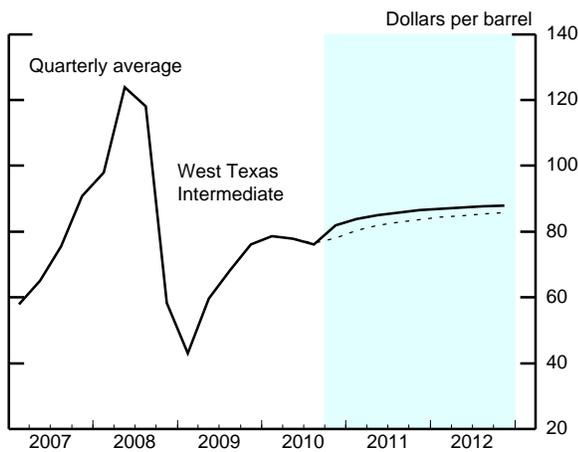
Equity Prices



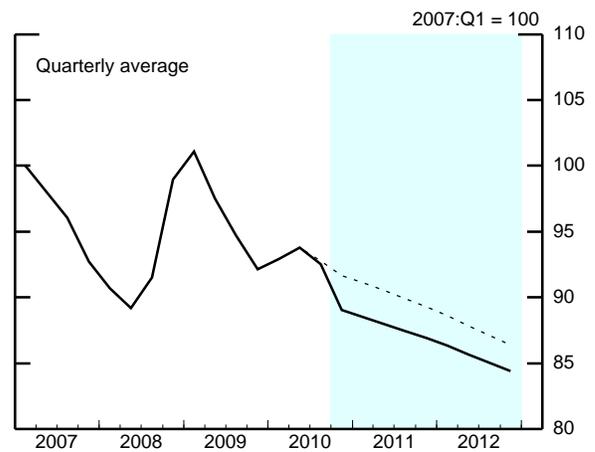
House Prices



Crude Oil Prices



Broad Real Dollar



rise a bit faster than core, we expect overall consumer price inflation to be 1.1 percent in both 2011 and 2012.

## **KEY BACKGROUND FACTORS**

### **Monetary Policy**

As in the September Tealbook, we continue to assume that the FOMC will hold the target federal funds rate in the current range of 0 to  $\frac{1}{4}$  percent until the fourth quarter of 2012. However, we now assume that the FOMC will introduce further policy accommodation through additional purchases of Treasury securities. In particular, we assume the Committee will purchase about an additional \$75 billion of intermediate- and long-term Treasury securities per month through next June, putting the cumulative increment to the balance sheet at \$600 billion; as of the September Tealbook, we had assumed no such additional purchases. Market participants appear to be quite uncertain about the timing and ultimate size of the presumed expansion of the System Open Market Account (SOMA). On balance, though, they appear to expect a larger program than we have assumed. Consequently, as it becomes apparent over the course of the first half of next year that the Committee will not extend the balance sheet beyond \$600 billion, we anticipate that the market will gradually give up some of the incremental improvement in financial conditions that has accrued during the past couple of months.

### **Financial Conditions**

As of October 26, the 10-year Treasury yield was about unchanged compared with the time of the September Tealbook; in the previous Tealbook we had expected the yield to increase noticeably during the same period. After factoring in the possibility of a favorable market reaction to the Committee's announcement—reflecting in part a resolution of uncertainty—the 10-year Treasury yield in the fourth quarter is expected to average about 30 basis points below the September Tealbook. (The Box “Alternative SOMA Portfolio Assumptions” discusses the economic effects of alternative paths for asset purchases.)

Looking forward, we assume that the effect of these additional purchases on the 10-year Treasury yield will diminish over time, in part reflecting the assumed market disappointment next year relative to expectations about the cumulative increment to SOMA holdings. Consequently, while the projected path of Treasury yields is lower throughout the forecast period, it is somewhat steeper than in the September Tealbook, rising from the current level of about  $2\frac{3}{4}$  percent to about  $4\frac{1}{4}$  percent by the end of 2012.

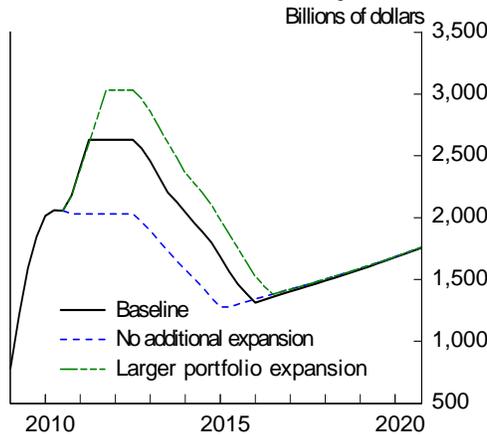
## Alternative SOMA Portfolio Assumptions

The staff’s baseline forecast assumes that the Federal Reserve will increase its holdings of longer-term securities by \$600 billion, and that the additional purchases will be completed by next June. We expect that investors will be somewhat disappointed when the Committee takes no further action at subsequent meetings, a reaction that causes some additional upward pressure on long-term yields during the first half of next year.

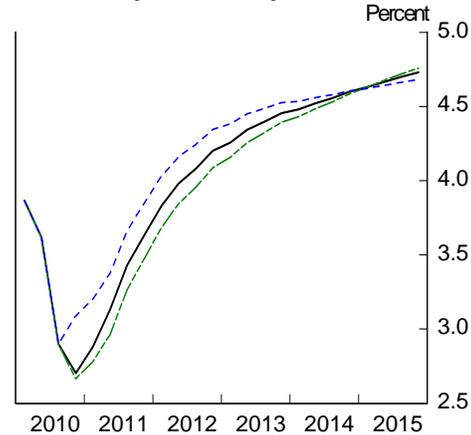
Here we consider the effects of two alternative scenarios for asset purchases. In the first alternative, called “no additional expansion,” the Committee announces that it will maintain the Federal Reserve’s balance sheet at its current level through 2012, thereby greatly surprising market participants. In the second alternative, called “larger portfolio expansion,” the FOMC instead announces that it will increase the size of the balance sheet by \$1 trillion by the end of next year—a policy that would not entail the disappointment during the first half of next year that we envision occurring under the baseline policy. In both alternative scenarios, market participants expect that no further expansions of the balance sheet will be announced after November. The paths for the size of the SOMA portfolio in the baseline and in the alternative scenarios are shown in the figure in the lower left.

For purposes of this simulation, we assume that market participants currently expect a cumulative increase in the SOMA of roughly \$1 trillion. Accordingly, an announcement that no further asset purchases will be forthcoming would likely cause long-term interest rates to jump 30 to 40 basis points. Although such estimates are uncertain, this response would be in line with research on the effects of the earlier large-scale asset programs. The figure in the lower right shows the effect of this announcement regarding the no-additional-expansion policy. Going forward, the gap between yields under this strategy and the baseline policy narrows, in part because the baseline incorporates a backup in yields next year as market participants come to realize that the baseline policy involves only \$600 billion in purchases, not \$1 trillion.

**Alternative SOMA Portfolio Projections**



**10-year Treasury Yield**

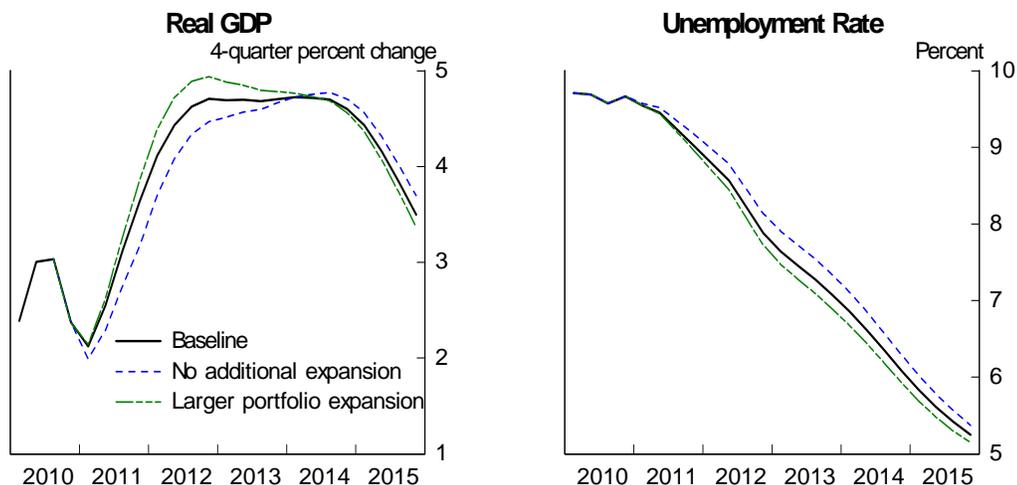


In contrast to the no-additional-expansion policy, we assume that the implementation of the larger program of additional asset purchases would largely accord with current market expectations. Therefore, as indicated by the green line in the figure on the lower right on the facing page, this policy would prevent the backup in term premiums that the baseline forecast anticipates for next year, and thus would provide a modest amount of additional monetary stimulus over time.

The figures below illustrate the implications for real GDP and the unemployment rate of the alternative portfolio strategies, based on simulations of the FRB/US model in which the federal funds rate follows the baseline path through 2015. In the no-additional-expansion scenario, the less favorable financial conditions induced by higher long-term interest rates (including lower equity prices and a higher foreign exchange value of the dollar) restrain aggregate demand. As a result, the level of real GDP is 0.7 percent below baseline by the end of 2012, while the unemployment rate is 0.3 percentage point higher. In the larger-portfolio-expansion scenario, by contrast, the additional monetary stimulus provided by the policy results in modestly more favorable financial conditions, so that the level of real GDP is 0.4 percent above baseline by late 2012.

FRB/US simulations suggest that the price implications of pursuing either of the two alternative portfolio strategies would likely be small. For example, the model predicts that, without any further expansion, inflation would decline relative to baseline by only 0.1 percentage point at most. However, this result hinges on the assumption that agents' expectations for long-run inflation would not be materially altered by changes in the balance sheet of the magnitude considered here.

### Macroeconomic Effects of Alternative SOMA Policies



As in the previous projection, several other factors contribute to this contour, but, quantitatively, the most important is the movement of the 10-year valuation window through the period of near-zero short-term interest rates.

Yields on investment-grade corporate bonds have declined a bit since mid-September, and their spreads to comparable-maturity Treasury yields have narrowed a touch. Spreads on conforming fixed-rate mortgages also have changed little in recent weeks. Consistent with these small changes to interest rate spreads, the projected paths for corporate bond yields and conforming mortgages have been revised about in line with the projected path for the 10-year Treasury yield.

The Dow Jones U.S. Stock Market Index is about 5½ percent above the level anticipated in the September Tealbook. In the medium term, the expected disappointment in financial markets about the size of the SOMA purchase program is projected to tamp down share price appreciation. Nonetheless, with the equity premium remaining above longer-run norms, we continue to expect stock prices to increase markedly over the next couple of years, averaging about 12½ percent at an annual rate—enough to bring the implied equity premium down toward a more typical level.

Readings on house prices have been a bit weaker than expected in the September Tealbook. The CoreLogic repeat sales index decreased in August, leading us to mark down our forecast for the level of house prices by roughly 1 percent. With a broad range of factors—including weak housing demand and sizable foreclosure volumes—likely to weigh on the housing market in coming quarters, we project home prices to be flat, on net, through 2012. In the baseline projection, we have assumed that the net effect of irregularities in various aspects of mortgage servicing and securitization practices will be small; however, the downside risks posed by this situation are substantial. (See the box “The Economic Effects of the Mortgage Documentation Problems” for more detail.)

## **Fiscal Policy**

We made a few small changes to our assumptions about federal fiscal policy. First, we now assume that the provisions of the 2001–03 tax cuts for high-income individuals will be extended through 2012 (previously, we had assumed that only the cuts for non-high-income individuals would be extended), but that the Make Work Pay tax credit will expire at the end of 2010. These changes, on net, do not have any material effect on our projections of disposable personal income and household spending. Second, we have incorporated the bonus depreciation provision for investment spending

by firms in 2010, which was part of the recently enacted legislation for small businesses. We anticipate that this provision will result in a very small amount of business spending on equipment being pulled forward from the first quarter of next year into the fourth quarter of this year. In all, these changes have essentially no effect on our projection of fiscal impetus; we continue to project that federal fiscal policy actions will provide a small boost to aggregate demand in the second half of this year, but that they will hold down GDP growth by about  $\frac{1}{2}$  percentage point per year in 2011 and 2012 as the effects of stimulus policies wane.

Our forecast for the unified budget is roughly the same as in the September projection. The budget deficit ended fiscal year 2010 at about \$1.3 trillion (almost 9 percent of GDP), and we expect it to remain at about that level in fiscal 2011. The budget deficit is anticipated to narrow to about \$1 trillion in fiscal 2012 (approximately  $6\frac{1}{2}$  percent of GDP), primarily reflecting the budgetary effects of the continuing economic recovery and the winding down of stimulus-related spending.

### **Foreign Activity and the Dollar**

Recent indicators of foreign economic activity have, on balance, been a bit weaker than we had expected, leading us to mark down our estimate for foreign GDP growth  $\frac{1}{4}$  percentage point in the second half of the year. Thereafter, the outlook for foreign real activity is little changed, on net, as the negative effect of currency appreciation in some countries is largely offset by the upward revision to U.S. demand. We now project that real economic growth abroad will slow from an annual rate of  $5\frac{1}{2}$  percent in the first half of this year to  $2\frac{1}{2}$  percent in the second half, as the boost from the recovery in global trade, manufacturing, and inventories has waned. In 2011 and 2012, we expect that foreign economic growth will pick up to roughly a  $3\frac{1}{2}$  percent pace as a gradual revival in private spending more than offsets a withdrawal of policy stimulus.

The dollar has depreciated  $2\frac{1}{2}$  percent on a trade-weighted basis against a broad set of currencies since the September forecast, spurred in large part by anticipation of further policy accommodation from the Federal Reserve. In line with this drop in the dollar, our projection for the broad real dollar in the current quarter is nearly 3 percent below the September Tealbook. We project that the dollar will depreciate at a rate of about  $2\frac{1}{2}$  percent per year over 2011 and 2012, a slightly slower rate than in the September forecast. Market expectations for the federal funds rate have come down toward the staff projection, so we are no longer expecting markets to be surprised by the

## Economic Effects of the Mortgage Documentation Problems

A number of mortgage servicers, banks, and mortgage-backed securities (MBS) issuers appear to have mishandled important procedural steps when transferring ownership of mortgages.<sup>1</sup> In addition, some mortgage servicers appear not to have followed state foreclosure laws correctly in some cases. As a result, mortgage servicers are taking a closer look at the paperwork for loans currently in the foreclosure process and for properties in their inventory of real estate owned (REO). While this review is under way, some servicers have put a selective freeze on foreclosure-related proceedings and sales of REO.

These mortgage market developments cloud the outlook for housing activity and raise some potentially daunting legal issues for financial institutions. At this point, much is unknown about how this story will play out, and the picture is changing daily. That said, our baseline assumption at this time is that these problems will have only limited effects on housing activity and prices, on net, over the next year. Of course, the effects could be more damaging if the paperwork problems persist longer or affect more loans than we currently expect. And a number of other potential outcomes, although seemingly improbable at the moment, pose notable downside risks.

Regarding the factors incorporated in the baseline staff forecast, we assume that servicers will delay the transition of foreclosed properties to REO for a short time while they shore up their legal claims to mortgages. In the baseline, we anticipate that the foreclosure process will be extended by an average of three months—an assumption that is within the range of estimates provided by banks and more-pessimistic analysts. In addition, we expect the flow of new foreclosure filings to lessen significantly as servicers focus on internal document controls, simultaneously reducing new foreclosure starts and expanding the number of delinquent loans. However, most loans that are seriously delinquent or already in the foreclosure inventory will become REO eventually. Because home buyers have an incentive to look ahead and recognize that future supply, we expect home prices to be little affected by the longer foreclosure process and the slowdown in new foreclosures. The effect of this delay on home sales is also likely to be slight, because the rate of new foreclosures is small relative to the stock of homes for sale.

Our baseline forecast calls for the freeze of REO sales to last for three months, the same amount of time for which we expect foreclosure completions to be delayed. We expect the stoppage to affect 50 percent of REO sales—slightly more than the fraction currently on hold, to account for the possibility that more banks might voluntarily halt sales or that authorities could forcibly stop REO sales in some states. As a result, in our forecast we have shifted some home sales from the end of 2010 to the first half of 2011, with the ensuing swing in brokerage commissions having minor transitory effects on real GDP. Again, the resulting change to house prices is likely to be small, on net, because the contraction in the supply of homes for sale is temporary.

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<sup>1</sup>We discuss these developments in further detail in the box “Financial Consequences of the Mortgage Documentation Problems” in the Financial Developments section.

Some aftereffects of the mortgage paperwork problems are likely to be long lasting. First, for some properties in foreclosure for which the borrower has already returned the keys, the determination of legal title could be so difficult that the property remains vacant for a long time. Such properties are likely to be poorly maintained, so their own value could decline significantly. In addition, past experience suggests that vacant homes could reduce the values of nearby properties. The prevalence of such extreme title difficulties is hard to estimate, but we think it will be small, because in the large majority of cases, the economic value of a house will be great enough to justify the legal costs of clearing up the title. Therefore, in the staff forecast we assume that this channel puts just a little downward pressure on the prices of existing homes.

Another potential long-lasting effect is that servicers could become more willing to modify delinquent loans or accept short sales rather than face the hurdles involved in documenting that a foreclosure is legal. Short sales and modifications, unlike foreclosures, involve voluntary agreements between the lender and borrower and thus circumvent many of the recent problems. As a result, we assume that a small fraction of foreclosures currently in process will not be completed, and that new foreclosure starts going forward will be a little lower. Consequently, the REO inventory will be smaller, providing a small amount of upward pressure to the staff forecast for house prices.<sup>2</sup>

In sum, we currently assume in the baseline that the factors discussed above will have little net effect on home sales, prices, and construction activity. That said, a number of possible developments that appear unlikely at this juncture could potentially have significant negative effects on housing markets and economic activity if they were to occur:

- The financial condition of mortgage servicers or MBS sponsors (including a number of subsidiaries of large commercial banks) could be severely strained by large-scale lawsuits or by investors seeking the repurchase of mortgages. Facing severe funding pressures, these financial institutions could cut back on the supply of mortgage credit, exit the mortgage business altogether, or cut back on the supply of credit more broadly.
- Participants in the securitization process (including the GSEs) could demand costly and onerous document and legal reviews, significantly raising the cost of mortgage credit.
- Increases in the costs of documenting titles could substantially raise the cost of purchasing a home. For example, title insurance companies could become unwilling to insure certain types of properties.
- Uncertainty about property rights could appreciably reduce the attractiveness of homeownership and investing in housing. The media has reported anecdotes of home purchasers who have been unable to move into their homes because the previous foreclosure sales were not correctly documented. Seeing these reports, the general population might attach a much higher risk premium to buying a foreclosed home or possibly any existing home.

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<sup>2</sup> The price of a typical property sold through a short sale is higher than the price of a typical property sold as REO. Thus, selling a home through a short sale rather than as REO should raise average home prices.

persistence of very low rates—a factor that had been contributing to a faster depreciation of the dollar over the next two years. The anticipated policy disappointment during the first half of next year will also reduce downward pressure on the dollar. On balance, our forecast leaves the broad real dollar 2¼ percent lower at the end of 2012 than in the September Tealbook.

### **Oil and Other Commodity Prices**

The lower dollar and unexpectedly strong readings on global oil consumption have combined to push the dollar price of oil higher than we were projecting in the September Tealbook. However, the rise appears to have been tempered by a high level of global inventories and ample OPEC spare production capacity. Since the time of the September Tealbook, the spot price of West Texas Intermediate (WTI) oil has moved up more than \$5 per barrel, closing most recently on October 26 at \$82.55 per barrel. Prices of futures contracts have also increased, but by lesser amounts. Consistent with the path of futures prices, we now project that the spot price of WTI will end 2012 at more than \$88 per barrel, about \$2 higher than in the September projection.

Dollar-denominated prices for many other commodities have moved considerably higher since the September Tealbook. As with oil, some of these broad-based increases relate to the lower value of the dollar. However, commodity-specific supply conditions have provided upward price pressure for some foods and agricultural raw materials. We project that nonfuel commodity prices will increase at an annual rate in excess of 30 percent in the current quarter, 20 percentage points above the previous Tealbook. For 2011 and 2012, consistent with quotes from futures markets, we project nonfuel commodity prices to move down slightly.

## **RECENT DEVELOPMENTS AND THE NEAR-TERM OUTLOOK**

The data on domestic economic activity that we have received since the time of the September forecast have been, on balance, close to our expectations. As a result, we continue to project that real GDP will rise at an annual rate of 2 percent in the second half of this year.

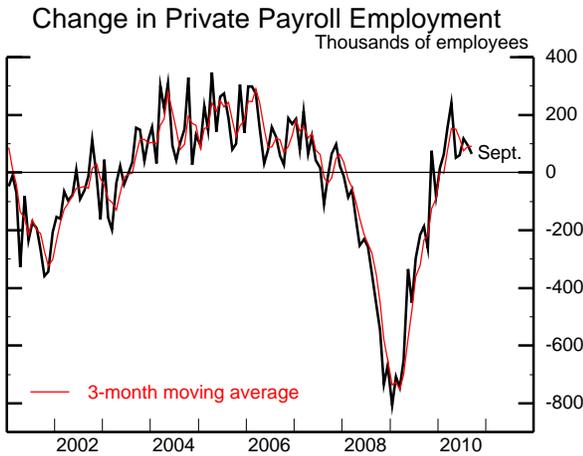
### **Labor Markets**

The pace of recovery in the labor market continues to be sluggish. Private nonfarm employers added only 64,000 jobs in September, similar to the average pace over the preceding four months, and in line with our expectations in the September

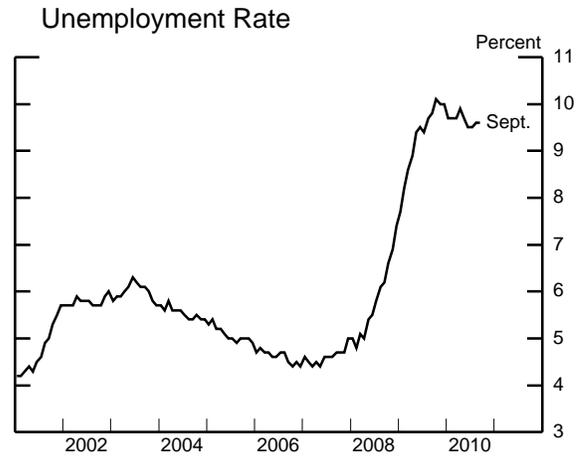
**Summary of the Near-Term Outlook**  
(Percent change at annual rate except as noted)

Measure	2010:Q3		2010:Q4		2011:Q1	
	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook	Previous Tealbook	Current Tealbook
<b>Real GDP</b>	<b>1.7</b>	<b>1.7</b>	<b>2.4</b>	<b>2.4</b>	<b>2.5</b>	<b>2.7</b>
Private domestic final purchases	.9	1.9	2.1	2.1	2.8	3.0
Personal consumption expenditures	2.2	2.6	2.0	2.2	2.1	2.4
Residential investment	-27.2	-29.9	3.5	-4.7	11.0	13.5
Nonres. structures	-1.5	-5.1	-1.8	-2.4	-1.9	-2.8
Equipment and software	-.3	9.7	4.6	5.6	8.8	8.3
Federal purchases	3.4	4.3	4.5	3.7	.9	1.0
State and local purchases	-1.0	-.6	-.1	-.7	.1	.1
Contribution to change in real GDP (percentage points)						
Inventory investment	.9	1.4	-.9	-1.3	-.1	-.5
Net exports	-.1	-1.5	1.1	1.6	.2	.6

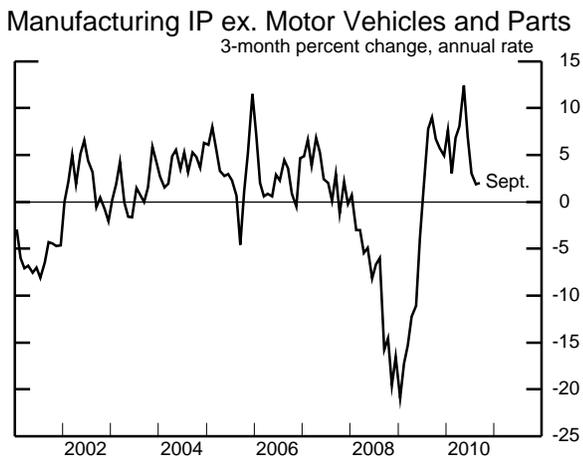
**Recent Nonfinancial Developments (1)**



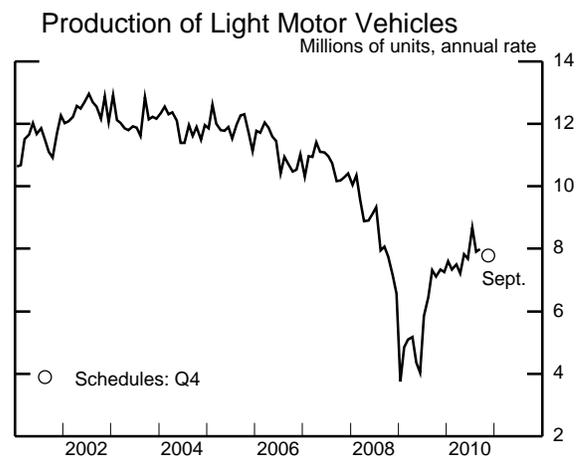
Source: U.S. Dept. of Labor, Bureau of Labor Statistics.



Source: U.S. Dept. of Labor, Bureau of Labor Statistics.



Source: Federal Reserve Board, G.17 Statistical Release, "Industrial Production and Capacity Utilization."



Note: Schedules data are from Ward's Communications. Source: Ward's Auto Infobank.

Tealbook.<sup>1</sup> Meanwhile, the unemployment rate was 9.6 percent in both August and September, down just a bit from its average earlier in the year.

Indicators of labor market activity suggest that employment growth will remain weak in coming months. Layoff indicators, such as initial claims for unemployment insurance, have remained elevated. Moreover, the average workweek—which often moves up ahead of a pickup in hiring—has changed little, on net, since May, while measures of job openings have remained quite low. As a result, we project that private payrolls will increase at an average monthly pace of 90,000 in the fourth quarter, about the same pace as in the third quarter and unchanged from our forecast in the September Tealbook. With this pace of job growth, we project the unemployment rate to inch up to 9.7 percent in October and then hold steady through year-end.

### **The Industrial Sector**

After rising at a 7 percent annual rate over the first half of the year, industrial production decelerated through the summer and edged down ¼ percent in September, leaving the increase for the third quarter as a whole at an annual rate of less than 5 percent. In the manufacturing sector, motor vehicle output was boosted in the third quarter as automakers worked to replenish dealer stocks. Elsewhere in manufacturing, however, output gains slowed across a wide range of industries, as the impetus to production from inventory rebuilding diminished. Looking ahead, we expect manufacturing IP to decline at an annual rate of about 1½ percent in the fourth quarter, as automakers pare back assemblies in response to the modest outlook for sales, and as production outside of motor vehicles continues to be restrained by weak domestic demand.

### **Household Spending**

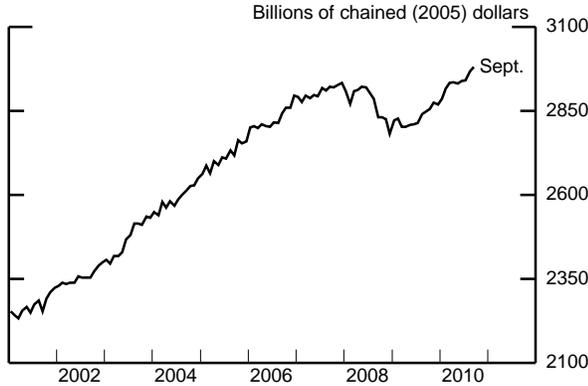
Real consumer spending appears to have increased at an annual rate of about 2½ percent in the third quarter, somewhat faster than its pace in the first half of the year and a little stronger than we had expected in the September Tealbook. With gains in labor income restrained by the sluggish recovery in the labor market, households continuing to adjust spending in response to earlier declines in wealth, and consumer sentiment still at a depressed level, we expect that consumer spending will rise at an

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<sup>1</sup> The Bureau of Labor Statistics reported that its preliminary estimate of the benchmark revision to private nonfarm payroll employment, which incorporates information derived from state unemployment insurance tax records, will reduce the March 2010 level of private employment by 371,000 (0.4 percent).

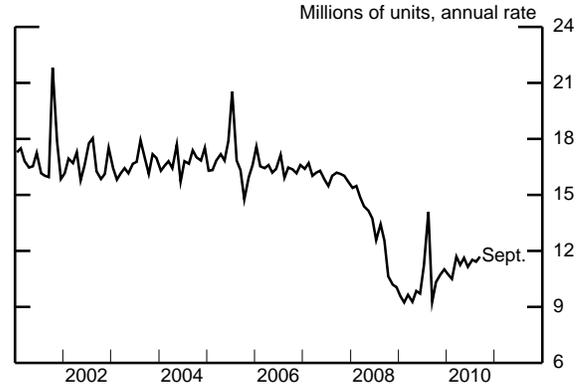
## Recent Nonfinancial Developments (2)

Real PCE Goods ex. Motor Vehicles



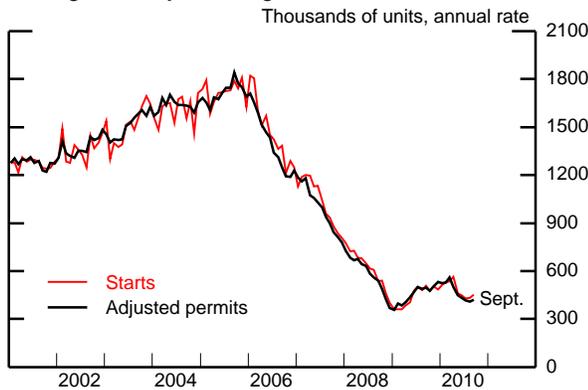
Note: Figures for July, August, and September are staff estimates based on available source data.  
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

Sales of Light Motor Vehicles



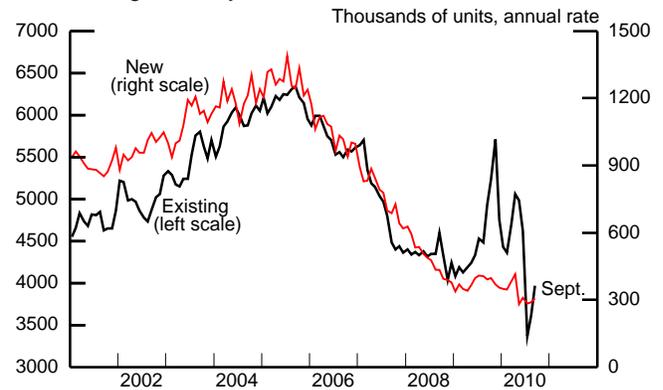
Source: Ward's Auto Infobank.

Single-Family Housing Starts



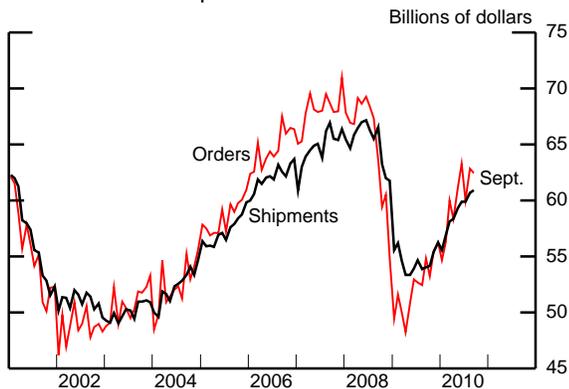
Note: Adjusted permits equal permits plus starts outside of permit-issuing areas.  
Source: U.S. Census Bureau.

Single-Family Home Sales



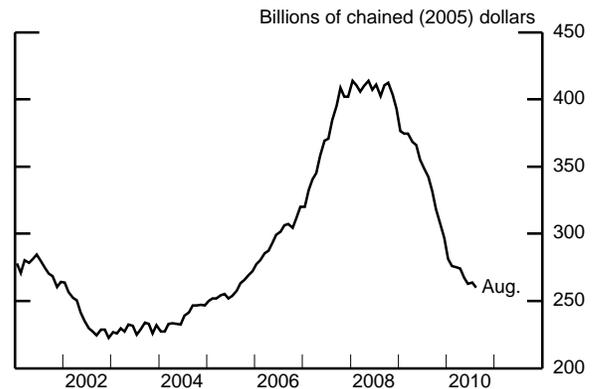
Source: For existing, National Association of Realtors; for new, U.S. Census Bureau.

Nondefense Capital Goods ex. Aircraft



Source: U.S. Census Bureau.

Nonresidential Construction Put in Place



Source: U.S. Census Bureau.

annual rate of about 2¼ percent in the current quarter, just a shade more than in our previous projection.

Housing demand remains quite weak. We anticipate that the effects of the expiration of the homebuyer tax credit will continue to weigh on home sales through the current quarter. But, even after making allowances for the tax credit effects, home sales appear softer than would be expected in an environment of record-low mortgage rates and house prices that are both low and apparently leveling out. The unusual weakness in housing demand may reflect a number of influences, including the drag on household formation from economic uncertainty and anemic job creation, persistent concerns about the possibility of further house price declines, and continued constraints on the ability of some households to obtain mortgage credit. Adding to the issues plaguing the housing market, we expect that the recently announced moratoriums on sales of bank-owned properties will depress home sales, on net, through the end of this year.

As for construction activity, single-family housing starts fell back from an annual rate of about 500,000 over the first half of the year to a 440,000 unit pace in the third quarter, and the latest readings on adjusted permit issuance point to little improvement in the fourth quarter. All told, we expect residential investment to decline at an annual rate of 4¾ percent in the fourth quarter.

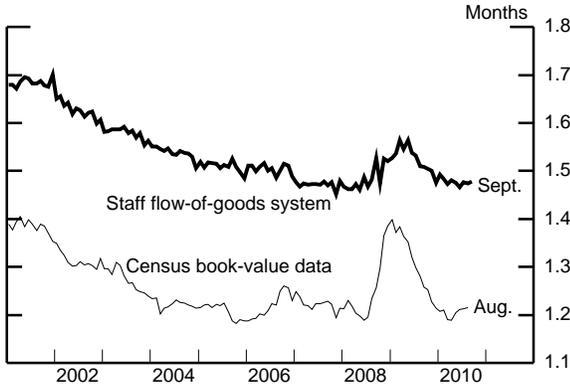
### **Business Investment**

Real E&S spending appears to have decelerated noticeably in the second half of this year from its exceptional first-half pace. However, the data we have received since the September Tealbook suggest that the slowdown will be less striking than we had previously expected. Although the orders and shipments of nondefense capital goods in August and September were, on net, about in line with our expectations, both imports of capital goods and business purchases of motor vehicles were considerably stronger than we had been anticipating. All told, we now project that E&S spending will increase at an average annual rate of 7½ percent in the second half of this year, compared with our September Tealbook projection of a 2 percent average gain.

Business outlays on nonresidential structures have continued to move lower, as increases in spending on drilling and mining structures have been more than offset by further declines in building construction. We expect high energy prices to sustain solid increases in drilling and mining expenditures through year-end. In contrast, while the downtrend in construction outlays on buildings appears to have slowed somewhat, the

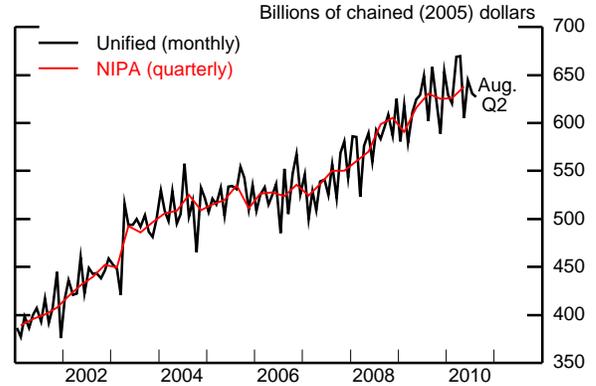
### Recent Nonfinancial Developments (3)

Inventory Ratios ex. Motor Vehicles



Note: Flow-of-goods system covers total industry ex. motor vehicles and parts, and inventories are relative to consumption. Census data cover manufacturing and trade ex. motor vehicles and parts, and inventories are relative to sales.  
Source: U.S. Census Bureau; staff calculation.

Defense Spending



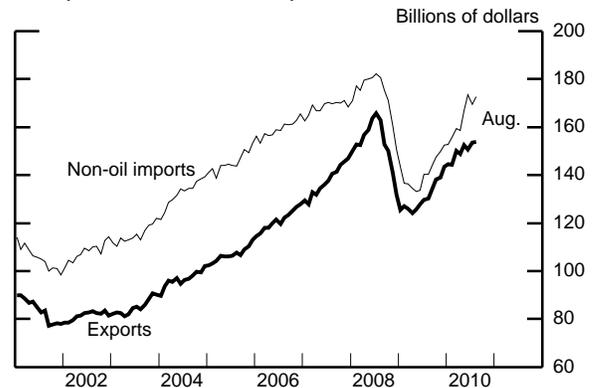
Note: The unified series is seasonally adjusted and deflated by BEA prices. The NIPA series excludes the consumption of fixed capital.  
Source: Monthly Treasury Statement.

Trade Balance



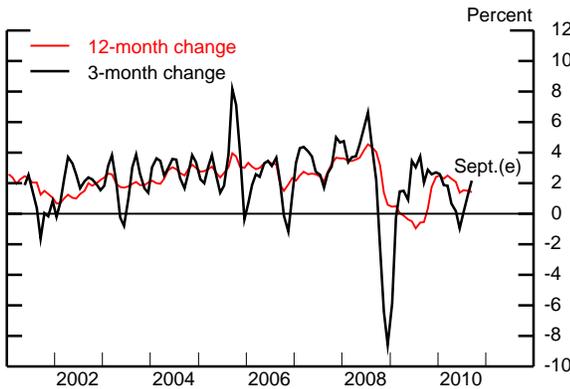
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis; U.S. Census Bureau.

Exports and Non-Oil Imports



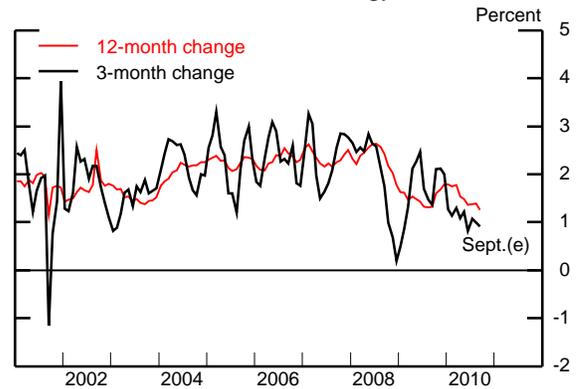
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis; U.S. Census Bureau.

Total PCE Prices



Note: 3-month changes are at an annual rate.  
e Staff estimate.  
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

PCE Prices ex. Food and Energy



Note: 3-month changes are at an annual rate.  
e Staff estimate.  
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

overhang of unoccupied space and tight lending conditions continue to weigh on this sector, and we look for outlays on building construction to decline further in coming months.

Based on the available monthly indicators, we project that real inventory investment stepped up sharply in the third quarter after rising at a more moderate pace in the second quarter. Nevertheless, business inventories overall do not appear excessive: Inventory–sales ratios in most industries remain well below their recent peaks, and survey-based indicators suggest that most businesses do not perceive inventory stocks as too high. Moreover, while the months' supply measure in the staff's flow-of-goods system moved up again in September, there is little evidence of unintended inventory accumulation outside of a few scattered industries, such as nonmetallic mineral products, primary metals, and machinery.

Motor vehicle inventories were little changed in September after having risen sharply over the summer when automakers boosted production to replenish dealer stocks, and production plans for the fourth quarter suggest that inventories will likely remain near their current levels through the end of the year. Outside of motor vehicles, we expect stockbuilding to continue at a relatively steady pace over the remainder of the year as firms increase their inventories in line with growth in final sales. For the second half of the year as a whole, inventory investment is expected to be a roughly neutral influence on the rate of change of real GDP.

## Government

We estimate that real federal purchases rose at an annual rate of 4¼ percent in the third quarter, and anticipate that they will rise at a 3¾ percent pace in the current quarter. Defense spending is likely to post sizable gains in both quarters, while nondefense spending is expected to be about flat.

In the state and local sector, employment plunged 54,000 per month, on average, in the third quarter, as governments continued to trim payrolls in response to budget pressures. With much of the decrease coming in local education employment, we have assumed that the outsized job losses last quarter were largely one-time adjustments to payrolls that were completed by the beginning of the school year. As a result, our projection calls for state and local employment to remain about flat in the current quarter. In contrast, nominal construction outlays have risen noticeably in recent months after plummeting in late 2009 and early 2010; we expect these outlays to continue to firm in

the current quarter. On net, we expect real state and local purchases to edge down in both the third and fourth quarters of this year.

## Foreign Trade

Import data for August showed surprising strength, and we now estimate that real imports of goods and services expanded at an annual rate of almost 15 percent in the third quarter, with imports of consumer goods and capital goods exhibiting especially large gains. However, we anticipate that real imports will fall 3 percent in the current quarter, as non-oil imports return to a rate of growth more consistent with the projected expansion of U.S. activity and oil imports decrease sharply.<sup>2</sup> The export data in the August trade release were weaker than we had expected, and suggest that the cyclical recovery in exports may have paused in the third quarter. We now estimate that the growth in real exports of goods and services stepped down to an annual rate of 5¾ percent in the third quarter, about half the pace in the September Tealbook. In the current quarter, we expect real export growth to move back up to an annual rate of 9½ percent, consistent with the recent declines in the dollar, the expansion of foreign demand, and the resumption of some further cyclical bounceback from the steep declines in exports registered during the global recession.

All told, net exports are estimated to have subtracted 1½ percentage points from real GDP growth in the third quarter versus our September projection that net exports would be about neutral for GDP growth. For the current quarter, we expect net exports to contribute 1½ percentage points to GDP growth, ½ percentage point more than in the September Tealbook. The upward revision stems from the lower value of the dollar and from our expectation that some of the third-quarter surprises to imports and exports will be reversed.

## Prices and Wages

Core inflation has remained low. The core PCE price index increased 0.1 percent in August, and our translation of the CPI and PPI data suggests that core PCE prices were unchanged in September—a touch weaker than we had anticipated. Based on these readings, we estimate that core PCE prices for the third quarter as a whole rose at an annual rate of 1 percent, about the same as the rate posted in the first half of 2010. In the current quarter, we anticipate somewhat more upward pressure on core consumer prices coming from higher import prices. Indeed, we look for prices of core imports (all goods

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<sup>2</sup> Some of the expected decline in oil imports in the current quarter reflects a quirk in the BEA's method of seasonal adjustment.

excluding fuels, computers, and semiconductors) to rise at an annual rate of almost 5 percent this quarter. But, after factoring in the implications of the low readings on core inflation in August and September, we continue to project core PCE prices to rise at a bit more than a 1 percent rate this quarter.

We project that total PCE prices, after increasing at an annual rate of 1.2 percent in the third quarter, will accelerate to a pace of about 2 percent in the current quarter—about  $\frac{1}{2}$  percentage point higher than in the September Tealbook. The larger-than-expected upswing in crude oil prices in recent weeks led us to revise up our forecast for consumer energy price inflation in the current quarter, which accounts for nearly all of the upward revision to overall PCE price inflation.

We have received little data on labor compensation since the last projection. Average hourly earnings rose in line with our expectations in September, and we continue to project that compensation per hour will increase at an annual rate of 2 percent in the second half of the year after having declined at an annual rate of about  $\frac{3}{4}$  percent in the first half of 2010.

## **THE MEDIUM-TERM OUTLOOK**

Although the incoming economic data were, on balance, close to our expectations in the September Tealbook, we have raised our projection for the growth in real economic activity over the next two years in light of the revised policy assumptions and the associated improvement in conditioning assumptions—in particular, lower long-term interest rates, a further depreciation in the dollar, and higher equity prices. As a result, we now project real GDP growth to step up to 3.6 percent in 2011 and to 4.7 percent in 2012; at the end of 2012 we now have the level of real GDP 0.6 percent higher than in the September Tealbook.

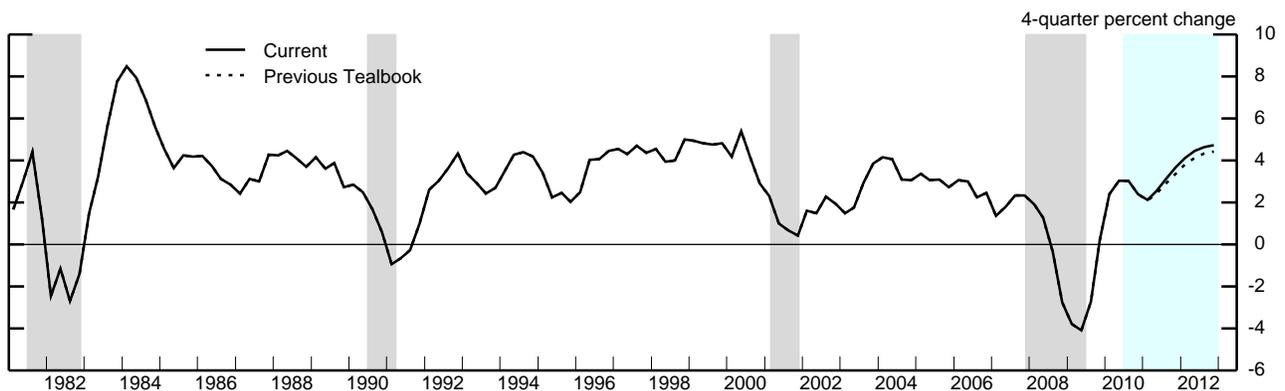
Among the changes in conditioning assumptions, the depreciation of the dollar has the largest effect on our projection for real GDP growth. In addition, we expect that higher equity prices will provide additional impetus to consumer spending, while lower long-term interest rates will provide some additional support for housing demand and business investment. The resulting boost to domestic production is amplified by the normal multiplier and accelerator effects.

Despite the upward revisions to GDP growth over the medium term, the basic dynamics of the recovery are the same as in previous forecasts. Supportive financial

**Projections of Real GDP and Related Components**  
(Percent change at annual rate from end of preceding period except as noted)

Measure	2009	2010		2011	2012
		H1	H2		
<b>Real GDP</b>	<b>.2</b>	<b>2.7</b>	<b>2.0</b>	<b>3.6</b>	<b>4.7</b>
Previous Tealbook	.2	2.7	2.0	3.3	4.4
Final sales	-3	1.0	2.0	3.8	4.6
Previous Tealbook	-3	1.0	2.0	3.4	4.3
Personal consumption expenditures	.2	2.0	2.4	3.1	4.4
Previous Tealbook	.2	1.9	2.1	3.0	4.2
Residential investment	-13.4	5.0	-18.2	21.5	17.0
Previous Tealbook	-13.4	5.3	-13.2	19.2	17.5
Nonresidential structures	-26.5	-9.5	-3.8	-3.0	.0
Previous Tealbook	-26.5	-10.5	-1.6	-2.0	-.7
Equipment and software	-4.9	22.6	7.6	10.1	11.6
Previous Tealbook	-4.9	23.4	2.1	10.5	11.0
Federal purchases	3.6	5.4	4.0	1.0	.2
Previous Tealbook	3.6	5.4	4.0	1.1	.2
State and local purchases	-1.0	-1.6	-.6	.4	1.3
Previous Tealbook	-1.0	-1.6	-.6	.4	1.3
Exports	-.1	10.2	7.5	8.6	8.3
Previous Tealbook	-.1	10.3	9.6	7.6	7.5
Imports	-7.2	21.8	5.5	4.7	6.7
Previous Tealbook	-7.2	21.5	4.1	5.7	6.3
<b>Contributions to change in real GDP (percentage points)</b>					
Inventory change	.5	1.7	.1	-.1	.2
Previous Tealbook	.5	1.7	.0	.0	.1
Net exports	1.2	-1.9	.0	.3	.0
Previous Tealbook	1.2	-1.9	.5	.0	-.1

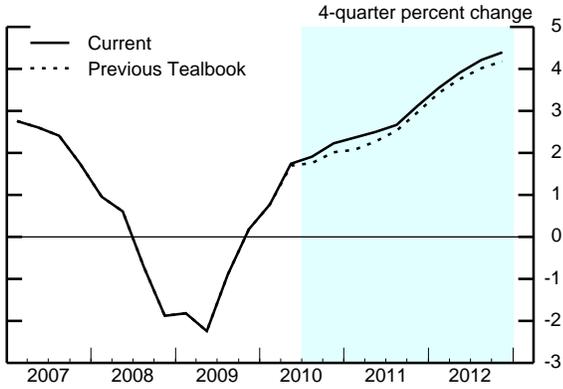
Real GDP



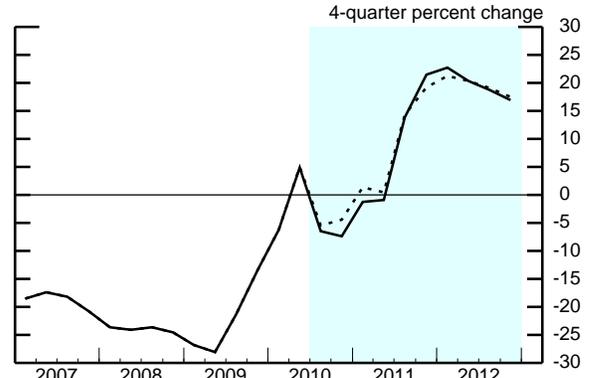
Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.  
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

## Components of Final Demand

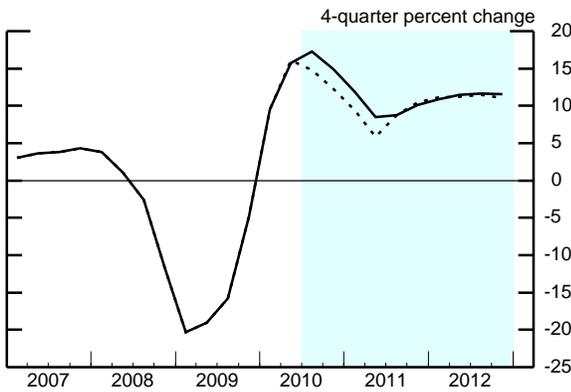
Personal Consumption Expenditures



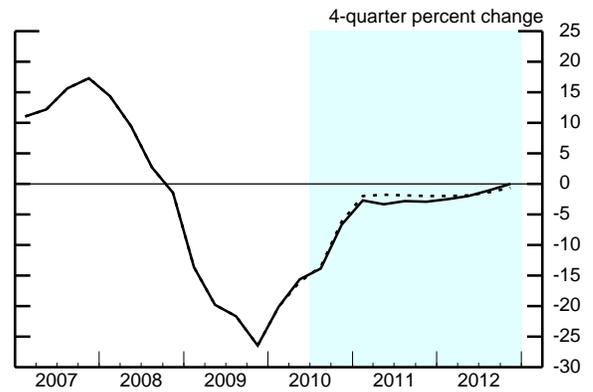
Residential Investment



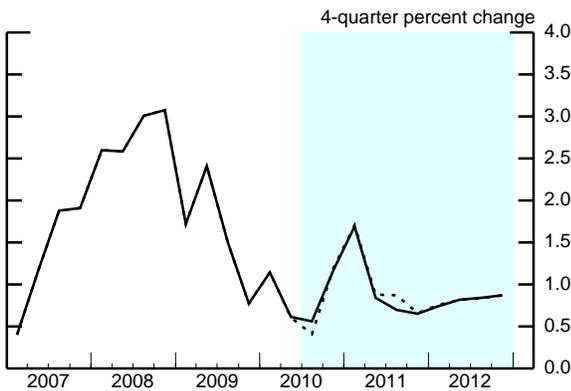
Equipment and Software



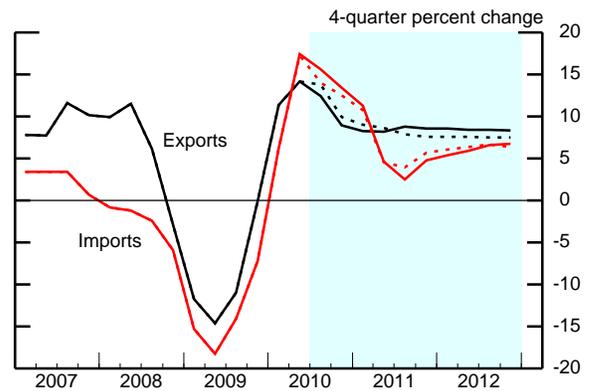
Nonresidential Structures



Government Consumption & Investment



Exports and Imports



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

conditions, continued increases in credit availability, a further diminishing of the adverse effects of earlier declines in wealth, and a gradual recovery in the labor market should contribute to an improvement in business and household confidence and provide some impetus to private spending growth over the next two years. However, several other factors—the waning of federal fiscal stimulus, budgetary pressures on state and local governments, lingering credit constraints for some potential borrowers, and a sizable overhang of residential and commercial real estate—will likely weigh on economic growth over the projection period. On balance, we see these various influences as consistent with a further recovery in economic activity, but one that is more modest than has typically followed deep U.S. recessions.

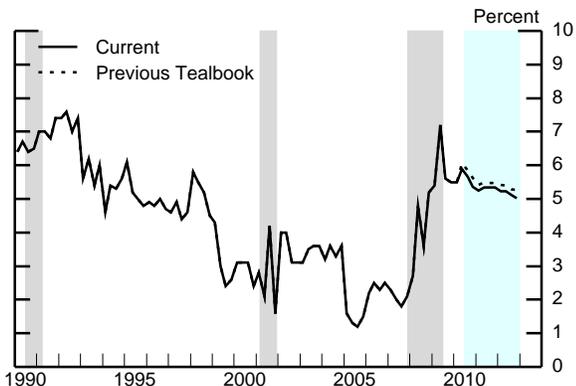
In the household sector, we expect that spending will be increasingly supported over time by more-favorable credit conditions, improvements in the pace of job creation, diminishing concerns about future income prospects, and a waning of the drag from earlier declines in wealth. As a result, we project real consumption spending to rise about 3 percent in 2011, about the same pace as real income growth and consistent with little change in the personal saving rate. For 2012, our projection calls for real PCE growth to pick up to 4½ percent and for the saving rate to edge down to 5 percent.

We expect that housing market activity will begin to pick up early next year, as the boost to affordability from low mortgage rates and low house prices, increasing confidence that house prices have bottomed out, and modest but steady improvements in income and employment lead to a gradual upturn in the demand for housing. That said, at 610,000 units and 880,000 units for 2011 and 2012, respectively, our projection for single-family housing starts is still far below the pace we believe is consistent with the longer-run demand for housing. This shortfall reflects, in large part, the substantial overhang of vacant homes and lingering impediments to the availability of mortgage credit.

We project that business outlays for equipment and software will rise about 10 percent in 2011 and then step up to an 11½ percent growth rate in 2012—solid, albeit not spectacular, gains. E&S spending should continue to be supported by the replacement of aging capital, the resumption of investment projects deferred during the financial crisis, and some expansion of capacity in response to rising sales. Nevertheless, with the shift in the composition of the capital stock toward high-tech equipment and software—which have short service lives—the aggregate depreciation rate has continued to move higher. As a result, the level of investment is not much above that required to

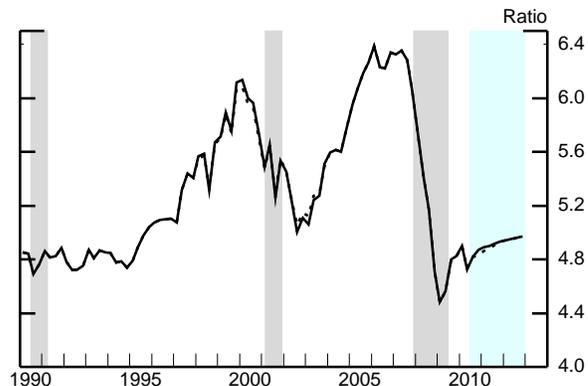
## Aspects of the Medium-Term Projection

**Personal Saving Rate**



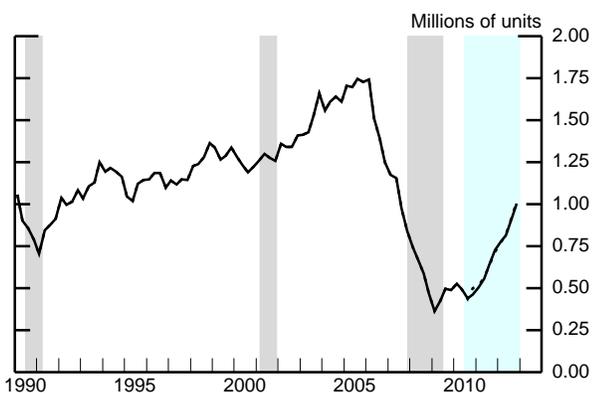
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

**Wealth-to-Income Ratio**



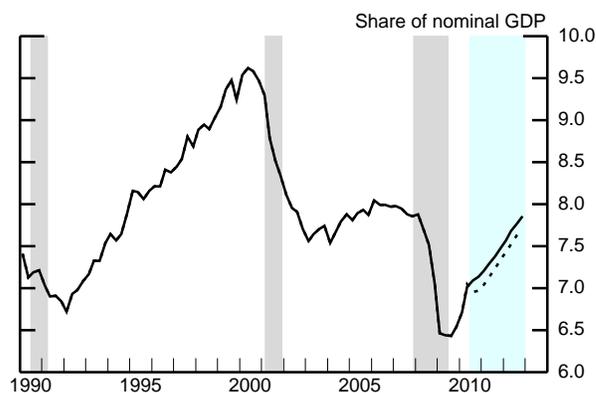
Note: Household net worth as a ratio to disposable personal income.  
Source: Flow of Funds Accounts.

**Single-Family Housing Starts**



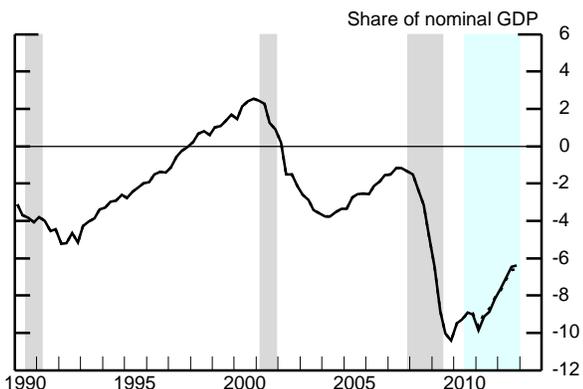
Source: U.S. Census Bureau.

**Equipment and Software Spending**



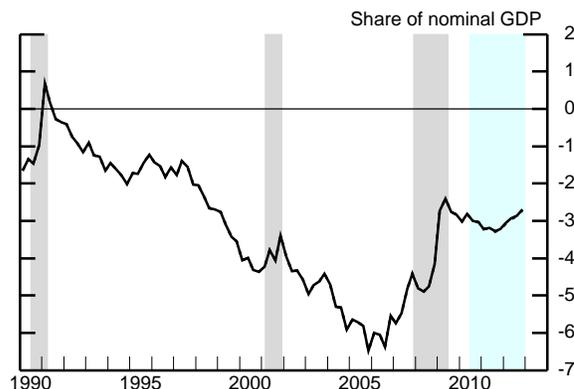
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

**Federal Surplus/Deficit**



Note: Share of federal government surplus/deficit is shown as a 4-quarter moving average.  
Source: Monthly Treasury Statement.

**Current Account Surplus/Deficit**



Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.

replace the depreciating stock, leaving the growth rate of the capital stock quite low for an economic recovery.

Elevated vacancy rates and our expectation that lending conditions for commercial real estate will remain tight for quite some time, are also expected to weigh on nonresidential construction over the medium term. As a result, we project that investment in nonresidential structures will continue to decline throughout 2011 and most of 2012.

In the government sector, purchases are projected to rise at a very subdued pace over the next few years. For the federal government, declines in spending associated with overseas military operations and the waning of stimulus-related nondefense expenditures are assumed to slow the rise in real expenditures to just 1 percent in 2011 and  $\frac{1}{4}$  percent in 2012. In the state and local sector, budget pressures are projected to ease only slowly, as the expected rise in tax collections from the recovering economy is partially offset by the unwinding of the federal stimulus grants. As a result, real spending in this sector is anticipated to increase only about  $\frac{1}{2}$  percent next year and  $1\frac{1}{4}$  percent in 2012.

Finally, we project that real exports will increase at an average annual rate of almost  $8\frac{1}{2}$  percent during 2011 and 2012, supported by declines in the dollar and continued foreign GDP growth. At the same time, real imports are expected to rise about 5 percent in 2011 and 7 percent in 2012, as U.S. GDP growth picks up. Taken together, we expect that net exports will contribute  $\frac{1}{4}$  percentage point to GDP growth in 2011; in 2012, net exports are expected to be about a neutral factor for GDP growth.

## **AGGREGATE SUPPLY, THE LABOR MARKET, AND INFLATION**

### **Potential GDP and the NAIRU**

We made some minor adjustments to our assumption for the NAIRU. In particular, to better account for inflation dynamics prior to the onset of the recession, we now assume that the NAIRU held steady at 5 percent between 2002 and 2007, rather than edging down to  $4\frac{3}{4}$  percent as we had assumed previously. We continue to assume that the NAIRU increased by 1 percentage point over the course of 2008 and 2009, as the steep increase in permanent job loss during the recession led to greater mismatch between available jobs and unemployed workers (both in terms of skills and location). As a result, we now estimate that the current value of the NAIRU is 6 percent,

**Decomposition of Potential GDP**  
(Percent change, Q4 to Q4, except as noted)

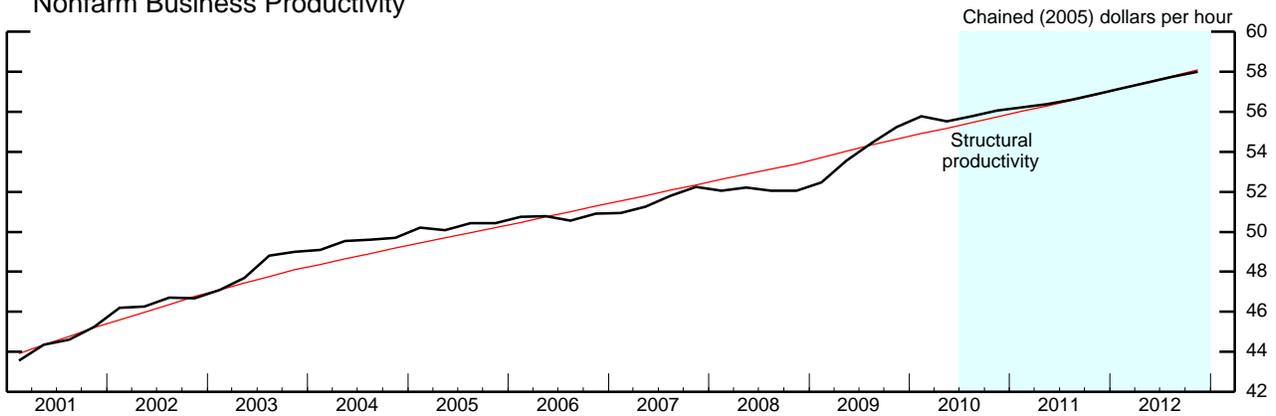
Measure	1974-1995	1996-2000	2001-2008	2009	2010	2011	2012
Potential GDP	3.0	3.5	2.7	2.2	2.5	2.5	2.6
Previous Tealbook	3.0	3.5	2.7	2.2	2.5	2.5	2.5
<i>Selected contributions<sup>1</sup></i>							
Structural labor productivity	1.5	2.7	2.5	2.3	2.0	2.0	2.2
Previous Tealbook	1.5	2.7	2.5	2.3	2.0	2.0	2.1
Capital deepening	.7	1.5	.7	.3	.4	.6	.9
Previous Tealbook	.7	1.5	.7	.3	.4	.6	.8
Multifactor productivity	.5	.9	1.6	1.9	1.5	1.3	1.2
Previous Tealbook	.5	.9	1.4	1.9	1.5	1.3	1.2
Trend hours	1.7	1.1	.8	.0	.7	.7	.7
Previous Tealbook	1.7	1.1	.8	.1	.7	.7	.7
Labor force participation	.5	.0	-.2	-.2	-.2	-.2	-.2
Previous Tealbook	.5	.0	-.2	-.2	-.2	-.2	-.2

Note: Components may not sum to totals because of rounding. For multiyear periods, the percent change is the annual average from Q4 of the year preceding the first year shown to Q4 of the last year shown.

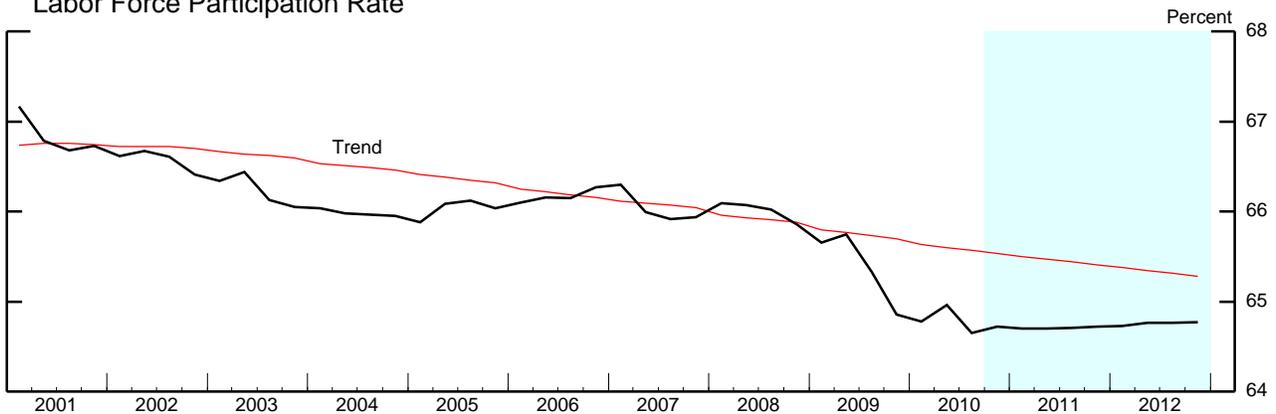
1. Percentage points.

Source: Staff assumptions.

Nonfarm Business Productivity



Labor Force Participation Rate



Source: For both figures, U.S. Department of Labor, Bureau of Labor Statistics; staff assumptions.

¼ percentage point higher than in the last Tealbook. We assume that it will remain at this new higher level through the end of 2012.<sup>3</sup>

Our new NAIRU assumption implies that the level of potential GDP at the business cycle peak in late 2007 was about ½ percent lower than we had previously estimated. However, the revision to the NAIRU has no effect on our estimates of potential GDP *growth* after 2007, as we only adjusted the level of the NAIRU and not its trajectory. Accordingly, we now estimate that the GDP gap in the second quarter of this year stood about 6½ percent below potential compared with 7 percent in the September Tealbook.

The upward revision to our projection of business investment and hence to capital deepening since the September Tealbook implies a small upward revision to potential output growth and structural productivity growth in 2012. We now project that potential output will rise 2.5 percent in 2011 and 2.6 percent in 2012, and we have structural productivity increasing 2.0 percent in 2011 and 2.2 percent in 2012.

### **Productivity and the Labor Market**

The dynamics of the labor market recovery are largely the same in this projection as in the September Tealbook. We continue to expect that the gap between actual labor productivity and its structural level—which opened up last year when firms continued to aggressively cut staffing even as output began to recover—will diminish over the next two years. In our view, the pressures imposed on existing workforces from the faster pace of operations were unsustainable in the long run. Indeed, part of the productivity gap was erased over the first half of this year, as firms resumed hiring despite the moderation in the pace of output growth. We expect this trend to continue over the forecast period, with labor productivity projected to rise 1½ percent next year and 2 percent in 2012, a little below our estimate of its structural rate.

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<sup>3</sup> The 6 percent figure for the NAIRU does not include the effects of extended and emergency unemployment benefits (EEB). EEB programs add to the unemployment rate by inducing individuals who would otherwise have dropped out of the labor force to report themselves as unemployed in order to receive these benefits, and by enabling jobseekers to be more deliberate in their search. We currently estimate that these programs are boosting the unemployment rate by close to ¾ percentage point, which is about ¼ percentage point less than we had assumed in the September Tealbook. Looking forward, we continue to expect that these effects will diminish throughout the forecast period as the extended UI programs are phased out. Because the small revision to the EEB effect about offsets the revision we made to the staff's NAIRU assumption, we have not materially changed our current assessment of the "effective" NAIRU, which we view as the amount of unemployment not representative of slack in resource utilization. All told, the "effective" NAIRU declines from about 6¾ percent now to around 6 percent by the end of 2012, a level that is about ¼ percentage point above the last Tealbook.

### The Outlook for the Labor Market (Percent change, Q4 to Q4, except as noted)

Measure	2009	2010	2011	2012
Output per hour, nonfarm business	6.2	1.5	1.5	2.0
Previous Tealbook	6.2	1.3	1.6	2.0
Nonfarm private employment	-4.7	.9	2.3	3.1
Previous Tealbook	-4.7	.9	2.1	2.9
Labor force participation rate <sup>1</sup>	64.9	64.7	64.7	64.8
Previous Tealbook	64.9	64.7	64.7	64.6
Civilian unemployment rate <sup>1</sup>	10.0	9.7	9.0	7.9
Previous Tealbook	10.0	9.7	9.1	8.0
Memo:				
GDP gap <sup>2</sup>	-6.7	-6.8	-5.8	-3.8
Previous Tealbook	-7.1	-7.2	-6.4	-4.7

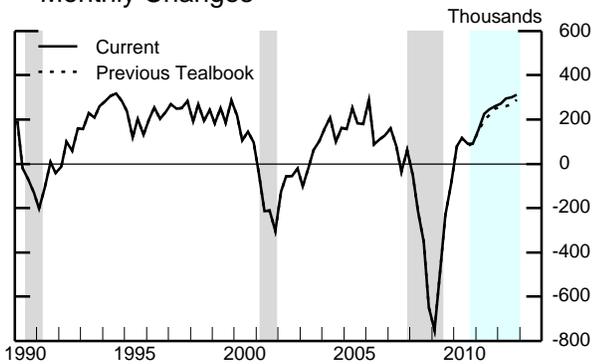
Note: A negative number indicates that the economy is operating below potential.

1. Percent, average for the fourth quarter.

2. Percent difference between actual and potential GDP in the fourth quarter of the year indicated.

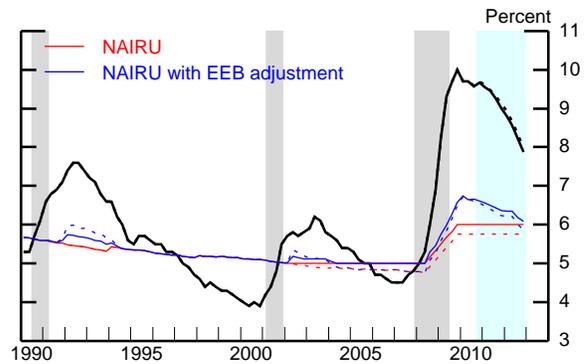
Source: U.S. Department of Labor, Bureau of Labor Statistics; staff assumptions.

**Private Payroll Employment, Average Monthly Changes**



Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

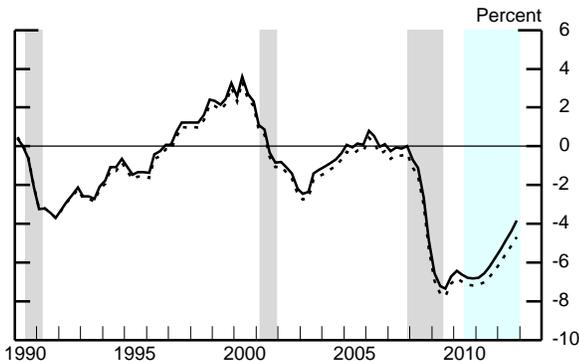
**Unemployment Rate**



Note: The EEB adjustment is the staff estimate of the effect of extended and emergency unemployment compensation programs on the NAIRU.

Source: U.S. Dept. of Labor, Bureau of Labor Statistics; staff assumption.

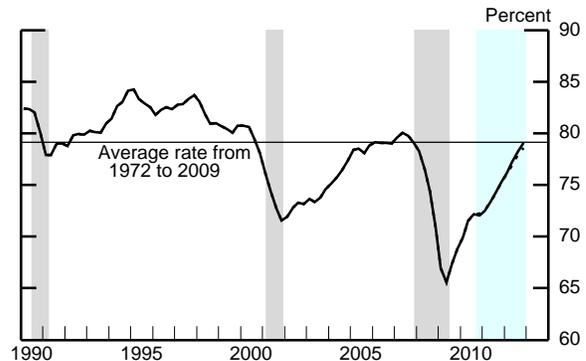
**GDP Gap**



Note: The GDP gap is the percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential.

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis; staff assumption.

**Manufacturing Capacity Utilization Rate**



Source: Federal Reserve Board, G.17 Statistical Release, "Industrial Production and Capacity Utilization."

Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.

With the improved outlook for real activity in this projection, we have marked up our medium-term forecast for private employment. We now project that private employment gains will average about 220,000 per month in 2011 and 300,000 per month in 2012; both figures are about 20,000 higher than in the September Tealbook. Given this pace of job growth, we expect the unemployment rate to decline from about 9¾ percent in the current quarter to 9 percent in the fourth quarter of next year and to just under 8 percent by the end of 2012.

### **Resource Utilization**

Because we revised up the NAIRU, the change to our projection for labor market slack over the next two years is larger than is suggested by the small revision to the unemployment rate. Even so, the amount of current and projected slack remains very large. By our estimate, the unemployment rate in the current quarter is about 3 percentage points above the effective NAIRU, unchanged from the September Tealbook; in the projection, the unemployment gap declines to about 1¾ percentage points by the end of 2012. This extended period of considerable labor market slack is likely to be associated with other features of a weak labor market, including below-trend labor force participation and an unusually large concentration of workers experiencing unemployment spells of long duration.

Reflecting the upward revision to our forecast for real activity, we now estimate that the GDP gap narrows by 3 percentage points between the current quarter and the end of 2012, about ½ percentage point more than in the previous Tealbook. We continue to expect that the GDP gap will narrow more slowly than the rate at which unused plant capacity in the industrial sector is taken up, in part because manufacturing capacity is projected to remain flat in 2010 and 2011 and then to expand only about 1 percent in 2012. Indeed, by the end of 2012, our projection has the factory operating rate returning to near its long-run average.

### **Compensation and Prices**

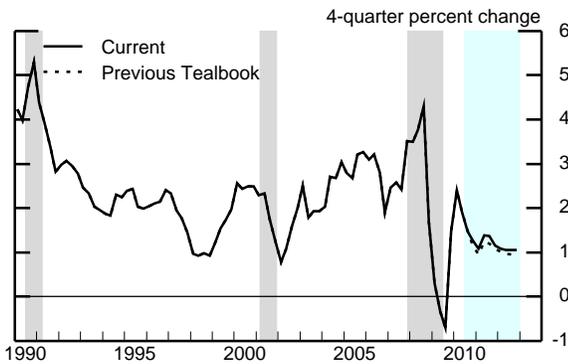
We expect that the wide margin of labor market slack, along with low rates of price inflation, will continue to restrain labor costs over the forecast period. The Productivity and Cost measure of compensation per hour in the nonfarm business sector is projected to rise only about 2 percent per year in 2011 and 2012. Similarly, we expect the employment cost index to rise at an annual rate close to 2 percent over the medium term. These modest increases in hourly compensation, in combination with the moderate

### Inflation Projections (Percent change, Q4 to Q4)

Measure	2009	2010	2011	2012
PCE chain-weighted price index	1.5	1.3	1.1	1.1
Previous Tealbook	1.5	1.2	1.1	1.0
Food and beverages	-1.6	1.3	1.0	1.1
Previous Tealbook	-1.6	1.2	.7	.7
Energy	2.7	4.0	3.2	1.3
Previous Tealbook	2.7	1.4	4.4	1.8
Excluding food and energy	1.7	1.1	1.0	1.0
Previous Tealbook	1.7	1.1	.9	.9
Prices of core goods imports <sup>1</sup>	-1.9	3.5	2.1	1.3
Previous Tealbook	-1.9	2.7	1.2	.9

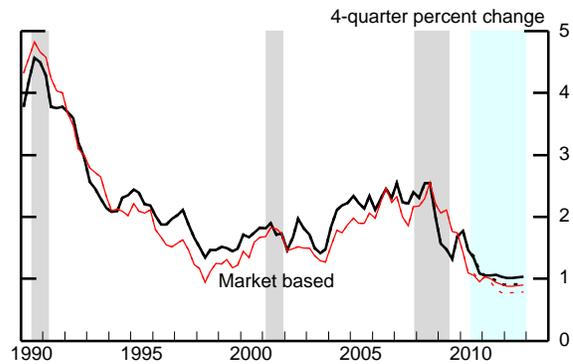
1. Core goods imports exclude computers, semiconductors, oil, and natural gas.  
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

**Total PCE Prices**



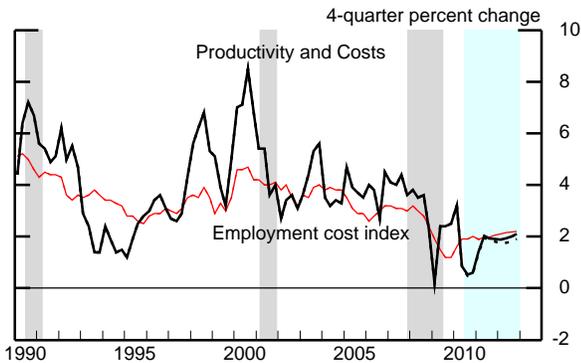
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

**PCE Prices ex. Food and Energy**



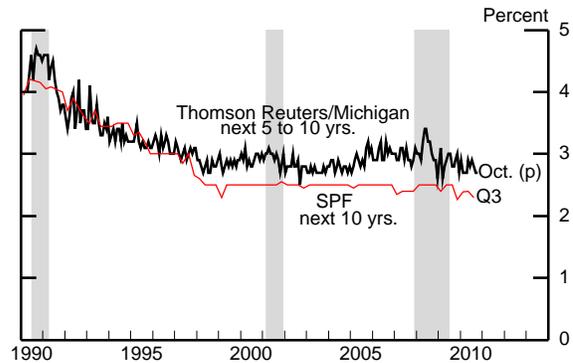
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

**Compensation per Hour**



Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

**Long-Term Inflation Expectations**



Note: The Survey of Professional Forecasters (SPF) projection is for the CPI.  
p Preliminary.  
Source: Thomson Reuters/University of Michigan Surveys of Consumers; The Federal Reserve Bank of Philadelphia.

Note: The gray shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research.

rise in labor productivity in this forecast, result in unit labor costs that edge up over the medium term.

As noted above, prices of imported core goods are expected to rise at an annual rate of 4½ percent in the near term, a reflection of the recent dollar depreciation and steep increases in nonfuel commodity prices. Thereafter, as commodity prices edge down and the dollar depreciates at a moderate rate, we project that core import price inflation will settle down to an annual pace of about 1¼ percent.

As in previous forecasts, we anticipate that reduced labor cost pressures and low levels of resource utilization will exert a downward influence on core PCE inflation over the projection period, but that further disinflation will be checked by ongoing stability in inflation expectations. With the degree of slack in this projection somewhat less than in the last projection and with core import prices rising more rapidly, we now project that core PCE inflation will be 1.0 percent in both 2011 and 2012—about 0.1 percentage point higher than in the September Tealbook. With energy prices expected to rise a little faster than core prices, our projection for headline inflation is just a bit above core inflation over the medium term.

## THE LONG-TERM OUTLOOK

We have extended the staff forecast to 2015 using the FRB/US model and staff assessments of long-run supply-side conditions, fiscal policy, and other factors. The contour of the long-run outlook depends on the following key assumptions:

- Monetary policy aims to stabilize PCE inflation at 2 percent in the long run, consistent with the majority of longer-term inflation projections provided by FOMC participants at the June meeting.
- The Federal Reserve's holdings of securities follow the baseline portfolio projections reported in Book B. We assume that the projected decline in the System's holdings beginning in 2013 will contribute about 25 basis points to the rise in the 10-year Treasury yield over the 2013–15 period.
- Beyond 2012, the risk premiums on corporate bonds and equity decline gradually to normal levels, and banks ease their lending standards somewhat further.

- The federal government budget deficit narrows to about 4¼ percent of GDP by the end of 2015. This improvement reflects the effects of the economic recovery on tax receipts and transfer payments as well as further policy actions after 2012 aimed at reducing the deficit.
- The real foreign exchange value of the dollar is assumed to depreciate 1 percent per year in the 2013–15 period. The price of WTI crude oil rises to around \$90 per barrel by the end of 2015, consistent with futures prices. Under these assumptions, movements in the prices of energy and imports have only minor implications for domestic inflation in the extension. Foreign real GDP expands, on average, about 3¼ percent per year from 2013 through 2015, near its trend rate.
- Over the 2013–15 period, the NAIRU declines from 6 percent to 5¼ percent, as the functioning of the labor market improves. Potential GDP is assumed to expand 2¾ percent per year, on average, from 2013 to 2015.

The unemployment rate enters 2013 well above the assumed NAIRU, and the staff's estimate of the output gap is still quite wide. Real GDP rises at an annual rate of 4¾ percent on average in 2013 and 2014, faster than its potential pace, as improved confidence, diminished uncertainty, and supportive financial conditions allow aggregate demand to catch up with aggregate supply. Unemployment falls over this period, inflation moves back toward the assumed long-run target, and the federal funds rate continues to rise, reaching 3¾ percent in 2015.<sup>4</sup> With improvements in confidence and financial conditions largely complete by 2015, real GDP growth moves back toward the growth rate of potential. By the end of 2015, the unemployment rate falls to the NAIRU, and consumer price inflation reaches 1½ percent, on its way back up to the assumed target of 2 percent.

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<sup>4</sup> In the long-run outlook, the federal funds rate ( $R$ ) converges over the course of 2013 to the prescriptions of a Taylor-type rule of the form  $R = 2.5 + \pi - 1.1(u - u^*) + 0.5(\pi - 2)$ , subject to the zero lower bound constraint. In this expression,  $\pi$  denotes the four-quarter rate of core PCE inflation,  $u$  is the civilian unemployment rate, and  $u^*$  is the staff estimate of the NAIRU (with an adjustment for the temporary effects on unemployment of the extended and emergency unemployment benefit programs). In essence, this formula is just the traditional Taylor rule, rewritten in terms of the unemployment gap, with the coefficient on resource utilization appropriately rescaled. Beyond 2013, the federal funds rate equals the prescriptions of the rule.

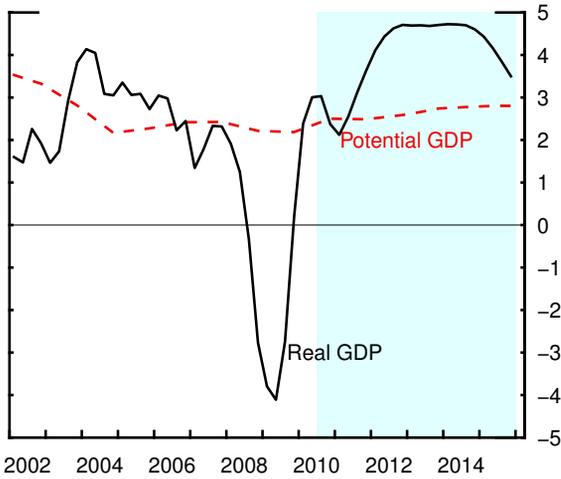
## The Long-Term Outlook

(Percent change, Q4 to Q4, except as noted)

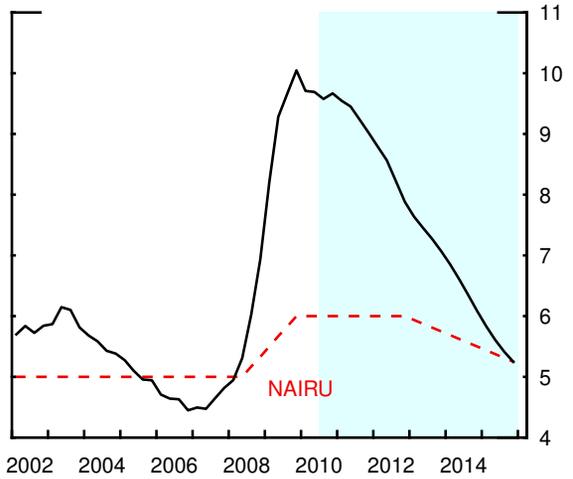
Item	2010	2011	2012	2013	2014	2015
Real GDP	2.4	3.6	4.7	4.7	4.6	3.5
Civilian unemployment rate <sup>1</sup>	9.7	9.0	7.9	7.1	6.1	5.2
PCE prices, total	1.3	1.1	1.1	1.2	1.4	1.6
Core PCE prices	1.1	1.0	1.0	1.2	1.3	1.5
Federal funds rate <sup>1</sup>	.1	.1	.5	1.7	2.8	3.7
10-year Treasury yield <sup>1</sup>	2.7	3.6	4.2	4.5	4.6	4.7

1. Percent, average for the final quarter of the period.

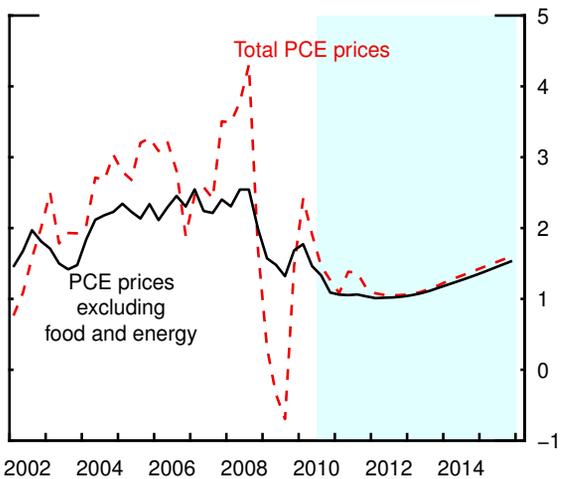
**Real GDP**  
4-quarter percent change



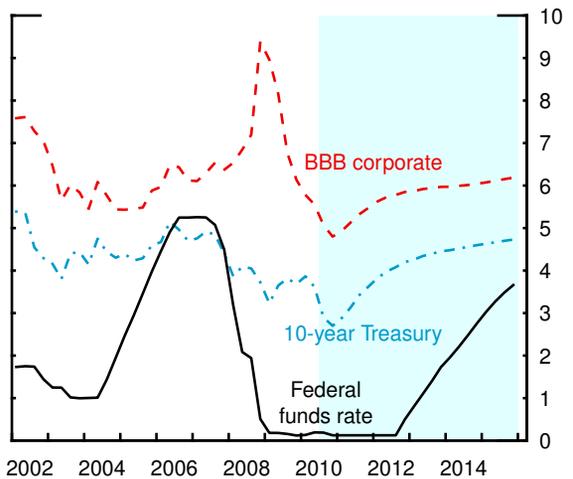
**Unemployment Rate**  
Percent



**PCE Prices**  
4-quarter percent change



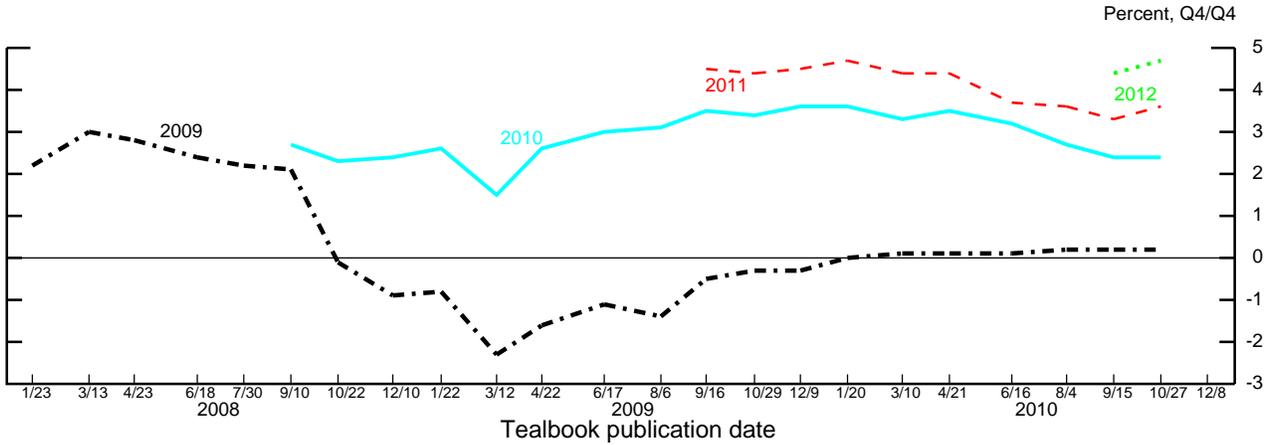
**Interest Rates**  
Percent



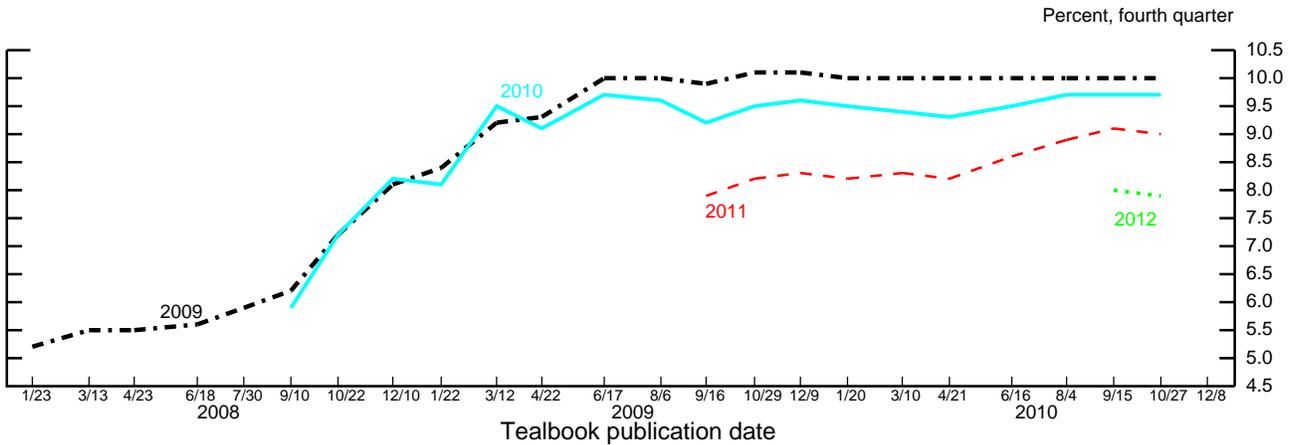
Note: In each panel, shading represents the projection period.

### Evolution of the Staff Forecast

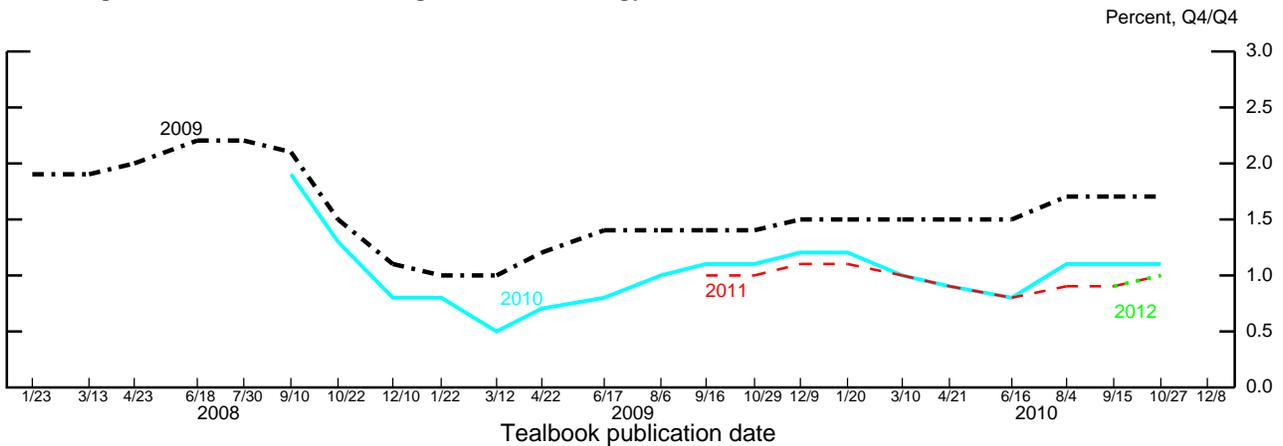
Change in Real GDP



Unemployment Rate



Change in PCE Prices excluding Food and Energy\*



\*Because the core PCE price index was redefined as part of the comprehensive revisions to the NIPA, projections prior to the August 2009 Tealbook are not strictly comparable with more recent projections.

## International Economic Developments and Outlook

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Recent indicators of foreign economic activity have come in a touch softer than we had anticipated in September, reinforcing our judgment that growth abroad is slowing appreciably in the second half of this year, to about 2½ percent at an annual rate. As usual, there have been some differences across countries, with China having somewhat greater momentum but other key countries, such as Japan and Canada, showing some softness. Nonetheless, the basic story remains one in which the initial boost from the bounceback in global trade, manufacturing, and inventories has waned, while a self-sustaining pickup in private consumption and capital formation has yet to fully materialize in the advanced economies.

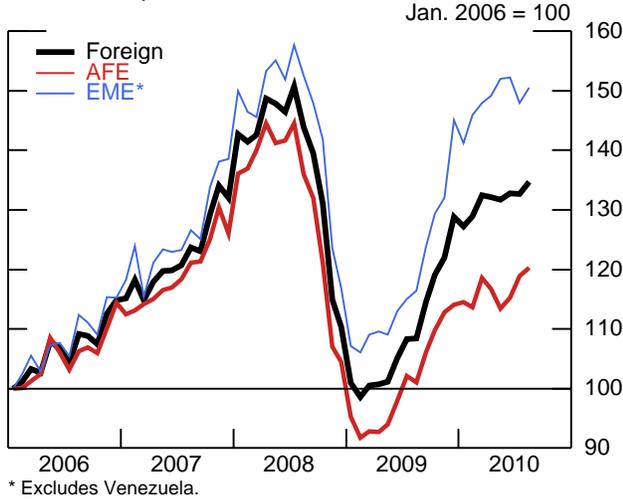
Going forward, we continue to project a firming of growth abroad, to 3¼ percent next year and 3½ percent in 2012, as further normalization in financial conditions and progress in household deleveraging lead to a gradual revival in private spending that more than offsets a withdrawal of policy stimulus. Although fiscal policy has been approximately neutral this year, we anticipate that fiscal consolidation will exert a drag on foreign growth in 2011 and 2012. Our outlook for foreign activity over the next two years is little changed from the September forecast, with the negative impact of the currency appreciation recently experienced in some countries approximately balanced by the positive effects of moderately higher asset prices and the upward revision to U.S. demand growth.

A reacceleration of food and energy prices helped push up foreign inflation to 2 percent in the third quarter and to an expected 2½ percent in the current quarter. Foreign inflation should average about 2¼ percent over the next two years, as continued resource slack, mainly in the advanced economies, keeps inflation subdued. Japan remains in deflation throughout the period.

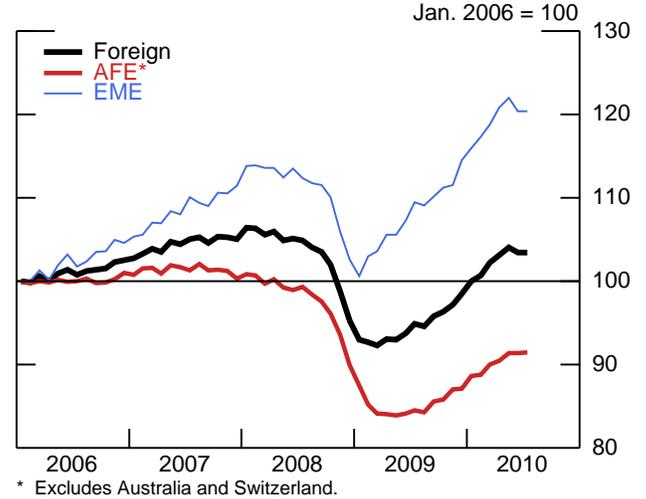
With inflation prospects well contained, we expect that monetary policy abroad will remain generally accommodative, and we now see a somewhat easier stance in several countries. The Bank of Japan undertook additional easing measures over the intermeeting period, partly in response to the appreciation of the yen, and we have pushed back our assumptions of central bank tightening in the United Kingdom and Canada in the face of economic headwinds in those countries and additional monetary easing in the United States. Monetary policy in many emerging market economies (EMEs) generally

### Recent Foreign Indicators

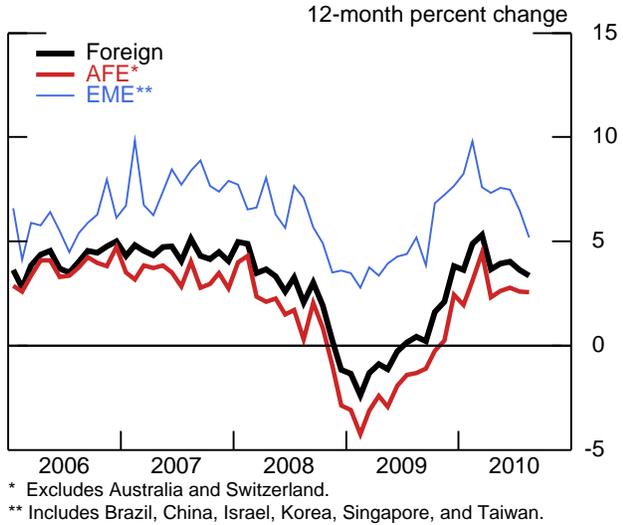
Nominal Exports



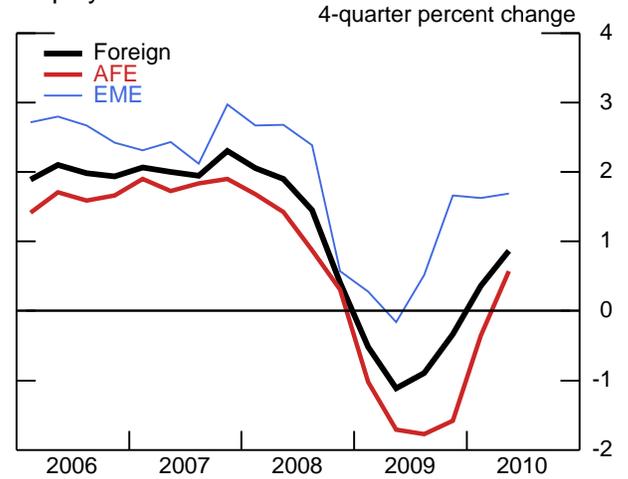
Industrial Production



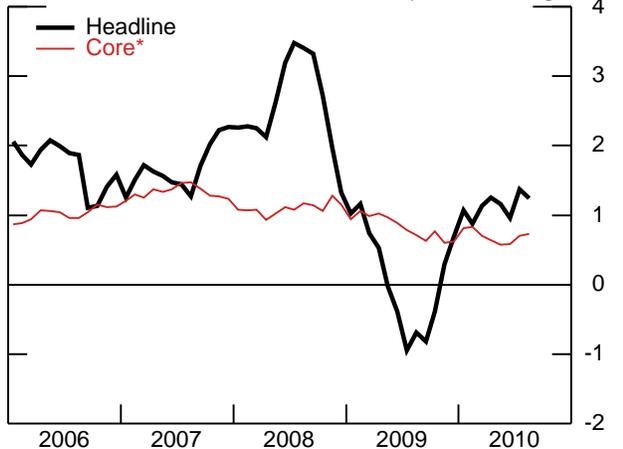
Retail Sales



Employment

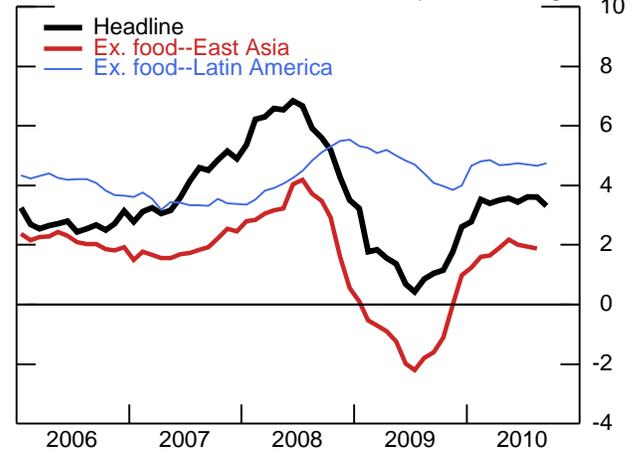


Consumer Prices: Advanced Foreign Economies



Note: Excludes Australia, Sweden, and Switzerland.  
\* Excludes all food and energy; staff calculation.  
Source: Haver Analytics and CEIC.

Consumer Prices: Emerging Market Economies



## The Foreign Outlook

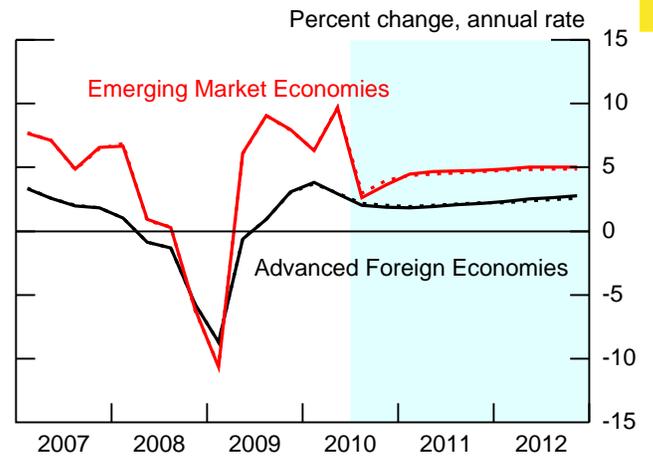
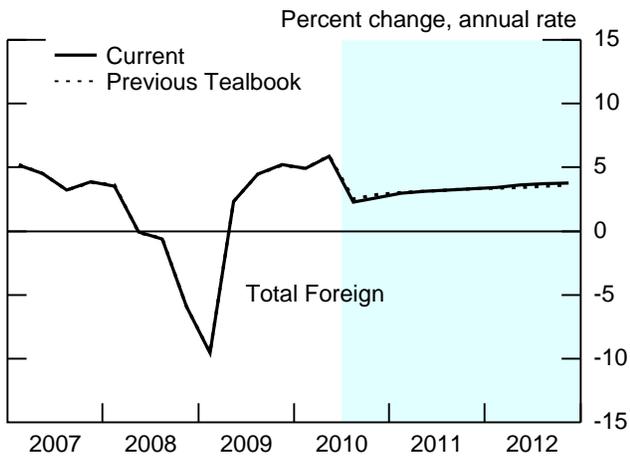
(Percent change, annual rate)

	2009	2010			2011 <sup>P</sup>	2012 <sup>P</sup>
		H1	Q3 <sup>e</sup>	Q4 <sup>P</sup>		
<b>Real GDP</b>						
Total Foreign	.4	5.4	2.3	2.6	3.2	3.6
Previous Tealbook	.4	5.4	2.5	2.9	3.2	3.5
Advanced Foreign Economies	-1.4	3.4	2.0	1.9	2.0	2.6
Previous Tealbook	-1.4	3.4	2.2	2.0	2.1	2.4
Emerging Market Economies	2.8	8.0	2.6	3.6	4.7	5.0
Previous Tealbook	2.8	8.0	3.0	4.0	4.5	4.8
<b>Consumer Prices</b>						
Total Foreign	1.2	2.4	2.1	2.5	2.3	2.3
Previous Tealbook	1.2	2.4	1.9	2.1	2.2	2.2
Advanced Foreign Economies	.2	1.1	1.0	1.2	1.2	1.4
Previous Tealbook	.2	1.1	.7	1.0	1.3	1.4
Emerging Market Economies	2.2	3.6	3.2	3.6	3.3	3.1
Previous Tealbook	2.2	3.6	3.1	3.2	3.0	3.1

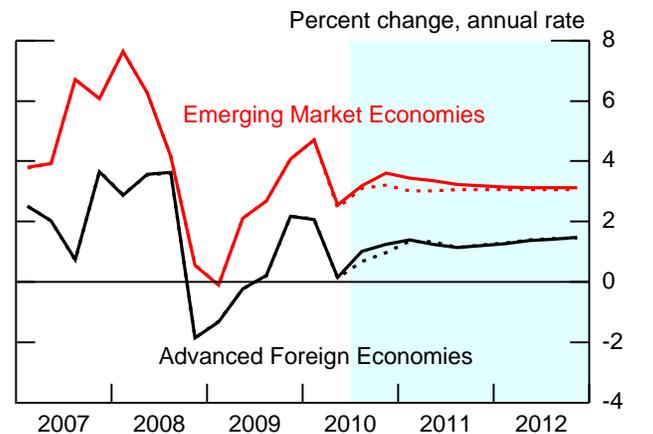
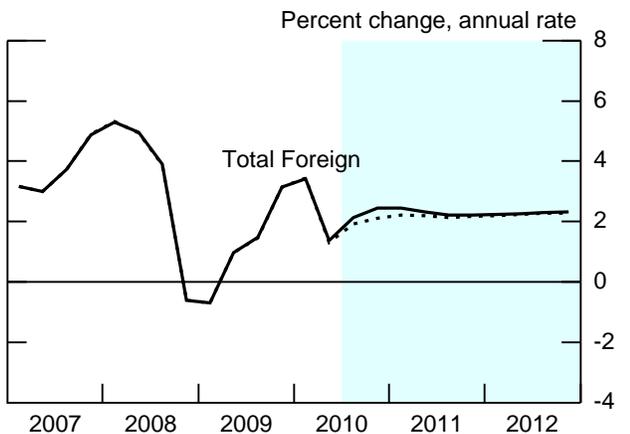
Note: Annualized percent change from final quarter of preceding period to final quarter of period indicated.

Int'l Econ Devel & Outlook

### Real GDP



### Consumer Prices



has tightened as anticipated. However, expectations of additional asset purchases by the Federal Reserve, an acceleration of capital flows to the EMEs, and heightened currency tensions have added to the uncertainty about future monetary policy responses in both advanced and emerging market economies.

## **ADVANCED FOREIGN ECONOMIES**

We continue to forecast an anemic recovery in the advanced foreign economies (AFEs), with output growth sufficient to erode resource slack only gradually over the next several years. AFE growth has slowed from 3½ percent in the first half of this year to an estimated 2 percent in the second half. This step-down in growth is a bit larger than anticipated in September, reflecting recent weaker-than-expected indicators for consumption and trade in Canada and Japan. Moreover, we expect AFE economic growth to remain at only around 2 percent through 2011, held down by increasing fiscal consolidation, diminishing contributions from the inventory cycle, and continuing balance sheet repair. In 2012, AFE growth picks up to 2½ percent as private spending strengthens and balance sheet pressures abate, but significant slack remains in Europe and Japan at the end of the period.

### **Economic Activity and Prices**

*Canada.* Indicators suggest fairly tepid growth in Canada in the third quarter. Net exports appear to have subtracted 2½ percentage points from third-quarter GDP growth, much more than we expected in September, while employment growth slowed in the third quarter and recent retail sales were weak. However, capital goods imports continued to boom, and investment intentions were at a 10-year high. All told, we now estimate that GDP increased 1¾ percent in the third quarter, ½ percentage point lower than in the last Tealbook. Going forward, we expect the recent appreciation of the Canadian dollar to weigh on exports, but we see relatively robust domestic demand pushing economic growth up to 2½ percent in the fourth quarter and in 2011 and to nearly 3 percent in 2012. We expect Canadian headline inflation to rise gradually from 1¾ percent over the past 12 months to 2¼ percent by the end of 2012 as economic slack diminishes.

*Japan.* We estimate that Japanese real GDP grew 1½ percent in the third quarter. Although this is about the same pace as in the previous quarter, it reflects faster growth in domestic spending, in line with gradually firming labor markets, as the stronger yen has

contributed to some weakening of export growth. However, government incentives for auto purchases partly explain the recent strength in private consumption, and their expiration should push GDP growth down temporarily in the current quarter. Even with consumption picking up going forward, we project real GDP to rise only 1½ percent in 2011 and 2 percent in 2012, not enough to push inflation into positive territory. In October, the Japanese government approved a ¥5.1 trillion (1 percent of GDP) stimulus plan to boost employment and help small businesses. However, most of the funding appears to come from reshuffling existing budget priorities.

*Euro area.* With financial stresses stemming from fiscal problems apparently remaining contained to the peripheral economies, the euro area appears to have dodged a bullet. Even so, with the support from inventory rebuilding and fiscal stimulus going away, we estimate that euro-area economic growth slowed to about a 1¾ percent annual rate in the second half and expect it to slow still further, to 1 percent, in 2011. Euro-area industrial production rose sharply in August, with Germany continuing to outperform, but purchasing managers indexes (PMIs) moved down in recent months in most countries and edged into contractionary territory in Spain and Ireland. The recent euro appreciation is likely to be a drag on euro-area exports, and we have lowered our projection for euro-area GDP growth ¼ percentage point in 2011. Euro-area growth is expected to rebound to 2¼ percent in 2012 as the effects of the euro's recent sharp upsurge wane and domestic demand accelerates. Euro-area 12-month headline inflation is expected to remain around 1½ percent over the forecast period.

We continue to expect that fiscal policy will subtract about 1 percentage point from euro-area economic growth in each of the next two years. France, Portugal, and Spain recently announced further budget cuts for 2011, and Ireland is likely to follow. Although, to date, peripheral euro-area countries have implemented their announced fiscal consolidation plans, uncertainties remain regarding their ability to reduce their fiscal deficits sufficiently to achieve long-run fiscal sustainability.

*United Kingdom.* According to the preliminary estimate, U.K. real GDP expanded 3¼ percent in the third quarter, 1½ percentage points more than we had expected in September. However, recent survey indicators point to a marked step-down in economic growth in the fourth quarter. On October 20, the government announced details of its plan to cut nonhealth expenditures about 20 percent in real terms over the next four years, which should subtract about 1¾ percentage points from output growth in

2011 and 2012. Despite this drag, GDP growth gradually increases to 2½ percent by the end of 2012, as exporters continue to benefit from a relatively weak effective exchange rate and as financial headwinds diminish. U.K. 12-month inflation, currently running at over 3 percent, is expected to remain above the 2-percent target through the end of 2011, in part because of a further scheduled VAT increase, before moving below target in 2012.

### **Monetary Policy**

In response to the yen's appreciation and increased downside risks to economic activity and inflation, the Bank of Japan (BOJ) took additional steps to ease policy by cutting its target interest rate from 10 basis points to a range of 0 to 10 basis points. In addition, it established an asset purchase program of up to ¥5 trillion (1 percent of GDP) to buy a broad range of financial assets, including ¥3½ trillion in government debt with a residual maturity of one to two years. We assume that the BOJ will keep its policy rate near zero through the end of the forecast period and that it will increase the pace of its asset purchases moderately.

In the face of additional monetary easing in the United States and a recovery that is expected to remain subdued over the forecast period, we are assuming more accommodative paths for monetary policies in Canada and the United Kingdom. With Canadian GDP growth looking softer than expected, we pushed the Bank of Canada's next rate hike to the first quarter of 2012, lowering the path for the policy rate 50 basis points relative to the September Tealbook. Similarly, we pushed back the Bank of England's (BOE) first rate hike to the second half of 2012. Recent speeches and minutes show the BOE's Monetary Policy Committee to be divided on whether to conduct additional large-scale asset purchases, but we expect this issue to be resolved in the next few months. Although euro-area overnight interest rates recently have risen, they remain below the European Central Bank's (ECB) benchmark policy rate of 1 percent, and we continue to assume the ECB will not raise that rate until the second half of 2012.

### **EMERGING MARKET ECONOMIES**

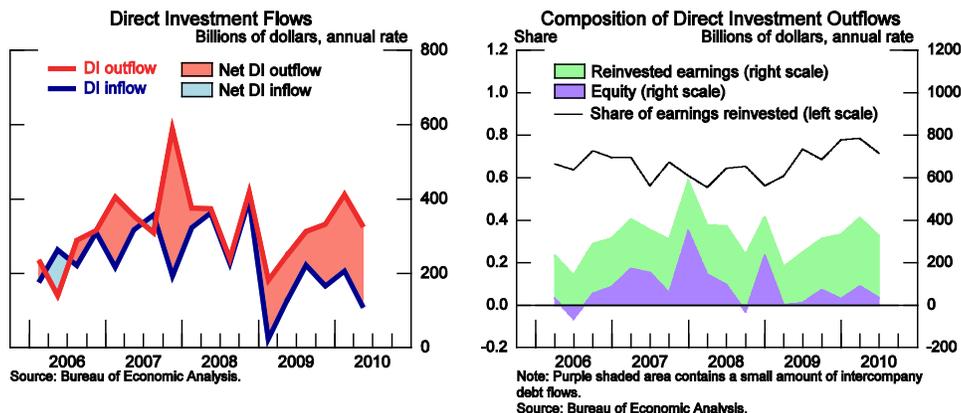
Recent indicators continue to suggest that economic activity decelerated sharply in the emerging market economies from a ferocious 10 percent pace in the second quarter to an estimated 2½ percent in the third quarter. This estimate is only a touch below our September projection, as upward surprises for Mexico and China were roughly offset by a sharper-than-expected deceleration in the rest of emerging Asia—due mostly to an

## Recent Developments in Cross-Border Direct Investment

Foreign direct investment registered net outflows from the United States at a near-record rate during the first half of 2010. These high net outflows are largely the result of weak gross direct investment inflows into the United States (the blue line in the lower-left figure), which eased considerably during the crisis and have not yet recovered. In contrast, gross direct investment outflows (the red line), which also eased during the crisis, have returned to normal levels. This recent divergence of direct investment inflows and outflows seems to have been driven mainly by the slower recovery of U.S. economic activity relative to foreign activity, rather than by a more fundamental shift in the perceived attractiveness of investing abroad, as discussed below. That said, U.S. firms appear to be delaying the repatriation of their foreign earnings, apparently for tax-management purposes.

As indicated in the lower-right figure, direct investment outflows are composed of new investment plus retained earnings abroad. New equity investments in overseas operations (the purple area) have remained subdued, and the share of earnings reinvested at these affiliates (the black line) has increased only slightly, suggesting that the overseas investment behavior of U.S. firms has not shifted appreciably of late. Rather, earnings at foreign affiliates have increased in line with the recovery in economic activity abroad, and the amount of reinvested earnings (the green area) has risen accordingly.

Detailed survey data on the balance sheet positions of foreign affiliates will not be released for several years, so we do not know how firms are using their reinvested earnings. However, anecdotal reports suggest that much of the earnings retained by U.S. firms abroad are being held as cash and cash equivalents to avoid the U.S. tax liability incurred when such funds are repatriated. Indeed, in recent months several large U.S. multinational corporations known to have large amounts of available cash abroad have issued new debt to finance dividend payments and share repurchases rather than repatriating funds from foreign affiliates.



outsized contraction in Singapore. The overall step-down in growth in the EMEs is, importantly, a result of the maturation of the inventory cycle, but the unwinding of stimulus measures and continued tightening of monetary policies in many countries have also contributed.

GDP growth in the EMEs is projected to move up to 3½ percent in the fourth quarter as emerging Asia's economy rebounds but Latin America's slows, with weakness in the U.S. manufacturing sector continuing to weigh on Mexican activity. As the United States and other advanced economies pick up steam, real GDP growth in the EMEs should rise to around 5 percent by mid-2012. This projection is up slightly from the previous Tealbook, with the positive effect of faster U.S. GDP growth only partly offset by the negative effect of recent EME currency appreciation. Consumer price inflation in the EMEs appears to have been about ¾ percent in the third quarter and will likely remain at about that pace through the forecast period.

With economic activity returning to normal levels and interest rates on the rise in many EMEs, monetary policy has been complicated by mounting capital inflows, which appear to be pushing up asset prices and intensifying upward pressures on EME currencies. Monetary authorities in these countries have a number of options to respond to these circumstances, none without drawbacks, including:

- reducing the pace of monetary tightening, thus risking higher inflation and asset bubbles;
- continuing to tighten monetary policy while allowing their currencies to rise, which could depress manufacturing and exports more than they would like; and/or
- continuing to tighten policy while seeking to hold down currency appreciation through intervention, capital controls, or both, which may prove ineffective.

In our baseline, we assume EME authorities will adopt combinations of all three strategies: tempering their monetary policy tightening somewhat, allowing some upward movement of their currencies, but continuing to use exchange market intervention and (sporadically) capital controls to limit the extent of currency appreciation. In the "Risks and Uncertainty" section, we describe an alternative scenario in which emerging Asian economies allow a much larger appreciation of their currencies.

*China.* Chinese real GDP expanded 9¾ percent at an annual rate in the third quarter, about 2 percentage points higher than projected in the previous Tealbook. Domestic demand remained strong, with real retail sales and fixed asset investment each up about 20 percent from a year earlier. Going forward, we continue to expect that Chinese authorities will be successful in adjusting policy to achieve GDP growth in the neighborhood of 8 to 9 percent.

Capital flows into China apparently have picked up since late June, when authorities announced they would allow more flexibility in the exchange rate. China's foreign exchange reserves rose a record \$194 billion in the third quarter, although as much as half of this may have been due to valuation adjustments as the dollar fell against the euro. Property prices, which had been flat since April, edged higher in September, and the Shanghai equity index has risen sharply since late September. In response to these developments, as well as the strong third-quarter GDP growth, the People's Bank of China (PBOC) raised the one-year lending and deposit rates ¼ percentage point each; this was the first interest rate adjustment since China stopped easing rates in December 2008. The PBOC also temporarily raised reserve requirements for six of the largest banks by ½ percentage point, the fourth such increase this year.

*Other Emerging Asia.* For the other emerging Asian economies, we marked down our estimate of growth in the third quarter. This markdown mostly reflected the preliminary GDP estimate for Singapore of negative 20 percent at an annual rate, which followed growth of 35 percent in the first half. The third-quarter contraction, as usual, was driven by the volatile biomedical sector, although other sectors, including high-tech manufacturing, have also cooled. Overall, data in the rest of emerging Asia have also come in somewhat weaker than had been expected; September PMIs fell in Korea, Taiwan, and India, with their levels in Korea and Taiwan in the contraction range. Nevertheless, we expect growth in emerging Asia excluding China to pick up to 3½ percent in the current quarter and then to average about 4¾ percent in 2011 and 2012, supported by solid domestic demand and the eventual recovery in the advanced economies.

As in China, a recent increase in capital inflows to other Asian EMEs appears to be putting upward pressure on some currencies and asset prices. In response, Thailand ended its preferential tax treatment of foreign holders of Thai bonds, and Singapore widened its exchange rate band and increased the pace at which the band crawls to allow

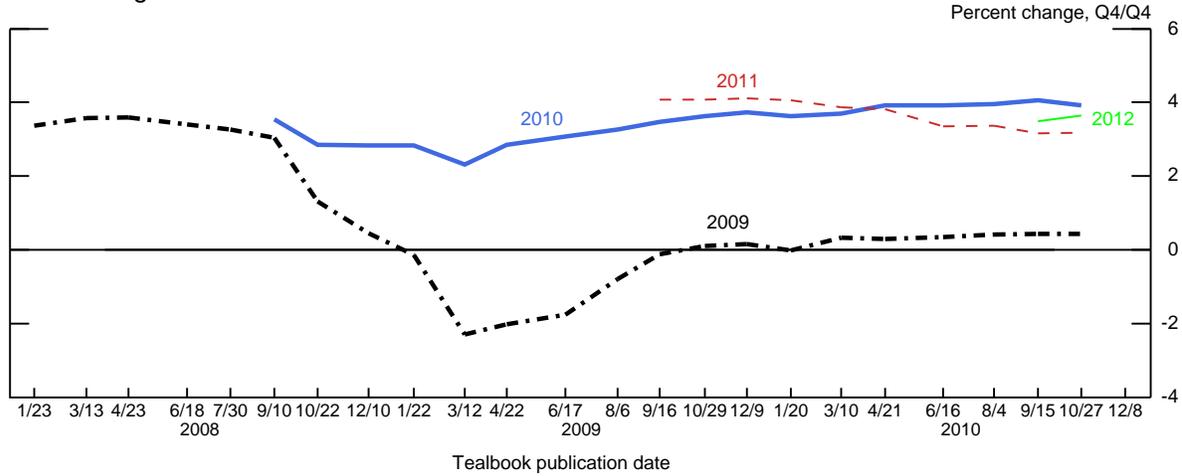
more rapid currency appreciation. Taiwan increased its policy rate in late September, partly reflecting concerns about rising house prices.

*Latin America.* We estimate that real GDP growth in Latin America slowed sharply to 3 percent in the third quarter, largely reflecting payback in Mexico from the outsized gain in the second quarter. This estimate, however, is about 1 percentage point higher than in the previous Tealbook, as Mexican data have not been quite as weak as we had projected. Nevertheless, we continue to expect Mexican growth to remain subpar in the second half of this year, weighed down by the current sluggishness in U.S. manufacturing production. The outlook for U.S. manufacturing is somewhat more upbeat in 2011 and 2012, and we have revised up Mexican growth nearly  $\frac{1}{2}$  percentage point in those years. This revision now puts Latin American growth over the next two years at an average of about  $3\frac{3}{4}$  percent.

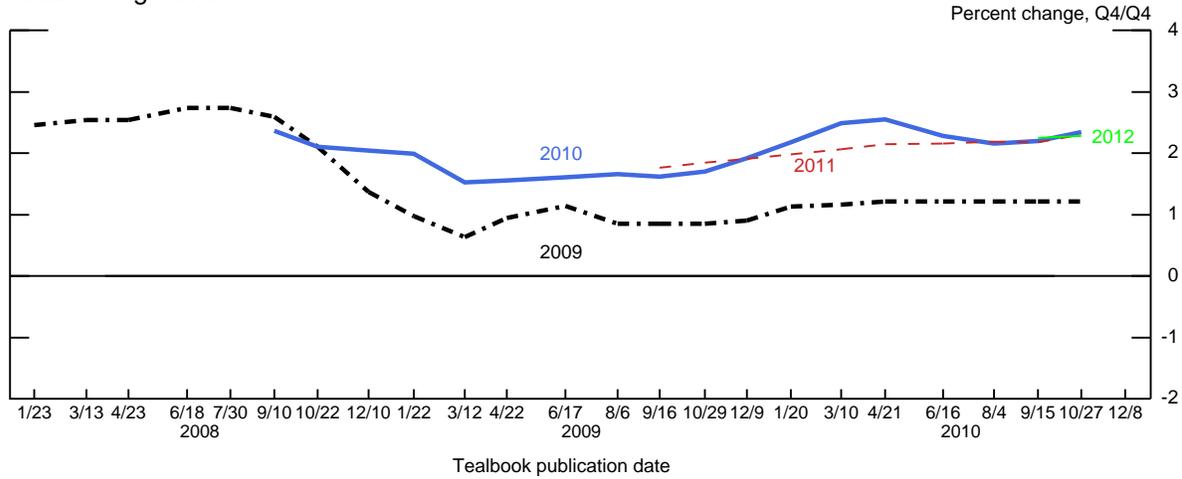
Brazilian data releases indicate that growth eased in the third quarter. The central bank's index of economic activity in July and August was only slightly above its second-quarter average, and employment growth slowed. Brazilian authorities have responded to the high volume of capital inflows by raising taxes on foreign portfolio investment in an effort to damp appreciation pressure on the *real*. Chile, with its dependence on copper exports, appears to be benefiting from high commodity prices and has experienced very rapid growth over the past two quarters. Chilean authorities have raised their policy rate twice since the last Tealbook.

### Evolution of Staff's International Forecast

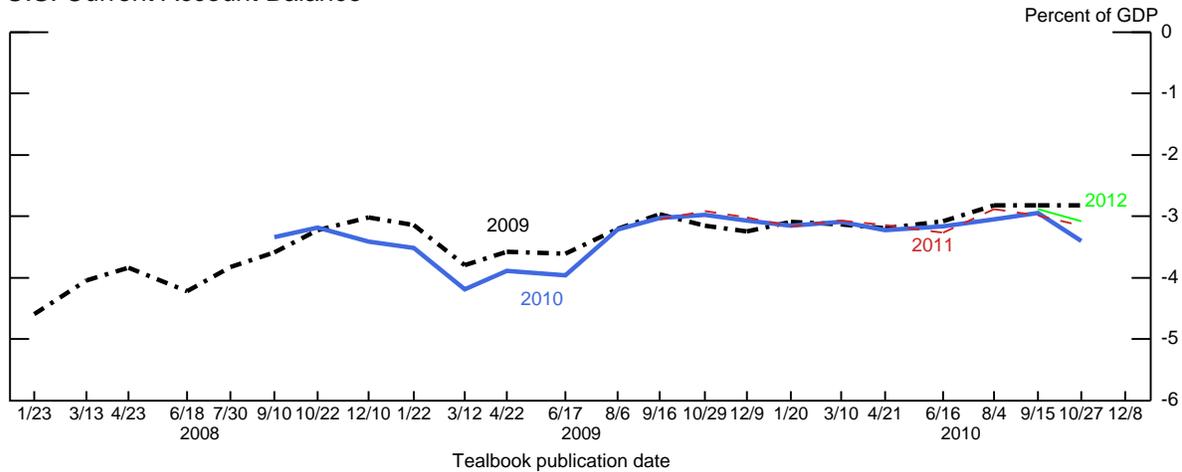
Total Foreign GDP



Total Foreign CPI



U.S. Current Account Balance



Int'l Econ Devel & Outlook

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## Financial Developments

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Financial conditions became somewhat more supportive of economic growth over the intermeeting period, reportedly as investors became increasingly confident that the Federal Reserve would soon undertake additional purchases of longer-term Treasury securities. The anticipated path of the federal funds rate moved down, and most nominal Treasury yields declined on net. Market-based measures of inflation compensation moved up on balance. Boosted in part by favorable earnings news and lower interest rates, broad stock price indexes rose, and risk spreads on corporate bonds narrowed somewhat. However, stock prices for banks generally underperformed the broader market, amid concerns about possible improper handling of mortgage foreclosure documents and compliance with securitization agreements. The exchange value of the dollar declined against most other currencies, largely on the heightened expectations for additional monetary policy accommodation in the United States.

Credit conditions for businesses and households continued to be mixed. Borrowing by nonfinancial corporations was quite robust over the intermeeting period, and indicators of corporate credit quality remained solid. While commercial mortgage debt is estimated to have contracted further in the third quarter, reflecting the sector's overall distress, signs of modest improvement have continued to emerge. For households, lower mortgage rates supported a relatively high level of refinancing activity, but many borrowers remain unable to refinance because of negative equity and weak credit scores. Consumer credit fell further in August, while credit quality in this sector continued to improve slowly.

Core loans at commercial banks contracted again in September, and available data for October suggest that the trend has continued. The October Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS) indicated only a small further unwinding of the very tight level of banks' lending standards and terms over the past three months. M2 expanded briskly in September and October, as strong growth in liquid deposits and currency more than offset declines in small time deposits and retail money market mutual funds.

## POLICY EXPECTATIONS AND TREASURY YIELDS

Money market futures rates and most Treasury yields fell over the intermeeting period, reportedly as investors priced in the view that the FOMC would announce that it would execute additional purchases of longer-term Treasury securities at the upcoming meeting.<sup>1</sup> At the beginning of the period, the expected path of the federal funds rate, as well as 5- and 10-year nominal Treasury yields, declined notably upon the release of the September FOMC statement, as market participants interpreted the language to imply higher odds of additional asset purchases. Investors took particular note of the language in the statement indicating that inflation was below the levels consistent with the FOMC's dual mandate for maximum employment and price stability. In the weeks following the FOMC meeting, Federal Reserve communications along with economic data releases that continued to point to a tepid outlook appeared to reinforce market expectations that additional monetary policy accommodation will be forthcoming in the near term. The minutes of the September FOMC meeting were largely viewed as in line with expectations and prompted little market reaction.

Futures quotes, combined with the usual staff assumptions for term premiums, indicate that the expected path for the federal funds rate first rises above the current 0 to ¼ percent target range in the second quarter of 2012. The expected path of the federal funds rate now reaches only about 50 basis points in the fourth quarter of 2012, nearly 40 basis points below the level expected at the time of the September FOMC meeting. Part of the decline in futures rates may reflect a decrease in term premiums, as measures of near-term interest rate uncertainty moved down over the intermeeting period. Quotes on interest rate caps suggest that the modal path of the federal funds rate also fell a good deal over the period; this path does not rise above the current target range until the third quarter of 2013.

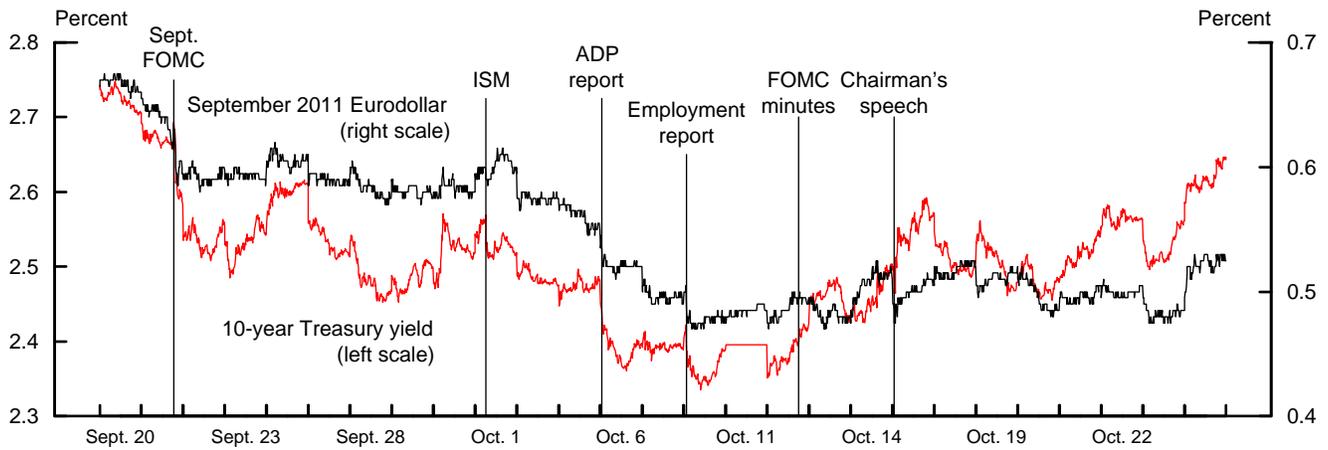
Results from the latest survey of primary dealers indicate that market participants lowered their expectations for the path of the federal funds rate, while their forecasts for economic growth, inflation, and unemployment were little changed through the end of 2012. On average, respondents reported a probability of nearly 90 percent that the first tightening would occur in the fourth quarter of 2011 or later, compared with about 70 percent in the September survey. In addition, the dealers assigned a probability of about

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<sup>1</sup> The effective federal funds rate averaged 19 basis points over the intermeeting period, with the intraday standard deviation averaging about 3 basis points.

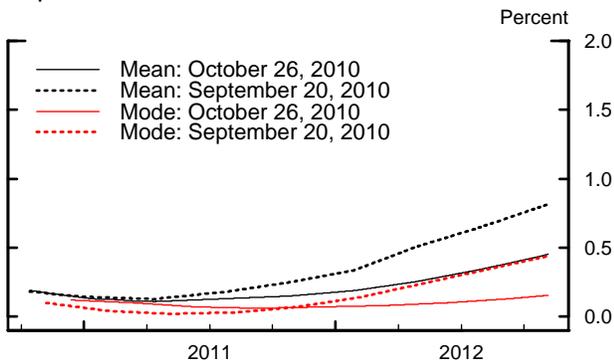
### Policy Expectations and Treasury Yields

#### Interest Rates



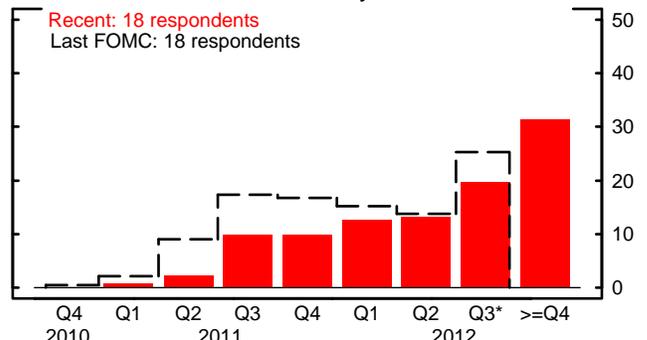
Note: 5-minute intervals. 8:00 a.m. to 4:00 p.m. No adjustments for term premiums.  
Source: Bloomberg.

#### Implied Federal Funds Rate



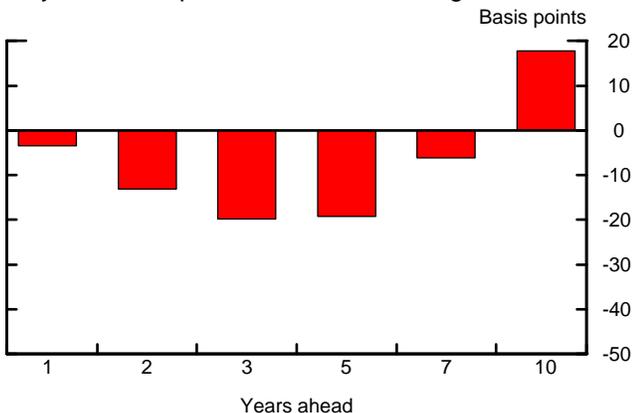
Note: Mean is estimated from federal funds and Eurodollar futures. Mode is estimated from distribution of federal funds rate implied by interest rate caps. Both include an allowance for term premiums and other adjustments.  
Source: Bloomberg and CME Group.

#### Implied Expectation of Quarter of First Rate Increase from the Desk's Dealer Survey



\*For the last FOMC, the probability reported in the 2012:Q3 bin corresponds to the probability that the first policy rate hike will occur in 2012:Q3 or later.  
Source: Desk Dealer Survey from October 25, 2010.

#### Change in Implied One-Year Forward Rates since Day Before September FOMC Meeting



Note: Data run through October 26, 2010.  
Source: Federal Reserve Bank of New York.

#### Inflation Compensation



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

Financial Developments

95 percent to the Federal Reserve expanding its balance sheet through additional securities purchases before the end of the year, compared with about 40 percent in the previous survey. Should the FOMC announce additional Treasury purchases, the dealers assigned an average probability of about 90 percent to the implementation of an incremental purchase program over short to intermediate horizons, with the initial announcement estimated to be about \$400 billion over a 4-month period and the total size of the program estimated to be about \$1 trillion over a 12-month period.

Yields on nominal Treasury coupon securities declined over much of the intermeeting period. As with policy expectations, the declines seemed to largely reflect both Federal Reserve communications and economic data releases that continued to point to a tepid outlook. In recent days, however, nominal Treasury yields retraced some of their initial declines, in part as investors may have become more uncertain about the size and implementation of additional Treasury purchases. On net over the period, yields at maturities between 2 and 10 years fell modestly; yields at the 5-year maturity declined 15 basis points, likely reflecting market expectations that additional Treasury purchases will be concentrated at intermediate maturities, as in the first LSAP program and in recent operations reinvesting principal repayments on securities held in the System Open Market Account. Over the intermeeting period, the Open Market Desk at the Federal Reserve Bank of New York purchased about \$38 billion of Treasury securities with the proceeds of principal repayments on the System's holdings of agency MBS and agency debt.

TIPS-based inflation compensation over the next 5 years increased about 45 basis points during the intermeeting period, reflecting in part higher oil prices, and inflation compensation 5 to 10 years ahead rose about 25 basis points. Forward inflation compensation based on inflation swaps also rose notably over the period. Market participants largely attributed the increase in longer-term inflation compensation to an upward revision in inflation expectations and also to higher inflation risk premiums, as expectations of additional monetary policy accommodation solidified. Some of the upward revision in inflation expectations probably reflected investors' sense that the risk of deflation had diminished. The emphasis on the price stability mandate in recent FOMC communications was reportedly interpreted as suggesting that the Committee will act forcefully to counter any further disinflationary pressures, and estimated probabilities of deflation from TIPS declined over the intermeeting period. Changes in survey measures of inflation expectations were mixed. The near-term inflation forecast from the

Thomson Reuters/University of Michigan Surveys of Consumers rose 40 basis points over the intermeeting period, consistent with the rise in inflation compensation, while the longer-term inflation forecast from this survey and from the primary dealer survey both edged down slightly.

## **ASSET MARKET DEVELOPMENTS**

Broad stock price indexes rose about 4 percent, on net, over the intermeeting period, reflecting increased investor confidence that further monetary policy accommodation will be forthcoming, as well as better-than-expected third-quarter earnings news. Option-implied volatility on the S&P 500 index decreased a bit further. The spread between the staff's estimate of the expected real return on equity for S&P 500 firms and an estimate of the real 10-year Treasury yield—a rough measure of the equity risk premium—narrowed a bit but remained at an elevated level.

The S&P 500 bank index declined about 2½ percent over the intermeeting period, although bank CDS spreads edged down, on net. Stock prices of banking firms with potentially larger exposures to the recent mortgage documentation problems fell more (see the box “Financial Consequences of the Mortgage Documentation Problems”). The decline in stock prices for banking firms occurred despite third-quarter earnings results for large bank holding companies that generally met or exceeded analysts' expectations, with improvements in loan performance leading banks to further reduce their provisions for loan losses. However, several banks reported declines in total revenue, mostly reflecting contractions in their loan portfolios.

Pricing and conditions in corporate debt markets generally improved over the intermeeting period. Yields on investment- and speculative-grade corporate bonds declined somewhat more than those on comparable-maturity Treasury securities, leaving corporate bond spreads slightly lower. Far-term forward spreads for high-yield corporate bonds dropped by more than the corresponding near-term forward spreads, suggesting an increase in investors' willingness to take on risk in that market. Indeed, far-term forward spreads for high-yield bonds are at their lowest levels since early 2005. In the syndicated leveraged loan market, spreads have narrowed and borrower leverage has increased in recent months, reportedly reflecting in part higher demand from institutional investors. In the secondary market, loan prices have continued to move up and bid-asked spreads have narrowed a bit further. Measures of liquidity in secondary markets for corporate bonds changed little over the period.

## Financial Consequences of the Mortgage Documentation Problems

Over the intermeeting period, market participants became increasingly concerned about the implications for a number of financial institutions of mounting evidence that important procedural steps were mishandled in the transferring of title when mortgages were sold and securitized and in the processing of paperwork during the foreclosure process. Further, investors became refocused on the possibility that the quality of mortgages placed into the pools backing these securities may have been misrepresented. Estimates of the extent and size of the exposures for mortgage originators, servicers, investors, and trustees continue to evolve and remain far from clear.<sup>1</sup>

Several servicers declared moratoriums on foreclosure proceedings to review their document processing and to correct any problems found. In addition, attorneys general in all 50 states launched an investigation into bank foreclosure procedures. A couple of firms subsequently lifted their moratoriums, but foreclosures are still likely to proceed more slowly than had been the case previously.

Financial institutions appear to be exposed to losses from these problems through two main channels. First, one possible source of losses could stem from attempts by holders of private-label MBS to force financial institutions originating mortgages or sponsoring MBS to buy back nonperforming mortgages that have been put into securitized pools by alleging that the quality of the mortgages in the pools was misrepresented.<sup>2</sup> Buybacks would involve only nonperforming mortgages, and so the financial institutions buying them back would likely face losses in doing so. Servicers also face potential liability from allegations that there were material problems in managing the trusts and in executing foreclosures in a timely fashion. While these issues are not new, there has been increased momentum by investors to seek redress in recent weeks. The factual and legal issues here are particularly complex, and exposures of financial institutions are especially uncertain.

Second, deficient paperwork may make it more time consuming and expensive for the owners of mortgages to prove that they have the right to foreclose on properties, and some institutions may face penalties associated with improper legal filings for documents submitted as part of the foreclosure process. Mortgage servicers may also face lawsuits in connection with completed foreclosures that were conducted improperly.

Equity prices for a number of large financial institutions, especially a few involved in servicing mortgages and sponsoring private MBS, have declined as investors have become more concerned about the potential implications of these exposures for the profitability of these firms (see table). Spreads on credit default swaps (CDS) for a few institutions have moved up, but CDS spreads for most institutions are little changed, suggesting that investors currently see very

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<sup>1</sup> For a discussion of the economic effects of the documentation problems, see the box “Economic Effects of the Mortgage Documentation Problems” in the Domestic Economic Developments and Outlook portion of Book A.

<sup>2</sup> The government-sponsored enterprises (GSEs) have been forcing buybacks of mortgages sold to them for some time. The GSEs can do so if the mortgages did not meet “conforming” standards.

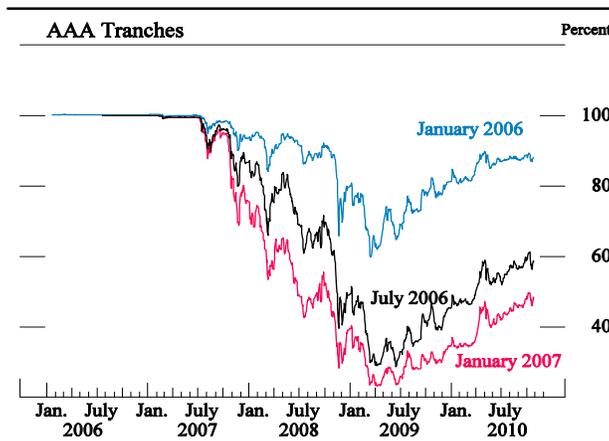
limited likelihood that this issue will drive many large financial institutions into default. Equity prices of major title insurers have also fallen. Meanwhile, equity prices for mortgage insurers have surged and their CDS spreads have narrowed, as documentation issues and violations of contract provisions may make it easier for these insurers to force private MBS sponsors to buy back mortgages that would otherwise have required an insurance payout and as a slower pace of foreclosures will allow the insurers to receive premiums for a longer period.

Item	Change in equity price since last FOMC (percent)	Change in CDS spread since last FOMC (basis points)	Level of CDS spread as of Oct. 26 (basis points)
<i>Mortgage servicers/MBS sponsors</i>			
Bank of America	-17.8	21	178
Wells Fargo	-2.4	8	110
JP Morgan	-9.7	-5	80
Citigroup	4.8	-33	135
<i>Mortgage servicers</i>			
PNC	0.0	-7	75
U.S. Bank	2.8	2	70
<i>Title insurers</i>			
First American	-2.3	0	88
Fidelity National	-12.2	NA	NA
<i>Mortgage insurers</i>			
PMI Group	16.7	-199	587
MGIC	8.8	-149	338

N.A. Not available.  
Source: Bloomberg; Markit.

Documentation- and foreclosure-related issues may also affect holders of private-label MBS. Extended foreclosure timelines will likely reduce recoveries from foreclosed houses and consequently lower payments going to bondholders. Uncertainty generated by the documentation-related issues has also weighed on these assets. Accordingly, prices of these securities have reportedly declined, on net, in recent weeks, as have the prices of associated CDS indexes (see figure).

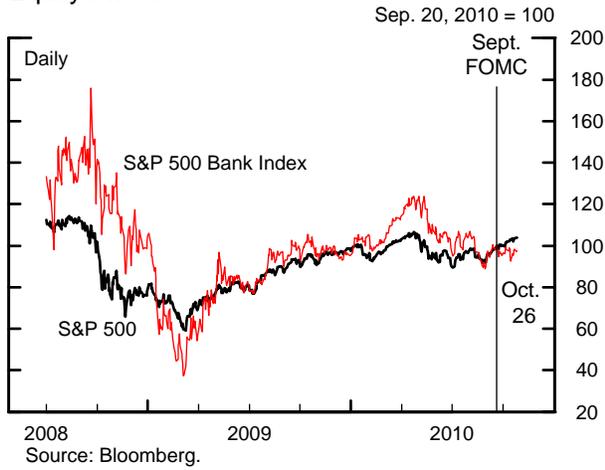
ABX Home Equity CDS Index Prices



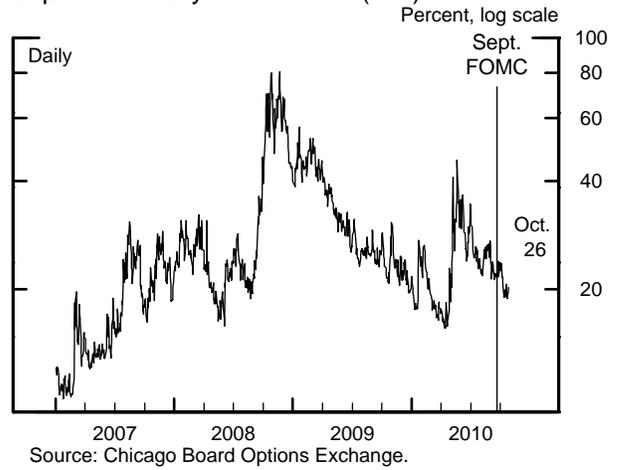
NOTE: Indexes correspond to pools securitized in different periods.  
SOURCE: JP Morgan.

### Asset Market Developments

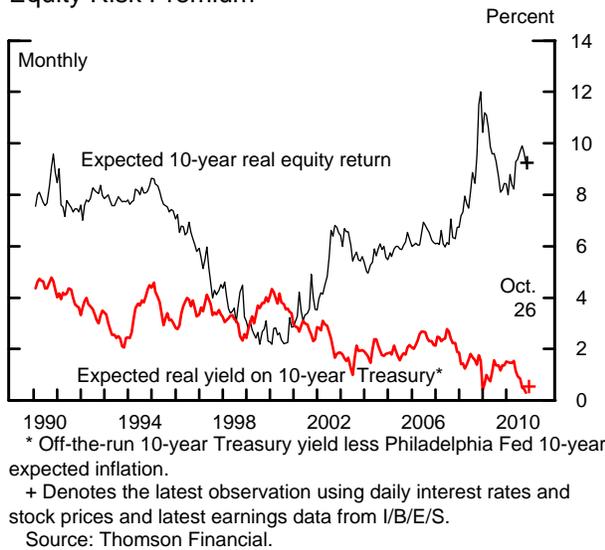
Equity Prices



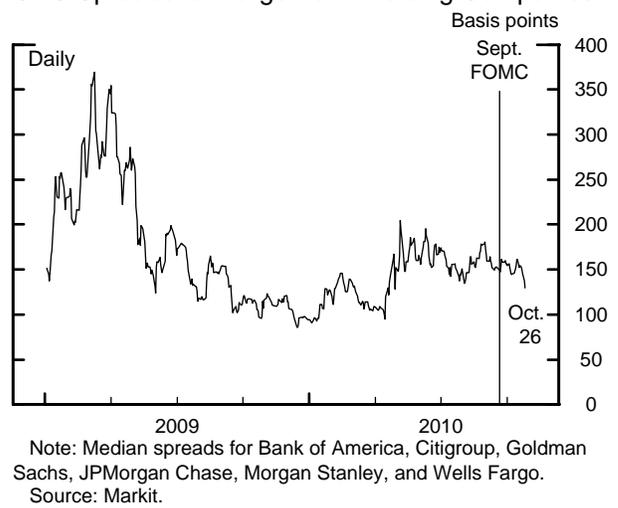
Implied Volatility on S&P 500 (VIX)



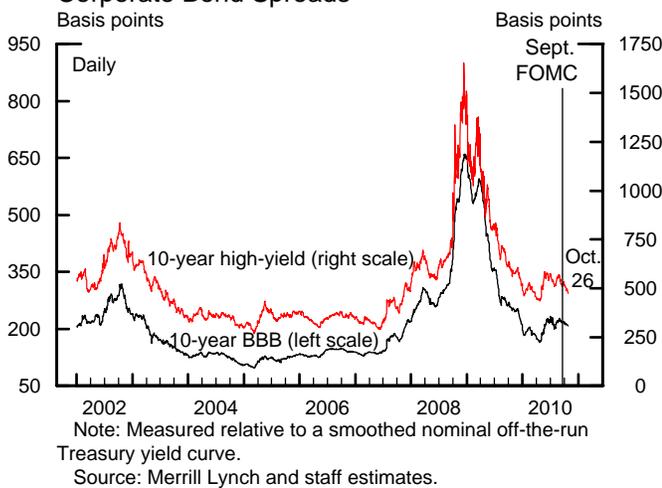
Equity Risk Premium



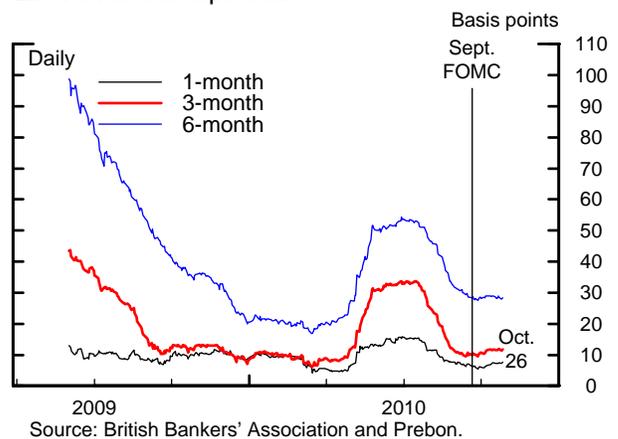
CDS Spreads for Large Bank Holding Companies



Corporate Bond Spreads



Libor over OIS Spreads



Financial Developments

Conditions in short-term funding markets were generally stable over the intermeeting period. In unsecured markets, spreads on 30-day commercial paper issued by AA-rated financial institutions and lower-rated nonfinancial firms relative to rates on paper issued by highly rated nonfinancial firms were little changed on net. Spreads of Libor over overnight index swap, or OIS, rates edged up but remained at levels similar to those observed prior to the emergence of euro-area concerns earlier this year. In secured funding markets, repurchase agreement (repo) rates firmed briefly around quarter-end, which coincided with the settlement of a large volume of newly issued Treasury securities, but were little changed on net, and spreads on 30-day asset-backed commercial paper remained low. Haircuts and bid-asked spreads in repo transactions declined for a number of collateral types, although haircuts on private-label residential mortgage-backed securities moved up a bit late in the intermeeting period, perhaps reflecting increased uncertainty stemming from the recent mortgage documentation problems.

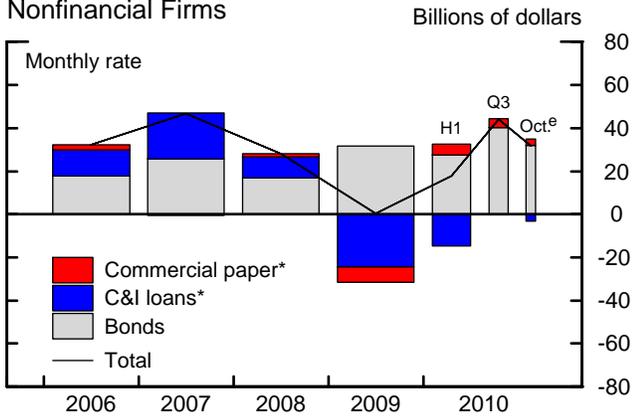
## **BUSINESS FINANCE**

Net debt financing of nonfinancial corporations was extraordinarily strong in September, supported by hefty corporate bond issuance across the credit spectrum and a substantial increase in commercial paper outstanding. Data for the first three weeks of October point to a moderation in bond and commercial paper financing from their elevated September pace. Gross issuance of syndicated leveraged loans in the third quarter remained near the average pace recorded over the first half of the year. Meanwhile, commercial and industrial (C&I) loans contracted slightly in September and did so again in the first two weeks of October, even though a moderate net fraction of respondents to the October SLOOS reported having increased originations of C&I loans to large borrowers over the past three months.

The pace of gross public equity issuance from seasoned and initial public offerings by nonfinancial firms remained moderate in September, and early indications suggest that issuance has slowed in October. Equity retirements in the second quarter were about unchanged from the first-quarter rate, as cash-financed mergers and acquisitions decreased a bit, while share repurchases are estimated to have picked up further. As a result, net equity issuance by nonfinancial corporations is projected to have remained negative in the second quarter. The recent level of net equity retirements does not approach the pace seen before the financial crisis, but announcements of mergers and

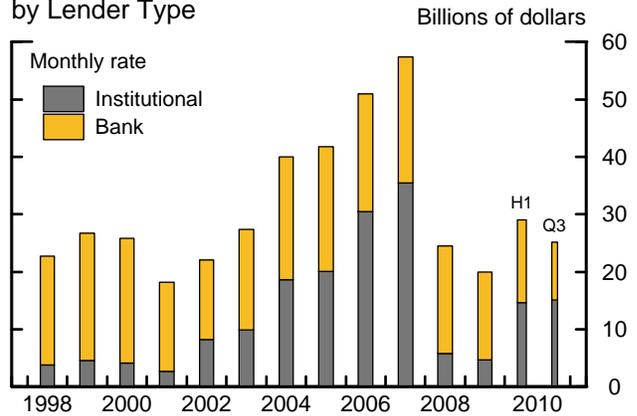
### Business Finance

Selected Components of Net Debt Financing, Nonfinancial Firms



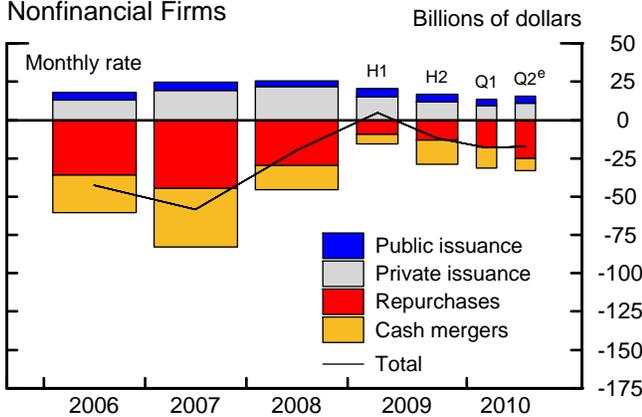
\* Seasonally adjusted, period-end basis.  
 e Estimate.  
 Source: Depository Trust & Clearing Corporation; Thomson Financial; Federal Reserve Board.

Syndicated Leveraged Loan Gross Issuance, by Lender Type



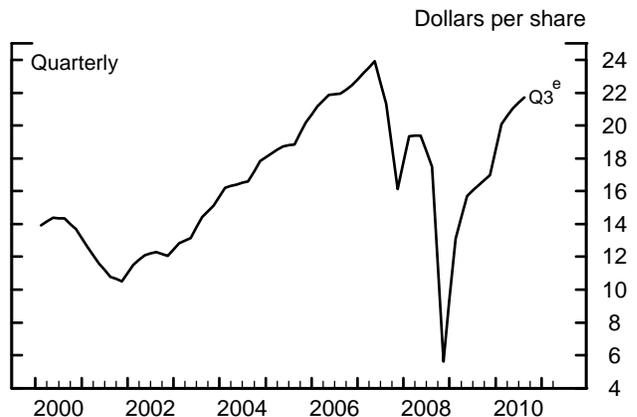
Source: Thomson Reuters LPC.

Selected Components of Net Equity Issuance, Nonfinancial Firms



e Estimate.  
 Source: Thomson Financial, Investment Benchmark Report; Money Tree Report by PricewaterhouseCoopers, National Venture Capital Association, and Venture Economics.

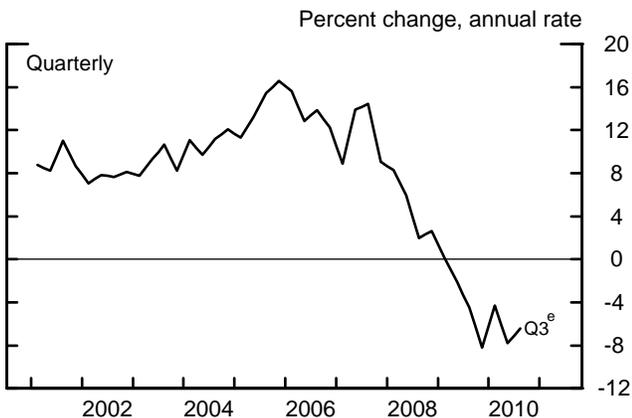
S&P 500 Earnings Per Share



Note: Data are seasonally adjusted by staff.  
 e Staff estimate.  
 Source: Thomson Financial.

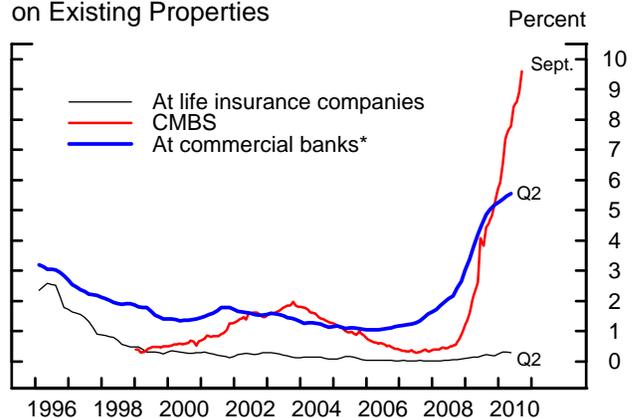
Financial Developments

Commercial Mortgage Debt



e Estimate.  
 Source: Federal Reserve.

Delinquency Rates on Commercial Mortgages on Existing Properties



Note: CMBS are commercial mortgage-backed securities. All series are seasonally adjusted.  
 \* Excluding farmland.  
 Source: Citigroup; Call Report data; ACLI.

new share repurchase programs during the third quarter and early October suggest that the pace of equity retirements is continuing to ramp up.

To date, roughly 200 firms in the S&P 500 index have reported third-quarter earnings, and thus far most reports have come in well above analysts' forecasts. On the basis of the reports in hand and analysts' current estimates for firms yet to report, earnings per share for S&P 500 firms in the third quarter are estimated to have increased 2 to 4 percent from the prior quarter (not at an annual rate). Revisions to analysts' expectations of year-ahead earnings for nonfinancial S&P 500 firms through mid-October were muted; however, these data largely predate the favorable earnings-reporting season, and at this point we expect next month's observation to land in positive territory.

The credit quality of nonfinancial corporations appears to have remained solid. The aggregate ratio of debt to assets for nonfinancial corporations declined a bit further in the second quarter, and the aggregate liquid asset ratio remained near its highest level in over 20 years. Upgrades of nonfinancial corporate bonds by Moody's Investors Service were moderate but nonetheless outpaced downgrades in the third quarter. The six-month trailing bond default rate for nonfinancial firms remained near historical lows in September, and the KMV expected year-ahead default rate for nonfinancial firms decreased a bit in October, although it remained somewhat elevated.

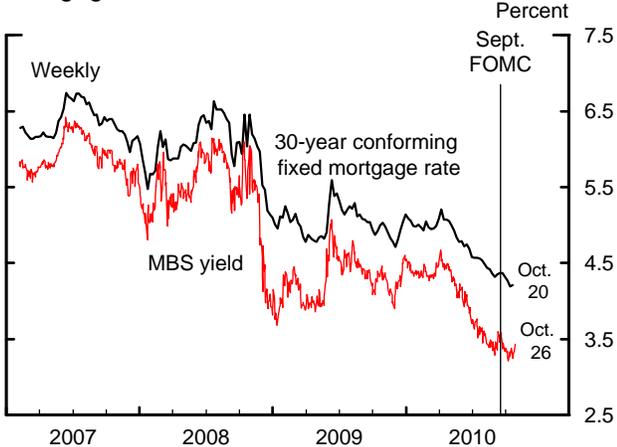
Commercial real estate markets remained strained. Commercial mortgage debt is estimated to have declined at an annual rate of about 6½ percent in the third quarter of 2010, similar to the drop in the second quarter, and the delinquency rate for securitized commercial mortgages climbed to nearly 10 percent in September. However, some signals appear to offer a bit of encouragement. Vacancy rates for commercial buildings have stabilized in the third quarter. In addition, reflecting increased interest in commercial real estate investments, the pipeline of new CMBS deals has picked up a bit from very low levels, and CDS index prices for highly rated tranches of commercial mortgage-backed securities (CMBS) have increased, on net, over the period. Also of note, a number of large commercial banks reported in the latest SLOOS that demand for commercial real estate loans increased over the past three months.

## **HOUSEHOLD FINANCE**

The average interest rate on 30-year conforming fixed-rate mortgages fell about 15 basis points to a shade below 4¼ percent over the intermeeting period and is now at

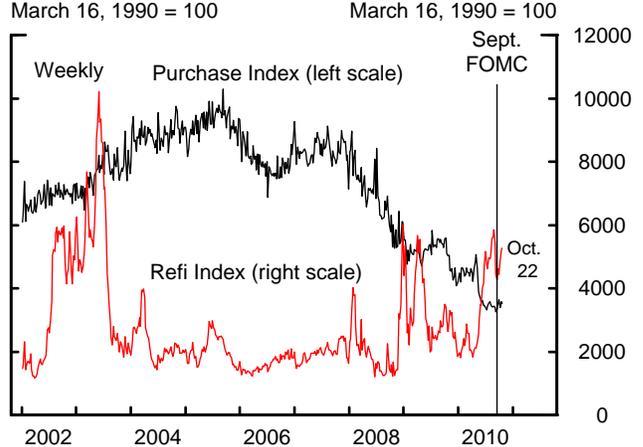
### Household Finance

Mortgage Rate and MBS Yield



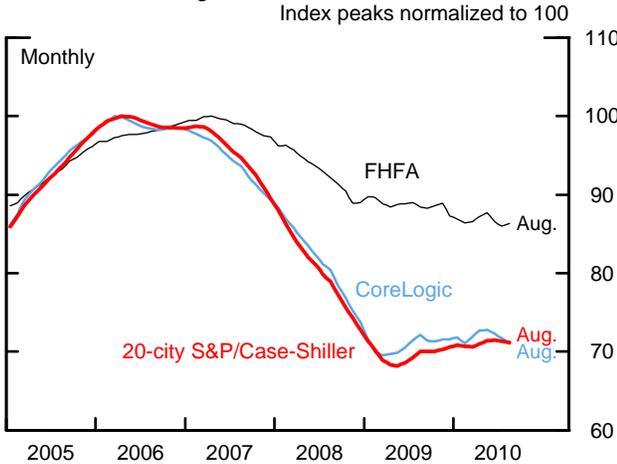
Note: For MBS yield, Fannie Mae 30-year current coupon rate.  
 Source: For mortgage rate, Freddie Mac; for MBS yield, Bloomberg.

Purchase and Refinance Activity



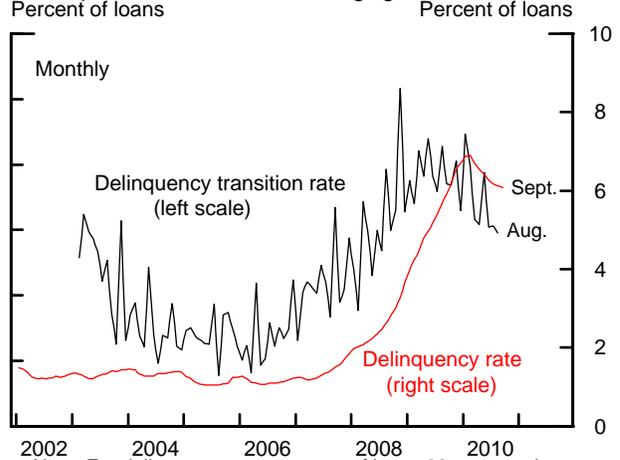
Note: Seasonally adjusted by FRB staff.  
 Source: Mortgage Bankers Association.

Prices of Existing Homes



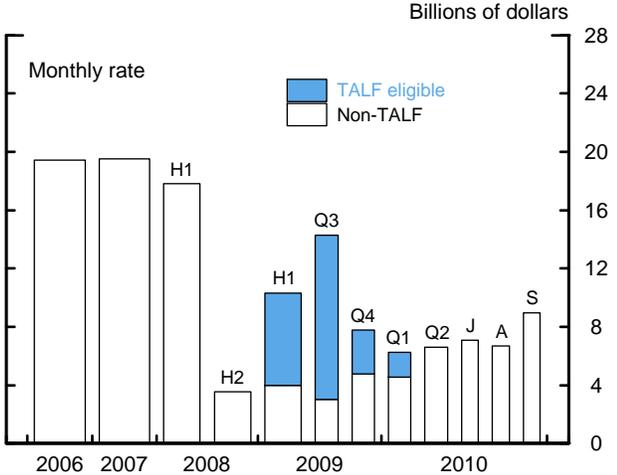
Source: For FHFA, Federal Housing Finance Agency; for CoreLogic, CoreLogic; for S&P/Case-Shiller, Standard & Poor's.

Delinquencies on Prime Mortgages



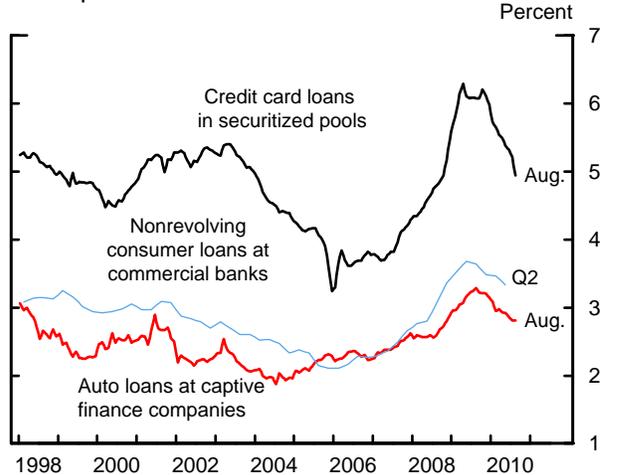
Note: For delinquency rate, percent of loans 90 or more days past due or in foreclosure. For transition rate, percent of previously current mortgages that transition to being at least 30 days delinquent each month.  
 Source: LPS Applied Analytics.

Gross Consumer ABS Issuance



Note: Credit card, auto, and student loan ABS.  
 Source: Inside MBS & ABS; Merrill Lynch; Bloomberg; Federal Reserve Board.

Delinquencies on Consumer Loans



Source: For credit cards, Moody's Investors Service; for nonrevolving consumer loans, Call Report; for auto loans, Federal Reserve Board.

Financial Developments

about its lowest level in the 39-year history of this series. MBS yields posted similar declines. The volume of mortgage refinancing activity moved up in late September and early October and remains at a relatively high level, while application volume for mortgages to purchase homes continued to be anemic. According to the repeat-sales index from CoreLogic, house prices declined for the third consecutive month in August; these declines have more than reversed the gains recorded last spring and returned prices to their average level during 2009. The 20-city S&P/Case-Shiller house price index also declined in August. The delinquency rate on prime mortgages continued to move down in September, reflecting in part the reclassification of delinquent mortgages entering loan modification programs as “current.” In addition, the share of mortgages becoming newly delinquent—that is, transitioning from current to delinquent—edged down further in August.

Consumer credit contracted at an annual rate of about 1¾ percent in August, roughly in line with the pace of decline posted earlier in the year, as another sharp contraction in revolving credit more than offset a small rise in nonrevolving credit. Consumer ABS issuance was solid in September, and consumer credit quality continued to improve, though delinquency rates generally remain elevated.

## **FOREIGN DEVELOPMENTS**

Driven largely by the anticipation of further asset purchases by the Federal Reserve, the dollar declined against most other currencies (see the box “The Effects of Large-Scale Asset Purchase Announcements by the Federal Reserve on Exchange Rates”). The Bank of Japan expanded its asset purchase program and reduced slightly further its policy target rate, while some other central banks in the advanced foreign economies appeared likely to pursue a more accommodative path of monetary policy. In some emerging market economies, authorities continued to intervene, perhaps more intensively, in foreign exchange markets to limit appreciation of their currencies and took policy actions to curb capital inflows.

The exchange value of the dollar fell 2½ percent during the period against a broad array of foreign currencies, as the dollar declined 3½ percent against advanced-economy currencies and 1¾ percent against emerging market currencies. Chinese authorities allowed the renminbi to appreciate ¾ percent against the dollar over this period, while the dollar depreciated about 5 percent against the euro and the yen. Of note, the yen appreciated versus the dollar beyond the level that triggered a Japanese intervention in

## The Effects of Large-Scale Asset Purchase Announcements by the Federal Reserve on Exchange Rates

A potentially important channel by which large-scale asset purchases (LSAPs) can influence economic activity is through their effects on exchange rates. LSAPs might have such effects if the purchases are interpreted as signaling a future easing of monetary policy—for example, by extending the period over which short-term interest rates are expected to be kept low. In addition, LSAPs might influence exchange rates through portfolio rebalancing effects: The reduced supply of longer-term domestic assets might induce investors to attempt to substitute into other securities, including foreign securities, decreasing the exchange value of the dollar.

To estimate the effects that LSAPs conducted by the Federal Reserve have had on U.S. dollar exchange rates, we examine the behavior of the dollar around the time of six LSAP-related announcements that have occurred since November 2008.<sup>1</sup> These announcements were chosen because they appear to have conveyed unexpected information about prospective asset purchases to the market. We consider four exchange rates—the U.S. dollar in terms of the yen, pound sterling, euro, and Canadian dollar—for a total of 24 observations (six events times four exchange rates). Figure 1 compares changes in these exchange rates to the changes in the 10-year U.S. Treasury rate, which we interpret as a measure of the amount of new LSAP information contained in each release. An LSAP announcement that caused a 25 basis point decline in the 10-year Treasury rate appears to have been associated with a depreciation of the dollar ranging from 1 to 2 percent, with a sample average decline of about 1¼ percent, a statistically significant move.<sup>2,3</sup> Of course, with relatively few events, there is considerable uncertainty around the strength of this relationship. Nonetheless, we do find that the effect LSAPs had on exchange rates is persistent.<sup>4</sup>

For comparison, we show in figure 2 the relationship between changes in the 10-year Treasury rate and exchange rate movements around recent FOMC announcement dates prior to the inception of the LSAP programs. On these days, we observe that a 25 basis point decline in the 10-year rate is associated

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<sup>1</sup> The LSAP announcement days we consider are as follows: November 25, 2008; December 1, 2008; December 16, 2008; January 28, 2009; March 18, 2009; and September 21, 2010.

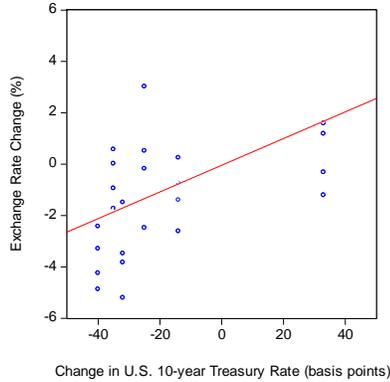
<sup>2</sup> This effect is somewhat smaller than the response in FRB/US simulations, which deliver a total depreciation of 2 to 3 percent in response to a 25 basis point decline in the term premium on the 10-year Treasury.

<sup>3</sup> Alternatively, assuming the surprise component of the LSAP announcement was equal across all announcement dates, we find that on average the dollar declined 1¼ percent against these currencies on those days, a statistically significant move. We also find that a 25 basis point decline in the 10-year rate is associated with about 1 percent depreciation in the major currencies index and 1½ percent depreciation in the broad currencies index, statistically significant moves.

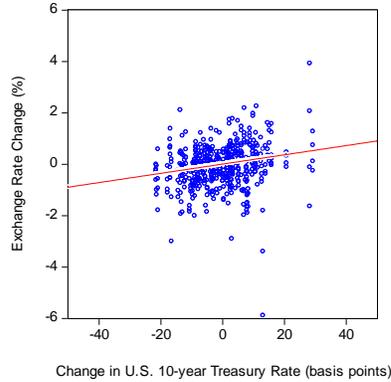
<sup>4</sup> We examine exchange rate movements one week after the LSAP announcement and find that movements after the announcement show no statistically significant trend in either direction, suggesting that the effect LSAPs had on exchange rates is persistent.

with a statistically significant depreciation in the dollar of only about ½ percent. Notably, the magnitude of the dollar depreciation seen in response to intermeeting policy announcements, shown in figure 3, is similar to the magnitude shown for LSAP announcements since 1994—a 25 basis point decline in the 10-year Treasury rate is associated with a statistically significant depreciation of the dollar of about 1¼ percent.<sup>5</sup>

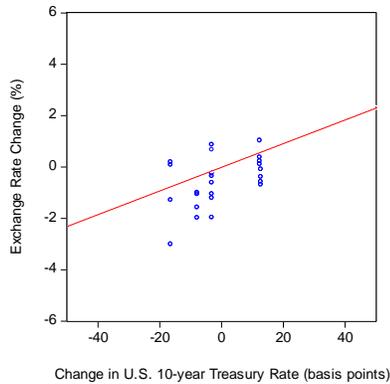
**Figure 1. Relationship between Exchange Rate Movements and 10-year U.S. Treasury Rate Changes on LSAP Announcement Days\***



**Figure 2. Relationship between Exchange Rate Movements and 10-year Treasury Rate Changes on FOMC Dates from January 1994 to December 2008\***



**Figure 3. Relationship between Exchange Rate Movements and 10-year Treasury Rate Changes on Intermeeting FOMC Dates from January 1994 to December 2008\***



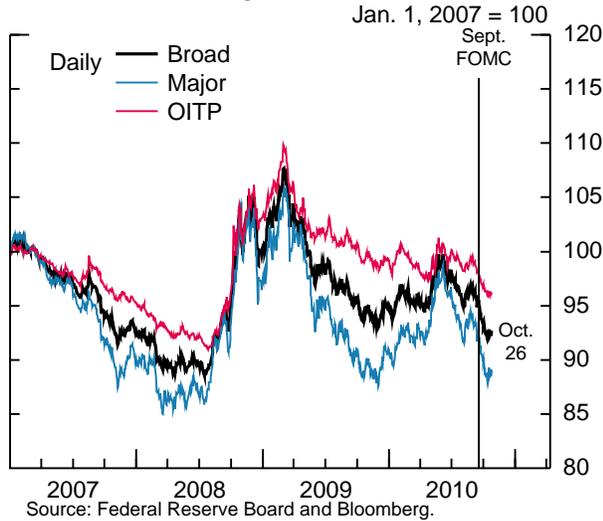
\*The constant term in the regression line is set to zero.

Source: For all figures, Board staff.

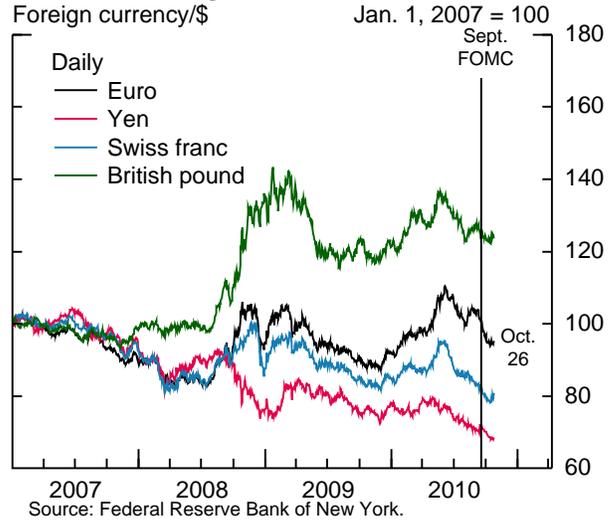
<sup>5</sup> The intermeeting announcement dates are as follows: April 18, 1994; October 15, 1998; January 3, 2001; April 18, 2001; August 17, 2007; and January 22, 2008. We omit the September 17, 2001, FOMC announcement because it was part of a joint response by the Federal Reserve, several other central banks, and financial markets to the September 11, 2001, terrorist attacks.

### Foreign Developments

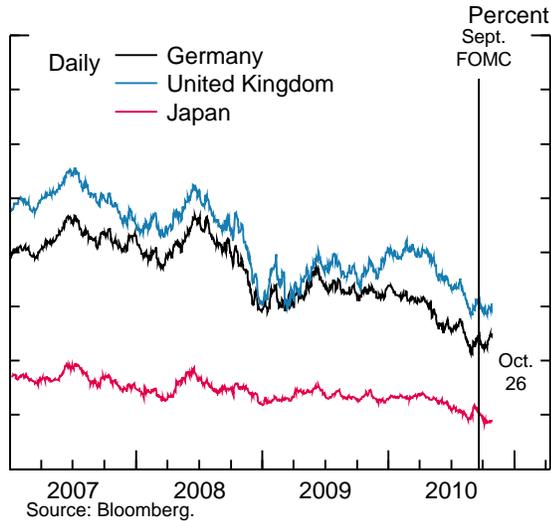
Nominal Trade-Weighted Dollar Indexes



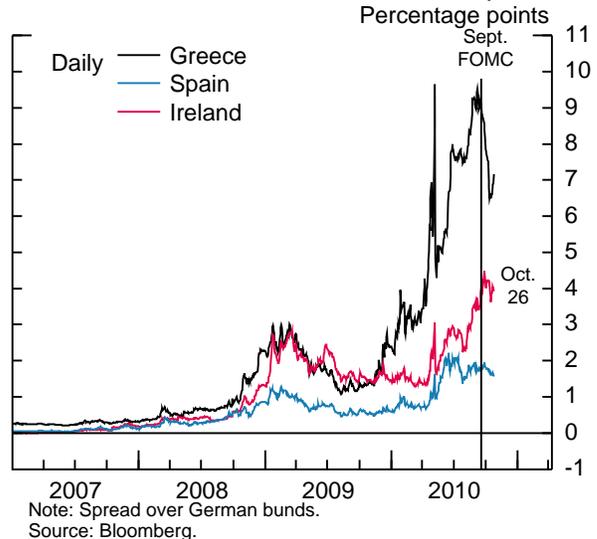
Bilateral Exchange Rates  
Foreign currency/\$



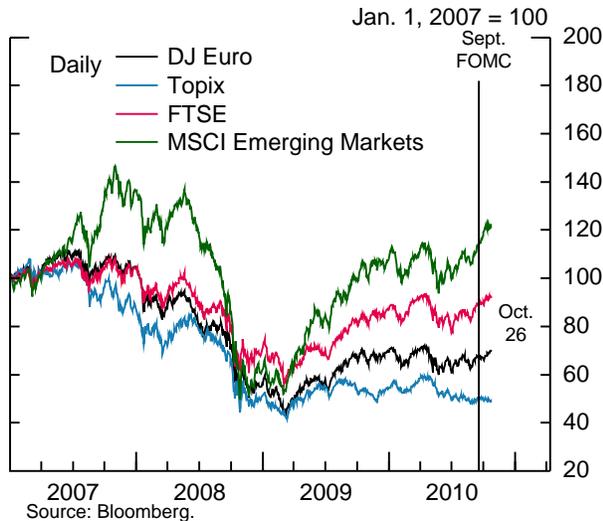
Nominal 10-Year Government Bond Yields



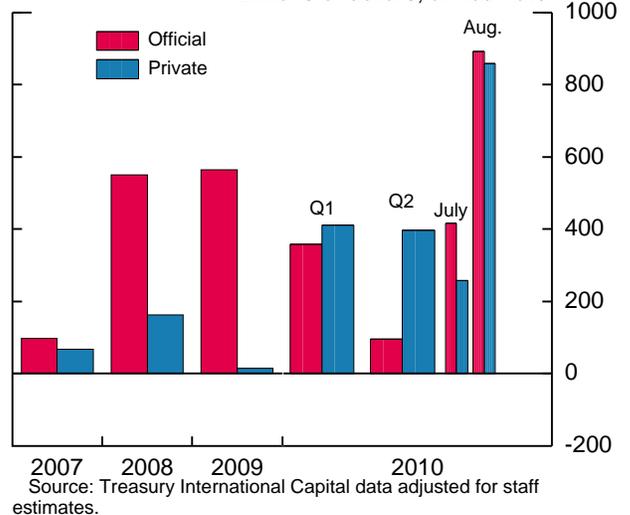
Euro-Area 10-Year Government Bond Spreads



Stock Price Indexes



Foreign Net Purchases of U.S. Treasury Securities  
Billions of dollars, annual rate



Financial Developments

mid-September. Although Japanese authorities have not intervened further, the Bank of Japan announced on October 5 that it would cut its policy target rate from 10 basis points to a range of 0 to 10 basis points and hold rates there until a return of inflation to the desired range between 0 and 2 percent is “in sight.” In addition, the Bank of Japan announced that it would establish an asset purchase program of up to ¥5 trillion (equivalent to about \$60 billion, or 1 percent of GDP) to buy a broad range of financial assets. These actions were seen as relatively modest and seemed to do little to slow the appreciation of the yen. The overnight interest rate remained just below 10 basis points, although longer-term interest rates did decline in subsequent days.

Benchmark 10-year sovereign yields declined about 10 to 20 basis points in Japan, the United Kingdom, and Canada, while German and French yields were little changed over the period. Although the Bank of England voted to keep bond purchases and its key policy rate unchanged, minutes from recent policy meetings and other policymaker statements indicated that further asset purchases are being actively debated. Market participants have pushed back the date that the Bank of England is expected to raise its policy rate to late 2012. The details of government spending cuts, outlined by U.K. finance minister George Osborne on October 20, did not elicit significant price reaction, as the cuts were generally in line with expectations. Markets have also revised down the expected pace of tightening by the Bank of Canada, which lowered its growth and inflation outlooks. In contrast, market-based expectations of future short-term rates in the euro area increased slightly, and the euro overnight index average, or eonia, rate increased to about 85 basis points, as the ECB continued to allow the amount of liquidity provided to the banking system to decline with the maturation of several long-term operations. Credit institutions in Spain, Italy, and Portugal lessened their reliance on ECB financing in September, and spreads relative to German bunds on the 10-year sovereign bonds of Greece and Portugal decreased considerably. In contrast, Irish banks increased their dependence on ECB financing, and Irish sovereign spreads were about unchanged.

Major headline equity indexes in the euro area and in the United Kingdom increased about 2½ percent, whereas the Nikkei index declined 2½ percent. Early in the intermeeting period, euro-area bank stock prices fell on continued concerns about banking sector soundness, particularly in the peripheral European countries. The decline was reversed later in the period, in part after the Irish government fleshed out its plans to

recapitalize Anglo Irish Bank. Headline equity indexes in most emerging market economies rose, increasing 6¾ percent on average.

As interest rates declined in the advanced foreign economies, capital flows to emerging market funds increased over the past few weeks, putting upward pressure on emerging market currencies and reportedly triggering further intervention in foreign exchange markets. Both Brazil and Thailand announced new measures to discourage portfolio capital inflows in an attempt to ease pressures on their currencies, and Korean officials discussed the possibility of taking similar steps. Several emerging market central banks tightened monetary policy: The People's Bank of China unexpectedly raised its lending and deposit rates for the first time in three years; the central banks of Chile, Singapore, and Taiwan also tightened.

Both official and private foreign investors made sizable purchases of U.S. Treasury securities in August, while their purchases of corporate securities eased somewhat. Partial and confidential data on custody accounts at the Federal Reserve Bank of New York show heavy selling of U.S. agency MBS securities by foreign official accounts in September and further moderate selling in October, but these sales were offset by purchases of U.S. Treasury securities. In addition, countries intervening in foreign exchange markets to limit appreciation of their currencies invested much of the proceeds of these operations in U.S. Treasury securities.

## **GOVERNMENT FINANCE**

Over the intermeeting period, the Treasury issued about \$200 billion of nominal coupon securities across the maturity spectrum and \$10 billion of 5-year TIPS. The auctions were generally well received, although demand at the 3-year Treasury note and the 30-year Treasury bond reopening auctions was lackluster. The 5-year TIPS reopening auction conducted on October 25 stopped out at about negative ½ percent, the first negative rate ever for a Treasury auction.

Gross issuance of long-term municipal bonds remained robust in September and appears to have increased further in October, mostly driven by continued strength in new capital issuance. Short-term issuance moderated in September, but early indications suggest that it has picked up a bit in October. The number of municipal bonds downgraded by Moody's Investors Service in the third quarter continued to outpace the number of upgrades. Yields on municipal bonds declined a bit over the intermeeting

period, and the ratio of yields on long-term municipal bonds to those on comparable-maturity Treasury securities edged down, on net, but remained at a relatively high level.

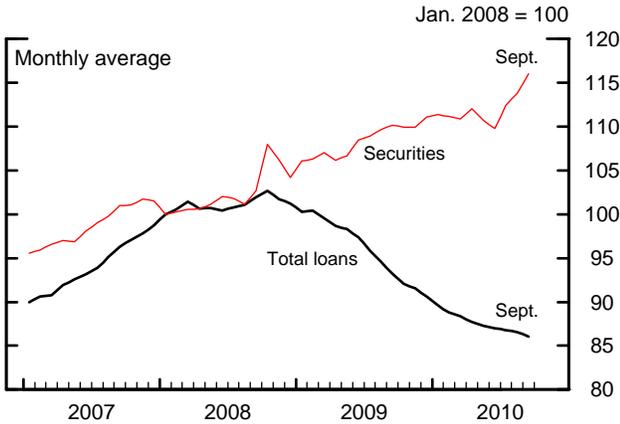
## COMMERCIAL BANKING AND MONEY

Bank credit edged up 1 percent at an annual rate in September, about on par with the August increase, as brisk growth in banks' holdings of securities more than offset a further decline in total loans. Core loans—the sum of C&I, real estate, and consumer loans—dropped at a 7 percent pace, the weakest monthly reading in this category since March. C&I loans turned down in September after having increased slightly for two consecutive months. Commercial real estate (CRE) loans and home equity loans both contracted further. However, closed-end residential loans increased modestly for the second month in a row amid reports of robust origination activity at several large banks. Consumer loans shrank at a substantially faster pace than in recent months; about half of the drop was attributed to sales of student loans to the Department of Education, but credit card loans also fell steeply, reportedly reflecting further paydowns and charge-offs. By contrast, banks continued to add significantly to their holdings of securities in September, making substantial purchases in every major category except private-label MBS, which ran off.

The October SLOOS indicated that, over the past three months, banks generally continued to gradually unwind the very tight standards and terms put in place over the past few years. A good deal of the reported easing was again concentrated in C&I loans—a moderate net fraction of banks reported having eased standards on C&I loans and narrowed the spreads of C&I loan rates over their cost of funds. Among the respondents that reported having eased standards or terms on such loans, most cited a “more favorable or less uncertain economic outlook” as well as increased competition from other banks and nonbank lenders as reasons for having done so. Small net fractions of banks reported having tightened standards for approving commercial real estate and residential mortgage loans, while changes in standards and terms for consumer loans were mixed but modest. Demand for C&I loans reportedly declined, on net, over the preceding three months after having been unchanged in the three prior months. Demand for residential mortgages and consumer loans was also said to be weaker on balance. Of note, larger banks reported stronger demand, on net, while smaller banks reported weaker demand. In response to a set of special questions about long-term lending standards, between 25 and 35 percent of banks indicated that standards on C&I loans to borrowers

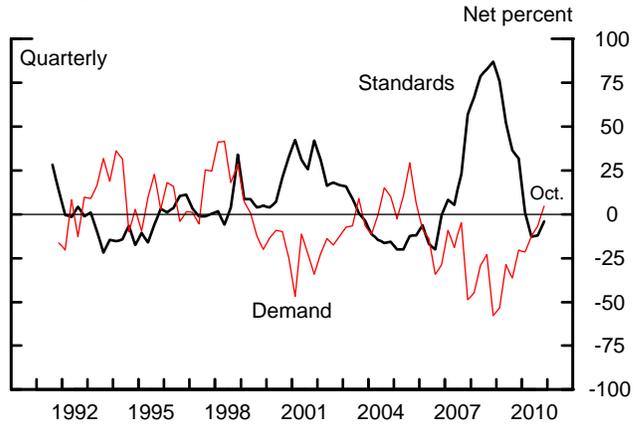
### Commercial Banking and Money

#### Bank Credit



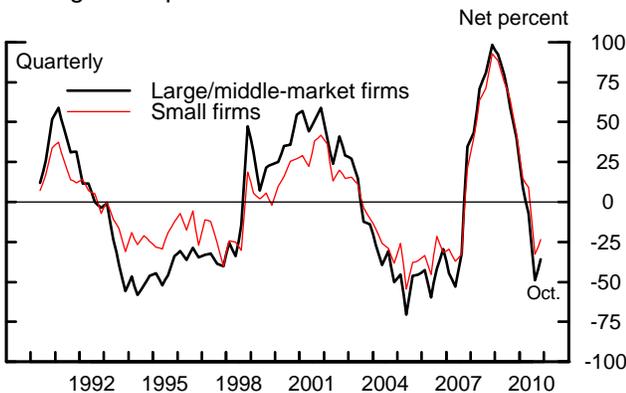
Note: The data have been adjusted to remove the effects of consolidations of assets under FAS 166 and FAS 167.  
Source: Federal Reserve Board.

#### Changes in Standards and Demand for Bank Loans



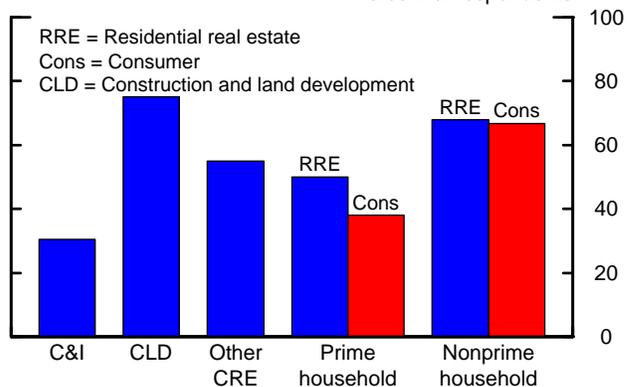
Note: A composite index of changes in standards or loan demand that represents the net percentage of loans on respondents' balance sheets that were in categories for which banks reported tighter lending standards or stronger loan demand over the past 3 months.  
Source: Senior Loan Officer Opinion Survey on Bank Lending Practices.

#### Changes in Spreads on C&I Loans



Note: Net percent of respondents that widened spreads over the past 3 months.  
Source: Senior Loan Officer Opinion Survey on Bank Lending Practices.

#### Lending Standards Remain Tighter Than Average until At Least 2013



Note: Fraction of banks that expect lending standards will return to their longer-run norms sometime after 2012 or will not return to them for the foreseeable future.

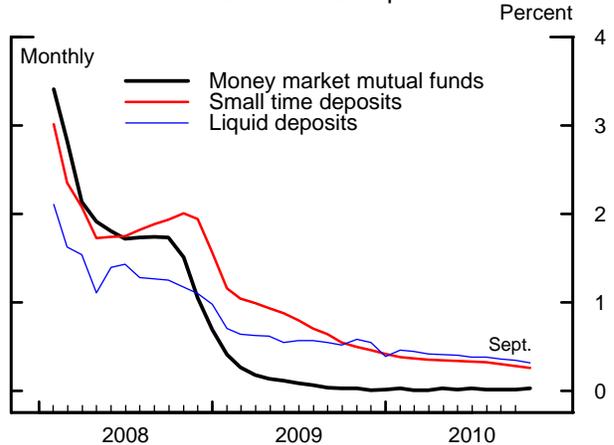
Source: Senior Loan Officer Opinion Survey on Bank Lending Practices.

#### Growth of M2 and Its Components

	M2	Liquid deposits	Small time deposits	RMMF	Curr.
2008	8.6	6.9	12.4	13.7	5.8
2009					
H1	7.6	16.4	-6.1	-15.4	10.8
H2	2.4	16.5	-26.4	-31.0	2.9
2010					
Q1	-1	9.2	-25.7	-27.4	2.1
Q2	1.8	8.3	-20.2	-18.6	6.4
Q3	4.6	10.2	-19.9	-5.9	5.7
Oct.(e)	8.3	17.5	-31.3	-16.7	9.7

Note: RMMF are retail money market mutual funds.  
e Estimate.  
Source: Federal Reserve Board.

#### Interest Rates on Selected Components of M2



Source: Federal Reserve Board.

of various size classes would not return to their longer-run averages until some time after 2012 or would not return to them for the foreseeable future; between 40 and 75 percent of respondents gave the same answers for commercial and residential real estate loans and other consumer loans.

Over September and October, M2 expanded at an average annual rate of  $8\frac{1}{4}$  percent, noticeably above its pace earlier in the year. Growth in liquid deposits, the largest component of M2, moved up to an average annual rate of  $17\frac{1}{4}$  percent over the same two-month period, while small time deposits and retail money market mutual funds continued to contract substantially. The compositional shift toward liquid deposits likely reflected the relatively attractive yields on liquid deposits compared with those on other M2 assets, although all rates continued to be extremely low. Over the past two months, currency growth averaged  $9\frac{1}{2}$  percent, with indicators suggesting strong demand from abroad. The monetary base decreased at an average annual rate of  $7\frac{1}{4}$  percent in September and October, as reserve balances declined on net, which more than offset the increase in currency (see the box “Balance Sheet Developments over the Intermeeting Period”).

## Balance Sheet Developments over the Intermeeting Period

Total assets of the Federal Reserve were marginally changed over the intermeeting period at \$2.3 trillion (see table). Holdings of Treasury securities rose while those of other securities fell, as principal payments on agency mortgage-backed securities (MBS) and agency debt were reinvested in longer-term Treasury securities. The Trading Desk at the Federal Reserve Bank of New York (FRBNY) conducted 10 operations to reinvest repayments of principal on agency MBS and agency debt over the intermeeting period. The operations, which included a range of maturities for nominal securities, as well as two operations in TIPS, totaled about \$30 billion.

Lending through liquidity facilities remained at a negligible level, and lending through other credit facilities stepped down some over the intermeeting period. In particular, total loans outstanding under the Term Asset-Backed Securities Loan Facility (TALF) dropped about \$4 billion, reflecting prepayments of outstanding TALF loans. Support for specific institutions also decreased a bit over the period, driven by a partial repayment by American International Group, Inc., or AIG, on its revolving credit facility with the FRBNY and a modest decline in the net portfolio holdings for each of the Maiden Lane LLCs.

To prepare for the potential need to use draining tools to manage the aggregate supply of reserves, the FRBNY initiated over the intermeeting period a series of small-scale, real-value reverse repurchase transactions with an expanded set of counterparties, including an approved group of money market mutual funds. As a result, reverse repurchase agreements with these counterparties, included in the “Others” category in the table, turned positive.<sup>1</sup> Similarly, the Federal Reserve conducted an additional small-scale operation under the Term Deposit Facility; as a result, term deposits outstanding increased \$3 billion. In terms of the Federal Reserve’s other liabilities, Federal Reserve notes in circulation climbed \$10 billion, and reserve balances of depository institutions stepped up \$16 billion. The Treasury’s general account decreased \$34 billion, on net, over the period, while its supplementary financing account held steady at \$200 billion.

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<sup>1</sup> Currently, the set of counterparties in the “Others” category is primary dealers and an eligible set of money market mutual funds.

**Federal Reserve Balance Sheet**  
Billions of dollars

	Change since last FOMC	Current (10/25/10)	Maximum level	Date of maximum level
<b>Total assets</b>	<b>-12</b>	<b>2,294</b>	<b>2,364</b>	<b>05/13/10</b>
Selected assets:				
Liquidity programs for financial firms	-0	+0	677	11/06/08
Primary, secondary, and seasonal credit	-0	+0	114	10/28/08
Foreign central bank liquidity swaps	-0	+0	536	12/04/08
Term Asset-Backed Securities Loan Facility (TALF)	-4	28	49	03/11/10
Support for specific institutions	-1	112	121	05/05/10
Credit extended to AIG, net	-1	19	91	10/27/08
Preferred interests in AIA Aurora LLC and ALICO Holdings LLC	+0	26	26	10/25/10
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC	-1	66	75	12/30/08
Securities held outright*	-10	2,036	2,073	06/14/10
U.S. Treasury securities	35	835	835	10/25/10
Agency debt securities	-4	150	169	03/11/10
Agency mortgage-backed securities	-41	1,051	1,129	06/14/10
<b>Total liabilities</b>	<b>-12</b>	<b>2,236</b>	<b>2,309</b>	<b>05/13/10</b>
Selected liabilities:				
Federal Reserve notes in circulation	10	920	923	10/13/10
Reverse repurchase agreements	-6	57	110	10/14/08
Foreign official and international accounts	-8	55	92	12/22/08
Others	2	2	26	09/26/08
Reserve balances of depository institutions	16	991	1,249	02/24/10
Term deposits held by depository institutions	3	5	5	10/25/10
U.S. Treasury, general account	-34	44	137	12/31/09
U.S. Treasury, supplementary financing account	+0	200	559	10/22/08
Other deposits	+0	1	31	03/12/10
<b>Total capital</b>	<b>-0</b>	<b>58</b>	<b>60</b>	<b>08/03/10</b>

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

\* Par value.

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## Appendix

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### Senior Loan Officer Opinion Survey on Bank Lending Practices

The October 2010 Senior Loan Officer Opinion Survey on Bank Lending Practices indicated that, on net, banks eased standards and terms over the previous three months on some categories of loans to households and businesses.<sup>1</sup> Both large and other domestic banks reported having eased some standards and terms; large banks were primarily responsible for the easing reported in July.<sup>2</sup> However, lending standards appear to remain tight for many households and firms, and substantial fractions of banks reported in response to a set of special questions that standards for many categories of loans would not return to their longer-run averages for the foreseeable future. Moreover, econometric analysis shows that the amount of easing reported in the October survey is less than would have been expected given a number of bank-specific factors and the evolution of several key macroeconomic variables over the survey period.

Domestic survey respondents reported easing standards and most terms on commercial and industrial (C&I) loans to firms of all sizes, a result consistent with continued and gradual unwinding of the widespread tightening that occurred over the past few years. Banks mainly pointed to a more favorable or less uncertain economic outlook and increased competition from other banks or nonbank lenders as reasons for easing, which were also the top two reasons cited in the April and July surveys. Of the few banks that reported having tightened standards or terms, a majority reported, among other reasons, increased concerns about the effects of legislative changes, supervisory actions, or changes in accounting standards (a new reason added to this survey) as being responsible for the tightening.

Changes in standards and terms on loans to households were somewhat more mixed. Banks again reported an increased willingness to make consumer installment loans, and a small net fraction of respondents reported easing standards for approving credit card applications. However, small net fractions of banks reported having tightened terms and reduced the size of credit lines on existing credit card accounts.<sup>3</sup> Small net fractions of respondents—though not the

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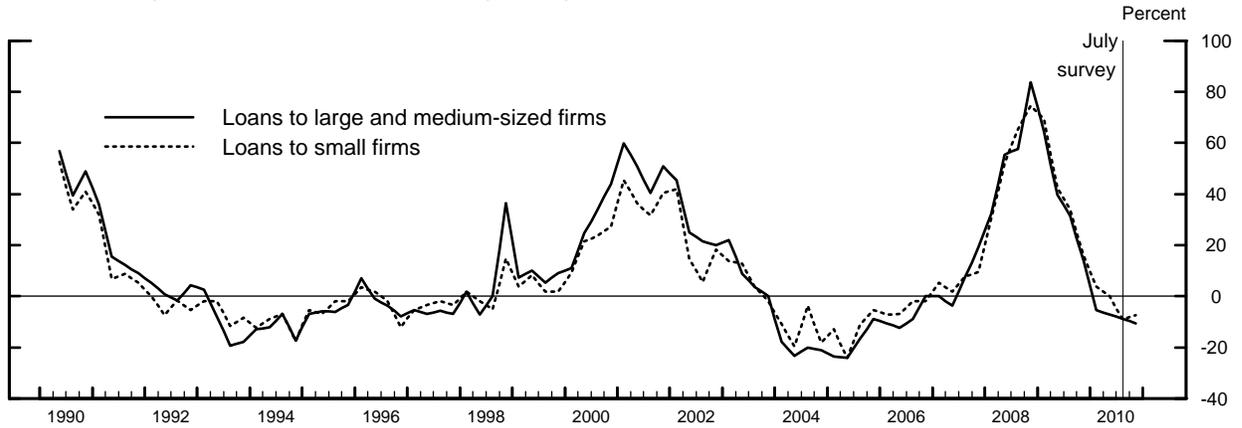
<sup>1</sup> The October 2010 survey addressed changes in the supply of, and demand for, loans to businesses and households over the past three months. The survey also included sets of special questions on factors affecting recent business loan growth and on long-term changes in lending standards. This appendix is based on responses from 56 domestic banks and 22 U.S. branches and agencies of foreign banks. Respondent banks received the survey on or after October 5, 2010, and responses were due by October 19, 2010.

<sup>2</sup> Large banks are defined as banks with assets greater than or equal to \$20 billion as of June 30, 2010, and other banks as those with assets of less than \$20 billion.

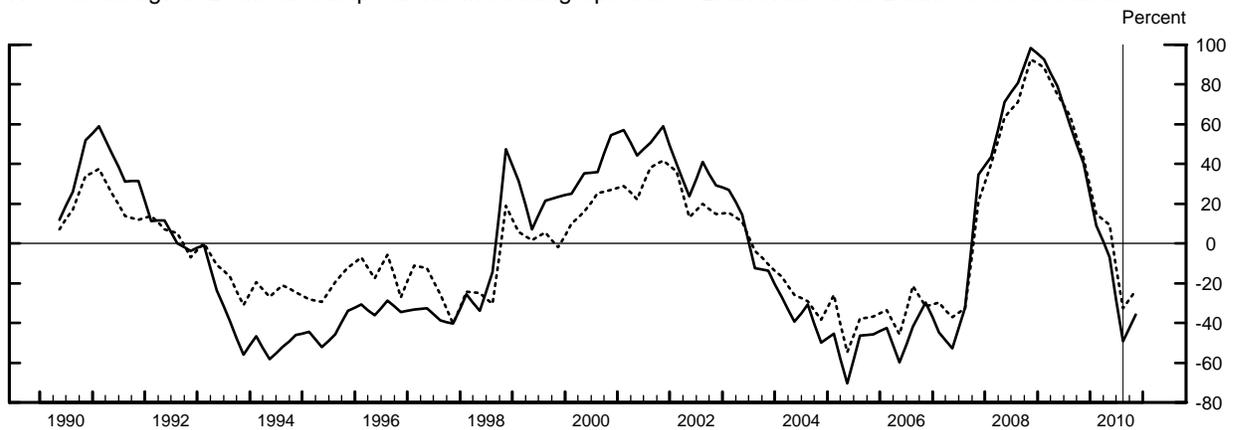
<sup>3</sup> For questions that ask about lending standards or terms, reported net fractions equal the fraction of banks that reported having tightened standards minus the fraction of banks that reported having eased standards. For questions that ask about demand, reported net fractions equal the fraction of banks that reported stronger demand minus the fraction of banks that reported weaker demand.

## Measures of Supply and Demand for Commercial and Industrial Loans, by Size of Firm Seeking Loan

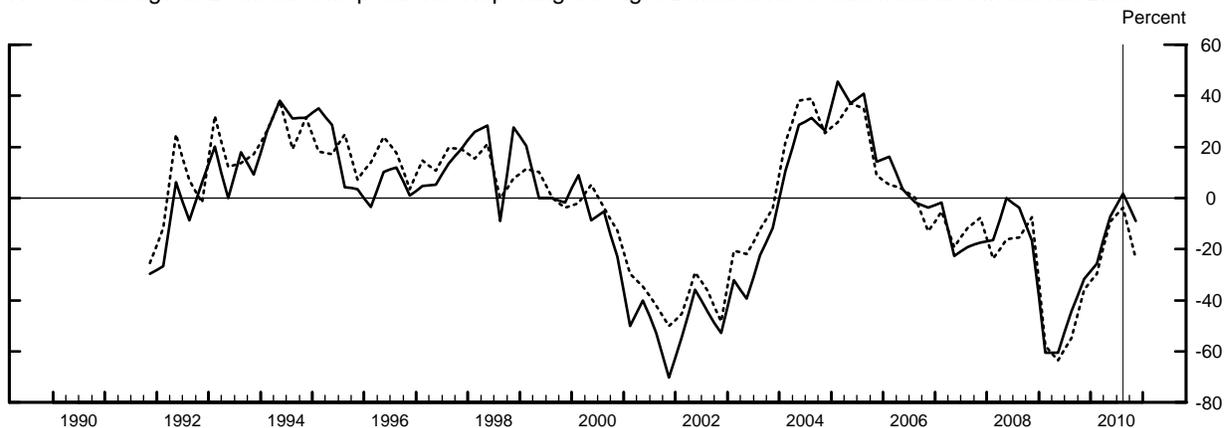
Net Percentage of Domestic Respondents Tightening Standards for Commercial and Industrial Loans



Net Percentage of Domestic Respondents Increasing Spreads of Loan Rates over Banks' Costs of Funds



Net Percentage of Domestic Respondents Reporting Stronger Demand for Commercial and Industrial Loans



largest respondents—also reported having tightened standards on prime and on nontraditional mortgage loans as well as standards for approving home equity lines of credit (HELOCs).

Demand declined, on net, for C&I loans, particularly for small firms; demand for C&I loans had been unchanged in the July survey.<sup>4</sup> Large banks reported increased demand for commercial real estate (CRE) loans, but demand weakened at other banks. In addition, small net fractions of banks reported decreased demand for all types of residential mortgages and consumer loans, though the weakness was primarily at smaller banks. Nonetheless, weighting by the volume of each loan type held by each respondent, demand reportedly edged up, on net, over the previous three months, the first net increase since 2005.

## **LENDING TO BUSINESSES**

### **Questions on Commercial and Industrial Lending**

The October survey showed that a modest net fraction of domestic respondents had eased standards on C&I loans to large and middle-market firms and to small firms over the previous three months—the fourth and second consecutive surveys, respectively, showing such an easing. Only two domestic banks reported having tightened standards on C&I loans. Standards at branches and agencies of foreign banks had been eased slightly on net.

For the second consecutive survey, banks reported having eased terms on C&I loans, with moderate net fractions of domestic banks reporting that they had reduced spreads of loan rates over their bank's cost of funds and had reduced the costs of credit lines. Small to moderate net fractions of large domestic banks and of foreign institutions eased each of the seven survey loan terms for firms of all sizes. Other domestic banks reported a net easing of the spread of loan rates over their own cost of funds and of the costs of credit lines, but small net fractions of those banks reported having increased collateralization requirements and tightened loan covenants. Domestic banks again reported little change in the size of existing credit lines for commercial and industrial firms and business credit card accounts.

Most of the respondents that eased standards or terms on C&I loans cited a more favorable or less uncertain economic outlook and increased competition from other banks and nonbank lenders as important reasons for doing so. Of the relatively small number of banks that tightened standards or terms, most cited a less favorable or more uncertain economic outlook, a reduced tolerance for risk, industry-specific problems, or increased concerns about the effects of legislative changes, supervisory actions, or changes in accounting standards. Some cited a deterioration in their current or expected capital position as an important reason.

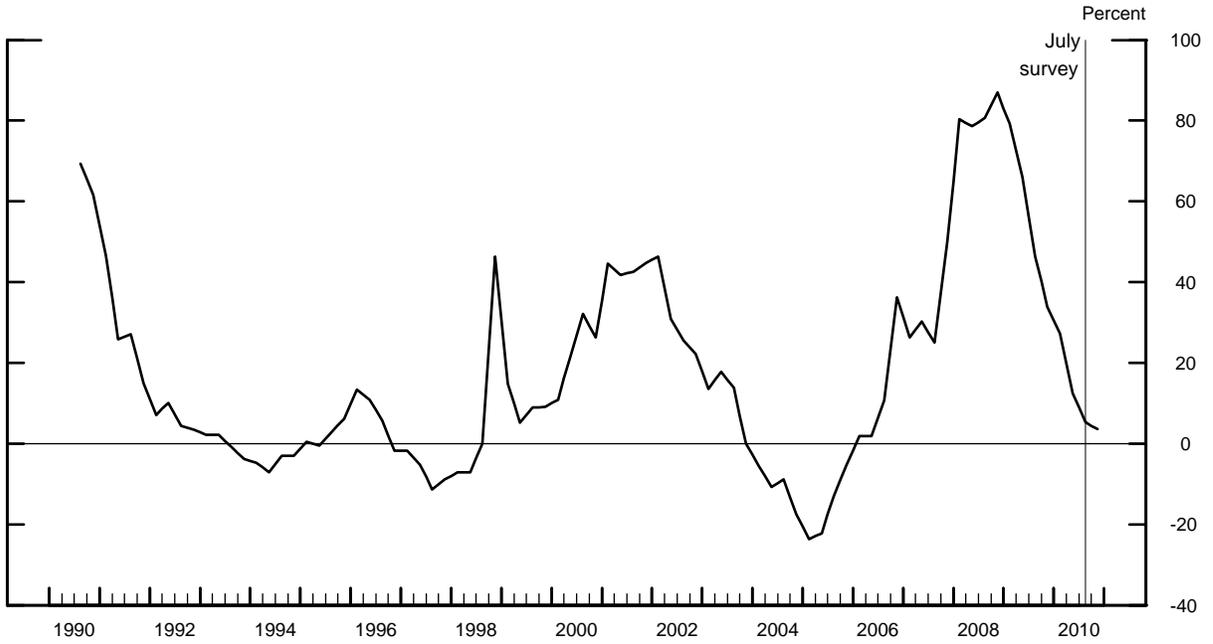
A modest net fraction of domestic banks reported weaker demand for C&I loans from large and middle-market firms over the previous three months, while a somewhat larger net fraction reported weaker demand from small firms. In the July survey, demand had been about

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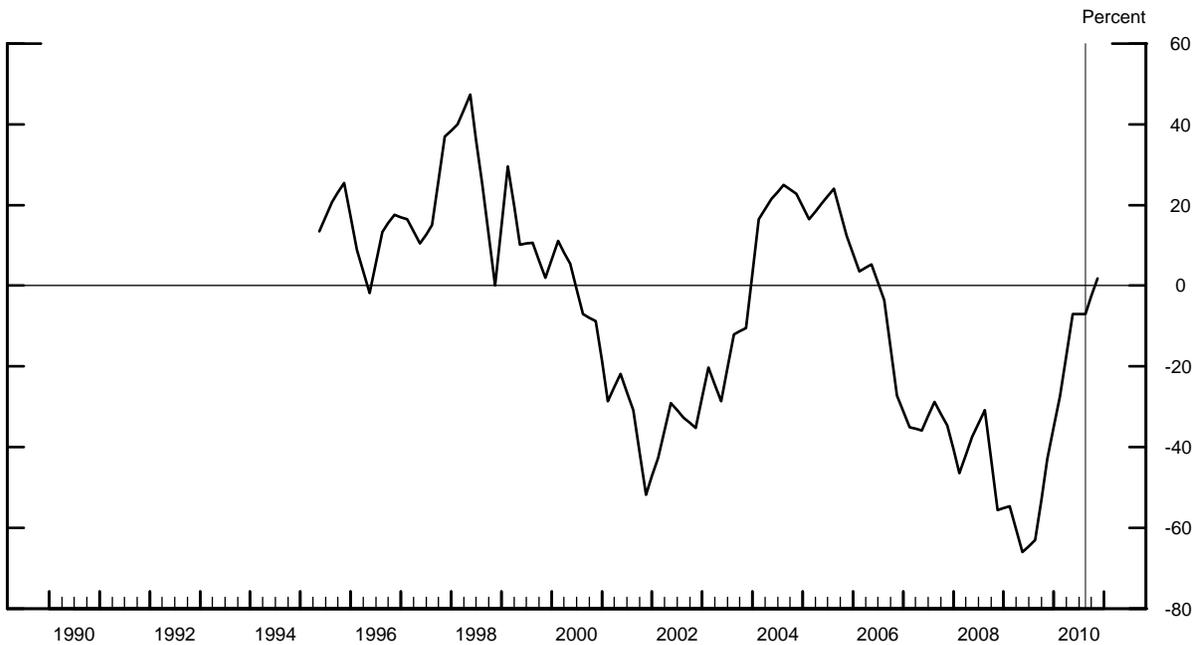
<sup>4</sup> Large and middle-market firms are generally defined as firms with annual sales of \$50 million or more and small firms as those with annual sales of less than \$50 million.

## Measures of Supply and Demand for Commercial Real Estate Loans

Net Percentage of Domestic Respondents Tightening Standards for Commercial Real Estate Loans



Net Percentage of Domestic Respondents Reporting Stronger Demand for Commercial Real Estate Loans



Financial Developments

unchanged. The majority of banks reporting weaker demand cited reduced financing needs by their customers for inventories and for accounts receivable, reduced investment in plant and equipment, and increases in internally generated funds as reasons for the decrease in demand. However, the number of inquiries regarding new or increased lines of credit continued to rise. A moderate net fraction of foreign institutions reported stronger demand for C&I loans.

### **Special Questions on Factors Affecting Recent C&I Loan Growth**

A set of special questions asked respondents about factors affecting recent C&I loan growth. According to the Federal Reserve's weekly statistical release H.8, "Assets and Liabilities of Commercial Banks in the United States," C&I loans fell significantly less rapidly in the third quarter of 2010 than they had in the first two quarters of the year, and large domestic banks were principally responsible for this moderation in the runoff of C&I loans. On the whole, the survey answers help explain this recent pattern. First, a moderate net fraction of respondents indicated that originations of new syndicated or club loans (large loans originated by a group of relationship lenders) have picked up somewhat over the past three months, activity that is concentrated at larger banks. Second, a somewhat smaller net fraction reported increased new originations of other loans to large and middle-market firms, with much of the increase accounted for by large banks. Other factors that were reported to have contributed to the reduction in the runoff of C&I loans included decreases in charge-offs and a modest net increase in maturing term loans that were rolled over or extended rather than paid off.

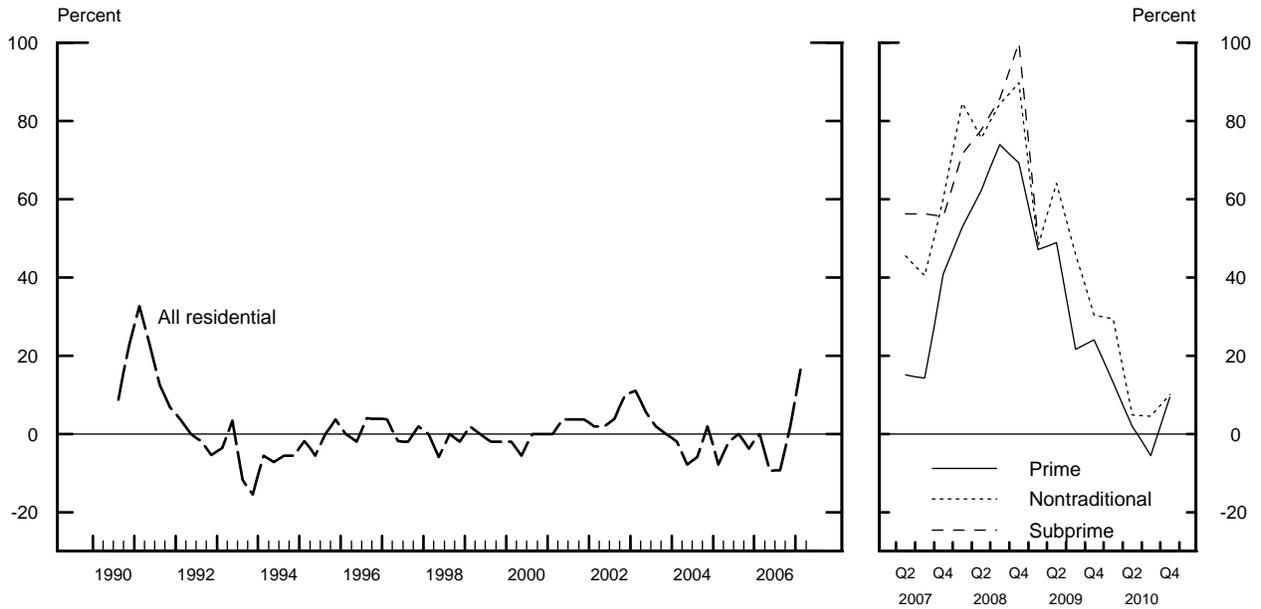
In contrast, a small net fraction of banks reported that loans to small firms had decreased over the past three months. Drawdowns on existing credit lines also reportedly had fallen. That decline was somewhat more pronounced among foreign respondents, which tend to hold a disproportionate amount of revolving facilities in syndicated loan deals from lower-credit-quality borrowers. Despite bond spreads that are near the bottom of their pre-crisis range, and robust net issuance of bonds in the third quarter, on net survey respondents indicated that early paydowns of C&I loans were basically unchanged over the past three months.

### **Questions on Commercial Real Estate Lending**

In the October survey, most respondents reported no change in their bank's standards for approving CRE loans. As in the previous survey, a small net percentage of banks reported that they had tightened standards; two large banks reported having eased standards for CRE loans, while four other banks reported having tightened them. Similarly, on net, domestic banks reported little change in demand for CRE loans, but the banks reporting stronger demand were among the larger respondents in the sample, while those reporting weaker demand tended to be smaller. A modest net fraction of foreign institutions also reported stronger demand for CRE loans. The increase in demand seen at large banks and foreign institutions is consistent with the increase in commercial real estate sales, particularly in larger cities, seen in recent months.

## Measures of Supply and Demand for Residential Mortgage Loans

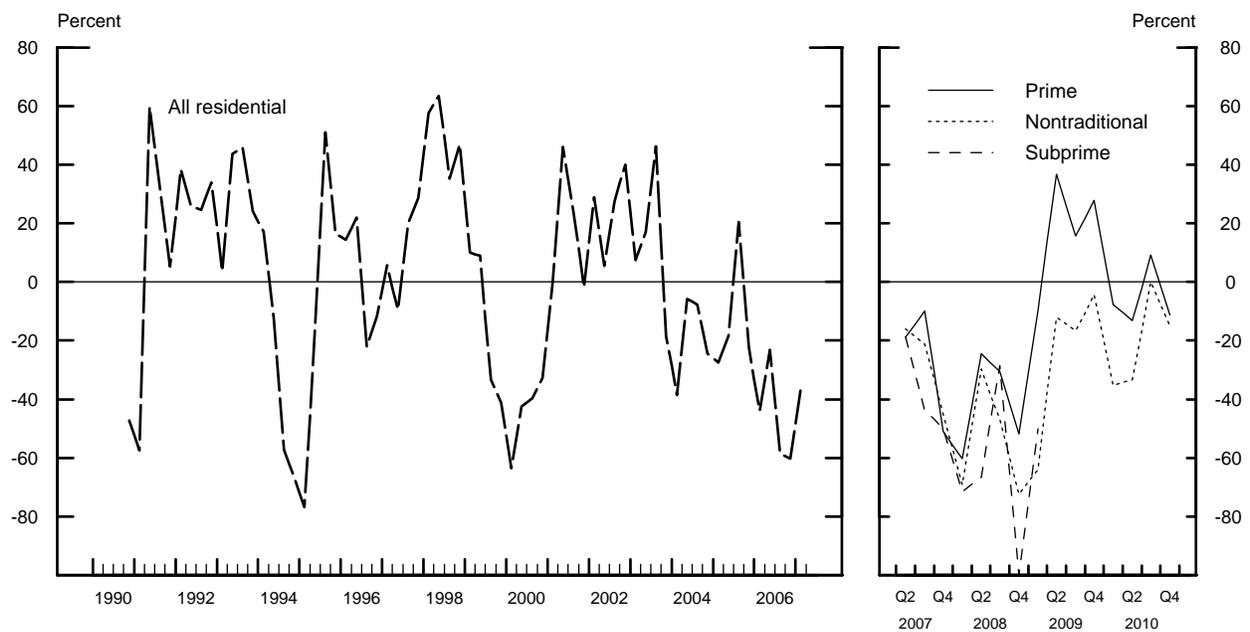
Net Percentage of Domestic Respondents Tightening Standards for Residential Mortgage Loans



Note: For data starting in 2007:Q2, changes in standards for prime, nontraditional, and subprime mortgage loans are reported separately. Series are not reported when the number of respondents is 3 or fewer.

Financial Developments

Net Percentage of Domestic Respondents Reporting Stronger Demand for Residential Mortgage Loans



Note: For data starting in 2007:Q2, changes in demand for prime, nontraditional, and subprime mortgage loans are reported separately. Series are not reported when the number of respondents is 3 or fewer.

## **LENDING TO HOUSEHOLDS**

### **Questions on Residential Real Estate Lending**

On net, a small fraction of domestic banks reported having tightened standards on both prime and nontraditional mortgage loans, marking a reversal from the slight net easing reported in the July survey for prime loans. The tightening of standards on prime mortgage loans was largely accounted for by smaller banks; large banks, on net, left standards about unchanged. Both large and other banks reported a net tightening of standards on nontraditional mortgage loans. Continuing a pattern seen since the start of the financial crisis, fewer than half of the respondents reported having made such loans. Modest net fractions of banks reported weakening demand for both prime and nontraditional mortgage loans to purchase homes.

A modest net fraction of banks reported that standards for approving HELOCs had tightened over the past three months. As with prime residential mortgage loans, that tightening in standards was largely accounted for by smaller banks. A small net fraction of respondents also reported having reduced the size of HELOCs for existing customers. On net, banks reported a slight weakening in demand for HELOCs.

### **Questions on Consumer Lending**

The net fraction of respondents reporting an increased willingness to make consumer installment loans ticked down to about 20 percent in the October survey. Standards for approving applications for consumer loans other than credit card loans were little changed, while terms on such loans were either unchanged or eased slightly.

A moderate net fraction of banks reported having eased credit standards for approving applications for credit cards from individuals or households, with large banks accounting for all of the easing. However, small net fractions of banks reported having tightened spreads of interest rates on credit cards over their cost of funds and reduced the size of credit lines on existing credit card accounts.

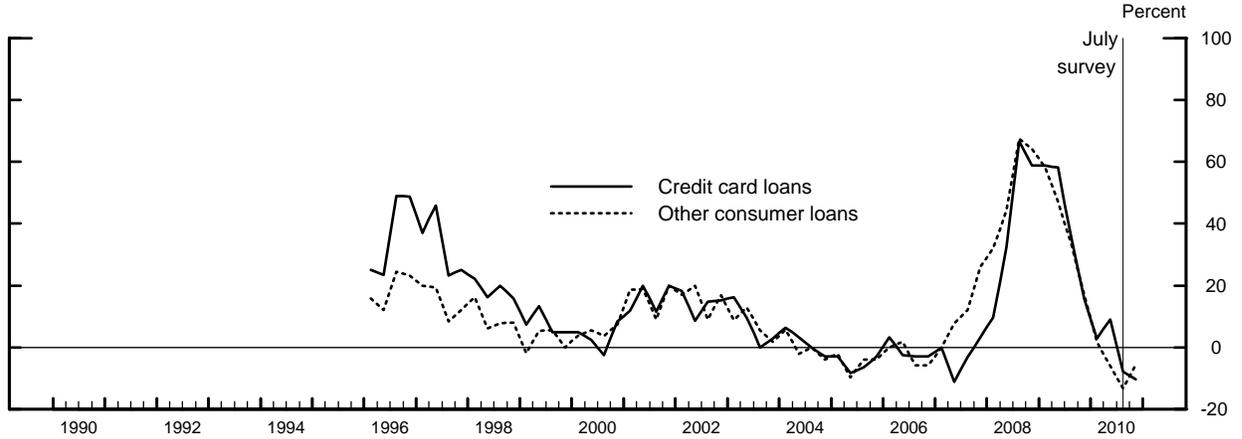
A small net fraction of banks reported a weakening in demand for consumer loans of all types. A modest net percentage of large banks reported an increase in demand for the third consecutive quarter, but a larger net percentage of other banks reported a decrease in such demand.

## **SPECIAL QUESTIONS ON LONG-TERM CHANGES IN STANDARDS**

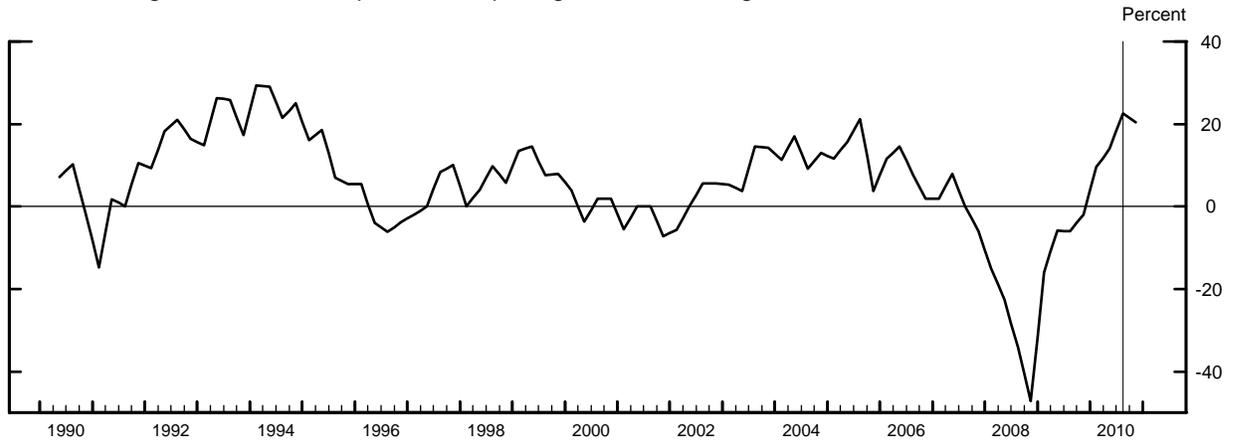
Another special question asked banks whether their current level of lending standards remained tighter than the average level over the past decade and, if so, when they expected that standards would return to their long-run norms, assuming that economic activity progressed according to consensus forecasts. Substantial fractions of respondents for all categories thought that their bank's lending standards would return to their long-run norms after 2012 or would remain tighter than longer-run average levels for the foreseeable future: between 25 and

## Measures of Supply and Demand for Consumer Loans

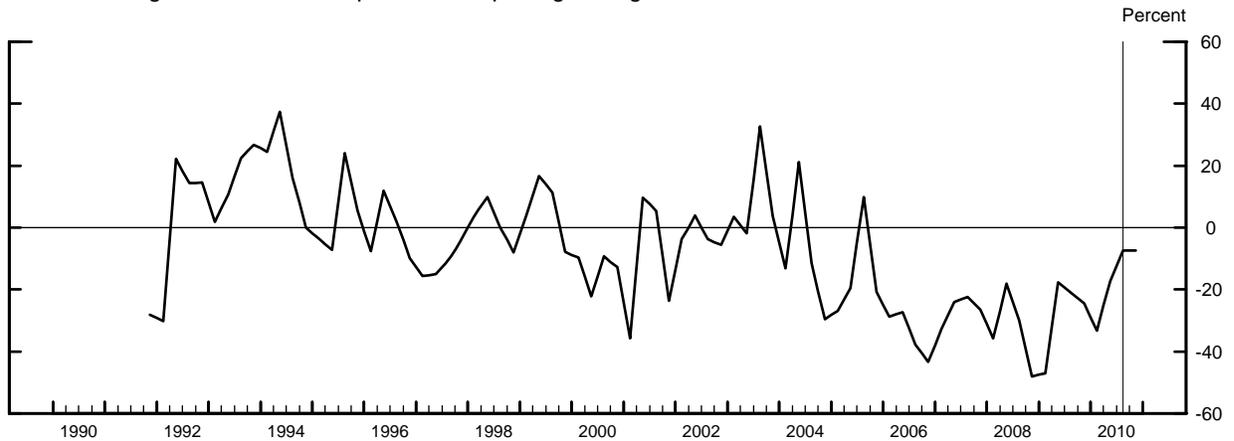
Net Percentage of Domestic Respondents Tightening Standards for Consumer Loans



Net Percentage of Domestic Respondents Reporting Increased Willingness to Make Consumer Installment Loans



Net Percentage of Domestic Respondents Reporting Stronger Demand for Consumer Loans



35 percent for C&I loans to borrowers of various size classes, between 50 and 70 percent for CRE and residential real estate loans, and between 35 and 70 percent for credit card and other consumer loans. In addition, nearly half of the respondents thought that standards on C&I loans would return to their longer-run norms by the end of 2012, and about 40 percent of respondents thought that the same would be true for residential mortgages and credit card loans to prime household borrowers. Somewhat surprisingly, moderate fractions of respondents indicated that their bank's current level of lending standards was not tighter than its average level over the past decade.<sup>5</sup>

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<sup>5</sup> More than three-fourths of the 20 banks that reported their lending standards were currently at their longer-run norms for C&I loans had reported tightening standards four or fewer times since January 2007, but only a few had reported easing standards in 2010. Four of the banks that reported their lending standards were currently at their longer-run norms had reported tightening standards seven or more times since January 2007. Most of these banks had eased standards four or more times between 2003 and 2006, suggesting that their tightenings during the crisis were in part reversing easings during the prior period.

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## Risks and Uncertainty

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### ASSESSMENT OF FORECAST UNCERTAINTY

We continue to see the risks around our projection for economic activity as elevated relative to the average experience of the past 20 years (the benchmark used by the Committee). The depth and duration of the recession were historically large and the downturn was initiated by a severe financial crisis. These factors compound the difficulty of identifying the roles of supply and demand in generating the contraction, and hence the difficulty of gauging the strength of the recovery. In addition, considerable uncertainty attends any assessment of the effects of nontraditional policy actions by the Committee. As discussed elsewhere in the Tealbook, a new risk to the outlook has emerged recently from problems with mortgage documentation. Although our current judgment—as reflected in the baseline—is that these problems are most likely to have limited economic effects, we place some odds on an outcome in which these developments become a significant drag on the housing market, credit availability, and the broader economy. Events in this area are unfolding rapidly, and we will be analyzing the potential range of outcomes more fully in coming weeks. All told, we continue to judge the risks to our projection of real activity as skewed to the downside.

We also continue to see the risks around our inflation projection as elevated relative to the experience of the past 20 years. The underlying pace of inflation has moved down to a very low level. The shocks generating the pronounced contraction in labor and product markets were exceptionally large and unusual in character. The federal funds rate is effectively at the zero lower bound, and the Federal Reserve's balance sheet has expanded dramatically. Future prospects for the dollar and hence import prices remain uncertain. Finally, fiscal policy is judged by many observers to be on an unsustainable path. Weighing these risks to both the upside and downside, we continue to see the risks around our inflation projection as roughly balanced.

### ALTERNATIVE SCENARIOS

To illustrate some of these risks, we consider a number of alternatives to the baseline projection using simulations of staff models. In the first scenario, we consider the possibility that the economy is on track for a stronger recovery than in the baseline. The second scenario considers the contrasting risk of an even more sluggish recovery in

**Alternative Scenarios**

(Percent change, annual rate, from end of preceding period except as noted)

Measure and scenario	2010	2011	2012	2013	2014-15
	H2				
<i>Real GDP</i>					
Extended Tealbook baseline	2.0	3.6	4.7	4.7	4.0
Stronger recovery	2.9	5.1	5.8	4.8	3.4
Weaker recovery	1.8	1.9	2.9	3.9	4.6
Lower potential	1.9	2.9	3.3	3.2	3.2
Greater disinflation	2.0	3.6	4.5	4.9	4.6
Higher inflation	1.9	3.0	4.4	4.5	4.1
Dollar depreciation	2.1	4.2	4.9	4.4	3.7
Asian currency appreciation	2.0	4.0	4.9	4.5	3.8
<i>Unemployment rate<sup>1</sup></i>					
Extended Tealbook baseline	9.7	9.0	7.9	7.1	5.2
Stronger recovery	9.6	8.4	6.9	6.1	4.8
Weaker recovery	9.7	9.6	9.1	8.6	6.0
Lower potential	9.7	9.4	8.8	8.7	7.3
Greater disinflation	9.7	9.0	8.0	7.1	4.8
Higher inflation	9.7	9.2	8.2	7.5	5.4
Dollar depreciation	9.7	8.8	7.5	6.7	5.0
Asian currency appreciation	9.7	8.9	7.6	6.9	5.1
<i>Core PCE inflation</i>					
Extended Tealbook baseline	1.0	1.0	1.0	1.2	1.4
Stronger recovery	1.0	1.1	1.1	1.3	1.6
Weaker recovery	1.0	1.0	.8	.9	1.1
Lower potential	1.1	1.4	1.5	1.7	1.9
Greater disinflation	1.0	.6	.3	.2	.0
Higher inflation	1.0	1.4	1.7	2.0	2.1
Dollar depreciation	1.1	1.4	1.2	1.2	1.4
Asian currency appreciation	1.0	1.3	1.1	1.2	1.4
<i>Federal funds rate<sup>1</sup></i>					
Extended Tealbook baseline	.1	.1	.5	1.7	3.7
Stronger recovery	.1	.2	1.7	3.0	4.4
Weaker recovery	.1	.1	.1	.1	2.3
Lower potential	.1	.7	2.2	2.8	4.1
Greater disinflation	.1	.1	.1	.2	2.1
Higher inflation	.1	.1	1.1	2.4	4.4
Dollar depreciation	.1	.1	.8	2.1	3.9
Asian currency appreciation	.1	.1	.7	2.0	3.8

1. Percent, average for the final quarter of the period.

aggregate demand than we are projecting. The third scenario considers another possible source of greater weakness in the real economy: less-favorable supply-side conditions that imply lower permanent income. We then turn to opposing risks to the inflation outlook—that we will experience the more-pronounced disinflation predicted by some of the staff’s reduced-form models or, alternatively, that rising commodity prices presage an increase in inflation. The final two scenarios consider risks to our exchange rate assumptions.

In the alternative scenarios, monetary policy responds to movements in real activity and inflation as prescribed by a simple policy rule for the federal funds rate, while nontraditional policy is assumed to follow the baseline path. We generate the first five scenarios using the FRB/US model and the policy rule detailed earlier.<sup>1</sup> The last two scenarios are generated using the multicountry SIGMA model, which uses a somewhat different policy rule for the federal funds rate that employs an alternative concept of resource utilization.<sup>2</sup>

### **Stronger Recovery**

The baseline projection shows the recovery picking up speed gradually in coming quarters, as the restraint from unusual caution and still-restrictive credit availability slowly abates. But the factors weighing on the economy may unwind more rapidly than we have assumed. This scenario examines a sharper snapback in outlays on consumer durable goods, housing, and in business capital, reflecting a mutually reinforcing dynamic of improved optimism, higher spending, greater hiring, and increasing credit availability. The stronger activity in turn buoys financial markets and pushes equity prices 14 percent above baseline by the end of next year; financial conditions improve further into 2012. This virtuous circle causes real GDP to expand 5½ percent on average in 2011 and 2012, bringing the unemployment rate down to 7 percent by late 2012. With less slack, inflation is higher; however, the upward pressure is partially checked by more capital deepening and thus larger productivity gains and lower unit labor costs. Under these conditions, the federal funds rate begins to rise at the end of 2011 and remains above baseline thereafter.

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<sup>1</sup> See The Long-Term Outlook discussion in the “Domestic Economic Developments and Outlook” section.

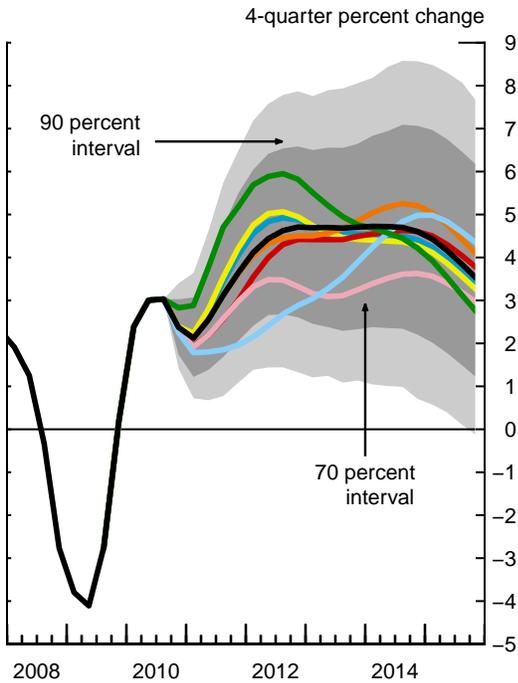
<sup>2</sup> For the policy rule in SIGMA, the measure of slack is the difference between actual output and the model’s estimate of the level of output that would occur in the absence of a slow adjustment in wages and prices.

## Forecast Confidence Intervals and Alternative Scenarios

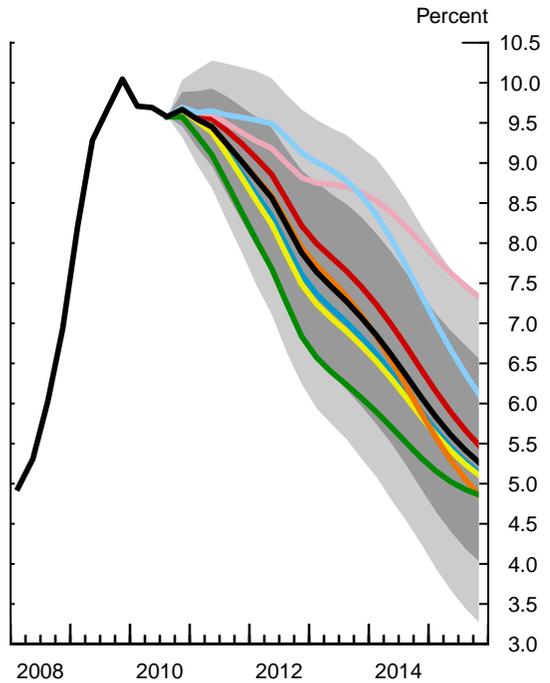
Confidence Intervals Based on FRB/US Stochastic Simulations

- Extended Tealbook baseline
- Stronger recovery
- Weaker recovery
- Lower potential
- Greater disinflation
- Higher inflation
- Dollar depreciation
- Asian currency appreciation

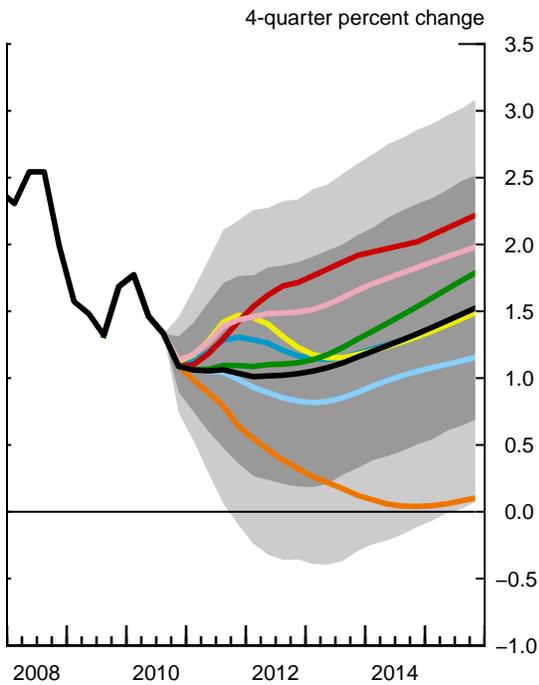
Real GDP



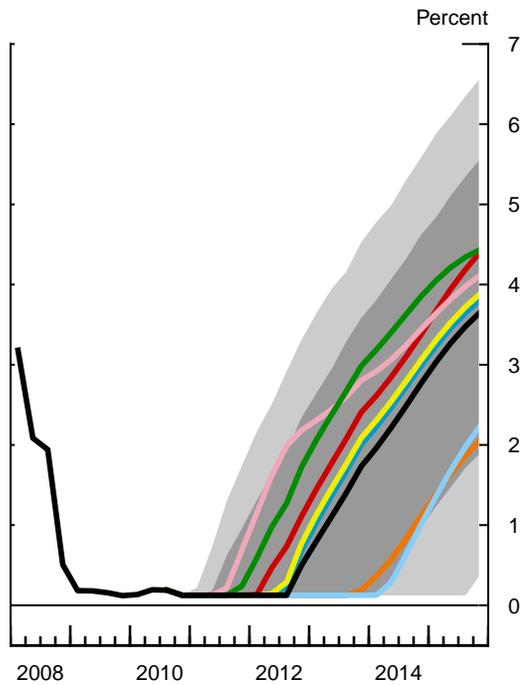
Unemployment Rate



PCE Prices excluding Food and Energy



Federal Funds Rate



**Selected Tealbook Projections and 70 Percent Confidence Intervals Derived  
from Historical Tealbook Forecast Errors and FRB/US Simulations**

Measure	2010	2011	2012	2013	2014	2015
<i>Real GDP</i>						
<i>(percent change, Q4 to Q4)</i>						
Projection	2.4	3.6	4.7	4.7	4.6	3.5
Confidence interval						
Tealbook forecast errors	1.9–2.9	1.9–5.4	2.9–6.5	...	...	...
FRB/US stochastic simulations	1.7–3.0	2.1–5.5	2.6–6.6	2.3–6.6	2.2–7.1	1.2–6.1
<i>Civilian unemployment rate</i>						
<i>(percent, Q4)</i>						
Projection	9.7	9.0	7.9	7.1	6.1	5.2
Confidence interval						
Tealbook forecast errors	9.6–9.8	8.3–9.7	6.8–9.0	...	...	...
FRB/US stochastic simulations	9.5–9.9	8.3–9.7	6.9–8.9	6.0–8.3	4.9–7.4	4.0–6.5
<i>PCE prices, total</i>						
<i>(percent change, Q4 to Q4)</i>						
Projection	1.3	1.1	1.1	1.2	1.4	1.6
Confidence interval						
Tealbook forecast errors	1.0–1.5	-.1–2.4	-.2–2.3	...	...	...
FRB/US stochastic simulations	.9–1.6	.2–2.2	.0–2.2	.1–2.4	.3–2.6	.5–2.8
<i>PCE prices excluding food and energy</i>						
<i>(percent change, Q4 to Q4)</i>						
Projection	1.1	1.0	1.0	1.2	1.3	1.5
Confidence interval						
Tealbook forecast errors	.9–1.3	.4–1.7	.2–1.9	...	...	...
FRB/US stochastic simulations	.9–1.3	.4–1.8	.2–1.9	.3–2.1	.5–2.3	.7–2.5
<i>Federal funds rate</i>						
<i>(percent, Q4)</i>						
Projection	.1	.1	.5	1.7	2.8	3.7
Confidence interval						
FRB/US stochastic simulations	.1–.1	.1–1.0	.1–2.3	.1–3.6	1.0–4.6	1.9–5.6

Note: Shocks underlying FRB/US stochastic simulations are randomly drawn from the 1969–2009 set of model equation residuals.

Intervals derived from Tealbook forecast errors are based on projections made from 1979–2009, except for PCE prices excluding food and energy, where the sample is 1981–2009.

... Not applicable. The Tealbook forecast horizon has typically extended about 2 years.

## Weaker Recovery

The recent data suggest that the recovery remains lackluster, likely reflecting ongoing financial headwinds and lingering uncertainty that have undermined consumer and business confidence. In current circumstances, aggregate demand may also be less sensitive to low interest rates than we have assumed. In this scenario, the modest expected improvements in confidence, credit conditions, and the labor market underlying our baseline projection are delayed even further, and interest-sensitive sectors are slow to recover. Accordingly, households deleverage more aggressively, pushing the saving rate to 7½ percent by the end of 2012, and firms are more reluctant to boost capital spending. In addition, the sluggish pace of recovery leads to a reassessment of the outlook for earnings and the riskiness of equity holdings, causing share prices to fall about 7 percent relative to baseline by late next year. In this environment, real GDP grows only 2 percent next year. In turn, labor market conditions stagnate, and the unemployment rate remains near 9½ percent until mid-2012. Inflation falls in response to more-persistent slack and remains below baseline through 2015. Under these conditions, liftoff of the federal funds rate from its effective lower bound is delayed until 2014.

## Lower Potential

The pace of the recovery could also remain disappointing if we have overestimated the economy's productive potential. Indeed, some outside forecasters have noticeably lower estimates of potential output, and thus less slack. If supply-side conditions turn out to be less favorable than we have assumed, the outlook for long-run levels of real household income and corporate earnings will be more downbeat. In this scenario, we assume that the output gap is currently only half as large as the baseline estimate of 6¾ percent, reflecting both a permanently higher NAIRU and a lower level of structural productivity. The lower long-run levels of household income and corporate earnings implied by this assumption, and their effects on consumption and investment, cause real GDP to expand 1 percentage point less per year, on average, than in the baseline through 2015; the unemployment rate also declines more slowly. In addition, inflation picks up sooner, with core PCE prices rising about ½ percentage point faster than in the baseline from 2011 through 2015, reflecting both the direct effects of lower productivity on firms' costs and a smaller margin of slack. Over time, policymakers take on board the evidence of less-favorable supply-side conditions, and monetary policy begins tightening late next year.

## Greater Disinflation

In the baseline, inflation remains relatively stable over the next two years and then begins to rise as unemployment declines in an environment of well-anchored inflation expectations. But the recent stability of various measures of expected inflation may be misleading us about the potential for further disinflation in a persistently weak economy. In this scenario, actual inflation falls to zero by 2014—a decline that is in line with the predictions of some of our forecasting equations that do not condition on survey measures of expected inflation. In response, the federal funds rate lifts off about a year later than in the baseline. This more-accommodative monetary policy eventually stimulates aggregate spending, and real GDP expands faster than in the baseline after 2012.

## Higher Inflation

In the baseline projection, recent large increases in commodity prices have small effects on underlying inflation, reflecting their small share of overall production costs and our expectation that commodity prices will not continue to rise at recent rates. In this scenario, continued global demand pressures on commodities instead cause the prices of food and energy to climb rapidly over the next year. These increases in turn put upward pressure on core prices and wages that are more pronounced than the model would ordinarily predict. As a consequence, core inflation picks up to 1½ percent in 2011 and 1¾ percent in 2012. In response to higher inflation, the federal funds rate lifts off in early 2012. The tighter monetary policy and a reduction in real wages temper aggregate demand, so real GDP expands somewhat more slowly than in the baseline.

## Dollar Depreciation

A broad range of developments could spur a more sizable dollar decline than projected in our baseline forecast, including faster-than-expected foreign growth, increased demand for foreign assets, and greater overall risk tolerance as global economic conditions improve. Moreover, a new round of asset purchases by the Federal Reserve may weigh more on the dollar than we assume in the baseline, possibly by reinforcing the perception that monetary policy in the United States is likely to remain accommodative for considerably longer than monetary policy abroad. In this scenario, the broad real dollar depreciates 10 percent relative to baseline by the end of 2011 in response to a risk premium adjustment that increases the relative attractiveness of foreign assets. This shock prompts U.S. real GDP to rise somewhat faster than in the baseline in 2011 and 2012, as U.S. exports become more price-competitive and as U.S. consumers substitute

toward domestically produced goods. As a result, the nominal trade balance improves by 1¼ percent of GDP by the end of 2011 relative to baseline. Core PCE inflation rises to 1½ percent in 2011 in response to higher import prices and greater resource utilization. The federal funds rate is modestly above baseline starting in mid-2012.

### **Asian Currency Appreciation**

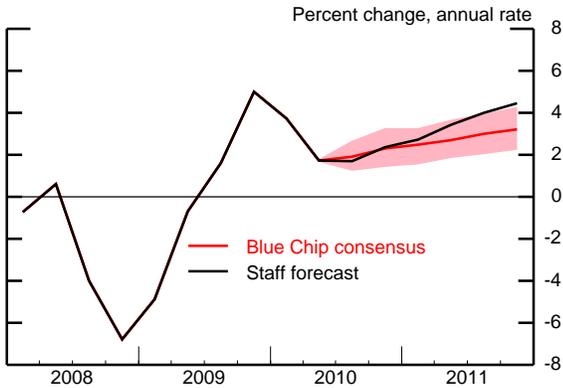
Our baseline envisions a gradual appreciation of the Chinese renminbi and other Asian emerging market currencies against the dollar. However, against the backdrop of continued rapid growth, the Chinese authorities may allow significantly faster appreciation to damp inflationary pressure and lessen the risk of overheating. Moreover, the authorities may view faster appreciation as a desirable way of reducing the mounting criticism of China's currency policy in international circles. In this scenario, we assume that the dollar depreciates about 20 percent against the renminbi relative to baseline by the end of 2011 and about 10 percent against other emerging Asian currencies. These declines lower the broad real dollar about 5 percent relative to baseline, boost U.S. real net exports, and cause U.S. real GDP growth to rise slightly faster than baseline in 2011 and 2012. Core PCE prices rise about ¼ percentage point faster than baseline in 2011, and the nominal trade balance improves by about ¾ percent of GDP. However, the stimulus to U.S. GDP might be partly offset by rising term premiums on U.S. financial assets if more-rapid dollar depreciation prompted Asian countries to reduce their preferences for U.S. Treasury securities and other U.S. instruments.

### **OUTSIDE FORECASTS**

The Blue Chip consensus forecast released in early October shows real GDP increasing at an annual rate of about 2 percent in the second half of 2010 and an average of 2.9 percent over the four quarters of 2011, little changed from the September survey. The consensus for real GDP growth is similar to the staff's outlook for the second half of this year but weaker next year. Despite the weaker forecast for real GDP growth, the Blue Chip forecast for the unemployment rate at the end of 2011 is very close to the staff's projection. Regarding inflation, the Blue Chip anticipates the CPI increasing 1.7 percent over the four quarters of 2011, the same as its projection from a month earlier and higher than the staff forecast of 1.2 percent. The Blue Chip forecast for short-term interest rates has continued to move down, further narrowing the difference with the staff projection. The Blue Chip path for long-term interest rates also has been marked down, and is now very similar to the staff projection.

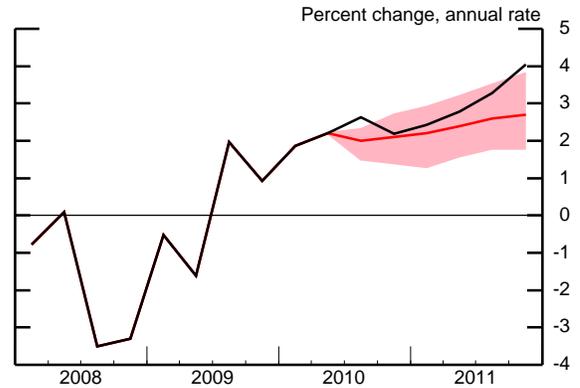
### Tealbook Forecast Compared with Blue Chip (Blue Chip survey released October 10, 2010)

Real GDP

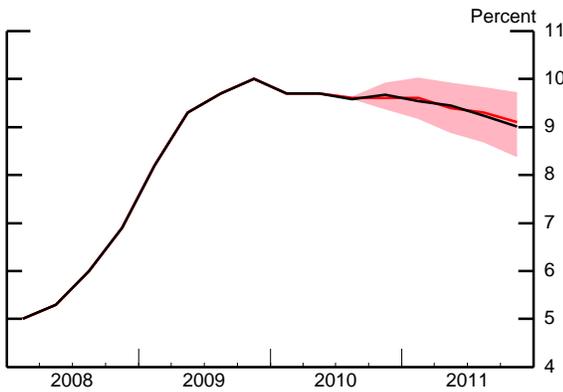


Note: The shaded area represents the area between the Blue Chip top 10 and bottom 10 averages.

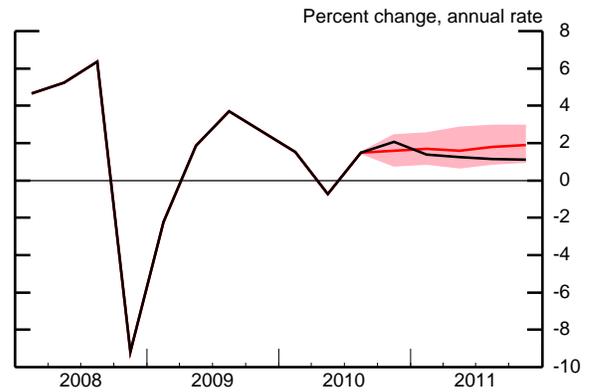
Real PCE



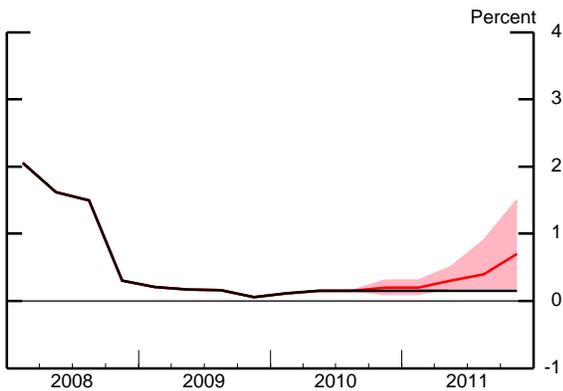
Unemployment Rate



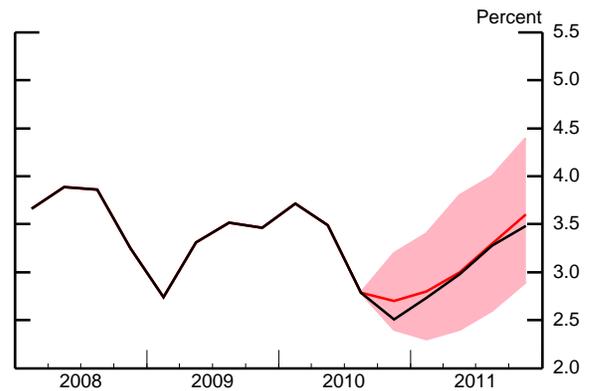
Consumer Price Index



Treasury Bill Rate



10-Year Treasury Yield



Note: The yield is for on-the-run Treasury securities. Over the forecast period, the staff's projected yield is assumed to be 15 basis points below the off-the-run yield.

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**Changes in GDP, Prices, and Unemployment**  
(Percent, annual rate except as noted)

Interval	Nominal GDP		Real GDP		PCE price index		Core PCE price index		Unemployment rate <sup>1</sup>	
	09/15/10	10/27/10	09/15/10	10/27/10	09/15/10	10/27/10	09/15/10	10/27/10	09/15/10	10/27/10
<i>Quarterly</i>										
2010:Q1	4.8	4.8	3.7	3.7	2.1	2.1	1.2	1.2	9.7	9.7
Q2	3.7	3.7	1.7	1.7	.0	.0	1.1	1.0	9.7	9.7
Q3	3.6	3.8	1.7	1.7	1.2	1.2	1.1	1.0	9.6	9.6
Q4	2.7	2.8	2.4	2.4	1.4	1.9	1.1	1.1	9.7	9.7
2011:Q1	3.8	4.0	2.5	2.7	1.3	1.3	1.0	1.1	9.6	9.5
Q2	4.1	4.5	3.1	3.4	1.1	1.1	.9	1.0	9.5	9.5
Q3	4.6	5.0	3.6	4.0	1.0	1.1	.9	1.0	9.3	9.2
Q4	5.1	5.5	4.1	4.4	.9	1.0	.9	1.0	9.1	9.0
2012:Q1	5.6	6.0	4.3	4.6	1.0	1.1	.9	1.0	8.9	8.8
Q2	5.6	6.0	4.4	4.7	1.0	1.1	.9	1.0	8.7	8.6
Q3	5.6	6.0	4.4	4.8	1.0	1.1	.9	1.0	8.3	8.2
Q4	5.6	6.0	4.5	4.8	1.0	1.1	.9	1.0	8.0	7.9
<i>Two-quarter<sup>2</sup></i>										
2010:Q2	4.2	4.3	2.7	2.7	1.0	1.0	1.1	1.1	-3	-3
Q4	3.2	3.3	2.0	2.0	1.3	1.5	1.1	1.0	.0	.0
2011:Q2	4.0	4.2	2.8	3.1	1.2	1.2	.9	1.1	-2	-2
Q4	4.8	5.2	3.9	4.2	1.0	1.1	.9	1.0	-4	-5
2012:Q2	5.6	6.0	4.4	4.6	1.0	1.1	.9	1.0	-4	-4
Q4	5.6	6.0	4.5	4.8	1.0	1.1	.9	1.0	-7	-7
<i>Four-quarter<sup>3</sup></i>										
2009:Q4	.6	.6	.2	.2	1.5	1.5	1.7	1.7	3.1	3.1
2010:Q4	3.7	3.8	2.4	2.4	1.2	1.3	1.1	1.1	-3	-3
2011:Q4	4.4	4.7	3.3	3.6	1.1	1.1	.9	1.0	-6	-7
2012:Q4	5.6	6.0	4.4	4.7	1.0	1.1	.9	1.0	-1.1	-1.1
<i>Annual</i>										
2009	-1.7	-1.7	-2.6	-2.6	.2	.2	1.5	1.5	9.3	9.3
2010	3.7	3.7	2.7	2.7	1.7	1.8	1.4	1.4	9.7	9.7
2011	3.8	4.0	2.7	2.9	1.1	1.2	1.0	1.1	9.4	9.3
2012	5.3	5.7	4.2	4.5	1.0	1.1	.9	1.0	8.5	8.4

1. Level, except for two-quarter and four-quarter intervals.

2. Percent change from two quarters earlier; for unemployment rate, change is in percentage points.

3. Percent change from four quarters earlier; for unemployment rate, change is in percentage points.

**Changes in Real Gross Domestic Product and Related Items**

(Percent, annual rate except as noted)

Item	2010				2011				2012				2010 <sup>1</sup>	2011 <sup>1</sup>	2012 <sup>1</sup>
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
	Real GDP	3.7	1.7	1.7	2.4	2.7	3.4	4.0	4.4	4.6	4.7	4.8			
<i>Previous Tealbook</i>	3.7	1.7	1.7	2.4	2.5	3.1	3.6	4.1	4.3	4.4	4.4	4.5	2.4	3.3	4.4
Final sales	1.1	.9	.3	3.7	3.2	3.7	3.8	4.4	4.5	4.6	4.3	4.9	1.5	3.8	4.6
<i>Previous Tealbook</i>	1.1	.9	.8	3.3	2.6	3.3	3.6	4.1	4.2	4.2	4.2	4.7	1.5	3.4	4.3
Priv. dom. final purch.	2.1	4.4	1.9	2.1	3.0	3.9	4.2	5.0	5.0	5.3	5.3	5.6	2.6	4.0	5.3
<i>Previous Tealbook</i>	2.1	4.3	.9	2.1	2.8	3.8	4.3	4.7	4.9	5.0	5.3	5.2	2.4	3.9	5.1
Personal cons. expend.	1.9	2.2	2.6	2.2	2.4	2.8	3.3	4.0	4.1	4.3	4.5	4.8	2.2	3.1	4.4
<i>Previous Tealbook</i>	1.9	2.0	2.2	2.0	2.1	2.8	3.3	3.7	3.9	4.1	4.3	4.4	2.0	3.0	4.2
Durables	8.8	6.8	8.0	9.5	6.8	7.7	8.9	9.5	11.6	12.3	11.9	10.9	8.3	8.2	11.7
Nondurables	4.2	1.9	2.5	3.6	2.7	2.7	2.9	3.1	3.2	3.4	3.8	4.1	3.1	2.9	3.6
Services	.1	1.6	1.9	.6	1.6	2.0	2.5	3.5	3.2	3.3	3.5	4.0	1.0	2.4	3.5
Residential investment	-12.3	25.7	-29.9	-4.7	13.5	27.2	22.3	23.3	18.4	17.5	16.0	16.1	-7.3	21.5	17.0
<i>Previous Tealbook</i>	-12.3	26.3	-27.2	3.5	11.0	21.8	21.8	22.7	18.8	18.0	17.0	16.3	-4.4	19.2	17.5
Business fixed invest.	7.8	17.2	5.5	3.4	5.3	6.8	7.0	7.4	8.3	9.3	8.6	8.6	8.4	6.6	8.7
<i>Previous Tealbook</i>	7.8	17.6	-7	2.8	5.9	7.2	7.5	7.8	7.9	7.9	8.9	7.5	6.7	7.1	8.1
Equipment & software	20.4	24.8	9.7	5.6	8.3	10.4	10.6	11.1	11.6	12.6	11.3	10.9	14.9	10.1	11.6
<i>Previous Tealbook</i>	20.4	26.4	-3	4.6	8.8	10.6	11.0	11.5	11.4	11.0	12.0	9.8	12.2	10.5	11.0
Nonres. structures	-17.8	-5	-5.1	-2.4	-2.8	-2.9	-3.1	-3.1	-1.1	-6	.4	1.2	-6.7	-3.0	.0
<i>Previous Tealbook</i>	-17.8	-2.7	-1.5	-1.8	-1.9	-1.8	-2.1	-2.2	-1.8	-1.3	-3	.6	-6.2	-2.0	-7
Net exports <sup>2</sup>	-338	-449	-499	-445	-425	-412	-405	-401	-393	-391	-400	-398	-433	-411	-395
<i>Previous Tealbook<sup>2</sup></i>	-338	-446	-449	-411	-403	-399	-401	-402	-400	-403	-414	-406	-411	-401	-406
Exports	11.4	9.1	5.7	9.4	8.7	8.8	8.4	8.4	8.5	8.3	8.2	8.1	8.9	8.6	8.3
Imports	11.2	33.5	14.7	-3.0	3.0	4.5	5.5	6.0	5.5	6.6	8.4	6.3	13.4	4.7	6.7
Gov't. cons. & invest.	-1.6	3.9	1.3	1.1	.4	.5	.8	.9	.8	.8	.8	1.0	1.2	.6	.9
<i>Previous Tealbook</i>	-1.6	3.9	.8	1.7	.4	.6	.8	.9	.8	.8	.8	1.0	1.2	.7	.9
Federal	1.8	9.1	4.3	3.7	1.0	.9	1.2	1.1	.4	.3	-1	.2	4.7	1.0	.2
Defense	.4	7.4	6.5	5.5	.0	-1	.3	.1	.3	.2	-5	.0	4.9	.1	.0
Nondefense	5.0	12.8	-3	-2	3.0	3.1	3.1	3.1	.6	.6	.6	.6	4.2	3.1	.6
State & local	-3.8	.6	-6	-7	.1	.2	.5	.8	1.1	1.2	1.5	1.6	-1.1	.4	1.3
Change in bus. inventories <sup>2</sup>	44	69	114	75	60	52	58	59	62	68	84	81	76	57	74
<i>Previous Tealbook<sup>2</sup></i>	44	70	99	71	69	62	64	66	70	78	87	80	71	65	79
Nonfarm <sup>2</sup>	37	61	110	71	56	48	54	56	59	64	81	78	70	54	70
Farm <sup>2</sup>	8	8	4	4	4	4	4	4	4	4	4	4	6	4	4

1. Change from fourth quarter of previous year to fourth quarter of year indicated.

2. Billions of chained (2005) dollars.

**Changes in Real Gross Domestic Product and Related Items**  
(Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise noted)

Item	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	3.1	2.7	2.4	2.3	-2.8	.2	2.4	3.6	4.7
<i>Previous Tealbook</i>	3.1	2.7	2.4	2.3	-2.8	.2	2.4	3.3	4.4
Final sales	2.8	2.7	2.8	2.5	-1.9	-3	1.5	3.8	4.6
<i>Previous Tealbook</i>	2.8	2.7	2.8	2.5	-1.9	-3	1.5	3.4	4.3
Priv. dom. final purch.	4.2	3.1	2.5	1.3	-3.8	-2.0	2.6	4.0	5.3
<i>Previous Tealbook</i>	4.2	3.1	2.5	1.3	-3.8	-2.0	2.4	3.9	5.1
Personal cons. expend.	3.5	2.7	3.3	1.7	-1.9	.2	2.2	3.1	4.4
<i>Previous Tealbook</i>	3.5	2.7	3.3	1.7	-1.9	.2	2.0	3.0	4.2
Durables	5.5	2.1	6.3	3.9	-12.3	4.8	8.3	8.2	11.7
Nondurables	3.0	3.3	3.2	.8	-2.9	1.1	3.1	2.9	3.6
Services	3.4	2.6	2.8	1.7	.3	-8	1.0	2.4	3.5
Residential investment	6.6	5.3	-15.7	-20.7	-24.6	-13.4	-7.3	21.5	17.0
<i>Previous Tealbook</i>	6.6	5.3	-15.7	-20.7	-24.6	-13.4	-4.4	19.2	17.5
Business fixed invest.	7.0	4.4	7.8	8.2	-8.3	-12.7	8.4	6.6	8.7
<i>Previous Tealbook</i>	7.0	4.4	7.8	8.2	-8.3	-12.7	6.7	7.1	8.1
Equipment & software	8.8	6.1	6.0	4.3	-11.8	-4.9	14.9	10.1	11.6
<i>Previous Tealbook</i>	8.8	6.1	6.0	4.3	-11.8	-4.9	12.2	10.5	11.0
Nonres. structures	1.7	-1	13.0	17.3	-1.5	-26.5	-6.7	-3.0	.0
<i>Previous Tealbook</i>	1.7	-1	13.0	17.3	-1.5	-26.5	-6.2	-2.0	-7
Net exports <sup>1</sup>	-688	-723	-729	-655	-504	-363	-433	-411	-395
<i>Previous Tealbook<sup>1</sup></i>	-688	-723	-729	-655	-504	-363	-411	-401	-406
Exports	7.1	6.7	10.2	10.1	-2.9	-1	8.9	8.6	8.3
Imports	10.9	5.2	4.1	.7	-6.0	-7.2	13.4	4.7	6.7
Gov't. cons. & invest.	.6	.7	1.5	1.9	3.1	.8	1.2	.6	.9
<i>Previous Tealbook</i>	.6	.7	1.5	1.9	3.1	.8	1.2	.7	.9
Federal	2.3	1.2	2.2	3.1	9.2	3.6	4.7	1.0	.2
Defense	2.4	.4	4.4	2.6	9.5	3.3	4.9	.1	.0
Nondefense	2.3	2.6	-2.3	4.2	8.5	4.5	4.2	3.1	.6
State & local	-4	.4	1.2	1.2	-4	-1.0	-1.1	.4	1.3
Change in bus. inventories <sup>1</sup>	66	50	59	28	-38	-113	76	57	74
<i>Previous Tealbook<sup>1</sup></i>	66	50	59	28	-38	-113	71	65	79
Nonfarm <sup>1</sup>	58	50	63	29	-39	-117	70	54	70
Farm <sup>1</sup>	8	0	-4	-1	1	3	6	4	4

1. Billions of chained (2005) dollars.

**Contributions to Changes in Real Gross Domestic Product**  
(Percentage points, annual rate except as noted)

Item	2010				2011				2012				2010 <sup>1</sup>	2011 <sup>1</sup>	2012 <sup>1</sup>
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
	Real GDP	3.7	1.7	1.7	2.4	2.7	3.4	4.0	4.4	4.6	4.7	4.8			
<i>Previous Tealbook</i>	3.7	1.7	1.7	2.4	2.5	3.1	3.6	4.1	4.3	4.4	4.4	4.5	2.4	3.3	4.4
Final sales	1.1	.9	.3	3.6	3.2	3.7	3.8	4.4	4.5	4.5	4.3	4.9	1.5	3.8	4.5
<i>Previous Tealbook</i>	1.1	.9	.8	3.3	2.6	3.3	3.6	4.1	4.2	4.1	4.2	4.7	1.5	3.4	4.3
Priv. dom. final purch.	1.7	3.6	1.5	1.8	2.5	3.2	3.5	4.1	4.1	4.3	4.4	4.6	2.2	3.3	4.4
<i>Previous Tealbook</i>	1.7	3.5	.8	1.8	2.3	3.1	3.5	3.9	4.0	4.1	4.3	4.3	1.9	3.2	4.2
Personal cons. expend.	1.3	1.5	1.8	1.5	1.7	2.0	2.3	2.9	2.9	3.0	3.1	3.3	1.6	2.2	3.1
<i>Previous Tealbook</i>	1.3	1.4	1.6	1.4	1.5	2.0	2.3	2.6	2.8	2.9	3.0	3.1	1.4	2.1	2.9
Durables	.6	.5	.6	.7	.5	.6	.7	.7	.9	.9	.9	.8	.6	.6	.9
Nondurables	.7	.3	.4	.6	.4	.4	.5	.5	.5	.5	.6	.7	.5	.5	.6
Services	.0	.8	.9	.3	.8	1.0	1.2	1.7	1.5	1.6	1.7	1.9	.5	1.1	1.6
Residential investment	-3	.6	-8	-1	.3	.6	.5	.5	.4	.4	.4	.4	-2	.5	.4
<i>Previous Tealbook</i>	-3	.6	-7	.1	.2	.5	.5	.5	.5	.5	.4	.4	-1	.4	.5
Business fixed invest.	.7	1.5	.5	.3	.5	.6	.7	.7	.8	.9	.8	.8	.8	.6	.9
<i>Previous Tealbook</i>	.7	1.5	-1	.3	.6	.7	.7	.7	.8	.8	.9	.7	.6	.7	.8
Equipment & software	1.2	1.5	.7	.4	.6	.7	.8	.8	.8	.9	.8	.8	1.0	.7	.9
<i>Previous Tealbook</i>	1.2	1.6	.0	.3	.6	.7	.8	.8	.8	.8	.9	.7	.8	.7	.8
Nonres. structures	-5	.0	-1	-1	-1	-1	-1	-1	.0	.0	.0	.0	-2	-1	.0
<i>Previous Tealbook</i>	-5	-1	.0	.0	.0	.0	-1	-1	.0	.0	.0	.0	-2	-1	.0
Net exports	-3	-3.5	-1.5	1.6	.6	.4	.2	.1	.2	.0	-.3	.0	-.9	.3	.0
<i>Previous Tealbook</i>	-3	-3.5	-1	1.1	.2	.1	-1	.0	.0	-1	-.3	.2	-.7	.0	-1
Exports	1.3	1.1	.7	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Imports	-1.6	-4.6	-2.3	.5	-5	-7	-9	-1.0	-9	-1.1	-1.4	-1.1	-2.0	-8	-1.1
Gov't. cons. & invest.	-3	.8	.3	.2	.1	.1	.2	.2	.2	.2	.2	.2	.2	.1	.2
<i>Previous Tealbook</i>	-3	.8	.2	.4	.1	.1	.2	.2	.2	.2	.2	.2	.2	.1	.2
Federal	.2	.7	.3	.3	.1	.1	.1	.1	.0	.0	.0	.0	.4	.1	.0
Defense	.0	.4	.4	.3	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0	.0
Nondefense	.1	.3	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.0
State & local	-5	.1	-1	-1	.0	.0	.1	.1	.1	.1	.2	.2	-1	.0	.2
Change in bus. inventories	2.6	.8	1.4	-1.3	-5	-2	.2	.0	.1	.2	.5	-1	.9	-1	.2
<i>Previous Tealbook</i>	2.6	.8	.9	-9	-1	-2	.0	.1	.1	.2	.3	-2	.9	.0	.1
Nonfarm	2.6	.8	1.5	-1.2	-5	-2	.2	.0	.1	.2	.5	-1	.9	-1	.2
Farm	.1	.0	-1	-1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

1. Change from fourth quarter of previous year to fourth quarter of year indicated.

**Changes in Prices and Costs**  
(Percent, annual rate except as noted)

Item	2010				2011				2012				2010 <sup>1</sup>	2011 <sup>1</sup>	2012 <sup>1</sup>
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
	GDP chain-wt. price index <i>Previous Tealbook</i>	1.0 1.0	1.9 1.9	2.1 1.9	.4 .4	1.2 1.2	1.1 1.0	1.0 .9	1.0 .9	1.3 1.2	1.2 1.2	1.1 1.1			
PCE chain-wt. price index <i>Previous Tealbook</i>	2.1 2.1	.0 .0	1.2 1.2	1.9 1.4	1.3 1.3	1.1 1.1	1.1 1.0	1.0 .9	1.1 1.0	1.1 1.0	1.1 1.0	1.1 1.0	1.3 1.2	1.1 1.1	1.1 1.0
Energy <i>Previous Tealbook</i>	16.4 16.4	-17.5 -17.5	5.2 4.5	15.6 5.3	5.2 7.3	3.6 5.1	2.2 2.9	1.8 2.2	1.8 2.2	1.2 1.6	1.1 1.6	1.1 1.6	4.0 1.4	3.2 4.4	1.3 1.8
Food <i>Previous Tealbook</i>	1.8 1.8	1.6 1.6	.2 .3	1.7 1.3	1.1 .8	.9 .7	.9 .7	.9 .7	1.0 .7	1.1 .7	1.2 .7	1.3 .7	1.3 1.2	1.0 .7	1.1 .7
Ex. food & energy <i>Previous Tealbook</i>	1.2 1.2	1.0 1.1	1.0 1.1	1.1 1.1	1.1 1.0	1.0 .9	1.1 1.1	1.0 .9	1.0 .9						
CPI <i>Previous Tealbook</i>	1.5 1.5	-.7 -.7	1.5 1.6	2.1 1.5	1.4 1.5	1.2 1.3	1.1 1.0	1.1 1.0	1.1 1.1	1.1 1.0	1.1 1.1	1.2 1.1	1.1 1.0	1.2 1.2	1.1 1.1
Ex. food & energy <i>Previous Tealbook</i>	.0 .0	.9 .9	1.2 1.6	.9 1.3	1.1 1.0	1.0 .9	1.0 .9	1.0 .9	1.0 .9	1.1 .9	1.1 .9	1.2 1.0	.7 .9	1.0 .9	1.1 1.0
ECI, hourly compensation <sup>2</sup> <i>Previous Tealbook</i> <sup>2</sup>	2.6 2.6	1.8 1.8	1.8 1.8	1.8 1.8	2.2 2.2	2.0 1.8	2.0 1.8	2.0 1.8	2.4 2.2	2.2 2.0	2.1 2.0	2.1 2.0	2.0 2.0	2.1 1.9	2.2 2.0
Nonfarm business sector Output per hour <i>Previous Tealbook</i>	3.9 3.9	-1.9 -1.7	2.0 1.5	2.0 1.8	1.2 1.1	1.2 1.5	1.6 1.8	1.9 2.0	2.1 2.3	2.0 2.1	2.0 1.9	1.9 1.8	1.5 1.3	1.5 1.6	2.0 2.0
Compensation per hour <i>Previous Tealbook</i>	-9 -9	-6 -7	2.1 2.0	1.8 1.8	2.4 2.4	1.8 1.6	1.7 1.6	1.7 1.6	2.3 2.1	2.0 1.7	2.0 1.9	2.1 2.0	.6 .5	1.9 1.8	2.1 1.9
Unit labor costs <i>Previous Tealbook</i>	-4.6 -4.6	1.3 1.0	.1 .5	-.2 .0	1.2 1.3	.6 .1	.1 -.2	-.2 -.4	.2 -.2	.0 .0	.0 .0	.2 .2	-.9 -.8	.4 .2	.1 -.1
Core goods imports chain-wt. price index <sup>3</sup> <i>Previous Tealbook</i> <sup>3</sup>	4.2 4.2	3.1 3.1	2.1 1.3	4.8 2.2	4.0 1.7	1.9 1.1	1.6 1.0	1.1 .8	1.2 .8	1.3 .9	1.3 .9	1.3 .9	3.5 2.7	2.1 1.2	1.3 .9

1. Change from fourth quarter of previous year to fourth quarter of year indicated.

2. Private-industry workers.

3. Core goods imports exclude computers, semiconductors, oil, and natural gas.

## Greensheets

## Changes in Prices and Costs

(Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise noted)

Item	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP chain-wt. price index <i>Previous Tealbook</i>	3.2 3.2	3.5 3.5	2.9 2.9	2.6 2.6	2.1 2.1	.5 .5	1.3 1.3	1.1 1.0	1.2 1.2
PCE chain-wt. price index <i>Previous Tealbook</i>	3.0 3.0	3.3 3.3	1.9 1.9	3.5 3.5	1.7 1.7	1.5 1.5	1.3 1.2	1.1 1.1	1.1 1.0
Energy <i>Previous Tealbook</i>	18.6 18.6	21.5 21.5	-3.7 -3.7	19.4 19.4	-9.0 -9.0	2.7 2.7	4.0 1.4	3.2 4.4	1.3 1.8
Food <i>Previous Tealbook</i>	2.7 2.7	1.5 1.5	1.7 1.7	4.8 4.8	6.9 6.9	-1.6 -1.6	1.3 1.2	1.0 .7	1.1 .7
Ex. food & energy <i>Previous Tealbook</i>	2.2 2.2	2.3 2.3	2.3 2.3	2.4 2.4	2.0 2.0	1.7 1.7	1.1 1.1	1.0 .9	1.0 .9
CPI <i>Previous Tealbook</i>	3.4 3.4	3.7 3.7	1.9 1.9	4.0 4.0	1.6 1.6	1.5 1.5	1.1 1.0	1.2 1.2	1.1 1.1
Ex. food & energy <i>Previous Tealbook</i>	2.2 2.2	2.1 2.1	2.7 2.7	2.3 2.3	2.0 2.0	1.7 1.7	.7 .9	1.0 .9	1.1 1.0
ECL, hourly compensation <sup>1</sup> <i>Previous Tealbook<sup>1</sup></i>	3.8 3.8	2.9 2.9	3.2 3.2	3.0 3.0	2.4 2.4	1.2 1.2	2.0 2.0	2.1 1.9	2.2 2.0
Nonfarm business sector Output per hour <i>Previous Tealbook</i>	1.5 1.5	1.4 1.4	.9 .9	2.6 2.6	-.4 -.4	6.2 6.2	1.5 1.3	1.5 1.6	2.0 2.0
Compensation per hour <i>Previous Tealbook</i>	3.3 3.3	3.5 3.5	4.5 4.5	3.6 3.6	2.3 2.3	2.5 2.5	.6 .5	1.9 1.8	2.1 1.9
Unit labor costs <i>Previous Tealbook</i>	1.9 1.9	2.0 2.0	3.5 3.5	.9 .9	2.7 2.7	-3.5 -3.5	-.9 -.8	.4 .2	.1 -.1
Core goods imports chain-wt. price index <sup>2</sup> <i>Previous Tealbook<sup>2</sup></i>	3.6 3.6	2.2 2.2	2.5 2.5	2.9 2.9	3.5 3.5	-1.9 -1.9	3.5 2.7	2.1 1.2	1.3 .9

1. Private-industry workers.

2. Core goods imports exclude computers, semiconductors, oil, and natural gas.

## Other Macroeconomic Indicators

Item	2010				2011				2012				2010 <sup>1</sup>	2011 <sup>1</sup>	2012 <sup>1</sup>
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
	<i>Employment and production</i>	.1	.7	-1	.1	.4	.6	.7	.8	.9	.9	1.0			
Nonfarm payroll employment <sup>2</sup>	9.7	9.7	9.6	9.7	9.5	9.5	9.2	9.0	8.8	8.6	8.2	7.9	9.7	9.0	7.9
Unemployment rate <sup>3</sup>	9.7	9.7	9.6	9.7	9.6	9.5	9.3	9.1	8.9	8.7	8.3	8.0	9.7	9.1	8.0
<i>Previous Tealbook<sup>3</sup></i>	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
NAIRU <sup>3</sup>	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
<i>Previous Tealbook<sup>3</sup></i>	-6.4	-6.6	-6.8	-6.8	-6.8	-6.6	-6.2	-5.8	-5.3	-4.8	-4.3	-3.8	-6.8	-5.8	-3.8
GDP gap <sup>4</sup>	-6.8	-7.0	-7.2	-7.2	-7.2	-7.0	-6.8	-6.4	-6.0	-5.6	-5.1	-4.7	-7.2	-6.4	-4.7
<i>Previous Tealbook<sup>4</sup></i>	7.1	7.0	4.8	-1.5	3.5	4.0	4.7	4.5	5.0	5.6	5.5	4.8	4.3	4.2	5.2
Industrial production <sup>5</sup>	7.1	6.5	4.3	.8	2.1	3.6	4.0	4.5	4.2	4.5	5.1	3.9	4.7	3.5	4.4
<i>Previous Tealbook<sup>5</sup></i>	6.2	9.1	3.6	-7	2.8	4.9	5.8	5.5	6.0	6.6	6.4	5.6	4.5	4.7	6.1
Manufacturing industr. prod. <sup>5</sup>	6.2	8.5	3.9	.6	1.9	4.7	5.1	5.7	5.1	5.3	6.0	4.4	4.7	4.3	5.2
<i>Previous Tealbook<sup>5</sup></i>	70.0	71.6	72.2	72.0	72.5	73.3	74.3	75.3	76.2	77.2	78.2	79.1	72.0	75.3	79.1
Capacity utilization rate - mfg. <sup>3</sup>	70.0	71.5	72.1	72.2	72.5	73.4	74.3	75.3	76.1	76.9	77.9	78.6	72.2	75.3	78.6
<i>Previous Tealbook<sup>3</sup></i>	.6	.6	.6	.6	.7	.8	.9	1.0	1.0	1.1	1.2	1.3	.6	.8	1.1
Housing starts <sup>6</sup>	11.0	11.3	11.6	11.8	12.1	12.5	13.0	13.5	14.2	15.0	15.6	16.1	11.4	12.8	15.2
Light motor vehicle sales <sup>6</sup>	4.8	3.7	3.8	2.8	4.0	4.5	5.0	5.5	6.0	6.0	6.0	6.0	3.8	4.7	6.0
<i>Income and saving</i>	1.3	4.4	1.0	.6	1.9	3.1	3.2	3.9	3.7	4.3	4.0	4.4	1.8	3.0	4.1
Nominal GDP <sup>5</sup>	1.3	4.4	.7	.9	1.1	3.0	3.2	3.7	3.7	4.1	4.0	4.4	1.8	2.8	4.0
Real disposable pers. income <sup>5</sup>	5.5	5.9	5.7	5.4	5.3	5.3	5.3	5.3	5.2	5.2	5.1	5.0	5.4	5.3	5.0
Personal saving rate <sup>3</sup>	5.5	6.1	5.9	5.6	5.4	5.5	5.5	5.5	5.4	5.4	5.3	5.3	5.6	5.5	5.3
<i>Previous Tealbook<sup>3</sup></i>	48.9	12.7	7.3	2.9	3.3	5.0	6.5	6.8	5.3	7.1	7.6	7.4	16.7	5.4	6.8
Corporate profits <sup>7</sup>	10.7	10.9	11.0	11.0	11.0	11.0	11.1	11.1	11.1	11.1	11.2	11.2	11.0	11.1	11.2
Profit share of GNP <sup>3</sup>	-1,314	-1,355	-1,346	-1,334	-1,287	-1,246	-1,221	-1,203	-1,153	-1,140	-1,107	-1,087	-1,337	-1,239	-1,122
Net federal savings <sup>8</sup>	29	16	28	42	45	34	23	20	14	28	35	43	28	31	30
Net state & local saving <sup>8</sup>	11.1	11.3	11.2	11.2	11.4	11.8	11.9	12.1	12.3	12.5	12.8	12.9	11.2	12.1	12.9
Gross national saving rate <sup>3</sup>	-1.8	-1.4	-1.3	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.3	-1.1	-1.1
Net national saving rate <sup>3</sup>															

1. Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise indicated.

2. Change, millions.

3. Percent; annual values are for the fourth quarter of the year indicated.

4. Percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential.

Annual values are for the fourth quarter of the year indicated.

5. Percent change, annual rate.

6. Level, millions; annual values are annual averages.

7. Percent change, annual rate, with inventory valuation and capital consumption adjustments.

8. Billions of dollars; annual values are annual averages.

## Greensheets

## Other Macroeconomic Indicators

(Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise noted)

Item	2004	2005	2006	2007	2008	2009	2010	2011	2012
<i>Employment and production</i>									
Nonfarm payroll employment <sup>1</sup>	2.0	2.4	2.1	1.2	-2.8	-5.4	.7	2.6	3.7
Unemployment rate <sup>2</sup>	5.4	5.0	4.5	4.8	6.9	10.0	9.7	9.0	7.9
<i>Previous Tealbook<sup>2</sup></i>	5.4	5.0	4.5	4.8	6.9	10.0	9.7	9.1	8.0
NAIRU <sup>2</sup>	5.0	5.0	5.0	5.0	5.3	6.0	6.0	6.0	6.0
<i>Previous Tealbook<sup>2</sup></i>	4.9	4.8	4.8	4.8	5.1	5.8	5.8	5.8	5.8
GDP gap <sup>3</sup>	-4	.1	.1	.0	-4.9	-6.7	-6.8	-5.8	-3.8
<i>Previous Tealbook<sup>3</sup></i>	-7	-3	-3	-4	-5.3	-7.1	-7.2	-6.4	-4.7
Industrial production <sup>4</sup>	2.9	2.3	2.5	2.3	-7.6	-3.8	4.3	4.2	5.2
<i>Previous Tealbook<sup>4</sup></i>	2.9	2.3	2.5	2.3	-7.6	-3.8	4.7	3.5	4.4
Manufacturing industr. prod. <sup>4</sup>	3.5	3.5	2.0	2.6	-10.0	-4.1	4.5	4.7	6.1
<i>Previous Tealbook<sup>4</sup></i>	3.5	3.5	2.0	2.6	-10.0	-4.1	4.7	4.3	5.2
Capacity utilization rate - mfg. <sup>2</sup>	77.4	78.8	79.0	79.1	70.9	68.8	72.0	75.3	79.1
<i>Previous Tealbook<sup>2</sup></i>	77.4	78.8	79.0	79.1	70.9	68.8	72.2	75.3	78.6
Housing starts <sup>5</sup>	2.0	2.1	1.8	1.4	.9	.6	.6	.8	1.1
Light motor vehicle sales <sup>5</sup>	16.8	16.9	16.5	16.1	13.1	10.3	11.4	12.8	15.2
<i>Income and saving</i>									
Nominal GDP <sup>4</sup>	6.4	6.3	5.4	5.0	-7	.6	3.8	4.7	6.0
Real disposable pers. income <sup>4</sup>	3.5	.6	4.6	1.5	1.0	.4	1.8	3.0	4.1
<i>Previous Tealbook<sup>4</sup></i>	3.5	.6	4.6	1.5	1.0	.4	1.8	2.8	4.0
Personal saving rate <sup>2</sup>	3.6	1.5	2.5	2.1	5.2	5.5	5.4	5.3	5.0
<i>Previous Tealbook<sup>2</sup></i>	3.6	1.5	2.5	2.1	5.2	5.5	5.6	5.5	5.3
Corporate profits <sup>6</sup>	21.9	19.6	3.7	-8.1	-31.9	42.5	16.7	5.4	6.8
Profit share of GNP <sup>2</sup>	10.5	11.8	11.6	10.1	6.9	9.8	11.0	11.1	11.2
Net federal saving <sup>7</sup>	-379	-283	-204	-245	-616	-1252	-1337	-1239	-1122
Net state & local saving <sup>7</sup>	-8	26	51	12	-47	-20	28	31	30
Gross national saving rate <sup>2</sup>	14.3	15.5	16.3	13.6	11.8	10.8	11.2	12.1	12.9
Net national saving rate <sup>2</sup>	2.7	3.5	4.2	1.3	-1.4	-2.3	-1.3	-3	.8

1. Change, millions.

2. Percent; values are for the fourth quarter of the year indicated.

3. Percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential.

Values are for the fourth quarter of the year indicated.

4. Percent change.

5. Level, millions; values are annual averages.

6. Percent change, with inventory valuation and capital consumption adjustments.

7. Billions of dollars; values are annual averages.

**Staff Projections of Federal Sector Accounts and Related Items**  
(Billions of dollars except as noted)

Item	Fiscal year				2010				2011				2012				
	2009 <sup>a</sup>	2010	2011	2012	Q1 <sup>a</sup>	Q2 <sup>a</sup>	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<b>Unified budget</b>																	
Receipts <sup>1</sup>	2104	2162	2377	2636	466	643	565	529	486	724	638	604	559	798	675	646	
Outlays <sup>1</sup>	3520	3456	3714	3662	795	930	855	942	956	910	907	923	961	913	864	965	
Surplus/deficit <sup>1</sup>	-1416	-1294	-1337	-1026	-329	-287	-290	-412	-470	-186	-269	-319	-403	-115	-189	-319	
<i>Previous Tealbook</i>																	
On-budget	-1416	-1299	-1306	-1045	-329	-287	-295	-397	-449	-186	-274	-322	-405	-117	-202	-330	
Off-budget	-1553	-1371	-1422	-1126	-359	-351	-267	-452	-465	-248	-257	-365	-401	-184	-177	-372	
	137	77	85	100	30	64	-23	40	-5	62	-12	46	-2	69	-13	53	
Means of financing																	
Borrowing	1743	1474	1311	1046	478	344	390	363	498	166	284	309	393	140	204	309	
Cash decrease	96	-35	60	0	-25	-71	-20	40	5	25	-10	15	15	-20	-10	15	
Other <sup>2</sup>	-424	-145	-34	-20	-124	14	-80	9	-33	-5	-5	-5	-5	-5	-5	-5	
Cash operating balance, end of period	275	310	250	250	219	290	310	270	265	240	250	235	220	240	250	235	
<b>NIPA federal sector</b>																	
Receipts	2261	2323	2512	2709	2323	2347	2390	2414	2508	2544	2583	2622	2691	2737	2785	2834	
Expenditures	3355	3654	3784	3860	3637	3701	3736	3748	3795	3790	3804	3825	3844	3877	3893	3921	
Consumption expenditures	977	1027	1080	1115	1017	1038	1050	1063	1078	1086	1093	1101	1115	1120	1124	1129	
Defense	659	690	725	742	684	695	706	717	725	728	731	734	742	745	747	750	
Nondefense	318	337	355	373	333	343	344	346	353	358	363	367	373	375	377	379	
Other spending	2378	2627	2704	2745	2620	2663	2686	2686	2716	2704	2710	2725	2730	2757	2769	2793	
Current account surplus	-1094	-1331	-1272	-1151	-1314	-1355	-1346	-1334	-1287	-1246	-1221	-1203	-1153	-1140	-1107	-1087	
Gross investment	151	165	175	175	161	168	171	175	174	175	175	175	175	175	175	176	
Gross saving less gross investment <sup>3</sup>	-1122	-1368	-1313	-1186	-1348	-1394	-1388	-1377	-1329	-1286	-1260	-1240	-1189	-1175	-1141	-1120	
<b>Fiscal indicators<sup>4</sup></b>																	
High-employment (HEB) surplus/deficit	-839	-1023	-961	-892	-1010	-1050	-1038	-1019	-971	-933	-920	-919	-879	-889	-883	-891	
Change in HEB, percent of potential GDP	2.2	1.0	-6	-6	.1	.2	-2	-2	-4	-3	-1	-1	-3	.0	-1	.0	
Fiscal impetus (FI), percent of GDP	1.1	1.0	-1	-5	.3	.3	.1	.1	-2	-1	.0	-1	-1	-1	-3	-2	
<i>Previous Tealbook</i>	1.1	1.0	-1	-5	.3	.3	.1	.1	-1	-1	.0	-1	-1	-1	-3	-2	

1. Budget receipts, outlays, and surplus/deficit include corresponding social security (OASDI) categories. The OASDI surplus and the Postal Service surplus are excluded from the on-budget surplus and shown separately as off-budget, as classified under current law.  
 2. Other means of financing are checks issued less checks paid, accrued items, and changes in other financial assets and liabilities.  
 3. Gross saving is the current account surplus plus consumption of fixed capital of the general government as well as government enterprises.  
 4. HEB is gross saving less gross investment (NIPA) of the federal government in current dollars, with cyclically sensitive receipts and outlays adjusted to the staff's measure of potential output and the NAIRU. Quarterly figures for change in HEB and FI are not at annual rates. The sign on Change in HEB, as a percent of nominal potential GDP, is reversed. FI is the weighted difference of discretionary changes in federal spending and taxes in chained (2005) dollars, scaled by real GDP. The annual FI estimates are on a calendar year basis. Also, for FI and the change in HEB, positive values indicate aggregate demand stimulus.  
 a. Actual.

**Change in Debt of the Domestic Nonfinancial Sectors**  
(Percent)

Period <sup>1</sup>	Total	Households			Business	State and local governments	Federal government	Memo: Nominal GDP
		Total	Home mortgages	Consumer credit				
<i>Year</i>								
2005	9.5	11.1	13.3	4.5	8.6	10.2	7.0	6.3
2006	9.0	10.1	11.2	4.1	10.5	8.3	3.9	5.4
2007	8.6	6.8	6.8	5.8	13.1	9.5	4.9	5.0
2008	6.0	.3	-.4	1.5	5.5	2.3	24.2	-.7
2009	3.0	-1.7	-1.6	-4.4	-2.7	4.9	22.7	.6
2010	4.5	-2.0	-3.2	-1.6	1.4	3.6	20.2	3.8
2011	4.8	1.2	-.4	4.5	1.9	5.3	13.4	4.7
2012	5.2	3.1	1.0	9.0	3.5	4.9	9.8	6.0
<i>Quarter</i>								
2009:1	4.6	-9	-3	-3.7	-0	5.6	24.4	-3.9
2	4.4	-1.9	-1.8	-4.8	-2.6	4.3	28.9	-.4
3	2.1	-2.2	-2.6	-3.9	-4.4	5.8	19.0	2.3
4	.9	-2.0	-1.5	-5.6	-3.8	3.8	11.9	4.7
2010:1	4.5	-1.7	-4.3	-1.9	.5	5.6	20.5	4.8
2	4.8	-2.3	-2.3	-2.6	.1	-1.5	24.4	3.7
3	4.2	-2.8	-4.0	-2.0	3.3	4.4	16.0	3.8
4	4.1	-1.3	-2.5	.0	1.7	5.9	14.4	2.8
2011:1	5.5	.2	-1.1	2.6	1.1	5.5	17.9	4.0
2	4.7	1.1	-.3	3.8	1.6	5.4	13.1	4.5
3	4.2	1.5	-.1	5.2	2.2	5.0	9.6	5.0
4	4.6	1.8	.0	6.2	2.6	4.8	10.5	5.5
2012:1	5.5	2.6	.7	7.5	3.0	4.9	11.9	6.0
2	5.4	3.0	.9	8.5	3.3	4.8	10.8	6.0
3	4.3	3.4	1.2	9.3	3.7	4.8	5.8	6.0
4	5.4	3.5	1.2	9.7	3.9	4.7	9.5	6.0

Note: Quarterly data are at seasonally adjusted annual rates.

1. Data after 2010:Q2 are staff projections. Changes are measured from end of the preceding period to end of period indicated except for annual nominal GDP growth, which is calculated from Q4 to Q4.



### Foreign Real GDP and Consumer Prices: Selected Countries

(Quarterly percent changes at an annual rate)

Measure and country	2010				2011				2012			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Real GDP</b> <sup>1</sup>												
Total foreign	4.9	5.9	2.3	2.6	3.0	3.1	3.2	3.3	3.4	3.6	3.7	3.8
<i>Previous Tealbook</i>	4.9	5.9	2.5	2.9	3.0	3.1	3.2	3.3	3.4	3.4	3.5	3.6
Advanced foreign economies	3.8	2.9	2.0	1.9	1.8	1.9	2.1	2.2	2.3	2.5	2.6	2.8
Canada	5.8	2.0	1.8	2.5	2.5	2.5	2.7	2.8	2.8	2.9	2.9	2.9
Japan	5.0	1.5	1.6	.9	1.5	1.6	1.7	1.7	1.8	1.8	1.9	2.0
United Kingdom	1.8	4.7	3.2	1.3	1.1	2.1	2.4	2.5	2.5	2.5	2.6	2.6
Euro area	1.4	3.9	2.0	1.4	1.0	1.0	1.1	1.3	1.6	2.1	2.5	2.8
Germany	1.9	9.0	3.0	2.1	1.5	1.5	1.6	1.7	2.0	2.4	2.8	3.2
Emerging market economies	6.3	9.7	2.6	3.6	4.5	4.7	4.7	4.8	4.9	5.0	5.0	5.0
Asia	13.7	8.4	2.3	5.0	5.6	5.7	5.8	5.9	5.9	5.9	6.0	6.0
Korea	8.8	5.8	3.3	3.6	3.9	4.1	4.2	4.3	4.4	4.5	4.6	4.7
China	9.9	6.9	9.8	8.4	8.4	8.4	8.5	8.5	8.5	8.5	8.6	8.6
Latin America	-.2	11.8	2.9	2.1	3.4	3.7	3.7	3.7	3.8	4.2	4.2	4.2
Mexico	-2.5	13.5	2.5	1.5	3.5	3.8	3.8	3.8	4.0	4.3	4.3	4.3
Brazil	11.3	5.1	3.5	3.5	3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0
<b>Consumer prices</b> <sup>2</sup>												
Total foreign	3.4	1.4	2.1	2.5	2.4	2.3	2.2	2.2	2.2	2.3	2.3	2.3
<i>Previous Tealbook</i>	3.4	1.3	1.9	2.1	2.2	2.2	2.1	2.2	2.2	2.2	2.3	2.3
Advanced foreign economies	2.1	.1	1.0	1.2	1.4	1.2	1.1	1.2	1.3	1.4	1.4	1.5
Canada	2.3	-.9	2.3	1.5	1.6	2.1	2.1	2.1	2.1	2.2	2.2	2.2
Japan	.7	-.9	-1.5	-1.3	-1.0	-.9	-.8	-.8	-.7	-.6	-.5	-.5
United Kingdom	5.5	2.4	1.2	2.1	5.1	1.5	1.4	1.5	1.6	1.7	1.7	1.8
Euro Area	1.8	1.4	1.2	2.1	1.7	1.4	1.1	1.2	1.3	1.5	1.6	1.6
Germany	1.4	.7	.9	1.2	1.2	1.1	1.0	1.0	1.2	1.4	1.5	1.6
Emerging market economies	4.7	2.6	3.2	3.6	3.4	3.4	3.2	3.2	3.2	3.1	3.1	3.1
Asia	3.6	2.1	3.5	3.5	3.1	2.9	2.8	2.7	2.7	2.7	2.7	2.7
Korea	3.3	1.9	3.4	2.9	2.7	2.5	2.4	2.4	2.4	2.4	2.4	2.4
China	3.0	2.6	4.3	3.9	2.9	2.8	2.6	2.6	2.6	2.6	2.6	2.6
Latin America	7.8	3.6	2.3	3.6	4.4	4.4	4.3	4.3	4.2	4.1	4.1	4.1
Mexico	7.9	2.7	2.1	3.2	3.8	3.9	3.9	3.9	3.7	3.7	3.7	3.7
Brazil	7.4	5.9	1.1	5.3	6.3	5.4	5.2	5.2	5.0	4.9	4.9	4.9

<sup>1</sup> Foreign GDP aggregates calculated using shares of U.S. exports.

<sup>2</sup> Foreign CPI aggregates calculated using shares of U.S. non-oil imports.

**Foreign Real GDP and Consumer Prices: Selected Countries**  
(Percent change, Q4 to Q4)

Measure and country	-----Projected-----									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	
<b>Real GDP</b> <sup>1</sup>										
Total foreign	3.9	4.1	4.0	4.2	-8	.4	3.9	3.2	3.6	
<i>Previous Tealbook</i>	3.9	4.1	4.0	4.2	-8	.4	4.1	3.2	3.5	
Advanced foreign economies	2.6	2.8	2.5	2.4	-1.8	-1.4	2.7	2.0	2.6	
Canada	3.7	3.1	1.9	2.5	-9	-1.1	3.0	2.6	2.9	
Japan	1.1	2.9	2.1	1.8	-4.3	-1.4	2.2	1.6	1.9	
United Kingdom	2.4	2.4	2.7	2.4	-2.7	-3.0	2.8	2.0	2.5	
Euro area	1.7	2.1	3.6	2.2	-2.1	-2.0	2.1	1.1	2.3	
Germany	.2	1.6	4.5	1.8	-2.0	-2.0	4.0	1.6	2.6	
Emerging market economies	5.6	5.8	5.9	6.6	.3	2.8	5.5	4.7	5.0	
Asia	6.0	7.8	7.2	8.4	.9	7.1	7.3	5.8	5.9	
Korea	2.7	5.2	4.6	5.7	-3.2	6.1	5.4	4.1	4.5	
China	10.0	10.5	11.0	12.6	7.2	11.5	8.7	8.4	8.5	
Latin America	5.1	3.9	4.6	4.7	-4	-9	4.1	3.6	4.1	
Mexico	4.6	3.5	3.9	3.9	-1.1	-2.3	3.6	3.7	4.2	
Brazil	5.1	3.5	4.8	6.8	1.0	4.4	5.8	3.9	4.0	
<b>Consumer prices</b> <sup>2</sup>										
Total foreign	2.8	2.3	2.1	3.7	3.4	1.2	2.3	2.3	2.3	
<i>Previous Tealbook</i>	2.8	2.3	2.1	3.7	3.4	1.2	2.2	2.2	2.2	
Advanced foreign economies	1.8	1.6	1.4	2.2	2.0	.2	1.1	1.2	1.4	
Canada	2.3	2.3	1.4	2.5	1.9	.8	1.3	2.0	2.2	
Japan	.5	-1.0	.3	.6	1.0	-2.0	-8	-9	-6	
United Kingdom	1.4	2.1	2.7	2.1	3.9	2.1	2.8	2.4	1.7	
Euro Area	2.3	2.3	1.8	2.9	2.3	.4	1.6	1.3	1.5	
Germany	2.1	2.2	1.3	3.1	1.7	.3	1.1	1.1	1.4	
Emerging market economies	3.9	3.0	2.9	5.1	4.6	2.2	3.5	3.3	3.1	
Asia	3.1	2.6	2.4	5.5	3.7	1.3	3.2	2.9	2.7	
Korea	3.4	2.5	2.1	3.4	4.5	2.4	2.9	2.5	2.4	
China	3.2	1.4	2.1	6.6	2.6	.6	3.4	2.7	2.6	
Latin America	5.6	3.7	4.1	4.2	6.6	4.0	4.3	4.3	4.1	
Mexico	5.3	3.1	4.1	3.8	6.2	4.0	4.0	3.9	3.7	
Brazil	7.2	6.1	3.2	4.3	6.2	4.2	4.9	5.5	4.9	

<sup>1</sup> Foreign GDP aggregates calculated using shares of U.S. exports.

<sup>2</sup> Foreign CPI aggregates calculated using shares of U.S. non-oil imports.

## Greensheets

## U.S. Current Account

## Quarterly Data

	2010				2011				Projected			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>U.S. current account balance</b>	<b>-436.6</b>	<b>-493.1</b>	<b>-505.6</b>	<b>-503.8</b>	<b>-507.0</b>	<b>-487.4</b>	<b>-492.2</b>	<b>-489.3</b>	<b>-487.5</b>	<b>-490.8</b>	<b>-505.0</b>	<b>-506.8</b>
<i>Previous Tealbook</i>	-432.8	-502.9	-458.2	-435.8	-454.6	-446.7	-459.1	-462.4	-464.6	-471.2	-482.1	-470.6
Current account as percent of GDP	-3.0	-3.4	-3.4	-3.4	-3.4	-3.2	-3.2	-3.2	-3.1	-3.1	-3.1	-3.1
<i>Previous Tealbook</i>	-3.0	-3.4	-3.1	-2.9	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-2.9
Net goods & services	-457.8	-526.4	-536.0	-537.4	-529.6	-521.4	-520.9	-522.0	-519.0	-520.0	-534.7	-537.3
Investment income, net	168.8	173.1	151.4	150.2	152.2	148.5	145.8	145.4	144.1	141.8	142.4	143.2
Direct, net	275.9	283.8	267.8	268.5	268.2	267.2	268.0	274.2	279.4	285.7	291.9	299.8
Portfolio, net	-107.1	-110.7	-116.4	-118.3	-116.1	-118.7	-122.2	-128.8	-135.3	-143.9	-149.5	-156.6
Other income and transfers, net	-147.6	-139.8	-121.0	-116.6	-129.5	-114.4	-117.0	-112.6	-112.6	-112.6	-112.6	-112.6

Billions of dollars, s.a.a.r.

## Annual Data

	2010				2011				Projected			
	2004	2005	2006	2007	2008	2009	2010	2011	2012			
<b>U.S. current account balance</b>	<b>-630.5</b>	<b>-747.6</b>	<b>-802.6</b>	<b>-718.1</b>	<b>-668.9</b>	<b>-378.4</b>	<b>-484.8</b>	<b>-494.0</b>	<b>-497.5</b>			
<i>Previous Tealbook</i>	-630.5	-747.6	-802.6	-718.1	-668.9	-378.4	-457.4	-455.7	-472.1			
Current account as percent of GDP	-5.3	-5.9	-6.0	-5.1	-4.7	-2.7	-3.3	-3.2	-3.1			
<i>Previous Tealbook</i>	-5.3	-5.9	-6.0	-5.1	-4.7	-2.7	-3.1	-3.0	-3.0			
Net goods & services	-609.3	-714.2	-759.2	-702.1	-698.8	-374.9	-514.4	-523.5	-527.7			
Investment income, net	73.4	78.8	54.7	106.6	159.3	129.2	160.9	147.9	142.9			
Direct, net	150.9	173.2	174.0	241.6	287.7	252.1	274.0	269.4	289.2			
Portfolio, net	-77.5	-94.4	-119.4	-134.9	-128.4	-122.8	-113.1	-121.5	-146.3			
Other income and transfers, net	-94.5	-112.2	-98.1	-122.6	-129.3	-132.8	-131.3	-118.4	-112.6			

Billions of dollars

## Abbreviations

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ABS	asset-backed securities
AFE	advanced foreign economy
AIG	American International Group, Inc.
BEA	Bureau of Economic Analysis
BOE	Bank of England
BOJ	Bank of Japan
CDS	credit default swap
C&I	commercial and industrial
CMBS	commercial mortgage-backed securities
CPI	consumer price index
CRE	commercial real estate
ECB	European Central Bank
EDO Model	Estimated Dynamic Optimization-Based Model
EEB	extended and emergency unemployment benefits
EME	emerging market economy
E&S	equipment and software
EUC	emergency unemployment compensation
FHFA	Federal Housing Finance Agency
FOMC	Federal Open Market Committee; also, the Committee
FRB	Federal Reserve Board
FRBNY	Federal Reserve Bank of New York
GDI	gross domestic income
GDP	gross domestic product

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GSE	government-sponsored enterprise
HELOC	home equity line of credit
IP	industrial production
ISM	Institute for Supply Management
JOLTS	Job Openings and Labor Turnover Survey
Libor	London interbank offered rate
LLC	limited liability company
LSAP	large-scale asset purchase
MBS	mortgage-backed securities
NAIRU	non-accelerating inflation rate of unemployment
OIS	overnight index swaps
OPEC	Organization of the Petroleum Exporting Countries
PBOC	People's Bank of China
PCE	personal consumption expenditures
PMI	purchasing managers index
PPI	producer price index
REO	real estate owned
repo	repurchase agreement
SFA	supplementary financing account
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
SOMA	System Open Market Account
TALF	Term Asset-Backed Securities Loan Facility
TGA	Treasury's general account
TIPS	Treasury inflation-protected securities
WTI	West Texas Intermediate