Prefatory Note

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

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Authorized for Public Release

Class II FOMC - Restricted (FR)

Report to the FOMC on Economic Conditions and Monetary Policy



Book A

Economic and Financial Conditions: Current Situation and Outlook

March 7, 2012

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

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Domestic Economic Developments and Outlook

The data we have received since the January Tealbook have, on balance, come in slightly stronger than we expected. On the one hand, indicators of final demand have been mixed: Data on consumer spending have been disappointing, while data for residential and business investment have been a little above our expectations. On the other hand, several key production and hiring measures have surprised us to the upside. In particular, factory output rose faster than expected in December and January, private payroll job gains since November have averaged 60,000 per month above our previous forecast, and the unemployment rate unexpectedly declined further in January. Taking all of this information into account, we have pushed up our near-term forecast for real GDP growth to an annual rate of 2 percent over the first half of this year, ¹/₄ percentage point higher than in the January projection.

We have also raised our forecast for real activity somewhat over the medium term. The slightly brighter tone of the recent data along with a higher projected path of stock prices is expected to add to domestic demand, while an improved outlook for activity abroad and a lower exchange value for the dollar are expected to boost net exports. These positive factors more than offset the adverse effects of an upward revision to the path of oil prices. In all, we expect real GDP to expand 2½ percent in 2012 and 2¾ percent in 2013, about ¼ percentage point faster in both years than in our January forecast. As in previous Tealbooks, the relatively mild acceleration in real GDP that we are expecting over the medium term reflects a number of important headwinds, including continued worries about the European situation, a slow pace of improvement in financial conditions and the housing market, and an increasingly restrictive stance of fiscal policy.

The incoming data also exacerbated a puzzle that we have faced for the past several forecast rounds—specifically, the sizable decline in the unemployment rate since late 2010 has been difficult for us to explain given the accompanying sluggish increase in real GDP. In this projection, we have moved toward a partial resolution of this puzzle by reinterpreting the extraordinary workforce adjustments made by firms during the recession and recovery. In particular, we now judge that firms were unusually aggressive in shrinking their payrolls as the recession and financial crisis intensified, resulting in a rise in the unemployment rate that was larger than what the average historical relationship between output and unemployment (Okun's law) would have implied. In

Key Background Factors underlying the Baseline Staff Projection

Federal Funds Rate



Equity Prices



Crude Oil Prices



Long-Term Interest Rates











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this view, the decline in the unemployment rate over the past year most likely reflects an unwinding of this discrepancy as employers' concerns about a renewed economic contraction have faded. To implement this interpretation, we reduced the level of potential output in recent years, yielding a revised estimate of the output gap that is better aligned with our estimate of labor market slack at the end of 2011.

Because we now view this unusual cyclical behavior as having largely run its course, we expect the unemployment rate to decline more slowly and thus move more in line with the usual Okun's law relationship. Still, given the declines seen to date, the unemployment rate is projected to reach 7³/₄ percent by the end of 2013, ¹/₂ percentage point lower than in the January Tealbook.

In response to the narrower margin of slack in this projection and higher paths for oil, commodity, and import prices, we have marked up our inflation projection relative to the January Tealbook. We now expect core PCE prices to rise 1.7 percent in 2012 and 1.6 percent in 2013; each of these figures is 0.2 percentage point higher than in our previous forecast. With higher commodity and oil prices passing through to consumer food and energy prices, headline PCE inflation is projected to be a touch above 2 percent over the first half of this year and to run a little below core inflation thereafter.

KEY BACKGROUND FACTORS

Monetary Policy

In line with the outcome-based policy rule, we assume that the FOMC will hold the target federal funds rate in the current range of 0 to ¹/₄ percent through the first quarter of 2014. The federal funds rate now begins to increase in the second quarter (two quarters earlier than in the January Tealbook forecast), and the subsequent rise is somewhat faster than before. This change reflects revisions to the staff's outlook for real activity and inflation over the medium and longer term.¹ At the same time, we assume that the Committee will maintain the Federal Reserve's current portfolio-related policies,

¹ Our historical revisions to potential output contributed to a narrower output gap over the medium term. By themselves, these revisions would have brought forward the onset of policy tightening. However, the effect of the revisions on the liftoff date was offset by a technical adjustment to the outcome-based rule's intercept to align it with the implicit value of the equilibrium real interest rate in the staff's long-run forecast. As discussed in the Monetary Policy Strategies section of Book B, similar adjustments were made to the other policy rules regularly reported to the Committee.

with the timing adjusted in a manner that is consistent with the revised liftoff date for the federal funds rate.²

Interest Rates

The yield on 10-year Treasury securities has risen about 10 basis points, on net, since the January Tealbook, as the market reacted to generally favorable economic news and as concerns about the European situation eased. Going forward, we have raised the projected trajectory for the Treasury yield a little, in line with our upward revision to the longer-run path of the federal funds rate. As in previous projections, we expect the 10-year Treasury yield to rise substantially from the middle of this year through 2013, ending that year at 3½ percent. This projected increase reflects the movement of the valuation window through the period of near-zero short-term interest rates, a gradual waning of the effects of nonconventional monetary policy, and further unwinding of safe-haven demands as apprehensions related to the European debt crisis continue to abate and the U.S. economic recovery progresses.

Since the January Tealbook, spreads on BBB-rated corporate bonds and conforming fixed-rate mortgages have narrowed significantly. Nevertheless, these spreads remain above their typical levels, and we expect a further gradual narrowing over the medium term. Coupled with our forecast for Treasury rates, these assumptions imply a moderate increase in yields on these private debt instruments over the next two years.

Equity Prices and Home Prices

Broad U.S. stock price indexes have increased about 4 percent, on net, since the January Tealbook. We project that stock prices will rise at about an 8 percent pace, on average, through the fourth quarter of 2013, which would leave prices at the end of next year about 2 percent higher than in our previous forecast. The projected appreciation in equity prices is now fairly steady. This path contrasts with our previous forecast, which had assumed more back-loaded gains given our expectation that investors would remain very cautious through the middle of this year in light of the unstable European situation;

² The path of the federal funds rate in the extended baseline projection, and in particular the date when conventional monetary policy is assumed to begin to firm in the staff forecast, depends importantly on our use of the outcome-based rule to set the federal funds rate. If we had instead assumed that the federal funds rate would follow one of the other policy rules discussed in the Monetary Policy Strategies section of Book B, the onset of liftoff could have been markedly earlier or later. For example, under the Taylor (1993) rule or the first-difference rule, liftoff would occur this year. In contrast, the nominal income rule or optimal policy under commitment would call for delaying the onset of tightening until 2015. The prescribed liftoff date under the Taylor (1999) rule is about the same as that under the outcome-based rule.

recent developments suggest that market participants' concerns about Europe have abated somewhat earlier than we had expected. Our current projection for stock prices is consistent with a steady but gradual decline in the equity premium, which has continued to be exceptionally high.

The incoming data on home prices were, on balance, close to our expectations, and our projection for home prices is unrevised this round. As in January, our forecast calls for the CoreLogic Home Price Index to edge down about 1¹/₂ percent this year and to be roughly unchanged in 2013.

Fiscal Policy

Our fiscal policy assumptions are essentially unchanged this round and continue to imply that fiscal policy will be a noticeable and increasing drag on activity over the medium term. In particular, we have maintained our assumption that the payroll tax cut and the Emergency Unemployment Compensation (EUC) program—which were both recently extended through the end of 2012—will not be renewed next year. We also assume that discretionary spending will be restrained by the caps set in the Budget Control Act, and that the automatic spending cuts stipulated by that legislation—which are scheduled to take effect in January 2013—will be replaced by more-gradual budget restraint that achieves the same amount of cumulative deficit reduction through fiscal year 2021. Given these assumptions, we expect federal fiscal policy to impose a drag on real GDP growth (excluding multiplier effects) of about ½ percentage point this year and 1 percentage point in 2013.

We project that the budget deficit will narrow from \$1.3 trillion (8³/₄ percent of GDP) in fiscal 2011 to \$1.1 trillion (7¹/₄ percent of GDP) in fiscal 2012, and to \$830 billion (5¹/₄ percent of GDP) in fiscal 2013. As in the January Tealbook, the expected reduction in the deficit primarily reflects the assumed tightening of fiscal policy (most notably the winding down of stimulus policies).

Foreign Activity and the Dollar

Growth of foreign economic activity slowed sharply to a lackluster 1¹/₄ percent annual rate in the last quarter of 2011, ³/₄ percentage point below our January estimate, but is expected to pick up to 3 percent in the current quarter. Activity in Asia was noticeably weaker than expected at the end of last year, but this weakness largely reflected more-severe disruptions to supply chains from the floods in Thailand; these effects have little implication for our medium-term projections for Asia. In the euro area, output contracted in the fourth quarter as expected. However, in light of the improvement in European financial conditions and gains in some recent indicators, we scaled back our projected recession for the euro area. Accordingly, we revised up our forecast for overall foreign economic growth by about ¹/₄ percentage point over the next two years and now anticipate that foreign GDP will rise 3 percent in 2012 and 3¹/₄ percent in 2013.

Since the January Tealbook, the dollar has depreciated about 1½ percent on a nominal trade-weighted basis against a broad set of currencies. From this lower starting point we expect the broad real dollar to depreciate at about a 2½ percent annual pace through 2013. The rate of depreciation through the first half of 2012 is slightly faster than we assumed in January: We are no longer building a further deterioration in market sentiment toward Europe into our forecast, so we have removed our assumption that the dollar would be buoyed by a further increase in demand for safe assets.

Oil and Other Commodity Prices

Spot prices for major benchmark grades of crude oil have moved sharply higher since the time of the January Tealbook, reflecting heightened geopolitical tensions with Iran and supply disruptions in a number of other countries, together with improved sentiment regarding the outlook for global growth. All told, the spot price of Brent crude oil is up about \$11 per barrel from the time of the January Tealbook, closing on March 6 at \$123 per barrel. Futures prices through 2013 have also moved higher, but not by as much as spot prices; hence, the Brent futures curve has become more steeply downward sloping, likely reflecting a belief that some of the supply disruptions hitting the market will be short lived. The price of West Texas Intermediate (WTI) crude oil has also increased but by less than Brent, as WTI inventories are relatively ample. Our forecast for the price of imported oil has shifted up with futures prices: We now anticipate the price of imported oil to stay roughly flat at about \$111 per barrel for the remainder of this year before declining to \$106 per barrel at the end of 2013; this path is about \$6 per barrel higher than our January Tealbook forecast.

Nonfuel commodity prices are somewhat higher than at the time of the January Tealbook. Prices rose for a wide array of metals, likely reflecting a brighter global economic outlook; however, these prices generally remain far below their previous peaks in early 2011. On average, food prices have also moved up relative to the January Tealbook, in part on concerns about growing conditions in South America. Overall, we revised up the level of our forecast for nonfuel commodity prices by about 5 percent relative to the January Tealbook. We project that commodity prices will increase at a modest 2 percent pace over the forecast period.³

RECENT DEVELOPMENTS AND THE NEAR-TERM OUTLOOK

We expect real GDP will expand at an average annual rate of 2 percent over the first half of this year, down from a 3 percent pace in the fourth quarter of 2011. The fourth-quarter gain was boosted by a rebound in inventory investment, and the absence of such an inventory contribution in the first half of this year fully accounts for the anticipated slowdown from the fourth-quarter pace of growth. Indeed, growth of final sales is expected to step up to a 2¹/₄ percent average annual rate in the first half, supported by a pickup in exports and a smaller rate of decline of government purchases.

As noted earlier, our near-term projection for economic activity attempts to balance some tensions between incoming data on spending—which, on net, have been about in line with our expectations—with more-favorable news on the labor market and production. Relative to the January Tealbook, our projection for real GDP growth in the first half of this year is ¼ percentage point higher, as we have given some weight to the stronger labor market data, especially in projecting a recovery from the recent weak pace of consumer spending. (The box "Assessing the Near-Term Outlook with Factor Models" discusses how our factor models—which pool information from a large number of data series—interpret the incoming data.)

The Labor Market

Conditions in the labor market have continued to improve. In January, private nonfarm payroll employment rose 257,000—up from December's increase and well above the average pace of job gains seen in recent quarters—while the unemployment rate moved down another 0.2 percentage point, to 8.3 percent.⁴ These improvements

³ In our forecast, commodity prices rise a little faster than futures prices as we have adjusted futures curves to account for the staff's projection for modest dollar depreciation.

⁴ The published labor force participation rate declined ¹/₄ percentage point in January. However, this decline reflects the BLS's introduction of new population controls from the 2010 Census; because the BLS does not revise historical data to reflect the new controls, the December-to-January change in the published participation rate was overstated. On a consistent basis, the BLS estimates that the participation rate was unchanged in January. They also reported that the decline in the unemployment rate was unaffected by the introduction of the new controls.

Assessing the Near-Term Outlook with Factor Models

Board staff economists gauge the implications of incoming data for the near-term outlook in a variety of ways, including the use of a class of models known as dynamic factor models. Models in this class infer the underlying state of economic conditions by looking across a large number of data series for common movements that are interpreted as arising from a shared dependence on a small number of latent "common factors." The Board factor model includes 124 variables that span data on spending, production, prices, financial conditions, and the labor market. A range of model specifications are aggregated to produce overall estimates, with each specification making different assumptions about the statistical properties of the common factors.

The common factor that best accounts for co-movement across the various activity variables provides a useful summary statistic for the state of overall economic activity. This "activity factor" is comparable to other indexes maintained within the Federal Reserve System; of these, the Federal Reserve Bank of Chicago's National Activity Index, shown in the figure below for comparison, is the most conceptually similar to the activity factor presented here. The activity factor has risen notably since the middle of last year, reflecting broadly shared improvements across a range of indicators.

These improvements in the near-term outlook can also be seen in the factor model's assessment of the likelihood of a contraction in real GDP over the next two quarters. The figure at the bottom of the next page shows estimates since February 2011 of the probability of two consecutive quarters of declining real GDP, starting in the quarter at which the forecast is made; these estimates provide a measure of the probability of being in a recession. The recession probability began to rise late last spring and displayed a



Activity Factor

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particularly pronounced upswing in the late summer, reflecting concerns about fiscal and financial conditions here and in Europe. As these concerns have eased, and as incoming labor and production data for the U.S. economy have shown greater strength, the model's estimate of the probability of a recession has declined to its long-run average of around 10 percent.

As shown in the table below, the model now predicts real GDP to rise at an annual rate of 1½ percent in the first quarter of 2012 and 3½ percent in the second quarter. The projected rise in GDP in the first quarter is held down by the weak trajectory of recent spending data. However, as a range of other data suggest greater underlying strength, the model's projection for GDP growth in the second quarter rebounds to an above-trend rate of 3½ percent.

The lower portion of the table shows the contribution of news about different categories of recent data to the revision in the real GDP projection from the factor model since the January Tealbook. These contributions illustrate similar tensions to those confronted in the construction of the judgmental projection. Weak data on spending, particularly in PCE, has weighed heavily on the model's projection of first-quarter real GDP growth. However, the model has continued to be surprised by the strength of labor, production, and financial market indicators and, on the basis of those indicators alone, would have revised up growth considerably in both the first and second quarters.



Factor Model Projections of Real GDP Growth

| | 2012:Q1 | 2012:Q2 |
|---|---------|---------|
| Real GDP growth (percent) | | |
| Current | 1.4 | 3.5 |
| As of January Tealbook | 2.0 | 2.4 |
| Revision since January (percentage points) | -0.6 | 1.1 |
| Contribution of: | | |
| Production and labor | 1.3 | 1.4 |
| Financial | 0.2 | 1.0 |
| Spending and other | -2.0 | -1.3 |
| | | |

Summary of the Near-Term Outlook

(Percent change at annual rate except as noted)

| | 2011:Q4 | | 20 | 12:Q1 | 2012:Q2 | |
|-------------------------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|
| Measure | Previous Tealbook | Current Tealbook | Previous Tealbook | Current Tealbook | Previous Tealbook | Current Tealbook |
| Real GDP | 2.9 | 3.1 | 1.6 | 1.8 | 1.8 | 2.2 |
| Private domestic final purchases | 2.4 | 2.5 | 1.9 | 1.9 | 2.4 | 2.9 |
| Personal consumption expenditures | 2.2 | 2.1 | 2.0 | 1.2 | 2.4 | 2.6 |
| Residential investment | 9.7 | 11.5 | 8.5 | 13.9 | 4.0 | 7.7 |
| Business fixed investment | 2.6 | 3.2 | 1 | 4.5 | 2.1 | 3.9 |
| Government purchases | -4.5 | -4.2 | .0 | -1.4 | 8 | 3 |
| Contributions to change in real GDP | | | | | | |
| Inventory investment ¹ | 1.6 | 1.9 | 1 | .0 | 1 | 4 |
| Net exports ¹ | .2 | 1 | .1 | .5 | .1 | .2 |
| Unemployment Rate ² | 8.7 | 8.7 | 8.7 | 8.4 | 8.7 | 8.4 |
| PCE Chain Price Index | .5 | 1.2 | 1.4 | 2.1 | 1.7 | 2.2 |
| Ex. food and energy | .9 | 1.3 | 1.5 | 1.8 | 1.5 | 1.7 |

1. Percentage points.

2. Percent.

Recent Nonfinancial Developments (1)



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



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



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





have been mirrored by several other labor market indicators; for example, initial claims for unemployment insurance have continued to trend down and individuals' expectations of future labor market conditions have brightened further.

The recent labor market data have been stronger than we expected. Since November, private job gains are now reported to have averaged 60,000 per month more than our January Tealbook forecast, the average workweek has come in higher, and the unemployment rate has declined more rapidly.⁵ In light of this recent strength and the encouraging tone of other labor market indicators, we now expect that private payroll employment will rise 225,000 per month on average in the current quarter, about 75,000 above our January forecast. However, with overall economic activity projected to rise only modestly over the first half of this year, we do not expect this pace of job growth to be sustained; hence, our forecast calls for private job gains to step down to 175,000 per month in the second quarter. In addition, January's low unemployment rate seems a little out of line with other labor market indicators and with broader measures of activity. We therefore expect the unemployment rate to average 8.4 percent in coming months; this unemployment rate is about ¹/₄ percentage point lower than what we had expected in our January projection.

The Industrial Sector

Manufacturing production has continued to post strong and widespread gains. Looking ahead, motor vehicle assembly plans have been revised up somewhat in the wake of strong motor vehicle sales, while the available near-term indicators of manufacturing production point to moderate gains elsewhere in coming months. With strong readings for December and January in hand, we expect output in the factory sector as a whole to jump 8 percent at an annual rate this quarter before slowing to a stillrespectable 3³/₄ percent pace in the second quarter. For the first half, these gains in manufacturing production are about 2¹/₂ percentage points faster, on average, than what we had expected in the January Tealbook.

Household Spending

With the exception of spending on motor vehicles, which has risen quite briskly in recent months, real PCE across a number of spending categories has come in lower than

⁵ Unseasonable weather and difficulties with seasonal adjustment likely boosted payroll employment growth over the past couple of months. We see little evidence, however, that the unemployment rate has been significantly distorted by these factors.

Recent Nonfinancial Developments (2)



Real PCE Goods ex. Motor Vehicles



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







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



Nondefense Capital Goods ex. Aircraft

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quarter, ³/₄ percentage point lower than our January projection.

our January Tealbook forecast. After rising at an annual rate of 2 percent in the fourth quarter, we now expect that real PCE will decelerate to a 1¹/₄ percent pace in the current

Various factors point to faster PCE growth next quarter. Unusually warm weather has depressed expenditures on energy services in recent months, and we expect this component of spending to pick up as weather returns to a seasonable norm. More fundamentally, we expect that continued employment gains will result in a moderate pace of real income growth over the first part of the year, even with the faster rate of consumer price inflation that we are currently projecting.⁶ Household wealth has been boosted by higher equity prices; in addition, credit conditions appear to have eased a bit. However, consumer credit remains tight in absolute terms, and households remain downbeat about both the economic outlook and their own income and finances. In all, we expect real PCE to increase at a 2½ percent rate in the second quarter, a touch faster than in the

January Tealbook.

Indicators of housing activity imply a surprisingly brisk increase in residential investment in the current quarter: After jumping in December, the level of single-family housing starts in January remained considerably higher than its fourth-quarter average. However, starts in both months were likely boosted by unseasonably warm weather; permits, which provide a better gauge of the underlying pace of new construction, have only edged higher from a very low level. Although homebuilder attitudes have improved somewhat since the summer and housing affordability remains high, other factors— including a lack of credit availability for purchasers and builders and a sizable overhang of vacant homes—continue to weigh on this sector. Accordingly, we expect single-family starts to step down in February and March as the effects of weather fade. In the second quarter, we expect starts to edge up to an annual rate of around 470,000 units— slightly above the January Tealbook but still deeply depressed. In the multifamily sector, starts have risen slowly over the past year or so from very low levels in response to increased apartment demand and falling vacancy rates, and we expect further moderate gains in coming months.

⁶ Newly available data imply that wage and salary income was much higher in the third quarter of last year than the BEA had previously estimated. However, the resulting upward revisions to real disposable income relative to our January forecast do not appear to have persisted into the current quarter, largely because of weakness in other components of personal income.

Recent Nonfinancial Developments (3)



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*; U.S. Dept. of Commerce, Bureau of Economic Analysis.

Total PCE Prices



Note: 3-month changes are at an annual rate.

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.

Exports and Non-Oil Imports



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

PCE Prices ex. Food and Energy



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

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

Business Investment

Real spending on equipment and software (E&S) rose at an annual rate of 4³/₄ percent in the fourth quarter, notably slower than in earlier quarters. However, since the January Tealbook, we have seen further improvement in a number of forward-looking indicators of business outlays, including key surveys of business sentiment and capital spending plans. In light of these indicators, we expect the rate of increase of E&S outlays to pick up to 5³/₄ percent over the first half of the year, nearly 3 percentage points higher than our January Tealbook forecast.

After showing surprising strength through most of 2011, business outlays on nonresidential structures excluding drilling and mining are expected to be roughly flat over the near term. This anticipated deceleration reflects the continued unfavorable conditions faced by this sector, including high vacancy rates, low property values, and tight lending conditions. Nevertheless, relative to January, we have revised up the nearterm trajectory for this component of construction spending in response to stronger-thanexpected incoming data and a rise in the architectural billings index (which is a useful leading indicator of building activity two to three quarters out). In the drilling and mining sector, investment declined sharply in the fourth quarter after posting nearly two years of robust increases. However, with oil prices still high and many opportunities to exploit new productivity-enhancing drilling techniques, we expect drilling and mining activity to return to a modest positive rate of growth over the first half of the year.

What little data we have in hand suggest that the level of nonfarm inventory investment, which rebounded in the fourth quarter and contributed almost 2 percentage points to real GDP growth, has edged lower recently. With inventories generally well aligned with sales, we expect this more modest pace of stockbuilding to continue in the near term. Accordingly, we expect nonfarm inventory investment to shave about ¹/₄ percentage point from GDP growth, on average, over the first half of 2012.

Government

Real federal purchases fell at an annual rate of 7 percent in the fourth quarter, led by a drop in defense outlays. Given the available data, we estimate that real federal expenditures will weaken further in the current quarter and be roughly flat in the second quarter. Meanwhile, data for the state and local sector continue to suggest that declines in real purchases are moderating: State and local governments shed 8,000 workers in January after cutting 17,000 workers per month, on average, over the second half of last

Projections of Real GDP and Related Components (Percent change at annual rate from final quarter

of preceding period except as noted)

| | | 20 | 11 | 2012 | 2013 | |
|-----------------------------------|--|-----------|------------|------------|------------|--|
| Measure | 2010 | H1 | H2 | | | |
| Real GDP | 3.1 | .8 | 2.4 | 2.4 | 2.7 | |
| Previous Tealbook | 3.1 | .8 | 2.4 | 2.1 | 2.4 | |
| Final sales | 2.4 | .8 | 2.2 | 2.3 | 2.4 | |
| Previous Tealbook | 2.4 | .8 | 2.2 | 2.0 | 2.2 | |
| Personal consumption expenditures | 3.0 | 1.4 | 1.9 | 2.4 | 2.6 | |
| Previous Tealbook | 3.0 | 1.4 | 2.0 | 2.4 | 2.4 | |
| Residential investment | -6.3 | .8 | 6.3 | 9.6 | 8.2 | |
| Previous Tealbook | -6.3 | .8 | 5.4 | 6.6 | 7.3 | |
| Nonresidential structures | -1.8 | 2.5 | 6.3 | .6 | 2.0 | |
| Previous Tealbook | -1.8 | 2.5 | 7.8 | -2.1 | 1.1 | |
| Equipment and software | 16.6 | 7.5 | 10.3 | 5.3 | 5.6 | |
| Previous Tealbook | 16.6 | 7.5 | 9.4 | 3.8 | 6.4 | |
| Federal purchases | 2.9 | -3.9 | -2.5 | -1.6 | -4.1 | |
| Previous Tealbook | 2.9 | -3.9 | -3.9 | -1.0 | -4.1 | |
| State and local purchases | -1.7 | -3.1 | -1.9 | 4 | .7 | |
| Previous Tealbook | -1.7 | -3.1 | -1.2 | 5 | .7 | |
| Exports | 8.8 | 5.7 | 4.5 | 5.9 | 5.7 | |
| Previous Tealbook | 8.8 | 5.7 | 4.9 | 4.8 | 5.2 | |
| Imports | 10.7 | 4.8 | 2.5 | 3.7 | 3.9 | |
| Previous Tealbook | 10.7 | 4.8 | 2.1 | 3.9 | 4.1 | |
| | Contributions to change in real GDP (percentage points) | | | | | |
| Inventory change | .7 | .0 | .3 | .1 | .3 | |
| Previous Tealbook | .7 | .0 | .1 | .1 | .2 | |
| Net exports | 6 | 1 | .2 | .2 | .1 | |
| Previous Tealbook | 6 | 1 | .3 | .0 | .0 | |

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.

year, while real construction spending has changed little since last summer. We expect that real state and local purchases will decline at an average annual rate of ½ percent in the first half; this forecast is similar to our January projection and follows a 2¼ percent decline in the fourth quarter.

Foreign Trade

Real exports of goods and services are expected to increase at an annual rate of 6¼ percent in the first half of 2012, supported by solid foreign economic growth (concentrated in the emerging market economies) and the lagged effect of dollar declines through the middle of last year. This projection is 1¼ percentage points stronger than in the January Tealbook, reflecting both the lower path of the dollar and the upward revision to our outlook for foreign activity. We expect that imports will grow at a subdued rate—below 3 percent—in the first half of the year given modest U.S. demand growth. Because of the projected strength of exports, we expect the contribution of net exports to U.S. GDP growth to be about ½ percentage point in the first quarter and ¼ percentage point in the second. In total, our forecast for the contribution of the external sector to GDP growth is moderately stronger than in the previous Tealbook.

Prices and Wages

We have revised up our near-term inflation projection. Most noticeably, given the higher path for crude oil prices, we have boosted our forecast for consumer energy price inflation by about 5 percentage points on average over the first half of this year. In addition, while we had anticipated some pickup in core inflation from its transitorily low fourth-quarter level, recent readings have come in higher than expected.⁷ These recent data, combined with some pass-through of the upward revisions to import and energy prices, led us to mark up our projection for core consumer price inflation by 0.3 percentage point over the first half of this year, to an average annual rate of 1.8 percent. All told, we now project that headline PCE inflation will be a little above 2 percent in the first half, up from 1¼ percent in the fourth quarter and ½ percentage point higher than our January projection.

⁷ Incoming data for PCE prices also imply an upward revision to fourth-quarter inflation. Part of this revision reflects newly revised seasonal factors in the consumer price index, which is used by the BEA to construct the PCE price measure. (These revised seasonals boosted both core and headline inflation, with a somewhat larger effect on the latter.) When the BEA revises the first three quarters of 2011 in their annual revision of the national accounts this summer, we expect to see corresponding net downward revisions to PCE price inflation in these earlier quarters.

Components of Final Demand

Personal Consumption Expenditures



Residential Investment



Equipment and Software



Government Consumption & Investment



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

Nonresidential Structures







Recent data on labor compensation have been mixed. The BEA's incorporation of newly available source data for wages and salaries caused third-quarter hourly compensation growth from the Productivity and Cost release to revise up sharply, to an annual rate of 5³/₄ percent. However, available indicators suggest that this rapid pace was not maintained in subsequent quarters. All told, we expect this measure of compensation to decelerate to a more modest 2¹/₄ percent annual rate of increase over the first half of the year. The employment cost index for private industry workers rose 1³/₄ percent in the fourth quarter, ¹/₄ percentage point below our January Tealbook projection; we expect this measure to rise at an annual rate of 2¹/₂ percent over the first half of 2012.

THE MEDIUM-TERM OUTLOOK

We raised our medium-term forecast for real GDP growth by ¼ percentage point in both 2012 and 2013, to 2½ percent and 2¾ percent, respectively. This revision reflects a number of factors, including the recent news on the labor market, faster economic growth abroad, a lower foreign exchange value for the dollar, and a higher path for stock prices—all of which have made us somewhat more confident that the pace of the recovery will pick up. However, even with these upward revisions to our GDP forecast, the acceleration in real output that we are projecting over the medium term remains relatively mild, as we continue to believe that the economy will face a number of important headwinds. In particular, we expect problems in the housing sector and the effects of impaired credit availability to ebb only slowly over time. In addition, ongoing difficulties in Europe are still expected to weigh on U.S. growth—albeit to a diminishing degree—over the medium term. Finally, federal fiscal policy is expected to become considerably more restrictive, deducting a full percentage point from real GDP growth in 2013.

With the revisions to the dollar and foreign growth in this projection, net exports are now expected to make a positive contribution to GDP growth of a little less than ¹/₄ percentage point in both 2012 and 2013; in the January Tealbook, we projected no contribution from this source. The projected depreciation of the dollar and continued growth in foreign activity should bolster real exports of goods and services, and in our forecast, exports expand just under 6 percent both this year and next. Real imports are projected to rise about 3³/₄ percent per year on average in 2012 and 2013, as the boost from strengthening U.S. demand is offset by the drag from the depreciating dollar.

Aspects of the Medium-Term Projection

Personal Saving Rate



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

Single-Family Housing Starts



Source: U.S. Census Bureau.

Federal Surplus/Deficit



Source: Monthly Treasury Statement.

Wealth-to-Income Ratio



Note: Household net worth as a ratio to disposable personal income.

Source: For net worth, Federal Reserve Board, flow of funds data; for income, Dept. of Commerce, Bureau of Economic Analysis.

Equipment and Software Spending



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

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.

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We continue to project that real PCE will increase a bit below 2¹/₂ percent in 2012. Although ongoing labor market gains are expected to put the trajectory of nominal disposable income on a higher path this year than we had previously thought, and the higher projected path of equity prices adds to our forecast of household wealth, these improvements are offset by the draining effect of higher consumer prices, especially for energy. In 2013, real PCE growth is expected to edge up to just above 2¹/₂ percent; this pace is ¹/₄ percentage point faster than in our January forecast. The upward revision reflects both the continued boost to spending that is provided by higher equity prices and a stronger labor market—factors that also bolster consumer confidence.

We have made no other material changes to our medium-term GDP projection. As in previous Tealbooks, we anticipate only a gradual recovery in housing construction over the next couple of years. Despite some encouraging signals, the underlying level of activity in this sector remains deeply depressed, and various factors—such as exceedingly tight mortgage credit and continued concerns regarding the future direction of house prices—appear likely to weigh on the demand for housing for some time. In addition, while single-family vacancy rates have declined over the past year, the stock of vacant houses remains sizable, and we expect that the flow of homes from foreclosure into the resale market will remain substantial. Accordingly, our projection calls for single-family housing starts to rise only gradually, reaching an annual rate of 570,000 units by the end of 2013—a pace that is far below the longer-run demand for housing.

In the business sector, we continue to view many firms as being hesitant to invest despite having the cash to do so. However, given the moderately faster improvement in economic and financial conditions that we are currently projecting, we have marked up E&S growth slightly over the medium term. In addition, we now expect that firms will bring forward some of their remaining pent-up demand for capital goods into 2012, implying a flatter medium-term contour of E&S growth relative to January. Notwithstanding the net upward revision to spending, our projection remains consistent with a relatively slow expansion in the capital stock.

Our outlook for business investment in nonresidential structures remains pessimistic. Outside of drilling and mining, structures investment is expected to be flat, on net, over the next two years as weak fundamentals (high vacancy rates and low valuations for commercial real estate, along with tight financing conditions) continue to

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Decomposition of Potential GDP

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

| Measure | 1974- 1995 | 1996- 2000 | 2001- 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---------------|---|---------------|------------|------------|------------|------------|
| Potential real GDP | 3.0 | 3.4 | 2.3 | 1.5 | 1.7 | 2.0 | 2.1 |
| Previous Tealbook | 3.0 | 3.5 | 2.4 | 1.6 | 1.7 | 2.0 | 2.1 |
| Selected contributions ¹ Structural labor productivity Previous Tealbook | 1.4 1.5 | 2.6 2.7 | 2.3 2.4 | 1.4 1.4 | 1.5 1.5 | 1.6 1.6 | 1.7 1.7 |
| Capital deepening | .7 | 1.5 | .8 | .4 | .6 | .6 | .7 |
| Previous Tealbook | .7 | 1.5 | .8 | .4 | .5 | .5 | .7 |
| Multifactor productivity | .5 | .8 | 1.3 | .9 | .8 | .9 | .9 |
| Previous Tealbook | .5 | .9 | 1.4 | .9 | .8 | .9 | .9 |
| Structural hours | 1.5 | $\begin{array}{c} 1.0\\ 1.0\end{array}$ | .6 | .4 | .5 | .6 | .6 |
| Previous Tealbook | 1.5 | | .6 | .5 | .6 | .7 | .6 |
| Labor force participation | .4 | .0 | 3 | 5 | 4 | 3 | 3 |
| Previous Tealbook | .4 | .0 | 3 | 4 | 3 | 2 | 3 |

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: U.S. Department of Labor, Bureau of Labor Statistics; Bureau of Economic Analysis; and staff assumptions.

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weigh on this sector. By contrast, outlays for drilling and mining structures should rise modestly over the medium term, supported in part by high oil prices.

AGGREGATE SUPPLY, THE LABOR MARKET, AND INFLATION

Potential GDP and the NAIRU

We have revised down our estimates of potential GDP over the past several years. The motivation for this revision stems from the sizable decline in the unemployment rate since late 2010 that occurred in the face of relatively modest output gains, and that therefore appears inconsistent with our previous supply-side assumptions.

We examined a variety of possible explanations for last year's puzzling decline in the unemployment rate. For instance, this decline could merely reflect transitory noise; however, because it is sufficiently in line with the strength that we have seen in other labor market indicators, we are inclined to take it at close to face value. In addition, last year's fall in the unemployment rate could reflect a lower rate of potential GDP *growth* over the past year, but the downward revision required to explain very much of the decline in unemployment would imply an implausibly small increase in potential output. Likewise, a reduced degree of mismatch in the labor market or greater worker discouragement could be behind the recent declines, although the evidence we have been able to muster does not point to a large reduction in the unemployment rate from these sources. Finally, the recent GDP data could be substantially understating the real output gains that have actually occurred; however, incoming information, such as that on gross domestic income, does not suggest any substantial mismeasurement.

Thus, while each of these factors may have played some role, to us they do not seem sufficient to account for the magnitude of the unemployment rate decline last year. Instead, we think that the bulk of the explanation is that we had misinterpreted the nature of the earlier sharp rises in unemployment and productivity that occurred during the worst stages of the recession. We previously assumed that the rise in the unemployment rate at that time was in keeping with the usual Okun's law relationship between the unemployment rate and the output gap. We now believe that the increase in the unemployment rate was outsized relative to the movement in output, reflecting an exceptionally strong adjustment of payrolls by firms in reaction to the deterioration in economic conditions. The sharp reduction in labor inputs also left productivity unsustainably high. Then, as economic conditions improved last year, we see this process as having moved in reverse: Hiring picked up in excess of what would ordinarily

| | 2010 | 2011 | | 2012 | 2012 |
|--|--------------|--------------|--------------|--------------|--------------|
| Measure | 2010 | H1 | H2 | 2012 | 2013 |
| Output per hour, nonfarm business | 2.3 | 7 | 1.4 | 1.1 | 1.6 |
| Previous Tealbook | 2.5 | 4 | 1.4 | 1.4 | 1.4 |
| Nonfarm private employment ¹ | 104 | 185 | 163 | 193 | 195 |
| Previous Tealbook | 98 | 165 | 155 | 163 | 171 |
| Labor force participation rate ² | 64.4 | 64.1 | 64.0 | 63.7 | 63.7 |
| Previous Tealbook | 64.4 | 64.1 | 64.0 | 64.0 | 63.9 |
| Civilian unemployment rate ² | 9.6 | 9.1 | 8.7 | 8.2 | 7.8 |
| Previous Tealbook | 9.6 | 9.1 | 8.7 | 8.6 | 8.2 |
| Memo: GDP gap ³ Previous Tealbook | -4.9 -5.4 | -5.3 -5.8 | -5.0 -5.5 | -4.6 -5.4 | -4.0 -5.2 |

The Outlook for the Labor Market and Resource Utilization (Percent change from final quarter of preceding period)

1. Thousands, average monthly changes.

 Percent, average for the final quarter in the period.
Percent difference between actual and potential GDP in the final quarter of the period indicated. A negative number indicates that the economy is operating below potential.

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

Nonfarm Private Employment (Average monthly changes)



Source: U.S. Dept. of Labor, BLS.





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

Unemployment Rate



Source: U.S. Dept. of Labor, BLS; staff assumptions.

Percent 90 85 Average rate from 1972 to 2011 80 75 70 65 60 1995 2000 2005 2010 Source: Federal Reserve Board, G.17 Statistical Release, "Industrial Production and Capacity Utilization."

Manufacturing Capacity Utilization Rate

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be expected given the improvement in demand and returned productivity to a more sustainable level. These developments moved the unemployment and output gaps into closer alignment, or, in other words, reduced the Okun's law error that had opened up during the worst of the recession.

This interpretation of the data implies that the level of potential output has been lower in recent years than we had previously assumed. We therefore revised down our assumptions for potential GDP over the past several years, leaving the level of potential output at the end of 2011 about ½ percent lower than in the January Tealbook. We chose the magnitude of these revisions to bring the output and unemployment gaps roughly into line with each other at the end of last year, though we confess that this choice was somewhat arbitrary and we are far from certain that we have gotten their relative positions correct. That consideration notwithstanding, we do view the changes we have made to potential output as yielding a more satisfactory estimate of the output gap in recent years.

Despite the revisions to our historical estimates, we have made no additional changes over the medium-term projection period to our forecast for potential GDP growth, and we continue to assume that potential output will rise about 2 percent per year in both 2012 and 2013. In addition, the NAIRU is assumed to remain at 6 percent through 2013, the same level as in our January forecast.⁸

Productivity and the Labor Market

The stronger-than-expected improvement in the labor market has led us to mark down our projection for near-term productivity growth. Over the remainder of the medium term, we anticipate that firms will increase their labor inputs more or less in line with output, implying a rate of actual productivity growth that is not too different from its trend growth rate.

With little acceleration in economic activity projected over the medium term, we expect the pace of private employment growth to hold roughly steady, with private job gains averaging just under 200,000 per month through 2013. These monthly increases

⁸ Based on recent academic and staff work, we have edged down our assessment of the effect that extended and emergency unemployment benefits are having on the unemployment rate. As a result, our estimate of the "effective" NAIRU—which includes the influence of these benefits on the unemployment rate—is now 6.2 percent in 2012 (down from 6.4 percent in the January Tealbook); in addition, the gap between the effective NAIRU and the traditional NAIRU closes somewhat earlier (by the middle of 2013).

5

Inflation Projections

| | | 201 | 1 | 2012 | |
|---|---------|------|------|------|------|
| Measure | Measure | | H2 | 2012 | 2013 |
| PCE chain-weighted price index | 1.3 | 3.6 | 1.8 | 1.8 | 1.4 |
| Previous Tealbook | 1.3 | 3.6 | 1.4 | 1.4 | 1.3 |
| Food and beverages | 1.3 | 6.4 | 4.0 | 1.6 | 1.2 |
| Previous Tealbook | 1.3 | 6.4 | 3.7 | 1.1 | 1.2 |
| Energy | 6.2 | 27.2 | .0 | 3.8 | -1.6 |
| Previous Tealbook | 6.2 | 27.2 | -1.9 | 1.4 | 8 |
| Excluding food and energy | 1.0 | 1.9 | 1.7 | 1.7 | 1.6 |
| Previous Tealbook | 1.0 | 1.9 | 1.5 | 1.5 | 1.4 |
| Prices of core goods imports ¹ | 2.6 | 7.7 | 1.0 | .9 | 1.5 |
| Previous Tealbook | 2.6 | 7.7 | .8 | .2 | 1.5 |

(Percent change at annual rate from final quarter of preceding period)

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.



Compensation per Hour

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

4-quarter percent change

PCE Prices ex. Food and Energy



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

Long-Term Inflation Expectations



Note: The Survey of Professional Forecasters (SPF) projection is for the PCE price index. Source: Thomson Reuters/University of Michigan Surveys of Consumers; 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.

are about 25,000 higher, on average, than our January forecast as a result of the modestly faster pace of GDP growth that we are now projecting. Outside of the private sector, we expect state and local employment to continue to decline in 2012—though at a slower rate than in previous years—and then to rise modestly in 2013 as budget pressures diminish further. These employment gains push the unemployment rate down to 7¾ percent by the end of next year, ½ percentage point lower than in the January Tealbook; about half of the projected decline over the medium term reflects downward pressure on labor force participation from the expected phase-out of EUC benefits.

Resource Utilization

Combined with the downward revisions to the current level of potential output that we have made in this forecast, the faster projected rate of real GDP growth this year and next yields an output gap that is 1¹/₄ percentage points narrower at the end of 2013 relative to the January Tealbook. Similarly, the downward revisions to the projected path of the unemployment rate yield an unemployment gap that is ¹/₂ percentage point narrower at the end of the medium term than in our previous projection. Nevertheless, the unemployment rate at the end of 2013 is still projected to be 1³/₄ percentage points above the NAIRU; this extended period of labor market slack is likely to be associated with a continuation of other adverse labor market conditions, including below-trend labor force participation and an unusually large number of long-term unemployed.

Unlike the staff's measure of potential GDP, which directly reflects trends in the labor force, our concept of capacity for the industrial sector focuses on the capability of plants to produce with the equipment that is in place and ready to operate and not on the potential workforce. We expect slack in the industrial sector to continue to be taken up more quickly than in the economy as a whole, in part because manufacturing capacity is projected to rise just 1 percent in 2012 and 1³/₄ percent in 2013. As a result, at the end of 2013, our projection calls for the factory operating rate to be just above its long-run average despite a still-sizable GDP gap.

Prices and Compensation

We expect that the wide margin of labor market slack and low rates of price inflation that we are projecting will restrain labor costs over the medium term. Both the Productivity and Cost measure of nonfarm hourly compensation and the employment cost index are expected to rise 2¹/₂ percent per year, on average, in 2012 and 2013; this pace averages about ¹/₄ percentage point per year faster than our January forecast, as we are Domestic Econ Devel & Outlook

now anticipating a slightly stronger labor market and higher path for consumer prices in the medium term. Combined with our projection for moderate productivity gains over the next two years, these compensation increases imply only a modest rate of increase in unit labor costs.

We expect prices of imported core goods to increase at an annual rate of 1¹/₂ percent from the second quarter of this year through 2013, in line with our forecast for relatively flat commodity prices and modest further dollar depreciation. For 2012 as a whole, this forecast is ³/₄ percentage point higher relative to the January Tealbook, reflecting both recent declines in the dollar and recent increases in commodity prices; in 2013, our projection for core import price inflation is unrevised.

On balance, measures of longer-term inflation expectations have changed little since the January Tealbook. In the February Michigan survey, median 5-to-10-year expected inflation increased 0.2 percentage point from the 2.7 percent reading that prevailed over the preceding four months; this move returns these expectations to the middle of the range in which they have fluctuated over the past 10 years. Meanwhile, expectations for PCE price inflation over the next 10 years as measured by the Survey of Professional Forecasters were unchanged in the first quarter at 2.2 percent. In addition, inflation compensation 5 to 10 years ahead derived from TIPS spreads is about unchanged since the time of the January Tealbook.

With inflation expectations anticipated to remain stable, we project that the increases in energy prices now in train will have only a transitory effect on overall consumer price inflation. And, as in previous Tealbooks, we anticipate that low levels of resource utilization will continue to restrain core PCE inflation over the projection period. However, in light of the narrower margin of slack in this forecast and upward revisions to the projected path of import and energy prices this year, we have edged up our forecast for core PCE inflation by 0.2 percentage point in 2012 (to 1.7 percent) and in 2013 (to 1.6 percent). Increases in energy prices are projected to boost headline PCE inflation above the core inflation rate over the first half of this year, but as energy and food prices decelerate, headline inflation is projected to run a little below core inflation thereafter. (The box "Framework for Board Staff Inflation Projections" provides additional background on the factors that influence the staff's inflation forecast.)

THE LONG-TERM OUTLOOK

We have extended the staff's forecast through 2020 using the FRB/US model and our assumptions about long-run supply-side conditions, fiscal policy, and other factors. The contour of the long-term outlook depends on the following key assumptions:

- Monetary policy seeks to stabilize PCE inflation at 2 percent, consistent with the Committee's statement after the January meeting on its longer-run goals and monetary policy strategies.
- The Federal Reserve's holdings of securities follow the baseline-consistent portfolio projections reported in Book B. The decline in the System's portfolio holdings over the long term contributes about 35 basis points to the rise in the 10-year Treasury yield after 2013. Beyond that point, the System's asset holdings are expected to have little influence on the level of term premiums.
- Risk premiums on corporate equities and bonds decrease gradually to normal levels, and banks further ease their lending standards.
- The federal government budget deficit (measured on a NIPA basis) narrows from about 5 percent of GDP in 2013 to 4 percent of GDP in 2016, then remains roughly stable at that level through the end of the decade. The decline in the deficit primarily reflects the effects of the strengthening pace of the economic recovery on tax receipts and the budgetary restraint imposed by the Budget Control Act.
- The real foreign exchange value of the dollar depreciates 2 percent per year from 2014 to 2016. The pace of dollar depreciation tapers off thereafter. The price of crude oil edges down about \$3 per year from 2013 to 2016 and remains flat in real terms thereafter. Foreign real GDP rises 3½ percent per year, on average, from 2014 through 2016 and then gradually edges down to a 3 percent pace by late in the decade.
- The NAIRU declines from 6 percent in late 2013 to 5¼ percent in late 2017 as conditions in the labor market gradually improve, and it remains at 5¼ percent in the long run. Potential GDP increases about 2½ percent per year, on average, from 2014 through the end of the decade.

Framework for Board Staff Inflation Projections

Board staff employ a variety of reduced-form and structural models to inform our judgmental outlook for inflation. Our forecast for headline inflation is determined by combining separate projections for its food and energy components, which are largely derived from the staff's outlook for commodity prices, and for core inflation. While the various empirical models of core inflation that we consult differ in important ways, the basic framework for describing our inflation projections can be summarized using a stylized expectations-augmented Phillips curve of the form:

$$\pi_t = \pi_t^e + \beta GAP_t + \tau Z_t + \rho(\pi_{t-1} - \pi_t^e) + \varepsilon_t.$$

Here π denotes core inflation; π^e is the staff's judgmental estimate of the public's longrun inflation expectations (which is informed by survey and financial-market measures); GAP is a measure of resource utilization (for example, the staff's unemployment gap); *Z* is a set of other factors, including changes in the relative prices of energy and imports (supply shocks) and unusual movements in nonmarket core PCE prices; and ε is a residual. To capture the sluggish adjustment of inflation to changes in expected inflation, slack, and other factors, the equation includes lagged core inflation.¹ Nonetheless, permanent changes in expected inflation eventually pass through one-for-one into actual inflation.

The effect of slack resources or other factors on inflation depends importantly on whether these factors also affect inflation expectations. For example, consider the large increases for the prices of imports and commodities seen in the first half of 2011. When long-run inflation expectations are well anchored—and the staff's assessment is that this has been the case in recent years—our models predict that a transitory rise in import price inflation will have only a temporary effect on inflation. (Such a scenario is illustrated by a simulation of the stylized model in the top panel of the figure on the next page.) Likewise, a widening of the unemployment gap pushes inflation lower, and under our assumption of stable long-run inflation expectations, inflation remains at this lower level if the unemployment gap persists (see the bottom panel of the figure); but after the gap begins to close, inflation moves back up toward its long-run expected level.

Given this characterization of inflation dynamics, we judge that the decline in core PCE inflation since last summer partly reflects the waning effects of the earlier positive shocks to import and commodity prices. Moreover, given the apparent stability of long-run inflation expectations, we project core inflation will remain below its long-run expected value for some time as the gap in resource utilization closes only slowly. In addition, the

¹ In practice, we find that lags of inflation are economically and statistically significant (and we typically include more than one lag of inflation in our forecasting equations). In theoretical terms, this evidence of inflation inertia could stem from a number of sources, including costly acquisition and processing of information, indexation of wages or prices, or agents who set wages or prices with reference to past inflation.

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relatively flat trajectories for projected crude oil prices (following their recent increases) and farm commodity prices are consistent with our forecasts of small changes in food and energy prices beyond mid-2012. Thus, headline inflation is expected to run a little below core inflation starting in the second half of this year.

Of course, considerable risks attend our inflation projection. If inflation expectations were to drift down in the face of a persistently wide margin of slack in labor and product markets (as has happened at times in the past), inflation could move lower.² Conversely, if inflation expectations were to move higher—perhaps in response to a sustained rise in commodity prices—we could see a more persistent upward movement in inflation. Moreover, if inflation expectations were to remain well anchored but resource slack were to diminish more rapidly than anticipated, we would expect to see actual inflation rise more quickly toward its long-run expected level.

Permanent increase in the level of relative core import prices Percent Percent 3.2 3.00 2.75 Relative import price inflation (right scale) 3 2.50 2 2.25 1 Core inflation (left scale) 0 2.00 1.75 -4 -2 0 2 4 6 8 10 12 14 16 18 20 22 24 Quarters



² In a traditional "accelerationist" Phillips curve model, where inflation expectations are implicitly assumed to be formed as a distributed lag of past inflation rates with lag coefficients that sum to 1, inflation continues to decline as long as slack is present. Thus, in that model, a transitory change in slack results in a permanent change in inflation because the initial decline in inflation leaves a permanent imprint on inflation expectations.

Core Inflation Simulations in a Stylized Model with Anchored Expectations

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The Long-Term Outlook

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

| Measure | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|------|------|------|------|------|
| Real GDP | 2.4 | 2.7 | 3.3 | 3.7 | 3.4 |
| Previous Tealbook | 2.1 | 2.4 | 3.6 | 4.2 | 3.7 |
| Civilian unemployment rate ¹ | 8.2 | 7.8 | 7.5 | 6.9 | 6.2 |
| Previous Tealbook | 8.6 | 8.2 | 7.8 | 7.2 | 6.5 |
| PCE prices, total | 1.8 | 1.4 | 1.4 | 1.5 | 1.6 |
| Previous Tealbook | 1.4 | 1.3 | 1.5 | 1.5 | 1.6 |
| Core PCE prices | 1.7 | 1.6 | 1.6 | 1.6 | 1.7 |
| Previous Tealbook | 1.5 | 1.4 | 1.4 | 1.4 | 1.5 |
| Federal funds rate ¹ | .1 | .1 | .8 | 2.1 | 3.0 |
| Previous Tealbook | .1 | .1 | .3 | 1.5 | 2.5 |
| 10-year Treasury yield ¹ | 2.8 | 3.6 | 3.7 | 4.0 | 4.1 |
| Previous Tealbook | 2.7 | 3.5 | 3.7 | 3.9 | 4.1 |

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













Note: In each panel, shading represents the projection period, dashed lines are the previous Tealbook.

The economy is forecast to enter 2014 with output still significantly below its potential level, the unemployment rate well above the assumed NAIRU, and inflation lower than the long-run objective of the Committee. In the staff's long-term projection, improving household and business confidence, diminishing uncertainty, and more-supportive financial conditions enable real GDP to rise at an average annual rate of 3½ percent from 2014 to 2016. With real GDP expanding at a pace significantly faster than the growth rate of potential output, labor market conditions improve markedly. Nonetheless, the unemployment rate is 6¼ percent at the end of 2016, still ¾ percentage point above the assumed NAIRU. With the margins of slack in both labor and product markets narrowing, downward pressures on price increases gradually ease, but inflation edges up to only 1.6 percent in 2016. Later in the decade, the economy settles down at an unemployment rate near 5¼ percent (the assumed long-run NAIRU), with inflation at 2 percent (the Committee's objective) and a nominal funds rate close to 4¼ percent.










International Economic Developments and Outlook

Foreign economic growth hit a soft patch at the end of 2011 but, outside of the euro area, is expected to bounce back in the current quarter. Real GDP growth in the foreign economies as a whole stepped down from 3³/₄ percent in the third quarter to only 1¹/₄ percent in the fourth quarter, ³/₄ percentage point weaker than estimated in the January Tealbook. The deceleration in activity was widespread. As we had anticipated, output contracted in Europe, reducing demand for exports from other countries. In addition, floods in Thailand disrupted its production and its supply chains with other countries to a greater extent than we had written down in January. These disruptions should prove temporary, however, and we project that foreign GDP growth will rebound to 3 percent in the current quarter, ¹/₂ percentage point stronger than forecast in January. Indeed, data through February point to a pickup in global manufacturing activity.

Foreign growth should remain near 3 percent through the rest of 2012 before edging up to 3¹/₄ percent in 2013. This forecast is about ¹/₄ percentage point stronger than the one in the January Tealbook, largely due to encouraging news from Europe. In particular, further easing in financial strains and better-than-expected economic indicators led us to scale back our projected recession for the euro area. The less dismal prospects for the euro area, in turn, should provide greater support for global financial conditions and economic activity. We have also marked up our forecast for foreign growth in light of more accommodative monetary policy abroad and the stronger U.S. outlook. Nevertheless, Europe continues to pose important risks to the global economy: The region's fiscal and financial situation remains vulnerable to any number of adverse developments, and European policymakers still face critical challenges.

We project that foreign inflation will stay at 3 percent in the first quarter, rather than decline to 2¹/₄ percent as forecast in January. This upward revision is attributable to the recent run-up in oil prices as well as a surge in food prices in China, Japan, and Mexico. Core inflation readings, in contrast, have been relatively subdued. Therefore, with commodity prices projected to level off, foreign inflation should moderate to a bit less than 2¹/₂ percent over the remainder of the forecast period. Amid contained inflation and lingering concerns about the strength of the global economy, further monetary policy easing is expected.

-1

-2



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

Recent Foreign Indicators

12-month percent change



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-1

The Foreign Outlook

(Percent change, annual rate)

| | | 2011 | | | 2012 | | |
|----------------------------|-----|---|--------------|-----|------|-----|------|
| | H1 | Q3 | Q4 | Q1 | Q2 | H2 | 2013 |
| Real GDP | | | | | | | |
| Total foreign | 3.0 | 3.8 | $1.2 \\ 2.0$ | 3.1 | 2.8 | 2.9 | 3.2 |
| Previous Tealbook | 3.0 | 3.6 | | 2.5 | 2.3 | 2.6 | 3.0 |
| Advanced foreign economies | .9 | 3.1 | .1 | 1.1 | 1.1 | 1.3 | 1.8 |
| Previous Tealbook | .9 | 2.7 | .6 | .6 | .5 | 1.1 | 1.5 |
| Emerging market economies | 5.2 | 4.6 | 2.4 | 5.2 | 4.7 | 4.6 | 4.6 |
| Previous Tealbook | 5.3 | 4.6 | 3.5 | 4.6 | 4.3 | 4.3 | 4.5 |
| Consumer Prices | | | | | | | |
| Total foreign | 3.7 | 3.1 | 2.9 | 3.1 | 2.4 | 2.4 | 2.4 |
| Previous Tealbook | 3.7 | 3.1 | 3.1 | 2.3 | 2.4 | 2.3 | 2.3 |
| Advanced foreign economies | 2.7 | $\begin{array}{c} 1.1 \\ 1.0 \end{array}$ | 2.5 | 2.1 | 1.4 | 1.4 | 1.3 |
| Previous Tealbook | 2.7 | | 2.8 | 1.6 | 1.2 | 1.3 | 1.1 |
| Emerging market economies | 4.6 | 4.6 | 3.2 | 3.8 | 3.2 | 3.2 | 3.2 |
| Previous Tealbook | 4.6 | 4.6 | 3.3 | 3.0 | 3.3 | 3.1 | 3.2 |

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

Percent change, annual rate Percent change, annual rate 15 Current ··· Previous Tealbook Emerging market economies 10 5 0 Advanced foreign economies Total foreign -5 -10 2013 2009 2009 2010 2011 2012 2008 2010 2011

Real GDP



15

10

5

0

-5

-10

ADVANCED FOREIGN ECONOMIES

Real GDP in the advanced foreign economies (AFEs) stalled in the fourth quarter, underperforming our January estimate of ½ percent growth. Output contracted in the euro area, in the United Kingdom, and, unexpectedly, also in Japan. The weakness in AFE growth, however, partly reflected temporary factors, and recent financial developments and economic indicators have been more encouraging. Accordingly, we now project that real GDP in the AFEs will increase 1¼ percent in 2012 and 1¾ percent in 2013. Although still quite weak, this forecast is ½ percentage point higher this year and ¼ percentage point higher next year than in the January Tealbook. In the euro area, although recessionary dynamics are in train and significant headwinds remain, financial conditions and economic indicators have improved, and the recession is now expected to be less severe than forecast in the January Tealbook.

Headline inflation in the AFEs jumped to an annual rate of 2½ percent in the fourth quarter from 1¼ percent in the third quarter. This pickup largely reflected temporary factors that dissipated toward the end of last year. Data for January and February point to a decline in inflation this quarter, and, in view of substantial output gaps, we project that inflation will come in at 1½ percent in 2012 and 1¼ percent in 2013. This forecast is a touch higher than in the previous Tealbook, reflecting recent increases in energy prices as well as somewhat improved growth prospects. Given moderating inflation and persistent economic slack, we expect that the major foreign central banks will maintain highly accommodative monetary policy through the end of the forecast period.

Euro Area

The outlook for the euro area has improved notably since the January Tealbook. Financial tensions, although still elevated, have eased further in response to significant liquidity provision to euro-area banks by the European Central Bank (ECB), the easier terms for dollar funding via the central bank swap lines, progress toward more-effective governance over the region's fiscal policies, and stronger commitments to implement structural reforms. In addition, after lengthy negotiations, the Greek government and its official and private creditors appear close to finalizing a restructuring of Greek sovereign debt and a second EU–IMF rescue package. (For further details, see the box "Recent Policy Developments in the Euro Area.") In view of these developments, our baseline scenario now calls for financial stresses to slowly diminish, although the region will remain highly vulnerable to shifts in market sentiment and confidence.

Euro-area real GDP contracted at a 1.3 percent annual pace in the fourth quarter, in line with the estimate in the January Tealbook. Output contracted 1¹/₄ percent in Spain but much more sharply in other peripheral countries, including a decline of 3 percent in Italy, 5 percent in Portugal, and an estimated 20 percent in Greece. The weakness is consistent with the ECB's bank lending survey for the fourth quarter, which showed a significant tightening of lending standards and terms by euro-area banks, in part due to difficult funding conditions. However, this credit tightening preceded the ECB's threeyear longer-term refinancing operations (LTROs) and subsequent easing of financial tensions. Moreover, euro-area composite PMIs for January and February improved from their low fourth-quarter readings. Business and consumer confidence also edged up in January and February, although both remain at very depressed levels. In response to improved financial conditions and somewhat better-than-expected economic indicators, we marked up euro-area output growth ³/₄ percentage point in 2012 and ¹/₂ percentage point in 2013. We now forecast real GDP to contract through the third quarter and then expand at a 1 percent pace in 2013. This outlook is still very anemic, however, as we expect fiscal and financial headwinds to hinder the recovery despite the recent improvement in market sentiment.

Moreover, considerable risks remain, as euro-area policymakers face a number of difficult hurdles. First, the Greek debt exchange must be successfully completed, and, over the medium term, Greece must implement politically difficult austerity measures to meet the terms of the EU–IMF program. Second, European authorities have yet to bolster their backstop for embattled sovereigns by increasing the €500 billion cap on the combined capacity of EU lending facilities. Such an increase, which would help to ease fears of a loss of Italian or Spanish access to debt markets, is likely but not assured. Third, Portugal's situation remains precarious, and we expect that the EU and the IMF will have to strengthen their support. Should European authorities fail to address these difficult issues, financial conditions and economic prospects could deteriorate sharply, as discussed in the scenario "European Crisis with Severe Spillovers" in the Risks and Uncertainty section. That said, it is possible that recent shifts in sentiment have initiated a virtuous circle of improving financial conditions and strengthening economic prospects, and this outcome could foster recovery at a pace faster than anticipated in our baseline; such a scenario is also discussed in the Risks and Uncertainty section.

Recent Policy Developments in the Euro Area

Since the time of the January Tealbook, European policymakers have focused on stabilizing Greece and strengthening euro-area fiscal governance. Progress on bolstering the euro-area financial backstop has been more limited. Meanwhile, the European Central Bank (ECB) has continued to provide substantial liquidity to euro-area banks.¹

Notable strides have been taken recently to negotiate a new aid package for Greece, which is crucial to prevent default on €14½ billion of Greek government bonds maturing on March 20. As part of this new assistance package, the European Union (EU) and the International Monetary Fund (IMF) set an objective of reducing Greece's public debt to 120.5 percent of GDP by 2020. Toward this end, the package includes significant concessions by private and official creditors, as well as additional Greek fiscal measures.

In mid-February, the Greek government and representatives of its private creditors agreed on a major debt restructuring. This agreement entails a 53.5 percent reduction in the face value of debt. For every €100 of eligible Greek government bonds tendered in the exchange, creditors will receive €15 in short-term notes issued by the European Financial Stability Facility (EFSF) and €31.5 of new Greek government bonds with maturities of 11 to 30 years; these bonds will pay coupons that rise over time from 2 percent to 4.3 percent. Bondholders will also receive separate GDP-linked securities that will pay up to 1 percent in additional interest if Greek government formally initiated the exchange and set a response deadline of Thursday, March 8, the day after this Tealbook is finalized.

To ensure substantial participation in the exchange, the Greek government established collective action procedures that apply to Greek government bonds issued under Greek law prior to December 31, 2011. These procedures enable a qualified majority of bondholders to impose the agreed-upon restructuring terms on all holders of such domestic-law bonds, which account for the majority of the Greek government's outstanding bonds.² Moreover, the Greek government effectively threatened to default on bonds that are not exchanged and to implement a more severe restructuring if the current plan is not successful.

Separately, the Greek government and its official creditors have agreed on the policy framework of the new EU–IMF program. The program includes austerity measures designed to attain a primary fiscal surplus of 4½ percent of GDP by 2014 (compared with a primary fiscal deficit of 5 percent in 2010), structural

¹ For a discussion of the ECB's measures, see the box "The ECB's Three-Year Longer-Term Refinancing Operations," in the Financial Developments section.

² In this instance, a qualified majority is defined as a two-thirds majority (weighted by the value of their bond holdings) of those participating in the vote, subject to participation amounting to at least 50 percent of outstanding eligible bonds.

reforms intended to facilitate a 15 percent reduction in unit labor costs by 2015, and measures to stabilize Greece's banking system. Subsequently, the leaders of the two major political parties in Greece provided written commitments to this new policy framework, as requested by the EU and IMF in light of Greek parliamentary elections scheduled for this spring.

Euro-area member states, for their part, agreed to lower the interest rates on their existing loan facilities for Greece. In addition, although the Eurosystem's holdings of Greek government debt are excluded from the debt restructuring, the Eurosystem agreed to contribute to the program by forgoing a portion of its earnings on these holdings. Specifically, part of the income on Greek government debt held by the Eurosystem will be transferred to Greece.³

In addition, euro-area finance ministers are reportedly scheduled to approve new EU–IMF financing of up to €130 billion for Greece within the next week. This funding is conditional on a successful debt exchange and continued progress by Greece on its policy commitments. Thus, a failure to achieve sufficient debt reduction through the debt exchange could jeopardize EU–IMF financing and lead to a more coercive debt restructuring or even a disorderly default.

Should Greece default, the region still lacks a credible financial backstop to check contagion to other vulnerable countries such as Italy and Spain. Moreover, progress on bolstering the firewall has been limited since the January Tealbook. Euro-area leaders postponed a review of the €500 billion ceiling on the combined lending capacity of the EFSF and the European Stability Mechanism (ESM) to later in March. This delay has held up action on the IMF's proposal to increase its lending capacity by \$500 billion, as major IMF shareholders have conditioned their support on a significant expansion of the euro area's own lending capacity. The issue remains unresolved, but there are some indications that, with several euro-area countries having dropped their opposition, Germany may acquiesce to an increase in the combined EFSF–ESM ceiling.

One reason some euro-area leaders have been reluctant to expand EU lending capacity is their concern that it may weaken incentives for vulnerable governments to undertake difficult reforms. On March 2, leaders of all 27 EU countries except for the Czech Republic and the United Kingdom signed a new fiscal compact treaty, which commits participating countries to pass laws that generally require structural government budget deficits to be no more than ½ percent of GDP. However, implementation of this treaty is not yet assured, as it still requires ratification by at least 12 euro-area national parliaments, and Ireland plans to put it to a national referendum.

³ Indications are that some euro-area governments facing high funding costs (likely including Spain and Italy) will keep a portion of the income as compensation for financing the Greek government at rates below their own cost of borrowing.

Euro-area inflation jumped to nearly 4 percent at an annual rate in the fourth quarter, reflecting the one-time effect of a change in seasonal adjustment procedures. With data in hand through February, we project that inflation will decline to 3 percent in the current quarter. This slowdown is 1 percentage point smaller than forecast in the previous Tealbook due to the unexpected run-up in oil and natural gas prices. As energy prices flatten out and resource slack remains considerable, inflation should step down to $1\frac{1}{2}$ percent in the second half of this year and stay at that level over the rest of the forecast period.

The ECB at its February meeting left its benchmark policy rate at 1 percent. Later in the month, the ECB conducted its second LTRO, allotting €529 billion to about 800 financial institutions (see further details in the Financial Developments section). We continue to expect that the ECB will keep policy rates unchanged over the forecast period and provide significant liquidity support to banks, resulting in very low short-term market interest rates.

United Kingdom

U.K. real GDP contracted at a 0.8 percent pace in the fourth quarter, a somewhat larger decline than we had expected, because of a surprisingly sharp deceleration in inventory accumulation. However, a rebound in PMI readings in January and February suggests that economic growth turned positive in the current quarter. Moreover, with the euro area now projected to undergo a milder recession, we revised up our outlook for the U.K. economy. Real GDP growth is projected to average 1 percent in 2012 and 2 percent in 2013, supported by accommodative monetary policy. The Bank of England (BOE) announced a £50 billion (3 percent of GDP) expansion of its quantitative easing program in early February, which will bring its cumulative asset purchases to £325 billion (22 percent of GDP) by early May. We expect the BOE to boost asset purchases by another £50 billion by midyear and to keep the Bank Rate at 50 basis points over the forecast period.

The BOE's decision to further ease its policy stance has been facilitated by a rapid deceleration in consumer prices around the turn of the year. The 12-month headline inflation rate dropped from 5.2 percent in September to 3.6 percent in January, in part as the effects of last year's increase in the value-added tax dropped out of the equation. Moreover, core prices have come in a bit weaker than anticipated, and, amid considerable

resource slack, we project that headline inflation for 2012 and 2013 will decline to just below 2 percent.

Japan

Japanese real GDP declined 2.3 percent in the fourth quarter, compared with our January projection of a very small increase, partly reflecting greater-than-expected supply disruptions from the floods in Thailand. However, data on fourth-quarter capital expenditures, published after the release of the preliminary GDP estimate, suggest that output will be revised up to show a smaller contraction. We project that real GDP growth will rebound to 2³/₄ percent in the current quarter. Industrial production rose at a solid pace in January for the second consecutive month, and the manufacturing PMI for February points to further gains. In addition, the enactment of supplementary budgets in November and February is supporting a pickup in reconstruction activity. As the boost from the reconnection of supply chains ends and Japan's own reconstruction efforts abate, growth should moderate to a 2 percent pace for the rest of 2012 and to 1¹/₂ percent in 2013. This outlook is somewhat stronger than previously projected due to the recent depreciation of the yen and the upward revisions to growth in the United States and the euro area.

In January, food prices spiked and core prices were higher than expected. Accordingly, we estimate that inflation will rise from negative ³/₄ percent in the fourth quarter to positive ¹/₂ percent in the current quarter, nearly 1 percentage point more than in the previous Tealbook. In response to the recent run-up in oil prices, the depreciation of the yen, and the stronger growth outlook, we also have increased our inflation projection a bit over the remainder of the forecast period. Nevertheless, we continue to expect prices to decline over this period at an average pace slightly below ¹/₄ percent. In mid-February, the Bank of Japan expanded its Asset Purchase Program by ¥10 trillion and announced a 1 percent goal for inflation. Amid sizable output gaps and persistent deflation, we anticipate that the BOJ will further expand its asset purchases during the forecast period.

Canada

Real GDP in Canada rose 1.8 percent in the fourth quarter, a touch less than we anticipated. However, private consumption posted solid gains. In January, employment increased for the second consecutive month, and in February, consumer confidence was up, and the manufacturing PMI remained in expansionary territory. We expect GDP

growth to hover between 2 and 2½ percent over the forecast period, up ¼ percentage point relative to the previous Tealbook. The stronger outlook largely reflects improved growth prospects in the United States and Europe.

Headline inflation moved up to an annual rate of almost 3 percent in the fourth quarter, partly reflecting higher energy prices. However, core inflation readings through January indicate that underlying price pressures remained contained. Accordingly, we project that inflation will step down to 2¼ percent in 2012 and to 1¾ percent in 2013, a little higher than in the January Tealbook given the recent increases in oil prices and improvement in GDP growth. With moderating inflation and lingering concerns about foreign growth, we continue to expect that the Bank of Canada will maintain its main policy rate at 1 percent through the end of 2013.

EMERGING MARKET ECONOMIES

With the bulk of fourth-quarter data now in hand, we estimate that real GDP growth in the emerging market economies (EMEs) slowed to 2½ percent in the fourth quarter from 4½ percent in the third. This step-down reflects some cooling of the rapid pace of Chinese growth, weaker demand from Europe for Asian exports, and the adverse effects of the floods in Thailand and a drought in Mexico. The fourth-quarter estimate is 1 percentage point lower than in the January Tealbook, as the disruptions to output from Thailand and Mexico were even greater than we had reckoned. We expect growth to bounce back to 5¼ percent in the current quarter, ½ percentage point higher than in our previous forecast. Indeed, recent indicators—including PMIs, industrial production, and exports—have been mostly upbeat.

Over the remainder of the forecast period, we see EME output rising at a 4½ percent pace, supported by strong domestic demand, recent monetary easing in several countries, and the recovery in advanced economies. This outlook is somewhat stronger than in the January Tealbook, especially for this year, largely due to improved prospects for the advanced economies.

Incoming data on consumer prices suggest that headline inflation in the EMEs will rise to an annual rate of 3³/₄ percent in the current quarter, nearly 1 percentage point higher than expected in the January Tealbook. This revision is driven by a jump in food prices in China and Mexico; elsewhere, inflation has generally been declining, as we had projected in January. Food price pressures in China and Mexico should wane in the near

term, and as a result, we see EME inflation retreating to about 3¹/₄ percent in the second quarter and remaining there over the rest of the forecast period, in line with our January forecast. Amid receding inflation pressures and continuing concerns about the outlook for global economic activity, a number of EME central banks, including those of Brazil, China, India, Indonesia, the Philippines, and Thailand, have loosened monetary policy since the time of the January Tealbook.

China

We expect the Chinese economy to continue to expand at about an 8 percent pace this year and next, with solid domestic demand helping offset relatively subdued external demand. This outlook is little changed from our projection in the January Tealbook. The manufacturing PMI has continued to edge up from its recent low in November to a level in February consistent with a solid pace of expansion. Exports were flat in January, likely reflecting reduced demand from Europe, although falling imports caused the trade surplus to widen.¹

After falling sharply during the previous few months, Chinese headline inflation edged up to 4½ percent on a 12-month basis in January, largely reflecting an increase in vegetable prices. We expect inflation to decline as food price pressures wane and to average a bit less than 3 percent over the next two years. With growth relatively slow (by Chinese standards) and inflation expected to decline soon, the People's Bank of China reduced required reserve ratios for banks by 50 basis points in late February, bringing the ratio for large banks to 20½ percent. Since Chinese authorities began loosening policy in November, reserve requirements have been reduced a cumulative 100 basis points. We look for continued appreciation of the Chinese currency against the dollar at a rate of 4 percent for the remainder of this year and 5 percent next year.

Other Emerging Asia

Elsewhere in emerging Asia, output was flat on average in the fourth quarter, although performance across the region varied considerably. The floods in Thailand resulted in a contraction in that country's GDP of about 35 percent at an annual rate, twice as much as we had anticipated. Disruptions to supply chains also caused growth to be weaker than we had expected in the rest of the region, especially in Taiwan and

¹ Monthly trade data tend to be unusually noisy at the start of the year due to variation in the timing of the lunar New Year holiday.

Hong Kong. In Korea and Taiwan, weakness in external demand appears to have spilled over to domestic demand as well. In contrast, fourth-quarter activity was stronger than anticipated in Indonesia and Malaysia.

We expect growth in the region to rebound to $5\frac{1}{2}$ percent in the first quarter as the effects of the floods dissipate. Indeed, industrial production recovered sharply in January, particularly in Thailand, and manufacturing PMIs through February continued to move higher across the region. Beyond the first quarter, growth is expected to average about $4\frac{1}{2}$ percent, a touch above the previous projection given the improved outlook in the advanced countries.

Inflation in the region appears to be subdued on the whole, and we expect it to run at about 3¹/₄ percent over the forecast period. Reflecting concerns about weakness in external demand, monetary policy was eased in a number of countries.

Latin America

Fourth-quarter growth in Mexico was disappointing, with real GDP rising only 1³/₄ percent, about half of what we projected in January, and down from a third-quarter increase of about 5 percent. In part, the sharp slowdown reflects a dive in agricultural output because of severe drought conditions. (Although this sector accounts for less than 4 percent of GDP, it contracted at an annual rate of 25 percent in the fourth quarter.) Growth in the services sector was tepid as well. In contrast, fourth-quarter figures for the manufacturing PMI and retail sales were more upbeat. The expected rebound in the agricultural sector and the anticipated pickup in U.S. manufacturing should boost growth to 4 percent in the current quarter. Thereafter, we expect Mexican growth to edge down to 3 percent by the end of the forecast period. For 2012, this projection is somewhat higher than in the January Tealbook, in line with the upward revision to U.S. manufacturing production.

For South America, we estimate that economic growth picked up to a 3 percent annual pace in the fourth quarter. Real GDP in Brazil rose 1¹/₄ percent after being flat in the third quarter, as private consumption picked up considerably but investment remained weak. Economic indicators for the rest of the region suggest that activity was more brisk, with output in Argentina and Venezuela continuing to be bolstered by loose fiscal and monetary policies. We estimate that growth in the region will move up to 3³/₄ percent in the current quarter and then remain at about that rate over the rest of the forecast period, with activity supported by high commodity prices, accommodative monetary policy, and the recovery in the advanced countries.

In January, drought-related spikes in food prices pushed Mexican inflation, on a 12-month basis, up to 4 percent, the upper bound of the central bank's inflation target range. However, food price pressures appear to be easing, and we expect Mexican headline inflation to move down to about $3\frac{1}{2}$ percent later this year, in line with our January projection. Inflation in Brazil is expected to decline from an annual rate of $6\frac{1}{2}$ percent at the end of last year to about $5\frac{1}{2}$ percent this year and next, though remaining significantly above the $4\frac{1}{2}$ percent midpoint of the central bank's inflation tolerance range.



Evolution of Staff's International Forecast







Financial Developments

Sentiment in domestic financial markets improved somewhat, on balance, over the intermeeting period, as economic data releases generally came in to the upside of market expectations and investors grew more optimistic about the situation in Europe. Broad indexes of U.S. equity prices increased, spreads on both investment- and speculative-grade corporate bonds narrowed, and implied volatility on the S&P 500 index remained near the low end of its range seen over the past four years. Partly reflecting the effects of the strengthened forward guidance included in the January FOMC statement, the expected path for the federal funds rate shifted down a bit in 2014 and beyond, and yields on longer-dated Treasury securities fell somewhat. Inflation compensation over the next five years edged higher, apparently because of rising commodity prices and a somewhat improved economic outlook, while changes in measures of longer-term inflation compensation were mixed.

In foreign financial markets, stock prices also rose. The U.S. dollar depreciated modestly against most other currencies as safe-haven demand appeared to ease a bit. Yield spreads of peripheral European sovereign debt to German bunds generally narrowed, particularly for shorter maturities. In addition, funding conditions for European financial institutions improved notably.

Domestic financing flows were mixed. Bond issuance was strong for both nonfinancial and financial corporations, and nonfinancial commercial paper and C&I loans expanded as well. In the household sector, consumer credit continued to increase in January, but residential mortgage lending remained moribund despite record-low mortgage rates. M2 advanced at a rapid pace in January, boosted largely by gains in liquid deposits and currency, but M2 growth in February was more in line with the moderate pace recorded late last year.

POLICY EXPECTATIONS AND TREASURY YIELDS

Policy expectations and Treasury yields moved down following the release of the January FOMC statement, which was reportedly viewed as somewhat more accommodative than anticipated. Investors reportedly focused on the change from "at least through mid-2013" to "at least through late 2014" in the forward guidance regarding the period over which the Committee expects that the target federal funds rate



Policy Expectations and Treasury Yields



Distribution of Modal Timing of First Rate Increase from the Desk's Dealer Survey Percent



Implied Federal Funds Rate



Note: Mean is estimated using overnight index swap quotes. Mode is estimated from the distribution of federal funds rate implied by interest rate caps. Both include a term premium of zero basis points per month.

Source: Bloomberg and CME Group.

Inflation Compensation



Note: Estimates based on smoothed nominal and inflationindexed Treasury yield curves.

*Adjusted for the indexation-lag (carry) effect. Source: Barclays PLC and staff estimates. will remain exceptionally low.¹ Most other FOMC communications during the period, including the FOMC's statement of longer-run goals and policy strategy released on the day of the January meeting, elicited little market reaction. However, yields edged up in response to the Chairman's monetary policy testimony on February 29, which reportedly surprised some investors by not providing much additional information about the potential for further policy accommodation. Treasury yields were also boosted, on net, during the intermeeting period by generally positive U.S. economic data and improving market sentiment regarding the crisis in Europe.

On net over the intermeeting period, yields on Treasury securities with maturities of two years or less were up a bit, while longer-dated Treasury yields declined. The Open Market Desk's outright purchases and sales of Treasury securities under the maturity extension program did not appear to have any material adverse effect on Treasury market functioning.²

Current readings of the expected policy path derived from OIS rates suggest that investors do not anticipate that the federal funds rate will rise above the current target range until the third quarter of 2013. The near-term portion of the path is about unchanged since the January FOMC meeting. Beyond mid-2014, however, the path shifted down a bit, on net, reportedly reflecting in part the change in the Committee's forward rate guidance.³ The modal path derived from quotes on interest rate caps also shifted down beyond mid-2014 and remains within the current target range through the end of 2015. Policy uncertainty measured from options on Eurodollar futures declined notably following the FOMC statement but ended the period slightly higher on net.

Results from the Desk's latest survey of primary dealers suggested that respondents expected no significant policy change at the March FOMC meeting but had

¹ The initial downward revision in the policy path was tempered by the subsequent release of policymakers' policy projections. These projections were initially read as pointing to an earlier liftoff date than suggested by the FOMC statement. Nonetheless, yields declined markedly, on balance, during subsequent days as investors apparently concluded that the policy outlook in the FOMC statement was the most important signal of the likely future path of policy.

² In response to a modest deterioration in the strength of offers at some recent open market operations, beginning in February, the Desk reduced slightly the size of individual operations in the 20- to 30-year sector but increased the number of operations from five to seven per month.

As of March 6, 2012, the Desk had sold \$233 billion of short-term Treasury nominal coupon securities and purchased \$229 billion of long-term securities under the maturity extension program.

³ The effective federal funds rate averaged 10 basis points over the intermeeting period, with the intraday standard deviation averaging about 4 basis points.

Short-Term Funding Markets and Financial Institutions

Selected Interest Rate Spreads



Asset-Backed Commercial Paper Outstanding in the U.S. Market



Nov. 1, 2011 = 100, log scale 180 Jan. Daily FOMC 160 140 120 Mai 6 100 80 Jan. May Sept. Jan. May Sept. Jan. 2010 2011 2012 Source: Bloomberg.



Dollar Funding Spreads



Source: Bloomberg; staff estimates.

Spreads on Asset-Backed Commercial Paper Issued in the U.S. Market





CDS Spreads of Large Bank Holding Companies

Financial Developments

pushed back slightly the expected timing of tightening since the last survey. Respondents viewed the third quarter of 2014 as the most likely time for liftoff of the federal funds rate, about two months later than they indicated in January. Relative to the last survey, the median forecast for the target federal funds rate was unchanged through mid-2015 but was revised down about 15 to 40 basis points further out. In response to questions about possible future options for easing, dealers modestly revised down, from 55 percent to 50 percent, the likelihood they assigned to an expansion of the SOMA portfolio through securities purchases within one year, and left unchanged at 50 percent the likelihood assigned to the Committee making changes to its balance sheet guidance within one year. Dealers left their forecasts for real GDP growth in the next three years mostly unchanged but revised up modestly their forecasts for core PCE inflation.

Near-term measures of inflation compensation ticked up, reflecting rising commodity prices and a somewhat improved economic outlook, while longer-term measures were mixed. TIPS-based inflation compensation over the next five years rose 4 basis points over the intermeeting period, and the swaps-based measure rose somewhat more. At the same time, five-year inflation compensation five years ahead derived from TIPS decreased 21 basis points, while the swaps-based measure was about unchanged. Survey-based expectations of longer-term inflation expectations moved up a bit, on balance, over the intermeeting period, though they remained within their recent ranges.

SHORT-TERM DOLLAR FUNDING MARKETS AND FINANCIAL INSTITUTIONS

Conditions in unsecured short-term dollar funding markets improved over the period, especially for financial institutions with European parents. In unsecured bank funding markets, the three-month LIBOR–OIS spread narrowed 10 basis points, and the spread between the three-month forward rate agreement and the OIS rate three to six months ahead (a rough gauge of investor expectations of future funding pressures) also moved down. Moreover, some foreign institutions have reportedly begun to fund at longer maturities in recent weeks.

In commercial paper markets, the amount of asset-backed commercial paper outstanding from programs with European sponsors remained stable, and spreads of rates on such paper relative to those on AA-rated nonfinancial paper decreased significantly, driven mainly by decreases in spreads of paper issued by entities with French parents. In addition, the average maturity of unsecured U.S. commercial paper issued by European banks moved higher over the intermeeting period. Short-term interest rates have generally increased modestly since the January FOMC meeting. In the repo market, rates for borrowing against Treasury general collateral have been slightly elevated, on average, relative to their levels prior to mid-January, reportedly reflecting increased funding demand for such repos by dealers in the face of unexpectedly heavy issuance of Treasury bills. Repo rates and margins for riskier collateral types were reportedly unchanged.

CDS spreads of large financial institutions continued to be somewhat volatile over the intermeeting period. On net, changes in spreads were mixed amid ongoing concerns about possible losses from capital markets activities, exposures to Europe, and an announcement from Moody's Investors Service that it was considering downgrading the credit ratings of several large global banking organizations. Bond issuance by financial firms was quite strong in January and February, likely in part to refinance maturing debt that had been issued during the financial crisis under the FDIC's Temporary Liquidity Guarantee program. On February 9, state and federal authorities announced an agreement with five large banks to settle claims of abusive mortgage practices, and indicated that actions against other large banks remained likely. However, there was little market reaction to this announcement, as the banks named had already set aside reserves to cover the associated costs. The equity prices of large banking organizations were little changed, on net, over the period.

Responses to the March 2012 Senior Credit Officer Opinion Survey on Dealer Financing Terms (SCOOS) indicated little change, on balance, in credit terms applicable to important classes of counterparties over the past three months, in contrast with the broad but moderate tightening reported in the December 2011 survey (see appendix). Moderate net fractions of dealers noted that demand for funding had generally increased over the same period. However, in response to a special question, dealers indicated that the risk appetite of most client types has changed little since the beginning of the year; an exception was "most favored" hedge funds, which reportedly displayed some increase in risk appetite. Nonetheless, one-fifth of respondents, on net, suggested that the use of financial leverage by hedge funds had decreased somewhat since the beginning of December, although conversations with market participants and some private-sector indicators suggest that leverage may have picked up more recently.

FOREIGN DEVELOPMENTS

The tone of foreign financial markets generally improved during the intermeeting period, supported by more accommodative foreign central bank policy, better-than-expected economic data, and some progress toward an orderly restructuring of Greek debt and a second EU–IMF rescue package. Nonetheless, conditions in Europe remain strained, likely reflecting concerns that the Greek debt restructuring plan could unravel or an adverse turn of events could put other European sovereigns and vulnerable banks under renewed pressure.

Funding conditions for euro-area banks eased over the period, reflecting in part further policy actions by the ECB. On February 29, the ECB conducted a second longer-term refinancing operation (LTRO), which provided European institutions with additional three-year funding of about €30 billion. (See the box "The ECB's Three-Year Longer-Term Refinancing Operations.") Earlier in February, the ECB had approved the plans of several national central banks to begin accepting a wider pool of collateral, adding an estimated €200 billion to banks' capacity to access ECB refinancing operations. On balance over the period, three-month euro LIBOR–OIS spreads narrowed about 25 basis points. In addition, banks' issuance of unsecured senior debt and covered bonds increased.

Dollar funding pressures continued to diminish over the intermeeting period, with the implied cost of dollar funding through the FX swap market falling almost 20 basis points. Reflecting the improved market funding conditions, demand for dollars at ECB lending operations declined, leaving the outstanding amount on the Federal Reserve's dollar liquidity swap line with the ECB at \$53 billion in early March, compared with \$85 billion at the time of the January FOMC meeting. Outstanding amounts on the dollar liquidity swap lines with other central banks remained small.

Benchmark sovereign bond yields declined over the period. In addition, yield spreads of peripheral sovereign debt over German bunds generally continued to narrow. The downgrades of several euro-area sovereigns during the period were widely expected and seemed to have little influence on bond yields.

Conditions in capital markets generally improved over the intermeeting period. Foreign corporate credit spreads continued to decline, and equity markets ended the period higher, particularly in Japan and the emerging market economies (EMEs). Net

The ECB's Three-Year Longer-Term Refinancing Operations

On December 8, 2011, the European Central Bank (ECB) announced measures designed to ease euroarea financial conditions. The ECB lowered its benchmark policy rate 25 basis points to 1 percent, reduced its required reserve ratio, and eased collateral rules.¹ In addition, the ECB announced that it would conduct two longer-term refinancing operations (LTROs) with maturities of three years. Interest will be paid at maturity of these operations at a rate equal to the average benchmark policy rate over the period, and, after one year, counterparties can repay all or part of their allotment. At the first operation, on December 21, the ECB allotted ϵ 489 billion in funds to 523 institutions, exceeding most expectations. At the second operation, on February 29, the ECB allotted ϵ 530 billion to 800 institutions. On net, total ECB refinancing has increased ϵ 453 billion since mid-December, to a record ϵ 1.1 trillion (see the lower-left figure on the next page).² Ninety percent of outstanding ECB refinancing now has a maturity of three years (the red area in the figure).

Along with other measures taken by European leaders, as well as the repricing of the dollar liquidity swaps announced last November, the ECB's operations have contributed importantly to the recent improvements in euro-area financial conditions and buoyed general sentiment. Since early December, Italian two-year sovereign spreads, for instance, have dropped about 400 basis points, and similar Spanish spreads have declined about 200 basis points (see the lower-right figure on the next page). Sovereign credit default swap (CDS) premiums for most European countries, with the notable exceptions of Greece and Portugal, have declined. Headline equity indexes are up about 6 percent in the euro area, and bank shares have risen about 4 percent over the same period.

One way the LTROs may have improved market sentiment is by reducing the perceived odds of a failure of a large European financial institution, especially in Italy or Spain. In particular, the provision of long-term liquidity has allowed euro-area banks to substantially meet upcoming funding needs at a low cost. Euro-area banks are facing about ϵ 470 billion in bond redemptions in 2012, and a number of them may have found it difficult to raise funds in private markets. As of December 7, just before the ECB's announcement of its new measures, average yields on European financial debt with maturities of one to three years were close to 4½ percent, so low-cost funding via the ECB was attractive, particularly for banks under stress. In addition, because some banks likely would have been collateral-constrained, the expansion of eligible collateral to bank loans, approved for national central banks in seven countries on February 9, likely boosted participation at the second three-year operation.

Following the ECB's announcement, funding stress for euro-area banks clearly diminished. Since early December, average yields on European financial debt with maturities of one to three years have dropped substantially, CDS premiums for Italian and Spanish banks have declined roughly 175 basis points, and the three-month euro LIBOR-OIS spread has declined 40 basis points, to about 50 basis points.

¹ The ECB reduced its required reserve ratio from 2 percent to 1 percent and eased collateral rules by lowering the ratings threshold for certain asset-backed securities. It also allowed national central banks (NCBs) to temporarily accept some bank loans as collateral, provided the NCBs retained the credit risk associated with such transactions. The last provision came into effect for seven NCBs on February 9.

² The total new liquidity provided by the three-year LTROs is lower than the sum of the two operations, as the three-year LTROs replaced some liquidity normally provided by shorter-term operations.

The LTROs likely contributed to lower sovereign spreads through two channels. First, by alleviating bank funding pressures, and thus the risk of the collapse of one or more banks, the LTROs may have reduced the perceived risk that banks would require substantial government support in the near term, lowering potential fiscal pressure and hence sovereign spreads. Second, the LTROs may have encouraged some banks to purchase sovereign debt. Increased access to the term funds made such purchases attractive, as banks could borrow euros for three years via the LTRO (with a cost at 1 percent if current policy rates persist) and use the funds to buy sovereign bonds of similar maturity that pay higher yields (above 4 percent in December for Spain and Italy). Indeed, Spanish and Italian banks increased their holdings of sovereign assets about €80 billion in December and January, and Italian and Spanish sovereign spreads fell especially at the short maturities corresponding to the LTROs. Still, the evidence for this channel is mixed: The decline in those spreads began even prior to the December 8 announcement, and sovereign spreads in some other peripheral countries also declined, notwithstanding the fact that their banks did not increase their holdings of sovereign debt.

Observers, including some Eurosystem officials, have noted that the injections of term liquidity come with some costs. In particular, the substantial expansion of the Eurosystem's balance sheet combined with the broadening of eligible collateral exposes the Eurosystem to potentially sizable losses. In addition, the easing of financial conditions ushered in by the operations may have the unintended effect of reducing the pressure for reforms. Nevertheless, overall, the ECB's three-year LTROs seem to have had a strong positive effect on investor sentiment in Europe, and this outcome has helped buoy international financial markets more generally.





Two-Year Sovereign Spreads*

Foreign Developments



²⁰¹¹ Note: Spread over German bunds. Source: Bloomberg.





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



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2012

inflows into Western European bond funds turned positive in recent weeks, and net inflows to EME equity and bond funds continued at a solid pace through the period.

Several central banks eased policy further in reaction to continued weak economic conditions. The Bank of England increased the size of its existing gilt purchase program by $\pounds 50$ billion to $\pounds 325$ billion in February, and the Bank of Japan scaled up its Asset Purchase Program by \$10 trillion. The Bank of Japan also introduced a 1 percent inflation goal. A number of EME central banks also eased monetary policy.

The broad nominal dollar declined modestly over the intermeeting period. Amid an apparent easing of flight-to-quality demand, the dollar depreciated against most currencies but strengthened 4¼ percent against the yen. The yen's decline, which reflects in part the currency's safe-haven tendency to move inversely with investor willingness to take risk, was likely augmented by the monetary policy measures announced by the Bank of Japan.

Reserve accumulation by the EMEs continued to slow in late 2011 and some major official holders of U.S. Treasury securities continued to diversify out of dollars, leading to foreign official outflows from the United States in December. Modest official inflows returned in January. Custody data from the Federal Reserve Bank of New York indicate further official inflows in February. Despite the improvement in market sentiment since mid-December, private foreign investors continued to buy Treasury securities, on net, in both December and January and showed limited appetite for riskier U.S. securities, while U.S. investors continued to sell foreign securities.

DOMESTIC ASSET MARKET DEVELOPMENTS

Broad equity price indexes rose about 2¼ percent, on net, over the intermeeting period, exceeding the levels seen last spring, prior to the intensification of concerns about Europe. This gain appears to have been driven by improved sentiment about the European crisis, as well as somewhat better-than-expected U.S. economic data. Option-implied volatility on the S&P 500 index remained near the low end of its range over the past four years. The spread between the staff's estimate of the expected real return for the S&P 500 index and the real 10-year Treasury yield—a gauge of the equity premium—narrowed further over the intermeeting period but remained very wide by historical standards.

Domestic Asset Market Developments







10-year expected inflation.

+ Denotes the latest observation using daily interest rates and stock prices and latest earnings data.

Source: Thomson Financial.







S&P 500 Earnings per Share





Spread on 30-Day A2/P2 Commercial Paper

Financial Developments

Aggregate operating earnings per share for firms in the S&P 500 index declined 3 percent in the fourth quarter, and bottom-up Wall Street forecasts point to a slight decline in the first quarter as well. Moreover, an index of revisions to analysts' forecasts of year-ahead earnings for S&P 500 firms remained in slightly negative territory in mid-February. These developments notwithstanding, profit margins for large corporations have remained high by historical standards.

Yields on investment- and speculative-grade corporate bonds continued to decline over the intermeeting period and now stand near record-low levels. The spreads on corporate bonds over comparable-maturity Treasury securities also declined, but they are still somewhat elevated by historical standards. Prices in the secondary market for syndicated leveraged loans moved up further over the period, supported by continued strong interest on the part of institutional investors for this asset class. The spreads of yields on A2/P2 unsecured commercial paper issued by nonfinancial firms over yields on A1/P1-rated issues generally fell slightly, on net, over the intermeeting period.

BUSINESS FINANCE

Issuance of securities by domestic nonfinancial firms has been solid. Bond issuance by speculative-grade nonfinancial firms was robust in January and February, while issuance by investment-grade firms increased sharply in February after a slow start in January. Meanwhile, nonfinancial commercial paper outstanding expanded solidly in January but dipped a bit in February. C&I loan growth continued to be significant and quite widespread among domestic banks, though holdings of such loans at U.S. branches and agencies of European banks decreased further. However, despite continued robust demand for leveraged loans from institutional investors, new issuance in this market has remained relatively weak.

Borrowing conditions for small businesses are generally still improving more gradually than are conditions for larger firms. The latest data from Call Reports show that C&I loans with "original amounts" of \$1 million or less—a large share of which likely consists of loans to small businesses—increased a bit in the fourth quarter. The Survey of Terms of Business Lending in February indicated that the spreads charged by commercial banks on newly originated C&I loans of \$1 million or less are still quite elevated. In the January and February NFIB surveys, the fractions of respondents reporting that credit was more difficult to obtain were little changed and still somewhat elevated despite having shown substantial improvement during the fourth quarter.

Business Finance

Selected Components of Net Debt Financing, Nonfinancial Firms Billions of dollars



Source: Depository Trust & Clearing Corporation; Thomson Financial; Federal Reserve Board.

Selected Components of Net Equity Issuance, Nonfinancial Firms Billions of dollars



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



Gross Issuance of Institutional Leveraged Loans



Financial Ratios for Nonfinancial Corporations





CMBS Issuance

Financial Developments

Gross public equity issuance by nonfinancial firms remained solid in January and February, boosted by continued strength in IPOs. Share repurchases and cash-financed mergers by nonfinancial firms maintained their recent strength in the fourth quarter, leaving net equity issuance deeply negative.

Indicators of the credit quality of nonfinancial corporations have remained solid. The aggregate ratio of debt to assets edged down in the fourth quarter, and the liquid asset ratio remained near its highest level in more than 20 years. The volume of corporate bonds of nonfinancial companies that were downgraded by Moody's so far this year somewhat outpaced the volume of those that were upgraded, owing mostly to a downgrade of the debt of Hewlett-Packard. The six-month trailing bond default rate for nonfinancial firms rose in January primarily because of the bankruptcy filing by Eastman Kodak. The expected year-ahead default rate for nonfinancial firms from the Moody's KMV model moved down in January, reflecting a considerable reduction in stock price volatility.

Financing conditions in the commercial real estate sector remain challenging amid weak fundamentals and tight underwriting standards. Prices for commercial real estate properties have continued to fluctuate at low levels, and vacancies and delinquency rates have remained elevated. Issuance of commercial mortgage-backed securities remained low in the fourth quarter of 2011. Many commercial mortgages that will mature in 2012 were originally made before 2007, when property prices were still rising rapidly and lending standards were relatively loose. Borrowers may find it difficult to refinance these loans in the current environment.

HOUSEHOLD FINANCE

Although mortgage rates remained near their historic lows, conditions in residential mortgage markets continued to be tight. Mortgage delinquencies edged down further but are still high relative to their pre-crisis levels. House prices ticked up in January but remained 3¹/₄ percent below their year-ago level. Although mortgage refinancing activity picked up slightly over the intermeeting period, tight underwriting standards and low levels of home equity are still impediments to refinancing for many households.

Consumer credit has grown steadily in recent months. The growth rate of nonrevolving credit has returned to about its pre-crisis pace, largely because student

Household Finance

Mortgage Rate and MBS Yield



Note: For mortgage-backed securities (MBS) yield, the data are daily and consist of the Fannie Mae 30-year current-coupon rate; for mortgage rate, the data are weekly before 2010 and daily thereafter.

Source: For MBS yield, Barclays; for mortgage rate, Freddie Mac (before 2010) and Loansifter (after 2010).

Prices of Existing Homes















Gross Consumer ABS Issuance

lending, which is now almost entirely originated by the federal government, has expanded rapidly. Revolving credit has increased more slowly in recent months than has nonrevolving credit, as nonprime borrowers continue to face very tight underwriting standards for credit cards. Delinquency rates on both revolving and nonrevolving consumer credit held at banks remained low in the fourth quarter, and delinquency rates on securitized credit card loans also were at low levels. Issuance of consumer ABS held steady at moderate levels in the fourth quarter of 2011 and in early 2012.

GOVERNMENT FINANCE

During the intermeeting period, the Treasury Department auctioned about \$235 billion of nominal coupon securities across the maturity spectrum and \$9 billion of 30-year TIPS. Auction prices on nominal coupon securities were generally near or slightly better than expected, while those for TIPS were slightly worse than anticipated by market participants. In the February quarterly refunding statement, the Treasury noted that it was considering proposals to issue floating-rate notes on a regular basis and that it would announce its decision regarding such notes at the next quarterly refunding in May.

Although municipal bond markets were generally receptive to new issuance and yields on long-term general obligation municipal bonds remained near historical lows, issuers were reportedly reluctant to borrow due to ongoing fiscal strains. Gross long-term issuance of municipal bonds was subdued in the first two months of the year. CDS spreads for debt issued by states were roughly flat over the intermeeting period. Ratings downgrades of municipal bonds by Moody's continued to substantially outpace upgrades in the fourth quarter, and higher-frequency data on ratings changes suggest that this trend will likely continue. Moreover, Moody's placed on review the ratings of about \$60 billion of municipal variable-rate demand obligations because Moody's is also reviewing the ratings of the financial institutions that provide liquidity support for these instruments.

COMMERCIAL BANKING AND MONEY

Bank credit rose at a modest pace, on average, in January and February, mainly because of strong increases in securities holdings and C&I loans. The other major loan components in bank credit were relatively weak over the first two months of the year. Commercial real estate loans held by banks continued to decline, although the pace of runoff has slowed somewhat in recent months. Closed-end mortgages rose modestly, but

Commercial Banking and Money

Changes in Bank Credit



Bank Holding Company Noninterest Income Billions of dollars



Growth of M2 and Its Components

| – Percent, s.a.a.r. | | | | | | | | | | |
|------------------------|------|--------------------|---------------------|----------------|-------|--|--|--|--|--|
| | M2 | Liquid deposits | Small time deposits | Retail MMFs | Curr. | | | | | |
| 2010 | 3.1 | 10.9 | -21.4 | -15.7 | 5.9 | | | | | |
| 2011:H1 | 6.7 | 11.9 | -19.3 | -6.8 | 9.3 | | | | | |
| 2011:H2 | 11.9 | 18.0 | -20.4 | .5 | 7.8 | | | | | |
| Dec. | 5.5 | 8.2 | -14.0 | -4.9 | 8.2 | | | | | |
| Jan. | 15.6 | 21.9 | -15.8 | -9.8 | 11.4 | | | | | |
| Feb.(e) | 2.5 | 6.2 | -19.4 | -27.4 | 12.1 | | | | | |

Note: Retail MMFs are retail money market funds. e Estimate.

Source: Federal Reserve Board.



by Bank of America in 2011:Q2, debt valuation adjustment income effects in 2011:Q3 and 2011:Q4, and litigation provisions in 2011. These adjustments assume a marginal tax rate of 35 percent and are not seasonally adjusted.

Source: Federal Reserve Board.

Return on Assets

Weighted-Average C&I Loan Rate Spread





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

March 7, 2012

home equity loans continued to run off. Consumer loans held by banks, which increased slightly in the fourth quarter, have declined more recently, as consumers apparently paid down holiday credit card balances more quickly than typical seasonal patterns would suggest and as other consumer loans also decreased. Noncore loans grew at a slower pace than in previous quarters.

Securities holdings rose sharply over the past two months, as banks resumed accumulating Treasury and agency debt securities and purchased additional agency MBS. Other securities also continued to expand. According to more-detailed data on banks' securities holdings available from the fourth-quarter Call Reports, banks have purchased structured agency MBS in recent quarters. These securities currently have higher yields than other relatively safe instruments and offer customized maturities.

The Call Reports also indicated that measures of the profitability of bank holding companies (BHCs) in the fourth quarter remained below their pre-crisis levels. Moreover, after adjusting for a number of one-time charges and revenue items that buffeted profits at the largest BHCs during the final three quarters of 2011, the industry-wide return on assets was about flat in the second half of the year. While lending strengthened in the fourth quarter, banks' net interest margins hovered near the bottom of their historical range. Noninterest income moved down, with activities related to investment banking exhibiting particular weakness. The industry as a whole once again used the release of loan loss provisions to support earnings in the fourth quarter, but to a lesser extent than in prior quarters. The aggregate credit quality of loans on banks' books continued to improve in almost every asset class. Overall, banks continued to lift their regulatory capital ratios, with the increase in aggregate ratios driven by asset sales and conversions of preferred stock to common stock at some large banks.

M2 advanced at a rapid rate in January but slowed to a moderate pace in February. The level of M2 and its largest component, liquid deposits, remained elevated relative to levels that would be expected based on historical relationships with nominal income and opportunity costs, reflecting investors' unusually strong desire to hold safe and liquid assets in current circumstances. In contrast, retail money market funds and small time deposits continued to contract over the period, as rates offered on these instruments provide little additional yield to investors relative to liquid deposits. Meanwhile, currency expanded robustly, driven by strong domestic and international demand for U.S. bank notes. Boosted partly by the expansion in currency, the monetary base also grew significantly over January and February; in addition, reserve balances, the other major component of the monetary base, rose over this period. (See the box "Balance Sheet Developments over the Intermeeting Period.")

The recent strength in money growth followed a notable pickup in M2 growth over the second half of last year. It appears that much of the pickup in money growth last year can be attributed to several special factors. Concerns about domestic fiscal issues and the European situation led to periods of substantial market volatility and strains in financial markets that appear to have heightened demand for safe and liquid assets. As a result, and in light of the very low interest rates offered on alternative short-term investments, investors shifted funds into M2. In addition, noninterest-bearing demand deposits of more than \$250,000 increased \$350 billion in the second half of last year, supported by the unlimited FDIC insurance coverage of those balances. The FDIC assessment base was expanded in April to include all deposits of domestic banks, regardless of where the deposits were booked. This change effectively eliminated some of the benefit for banks in booking deposits in their offshore offices, and, consequently, banks began to rebook some of these deposits onshore later in the year, boosting the measured U.S. money stock.

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Balance Sheet Developments over the Intermeeting Period

Over the intermeeting period, total assets of the Federal Reserve decreased \$48 billion to \$2,884 billion (see the table on the next page).

Since the January FOMC meeting, the Open Market Desk conducted 29 operations as part of the maturity extension program: The Desk purchased \$61 billion in Treasury securities with remaining maturities of 6 to 30 years and sold \$63 billion in Treasury securities with maturities of 3 months to 3 years.¹ In addition, the Desk purchased \$35 billion in agency MBS securities as part of the policy of reinvesting principal payments from agency debt and agency MBS. Because of agency MBS market conventions, settlements of these transactions can occur well after the trade is executed.²

Foreign central bank liquidity swaps decreased \$32 billion to \$71 billion, primarily reflecting a decline in draws by the European Central Bank. The net portfolio holdings of Maiden Lane LLC and Maiden Lane II LLC declined \$1 billion and \$5 billion, respectively, largely stemming from ongoing asset sales. Proceeds from asset sales from the Maiden Lane II LLC portfolio on January 19, February 8, and February 28, 2012, enabled the repayment of the entire remaining outstanding balance of the senior loan from the Federal Reserve Bank of New York (FRBNY) to Maiden Lane II LLC on March 1, 2012.³ Net portfolio holdings of Maiden Lane III LLC were nearly unchanged. Loans outstanding under the Term Asset-Backed Securities Loan Facility (TALF) declined about \$1 billion to \$8 billion. TALF loans with three-year initial maturities will begin to come due in late March.

On the liability side of the Federal Reserve's balance sheet, Federal Reserve notes in circulation increased \$27 billion. Reverse repurchase transactions with foreign official and international accounts decreased \$3 billion. Beginning on February 29, 2012, the FRBNY conducted another series of small-scale reverse repurchase transactions that included the newest set of counterparties, eight banks and two new primary dealers. Reserve balances of depository institutions increased \$87 billion over the period. The U.S. Treasury's General Account declined \$83 billion, and other deposits decreased \$76 billion, reflecting a decline in GSE balances. Term deposits held by depository institutions declined \$3 billion to zero, as a small-value operation of the Term Deposit Facility matured on February 9, 2012.

¹ Sales of \$1 billion conducted on March 5, 2012, and purchases of \$4 billion conducted on March 6, 2012, are not reflected in the table, as settlement occurred after March 5, 2012. A purchase of \$5 billion conducted during the January FOMC meeting settled on January 25, 2012, and is reflected in the table but not in the text above.

² The fails charge that became effective in the agency MBS market on February 1, 2012, has resulted in a notable decline in delivery failures in the MBS market generally including a reduction in delivery fails on the Desk's MBS transactions.

³ Approximately \$4 billion remain in the net portfolio holdings of Maiden Lane II LLC. This amount represents the deferred payment and interest due to AIG subsidiaries, which will be paid in early April, along with residual proceeds that will be paid to the FRBNY.

| | Change since last FOMC | Current (03/05/12) |
|---|------------------------------|-----------------------|
| Total assets | -48 | 2,884 |
| Selected assets: | | |
| Liquidity programs for financial firms | -32 | 71 |
| Primary, secondary, and seasonal credit | -0 | +0 |
| Foreign central bank liquidity swaps | -32 | 71 |
| Term Asset-Backed Securities Loan Facility (TALF) | -1 | 8 |
| Net portfolio holdings of Maiden Lane LLCs | -6 | 28 |
| Maiden Lane | -1 | 6 |
| Maiden Lane II | -5 | 4 |
| Maiden Lane III | -0 | 18 |
| Securities held outright* | -10 | 2,597 |
| U.S. Treasury securities | +0 | 1,657 |
| Agency debt securities | -2 | 100 |
| Agency mortgage-backed securities | -9 | 841 |
| Total liabilities | -48 | 2,830 |
| Selected liabilities: | | |
| Federal Reserve notes in circulation | 27 | 1,051 |
| Reverse repurchase agreements | -3 | 85 |
| Foreign official and international accounts | -3 | 85 |
| Others | +0 | +0 |
| Reserve balances of depository institutions** | 87 | 1,595 |
| Term deposits held by depository institutions | -3 | 0 |
| U.S. Treasury, General Account | -83 | 36 |
| U.S. Treasury, Supplementary Financing Account | 0 | 0 |
| Other deposits | -76 | 39 |
| Total capital | 1 | 55 |

Federal Reserve Balance Sheet Billions of dollars

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

* Par value.
** Includes required clearing balances and overdrafts. Excludes as-of adjustments.

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Appendix

Senior Credit Officer Opinion Survey on Dealer Financing Terms

Responses to the March 2012 Senior Credit Officer Opinion Survey on Dealer Financing Terms indicated little change, on balance, in credit terms applicable to important classes of counterparties over the past three months, in contrast to the broad but moderate tightening reported in the December 2011 survey.¹ About one-third of firms, on net, reported an increase in the amount of resources and attention devoted to the management of concentrated exposures to dealers and other financial intermediaries. In the previous survey, all but two respondents had noted such an increase. More than one-half of respondents reported an increase in the intensity of efforts by hedge funds to negotiate more-favorable credit terms over the past three months, and moderate net fractions of dealers noted such an increase in efforts also on the part of mutual funds, exchange-traded funds (ETFs), pension funds and endowments, as well as insurance companies and nonfinancial corporations. On net, one-fifth of respondents, a smaller share than in the previous survey, suggested that the use of financial leverage by hedge funds had decreased somewhat during the past three months. In contrast, a small net fraction of dealers pointed to an increase in the amount of leverage used by trading real estate investment trusts (REITs).² In response to a special question on client risk appetite, survey respondents indicated that the risk appetite of most client types included in the survey was little changed since the beginning of 2012. However, one-fifth of dealers, on net, reported that the risk appetite of most-favored hedge funds had increased somewhat during that period.

With respect to over-the-counter (OTC) derivatives, respondents to the March survey indicated that nonprice terms incorporated in new or renegotiated OTC derivatives master agreements were, for the most part, little changed during the past three months. Dealers also reported that initial margin requirements, which fall outside the scope of the master agreement, were largely unchanged over the same period. However, a modest net percentage of respondents indicated that the posting of nonstandard collateral (that is, other than cash and U.S. Treasury securities) permitted under relevant agreements had increased somewhat.

With regard to securities financing, survey respondents indicated that the credit terms applicable to the securities types included in the survey were generally little changed, on balance, over the past three months.

² Trading REITs invest in assets backed by real estate rather than directly in real estate.

¹ The March survey collected qualitative information on changes over the previous three months in credit terms and conditions in securities financing and over-the-counter (OTC) derivatives markets. In addition to the core set of questions, this survey included a special question about changes in risk appetite for different client types, a second special question that focused on third-party custody of independent amounts (initial margin) and collateral, and a final set of special questions regarding recent developments in securities lending. The 20 institutions participating in the survey account for almost all of the dealer financing of dollar-denominated securities for nondealers and are the most active intermediaries in OTC derivatives markets. The survey was conducted during the period from February 14, 2012, to February 27, 2012. The core questions ask about changes between December 2011 and February 2012.

Moderate net fractions of dealers reported that both overall demand for funding as well as demand for term funding with maturity greater than 30 days had generally increased over the same period. Moreover, dealers noted that liquidity and functioning in the underlying asset markets had improved.

A special question asked about changes in the past six months in the intensity of efforts by respondents' clients to negotiate arrangements for the custody by third parties of collateral and margin posted with the respondent's institution as a risk mitigant. About two-thirds of dealers, on net, pointed to an increase in such efforts, with a few respondents noting that these efforts had increased considerably.

A final set of special questions queried dealers about recent developments in securities lending. One-fourth of respondents reported an increase in the amount of resources and attention devoted to the management of credit exposure related to their posting of collateral pursuant to securities borrowed (to facilitate their own trading activities or on behalf of prime brokerage or other clients). Survey respondents indicated significant heterogeneity, as of the beginning of 2012, in the share of the dollar volume of collateral posted pursuant to securities borrowed that consisted of cash collateral, with a modest fraction of dealers reporting an increase in the share of noncash collateral (that is, securities) over the past six months. Finally, four-fifths of respondents noted that securities lending programs administered by custodian banks or other agents were the largest source, by volume, of borrowed securities as of the beginning of 2012.

COUNTERPARTY TYPES

Dealers and Other Financial Intermediaries

In the March survey, about one-third of respondents, on net, indicated that the amount of resources and attention devoted to management of concentrated credit exposure to dealers and other financial intermediaries had increased over the past three months. In the December survey, all but two respondents reported such an increase. The smaller net increase relative to the December survey in the number of firms reporting increased resources devoted to management of concentrated credit exposure to dealers and other financial intermediaries suggests that dealers, as a group, see less need now than at the end of November 2011 to increase their monitoring of the financial and operational condition of other major financial institutions.

Central Counterparties and Other Financial Utilities

More than one-half of dealers indicated that the amount of resources and attention devoted to management of concentrated exposures to central counterparties and other financial utilities had increased over the past three months. This fraction is similar to that observed in the previous two surveys, and it is consistent with other indications that changes in market conventions and practices associated with the increased clearing of OTC derivatives trades mandated by the Dodd–Frank Wall Street Reform and Consumer Protection Act continue to be a focus for risk managers at dealer firms.

Hedge Funds

The survey responses suggested that price and nonprice terms applicable to hedge funds were little changed over the past three months. Only a few dealers reported having eased price terms (such as financing rates) or nonprice terms (including haircuts, maximum maturity, covenants, cure periods, cross-default provisions, or other documentation features) offered to hedge funds across the spectrum of securities financing and OTC derivative transactions. The few institutions that reported an easing of credit terms pointed to more-aggressive competition from other institutions and an improvement in general market liquidity and functioning as the reasons for doing so. More than one-half of dealers, a larger fraction than in December, reported an increase in the intensity of efforts by hedge funds to negotiate more-favorable price and nonprice terms over the past three months. Despite credit terms that were said to be little changed, one-fifth of respondents—a smaller share than in the December survey—suggested that the use of financial leverage by hedge funds, considering the entire range of transactions facilitated, had decreased somewhat over the past three months.³ A similar fraction of dealers noted that the availability of additional financial leverage under agreements currently in place with hedge funds had also decreased somewhat. Finally, a modest net fraction of respondents indicated that the provision of differential terms to most-favored hedge funds had increased somewhat over the past three months.

For the remaining counterparty types included in the survey, and discussed in more detail below, nearly all of the dealers reported that applicable price and nonprice terms were basically unchanged during the past three months. However, the few dealers that did report a change in credit terms tended to report an easing of terms.⁴

Trading Real Estate Investment Trusts

Nearly all survey respondents reported that price and nonprice terms offered to trading REITs had remained basically unchanged over the past three months. A modest net fraction of dealers indicated that the use of financial leverage by trading REITs had increased somewhat over the same period.

Mutual Funds, Exchange-Traded Funds, Pension Plans, and Endowments

The survey responses suggested that, on balance, there had been little change in the price and nonprice terms offered to mutual funds, ETFs, pension plans, and endowments during the past three months. Of note, about one-third of respondents stated that the intensity of efforts by clients in this category to negotiate more-favorable credit terms had increased somewhat over the **Financial Developments**

³ Among the subsample of firms with a significant presence in almost all of the business areas covered in the survey (broad-scope dealers), responses were mixed. The majority of respondents reported that the use of financial leverage by hedge funds had remained basically unchanged over the past three months. However, a few firms indicated that financial leverage had increased somewhat, while a few firms stated that it had decreased somewhat over the same period.

⁴ One or more dealers, on net, reported an easing of price or nonprice credit terms for trading REITs, separately managed accounts established with investment advisers, and nonfinancial corporations, as well as mutual funds, ETFs, pension funds and endowments.

same period. A modest net fraction of respondents indicated that the provision of differential terms to most-favored mutual funds, ETFs, pension plans, and endowments had increased somewhat over the past three months.

Insurance Companies

Dealers reported that price and nonprice terms applicable to insurance companies had remained basically unchanged over the past three months despite a continued increase in the intensity of efforts by such clients to negotiate more-favorable credit terms.

Separately Managed Accounts Established with Investment Advisers

Nearly all of the dealers indicated that price and nonprice terms negotiated by investment advisers on behalf of separately managed accounts were basically unchanged during the past three months. Only a couple of respondents noted an increase in the intensity of efforts by such clients to negotiate more-favorable credit terms.

Nonfinancial Corporations

Survey respondents reported that, on balance, price and nonprice terms offered to nonfinancial corporations had changed little over the past three months. One-fourth of respondents, however, indicated that the intensity of efforts by nonfinancial corporations to negotiate more-favorable terms had increased somewhat over the past three months.

Mark and Collateral Disputes

Nearly all of the respondents stated that the volume, persistence, and duration of mark and collateral disputes with each counterparty type included in the survey were basically unchanged over the past three months.

OVER-THE-COUNTER DERIVATIVES

As in the December survey, dealers reported that nonprice terms incorporated in new or renegotiated OTC derivatives master agreements were broadly unchanged over the past three months.⁵ However, a few respondents indicated that they had tightened requirements, timelines, and thresholds for posting additional margins, and that they had tightened triggers and covenants in master agreements. Nearly all of the survey respondents noted that initial margins (which fall outside the scope of the master agreement) on contracts referencing most underlying collateral types were basically unchanged over the past three months for both average and most-favored clients. A modest net fraction of respondents indicated that the posting of nonstandard collateral (that is, other than cash and U.S. Treasury securities) permitted under relevant agreements had increased somewhat. For most contract types included in the survey, almost all dealers reported

⁵ The survey asks specifically about requirements for posting additional margins, acceptable collateral, recognition of portfolio or diversification benefits, triggers and covenants, and other documentation features, including cure periods and cross-default provisions.

that the volume, duration, and persistence of mark and collateral disputes remained basically unchanged over the past three months.

SECURITIES FINANCING

Respondents indicated that credit terms under which most types of securities included in the survey are financed were little changed, on balance, over the past three months. Where changes in credit terms were reported, however, movements in both directions were evident. For example, modest net fractions of dealers indicated that credit terms had eased for high-grade corporate bonds, while similar modest net percentages reported a tightening of credit terms for agency and non-agency residential mortgage-backed securities. Overall, the changes that dealers reported in credit terms in this survey differed little between average and most-favored clients.

Moderate net fractions of dealers noted that both overall demand for funding and demand for term funding with a maturity greater than 30 days had generally increased for the types of securities included in the survey.

Moderate net fractions of dealers also generally indicated that liquidity and functioning in the underlying asset markets for collateral types covered by the survey had improved over the past three months. These responses may well reflect a reduction, between December and February, in concerns about the situation in Europe and its possible effects on financial markets. The improvement in liquidity and functioning was most evident for commercial mortgage-backed securities and consumer asset-backed securities.⁶ The improvement in liquidity and functioning reported in the March survey contrasts with a deterioration reported in the responses to the previous two surveys. Nearly all of the respondents reported that the volume, duration, and persistence of mark and collateral disputes were basically unchanged for all collateral types.

SPECIAL QUESTIONS ON CLIENT RISK APPETITE

Anecdotal reports suggested that investor risk appetite declined during the final months of 2011. A special question asked about changes in respondents' overall assessment of the risk appetite of different client types since the beginning of 2012. Survey respondents indicated that the risk appetite of most types of clients included in the survey was little changed during this period. However, one-fifth of dealers reported that most-favored hedge funds' risk appetite had increased somewhat.⁷

Financial Developments

⁶ Note that survey respondents are instructed to report changes in liquidity and functioning in the market for the underlying collateral to be funded through repurchase agreements and similar secured financing transactions, not changes in the funding market itself. This question is not asked with respect to equity markets in the core questions.

⁷ The responses were broadly similar among broad-scope dealers. The only exception was with regard to the risk appetite of insurance companies, for which one-third of broad-scope dealers reported an increase in appetite to bear investment risk since the beginning of 2012.

SPECIAL QUESTION ON THIRD-PARTY CUSTODY OF INDEPENDENT AMOUNTS (INITIAL MARGIN) AND COLLATERAL

Following the failure of MF Global in October, market participants have reportedly focused more intensively on the possible consequences of financial distress on the part of dealers with whom they have posted collateral. A special question asked about changes in the past six months in the intensity of efforts by respondents' clients to negotiate arrangements for the custody by third parties of collateral and margin posted with the respondent's institution as a risk mitigant. About two-thirds of dealers, on net, pointed to an increase in such efforts, with a few respondents noting that these efforts had increased considerably.

SPECIAL QUESTIONS ON DEVELOPMENTS IN SECURITIES LENDING

During the 2007–08 financial crisis, some beneficial owners of securities (for example, pension funds or insurance companies) experienced losses related to the reinvestment of cash collateral posted by borrowers of their securities, which highlighted the associated counterparty risk faced by the borrowers posting collateral.⁸ Since the crisis, the volume of securities lending has decreased considerably and cash collateral reinvestment practices are said to have changed significantly, including through application of more-stringent investment guidelines for cash collateral.⁹ A final set of special questions asked dealers about recent developments in securities lending.

One-fourth of dealers reported that the amount of resources and attention devoted to the management of credit exposure related to their posting of collateral with beneficial owners pursuant to securities borrowed (to facilitate their own trading activities or on behalf of prime brokerage or other clients) had increased over the past six months.¹⁰ Survey responses indicated significant heterogeneity in the share of dollar volume of collateral posted pursuant to securities borrowed that consisted of cash collateral as of the beginning of 2012. About one-half of dealers

⁹ In an environment of comparatively low yields on reinvested cash and more-stringent investment guidelines, the historical preference in U.S. markets for cash collateral, with its capacity to generate returns for beneficial owners through reinvestment, may be subject to reconsideration.

⁸ During some periods, and notably prior to the 2007–08 financial crisis, the prospect of investment income on cash collateral posted with beneficial owners by borrowers of securities has represented a significant share of the return to beneficial owners for lending securities. The investment decisions related to cash collateral, and associated liquidity and credit risks, are borne by the beneficial owners, who are obligated to return the cash collateral to the borrowers of securities when the securities are returned. In general, the borrower has the right to return the securities and demand the cash collateral posted at any time. The borrower of securities faces counterparty risk from the transaction and potential losses in the event that the borrowed securities decline in value and the beneficial owner is unable to return the cash collateral, for example, because of losses stemming from its reinvestment.

¹⁰ Dealers commonly borrow securities in circumstances where prime brokerage clients wish to establish short positions. They also borrow to facilitate their own routine market-making activities, for example, to enable a delivery to a client on a securities sale when another client has failed to deliver the instrument to the dealer.

indicated that cash accounted for more than 80 percent of collateral posted pursuant to such transactions. Meanwhile, one-fourth of respondents noted that cash consisted of between 60 and 70 percent of collateral posted pursuant to securities borrowed and about one-fifth reported a share of cash collateral of less than 60 percent. Of note, about one-sixth of dealers reported that the share of their collateral posted pursuant to securities borrowed, consisting of other securities rather than cash, had increased somewhat over the past six months.¹¹

Dealers were also queried about the sources of securities borrowed by their firm as of the beginning of 2012. Four-fifths of respondents reported that securities lending programs administered by custodian banks or other agents on behalf of beneficial owners were the largest source, by volume, of borrowed securities; the remaining respondents pointed to their clients (typically through rehypothecation) or direct transactions with beneficial owners.¹² In response to a question about changes over the past six months in the volume of securities borrowed by source type, one-fifth of respondents indicated that the volume of securities borrowed from securities lending programs administered by custodian banks or other agents had decreased somewhat. Little to no change was reported with regard to securities borrowed through rehypothecation and direct transactions with beneficial owners.

¹¹ While the shares of cash collateral posted by broad-scope dealers as of the beginning of 2012 were broadly similar to those of other firms, about one-third of the broad-scope dealers noted that the fraction of noncash collateral posted had increased over the past six months.

¹² Of note, all of the broad-scope dealers indicated that securities lending programs administered by custodian banks or other agents were the source that accounted for the greatest volume of securities borrowed to facilitate their own trading activities or on behalf of prime brokerage or other clients as of the beginning of 2012.

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Risks and Uncertainty

ALTERNATIVE SCENARIOS

To illustrate some of the risks to the outlook, we construct several alternatives to the baseline projection using simulations of staff models. The first scenario examines the downside risk that consumer and business confidence remain subdued, contributing to a persistently slow pace of overall economic activity that turns the current, slow recovery into a "lost decade." The second scenario considers the upside risk that the recent favorable news from the labor market and other economic indicators is an early sign that the recovery will accelerate more rapidly than anticipated. The third scenario builds on the previous one by assuming that, in the context of a faster recovery, the expanded size of the Federal Reserve's balance sheet could cause inflation expectations to rise. In contrast, the fourth scenario considers the possibility that inflation will decline by more than we anticipate because the persistently wide margins of slack in labor and product markets could put downward pressure on inflation expectations, along the lines of the predictions of accelerationist Phillips curve models. The fifth and sixth scenarios analyze risks to the U.S. economic outlook associated with Europe's fiscal and financial situation—a severe financial crisis and recession in Europe that spills over to the U.S. and the global economy, and, in contrast, a faster resolution of Europe's problems. Finally, the last scenario considers the effects of a sharp rise in oil prices driven by geopolitical tensions and supply disruptions.

We generated the first four scenarios using the FRB/US model and an estimated policy rule for the federal funds rate that responds to core PCE inflation and a measure of economic slack based on the staff's estimate of potential output. The last three scenarios were generated using the multicountry SIGMA model and a different policy rule that employs an alternative concept of resource utilization.¹ In all of the scenarios, the size and composition of the SOMA portfolio are assumed to follow their baseline paths.

¹ In the simulations using the FRB/US model, the federal funds rate follows the outcome-based rule described in the appendix on policy rules in Book B. In the simulations using SIGMA, the policy rule is broadly similar, but uses a measure of slack equal to 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.

Alternative Scenarios

2012 2015-2013 2014 Measure and scenario 16 H1 H2 Real GDP Extended Tealbook baseline 2.02.7 2.7 3.3 3.6 Lost decade 2.0 2.3 2.0 2.2 2.5 Virtuous circle 2.2 3.6 4.4 3.4 2.9 2.2 Virtuous circle with higher inflation 3.6 4.3 3.2 2.6 Disinflation 2.0 2.6 2.3 2.7 3.8 .3 -2.6 -1.6 2.9 4.5 European crisis with severe spillovers Faster European recovery 2.1 3.1 3.2 3.7 3.5 Higher oil prices 1.5 1.9 2.2 3.2 3.9 Unemployment rate¹ Extended Tealbook baseline 8.4 8.2 7.8 7.5 6.2 8.3 8.3 8.2 Lost decade 8.4 8.4 Virtuous circle 8.4 8.0 7.0 6.4 5.8 Virtuous circle with higher inflation 8.4 8.1 7.0 6.5 6.3 Disinflation 8.4 8.2 8.0 7.9 6.6 European crisis with severe spillovers 8.6 9.2 10.6 10.7 8.5 Faster European recovery 8.4 8.1 7.5 7.1 5.8 Higher oil prices 8.5 8.4 8.2 8.0 6.5 Total PCE prices Extended Tealbook baseline 2.1 1.5 1.4 1.4 1.5 Lost decade 2.1 1.5 1.4 1.3 1.3 Virtuous circle 2.1 1.5 1.4 1.6 1.9 Virtuous circle with higher inflation 2.2 2.0 2.5 2.6 1.7 Disinflation 1.8 1.0 .6 .3 .3 European crisis with severe spillovers 1.3 -.7 -.3 1.0 1.9 2.2 Faster European recovery 1.9 1.8 1.8 1.6 Higher oil prices 5.7 1.0 1.2 1.3 1.7 Core PCE prices Extended Tealbook baseline 1.8 1.7 1.6 1.6 1.6 Lost decade 1.8 1.5 1.5 1.6 1.6 1.8 1.8 2.1 Virtuous circle 1.6 1.6 Virtuous circle with higher inflation 1.8 1.8 2.2 2.7 2.8Disinflation 1.5 1.1 .8 .5 .5 European crisis with severe spillovers 1.5 .5 .4 1.0 1.9 Faster European recovery 1.8 1.8 1.9 1.8 1.8 Higher oil prices 1.9 1.8 1.9 1.8 1.8 Federal funds rate¹ Extended Tealbook baseline .8 3.0 .1 .1 .1 Lost decade .1 .1 .1 .1 .2 Virtuous circle .1 .3 1.8 2.8 3.6 Virtuous circle with higher inflation .1 .3 2.3 3.7 4.1 Disinflation .1 .1 .1 .1 .7 .1 .5 European crisis with severe spillovers .1 .1 .1 .2 3.3 Faster European recovery .1 .1 1.4 Higher oil prices .1 .1 .1 .7 2.3

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

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

Lost Decade

Our baseline forecast depends importantly on further steady improvements in consumer and business confidence, the willingness of firms to hire, the availability of credit, and the balance sheet positions of households and financial institutions. In this scenario, these improvements are slower to materialize than in the baseline, causing the pace of the recovery to remain sluggish. Moreover, the persistently slow growth in spending and output keeps the unemployment rate elevated for many years, and the skills and labor force attachment of unemployed workers erode more than in the baseline. Specifically, the downward trend in labor force participation is steeper than in the baseline while the NAIRU edges up to 6¹/₄ percent by 2014 and thereafter declines slowly, leaving it ¹/₄ percentage point above its path in the baseline, on average. In all, the growth rate of potential output increases about ¹/₄ percentage point less per year through 2016. Under these conditions, real GDP rises at an average annual rate of a little more than 2 percent through the middle of the decade. With the expansion in aggregate demand little different from that of potential output, the unemployment rate stays near its current level through 2015. As a result, headline inflation eventually falls below $1\frac{1}{2}$ percent despite the corrosive effects on the labor market. With real activity so weak and inflation so low, the federal funds rate remains at its effective lower bound through 2016.

Virtuous Circle

Overall, we interpret recent indicators as consistent with a gradual strengthening in real activity this year and next. But the improvement in labor market conditions, gains in industrial production, and sales of motor vehicles have been appreciably stronger than we expected, raising the possibility that a more robust recovery may be under way. In particular, this scenario assumes that a stronger mutually reinforcing cycle emerges, with increasing optimism and reduced aversion to risk leading to higher consumer expenditures, more hiring and investment spending by firms, and improved credit availability and overall financial conditions. This virtuous circle causes real GDP to rise at an annual rate of about 3½ percent in the second half of this year and 4½ percent in 2013, bringing the unemployment rate down to 7 percent by the end of next year, about ¾ percentage point below baseline. Upward pressure on inflation is initially tempered by the effect of the higher level of capital investment on labor productivity and unit labor costs, along with well-anchored long-run inflation expectations. Over time, however,

Forecast Confidence Intervals and Alternative Scenarios

Confidence Intervals Based on FRB/US Stochastic Simulations



tighter labor and product markets cause inflation to move above baseline. In response to the stronger pace of real activity, the federal funds rate begins to rise late this year.

Virtuous Circle with Higher Inflation

In the previous scenario, we assumed that long-run inflation expectations would remain well anchored despite a rapid acceleration in real economic activity. However, in the context of a faster recovery, the unprecedented size of the Federal Reserve's balance sheet and the excess reserves held by banks could fuel an expansion in loan demand large enough to spark concerns about the ability of monetary policy to react in a timely manner to keep inflation pressures in check. Reflecting these concerns, this scenario builds on the previous one by assuming that long-run inflation expectations rise to 2³/₄ percent by the end of next year, causing headline inflation to reach 2³/₄ percent by 2015. In response to higher inflation, the federal funds rate rises more steeply and, on average, is about 60 basis points above its level in the previous scenario. With tighter monetary policy, real activity by mid-decade is restrained relative to the preceding scenario, and the unemployment rate ends up ¹/₂ percentage point higher by the end of 2016.

Disinflation

The stability of various measures of expected inflation may be misleading us about the potential for further disinflation, particularly in the context of a baseline outlook in which a considerable margin of slack in labor and product markets persists for some time. In this scenario, both expected and actual inflation drift down over time, with headline inflation falling to about ½ percent by 2014; such declines would be in line with the predictions of some accelerationist Phillips curve models. As inflation slows, financial market participants become increasingly concerned that the economy could fall into a persistent deflation; as a result, bond premiums increase, which restrains spending modestly and raises unemployment relative to baseline. In response to lower inflation and greater economic slack, the federal funds rate remains at its effective lower bound until the middle of 2016.

European Crisis with Severe Spillovers

In this scenario, the recent improvements seen in European financial markets are assumed to be short lived, and Europe plunges into another bout of severe stress. This outcome could result from a disorderly sovereign default, the failure of a large European

| Measure | 2012 | 2013 | 2014 | 2015 | 2016 |
|---------------------------------|---------|---------|---------|---------|---------|
| Real GDP | | | | | |
| (percent change, $Q4$ to $Q4$) | | | | | |
| Projection | 2.4 | 2.7 | 3.3 | 3.7 | 3.4 |
| Confidence interval | | | | | |
| Tealbook forecast errors | .8–3.9 | .9–4.4 | | | |
| FRB/US stochastic simulations | 1.1–3.8 | .8–4.4 | 1.0-5.0 | 1.5–5.8 | 1.4–5.8 |
| Civilian unemployment rate | | | | | |
| (percent, Q4) | | | | | |
| Projection | 8.2 | 7.8 | 7.5 | 6.9 | 6.2 |
| Confidence interval | | | | | |
| Tealbook forecast errors | 7.6–8.8 | 6.8-8.8 | | | |
| FRB/US stochastic simulations | 7.6–8.7 | 6.8-8.8 | 6.4–8.9 | 5.8-8.3 | 5.2-7.5 |
| PCE prices, total | | | | | |
| (percent change, Q4 to Q4) | | | | | |
| Projection | 1.8 | 1.4 | 1.4 | 1.5 | 1.6 |
| Confidence interval | | | | | |
| Tealbook forecast errors | .8–2.8 | .2–2.5 | | | |
| FRB/US stochastic simulations | .9–2.8 | .2–2.6 | .1–2.7 | .1–2.7 | .2–2.8 |
| PCE prices excluding | | | | | |
| food and energy | | | | | |
| (percent change, Q4 to Q4) | | | | | |
| Projection | 1.7 | 1.6 | 1.6 | 1.6 | 1.7 |
| Confidence interval | | | | | |
| Tealbook forecast errors | 1.1–2.3 | .8–2.4 | | | |
| FRB/US stochastic simulations | 1.1–2.3 | .8–2.4 | .6–2.4 | .6–2.5 | .7–2.6 |
| Federal funds rate | | | | | |
| (percent, Q4) | | | | | |
| Projection | .1 | .1 | .8 | 2.1 | 3.0 |
| Confidence interval | | | | | |
| FRB/US stochastic simulations | .1–1.1 | .1–2.0 | .1–3.0 | .2–4.1 | 1.0-5.1 |

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

Note: Shocks underlying FRB/US stochastic simulations are randomly drawn from the 1969–2010 set of model equation residuals.

Intervals derived from Tealbook forecast errors are based on projections made from 1979–2010, except for PCE prices excluding food and energy, where the sample is 1981–2010.

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

financial institution, or a loss of confidence by the public in the ability of European governments to resolve the crisis. Reflecting this stress, both sovereign and private borrowing costs in Europe soar, with corporate bond spreads rising 400 basis points above baseline, and the confidence of households and businesses plummets. Real GDP in Europe declines more than 8 percent relative to baseline by the end of 2013, notwithstanding a 20 percent depreciation in the real effective foreign exchange value of the euro. Europe's difficulties are assumed to have important financial and economic spillovers to other parts of the world, including the United States.

U.S. economic activity contracts sharply in response to U.S. corporate bond spreads widening by more than 300 basis points, a much weaker stock market, reduced access to credit, and decreases in household and business confidence. In addition, weaker foreign economic activity and the stronger exchange value of the dollar depress U.S. net exports. All told, U.S. real GDP declines at an annual rate of 2½ percent in the second half of this year and falls a further 1½ percent in 2013. The unemployment rate climbs to 10³/₄ percent in 2014 before gradually receding. With substantially greater resource slack and lower import prices, overall U.S. consumer price inflation dips below zero in the second half of 2012 and in 2013; inflation finally turns positive in 2014 as economic recovery begins to take hold.² Under these conditions, the federal funds rate remains near zero until the second half of 2016.

Faster European Recovery

In our baseline projection, European financial conditions continue to improve, albeit at a more gradual pace than seen during the past few months. However, it is possible that credit conditions in Europe will ease faster than expected and that rising business and household confidence will spur a faster recovery. In this scenario, European sovereign and private-sector borrowing costs are assumed to decline considerably, with corporate bond spreads falling roughly 100 basis points by the end of this year; household and business sentiment also improve markedly. As a result, real GDP in Europe rises 1¹/₄ percent this year, rather than contracting slightly as in the baseline, and then increases 2³/₄ percent in 2013. U.S. real net exports are boosted by stronger economic activity in

² The rebound in consumer price inflation after 2013 in the simulation reflects the forward-looking nature of inflation determination in SIGMA. In particular, long-run inflation expectations remain firmly anchored at 2 percent, producer marginal costs are expected to rise as the economy recovers, and productivity is weaker (reflecting reduced capital spending). In addition, import price inflation runs significantly higher than in the baseline as the dollar's initial appreciation is gradually reversed. Under alternative specifications of SIGMA that, for instance, allow for more structural persistence in the inflation process or a less-firm anchoring of inflation expectations, inflation would remain low for a longer period.

Europe and in other U.S. trading partners, as well as by a depreciation of the dollar as monetary accommodation abroad is removed somewhat earlier. All told, U.S. real GDP rises about 3 percent on average over the next two years, the unemployment rate falls to 7½ percent by the end of 2013, and inflation increases to nearly 2 percent in 2012 and 2013. Under these conditions, the federal funds rate begins to rise somewhat earlier than in the baseline.

Higher Oil Prices

The recent tension with Iran over its nuclear program highlights the significant upside risks to our outlook for oil prices. In this scenario, we assume that geopolitical events temporarily drive oil prices \$50 per barrel above baseline in the second quarter of this year but that oil prices gradually recede thereafter. Although a supply-driven increase in oil prices would ordinarily be expected to cause the dollar to depreciate, we assume instead that heightened geopolitical tensions increase the demand for dollar-denominated assets and cause the dollar to appreciate slightly. U.S. domestic demand falls relative to baseline because higher oil prices reduce households' real incomes and lower the return on firms' investments, and real exports also decline due to weaker foreign economic activity. All told, U.S. real GDP rises only about 2 percent, on average, this year and next, and the unemployment rate remains elevated, ending 2013 at $8\frac{1}{2}$ percent, $\frac{1}{2}$ percentage point higher than in the baseline. Reflecting the rise in energy costs, overall PCE inflation jumps to nearly 3¹/₂ percent this year but then moderates as oil prices begin to slowly decline. Core inflation increases to nearly 2 percent by next year as firms pass on their higher production costs to consumers. Although the liftoff of the federal funds rate is unchanged from baseline, the removal of monetary accommodation thereafter proceeds a bit more gradually.

OUTSIDE FORECASTS

The latest Blue Chip survey was released on February 10, and thus is quite stale. We should receive the March survey later this week; accordingly, we will circulate material comparing our projection with the Blue Chip consensus at that time. Changes in GDP, Prices, and Unemployment (Percent, annual rate except as noted)

| | Nomin | al GDP | Real | GDP | PCE pr | ice index | Core PCE | price index | Unemploy | ment rate ¹ |
|---|--|---|---|---------------------------------------|--|-------------------------------|-------------------------------|--------------------------|--------------------------|--------------------------|
| nterval | 01/18/12 | 03/07/12 | 01/18/12 | 03/07/12 | 01/18/12 | 03/07/12 | 01/18/12 | 03/07/12 | 01/18/12 | 03/07/12 |
| arterly 1:Q1 Q2 Q4 | 3.1 3.8 3.8 | 3.1 4.6 4.0 | | | 8.8.9 9.6.6 7. | 3.9 3.3 1.2 3 3.9 | 1.6 2.3 9.1 | 1.6 2.3 1.3 | 9.0 9.1 8.7 | 9.0 9.1 8.7 |
| 2:01 02 03 04 | 3.6 3.6 4.1 | | 1.6 1.8 2.3 | 1.8 2.2 2.9 | 1.4 1.7 1.3 | 2.1 1.5 1.4 | 11.5 11.5 1.4 | 1.8 1.7 1.6 | 8.7 8.6 8.6 8.6 | 8.8 8.3 8.2 8.2 |
| 13:01 02 04 | 3.5 3.6 4.2 | 3.8 4.1 4.6 | 2.1 2.4 2.8 2.8 | 2.3 2.6 3.0 | 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 | 1.4 1.4 1.4 | 1.4 1.4 1.4 1.4 | 1.6 1.6 1.6 1.6 | 8.5 8.3 8.3 8.2 | 8.1 8.0 7.9 7.8 |
| o-quarter ² 1:Q2 Q4 | 3.5 4.1 | 3.5 4.2 | 2.4 | 2.8 2.4 | 3.6 1.4 | 3.6 1.8 | 1.9 1.5 | 1.9 1.7 | ۰ 4. | <u>-</u> 4. |
| 2:Q2 Q4 | 3.4 4.0 | 3.8 4.2 | 1.7 2.5 | 2.0 2.7 | 1.5 1.3 | 2.1 1.5 | $1.5 \\ 1.4$ | 1.8 1.6 | | ώċ |
| .3:Q2 Q4 | 3.6 4.0 | 3.9 4.4 | 2.1 2.6 | 2.4 2.9 | 1.3 1.3 | $1.4 \\ 1.4$ | 1.4 1.4 | $1.6 \\ 1.6$ | 2 | |
| <i>ur-quarter³</i> 0:Q4 1:Q4 2:Q4 3:Q4 | 4.7 3.8 3.8 3.8 | 4.7 4.0 4.2 | 3.1 1.6 2.1 | 3.1 1.6 2.7 | 1.3 1.4 1.3 | 1.3 1.8 1.4 | 1.0 1.7 1.5 | 1.0 1.8 1.7 1.6 | | ώ ė ė. ė. ė |
| uual 0 2 3 | 3.9 3.7 8.8 3.9 | 4.2 3.9 4.1 | 3.0 1.7 2.3 | 3.0 1.7 2.3 | 1.8 1.5 1.3 | 1.8 1.9 1.5 | 1.4 1.5 1.5 1.4 | 1.4 1.5 1.7 1.6 | 9.6 8.6 8.6 | 9.6 8.3 8.3 |
| Level, exce Percent cha Percent cha | pt for two-q nge from tw nge from fo | uarter and fo o quarters ea ur quarters e | ur-quarter ir arlier; for un arlier; for un | itervals. employment employment | rate, change t rate, change | e is in percer | ntage points. ntage points | | | |

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Greensheets

Changes in Real Gross Domestic Product and Related Items (Percent, annual rate except as noted)

| | | 20 | 11 | | | 20 | 12 | | | 20 | 13 | | | | |
|--|--|------------------------------------|--------------------------------------|---------------------------------------|------------------------------------|---------------------------------|------------------------------------|--------------------------------------|--|--|---------------------------------|--|---|--------------------------------|------------------------------|
| Item | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | 2011 ¹ | 20121 | 20131 |
| Real GDP Previous Tealbook | 4.4. | $1.3 \\ 1.3$ | 1.8 1.8 | 3.1 2.9 | 1.8 1.6 | 2.2 1.8 | 2.6 2.3 | 2.9 2.7 | 2.3 2.1 | 2.6 2.2 | 2.8 2.4 | 3.0 2.8 | $\begin{array}{c} 1.6\\ 1.6\end{array}$ | 2.4 2.1 | 2.7 2.4 |
| Final sales Previous Tealbook Priv. dom. final purch. Previous Tealbook | .0 2.0 2.0 | 1.6 1.9 1.9 | 3.2 3.3 3.3 3.3 | 1.2 2.5 2.5 | 9.1 7.1 9.1 9.1 | 2.6 2.9 2.4 | 2.4 1.9 3.0 2.8 | 2.5 3.2 3.0 | 2.2 1.8 2.7 2.6 | 2.5 2.1 3.0 2.8 | 2.5 2.5 3.1 3.1 | 2.4 2.3 3.1 3.0 | 1.5 1.5 2.4 2.4 | 2.3 2.8 2.5 | 2.2 3.0 2.9 |
| Personal cons. expend. <i>Previous Tealbook</i> Durables Nondurables Services | 2.1 2.1 11.7 11.6 .8 | -5.3 1.9 | 1.7 5.7 1.9 | 2.1 15.3 .4 | 1.2 2.0 6.9 4 | 2.4 2.4 2.1 2.6 | 2.8 2.6 2.3 2.3 | 2.9 2.7 2.7 2.7 | 2.3 2.2 5.7 1.7 | 2.5 2.4 1.9 2.0 | 2.7 2.6 2.1 2.2 | 2.8 2.6 2.3 2.3 | 1.7 1.7 6.6 1.3 | 2.4 5.7 1.8 2.0 | 2.6 6.3 2.1 2.1 |
| Residential investment Previous Tealbook | -2.4 -2.4 | 4.2 4.2 | $1.3 \\ 1.3$ | 11.5 9.7 | 13.9 8.5 | 7.7 4.0 | 8.7 6.9 | 8.0 7.0 | 8.1 7.0 | 8.2 7.1 | 8.2 7.5 | 8.3 7.5 | 3.5 3.1 | 9.6 6.6 | 8.2 7.3 |
| Business fixed invest. <i>Previous Tealbook</i> Equipment & software <i>Previous Tealbook</i> Nonres. structures <i>Previous Tealbook</i> | 2.1 2.1 8.7 8.7 -14.3 -14.3 | 10.3 6.2 6.2 22.6 22.6 | 15.7 15.7 16.2 16.2 14.4 | 3.2 2.6 3.0 1.1 1.1 | 4.5 1 6.2 2.2 -6.0 | 3.9 5.1 3.4 .7 -1.5 | 3.6 3.2 4.6 4.8 -1.0 | .1.8 5.0 .1.8 .1.8 .1.8 | 4.4 3.8 4.9 1.7 | 4.9 4.8 6.0 6.1 1.9 1.5 | 4.9 6.1 7.9 1.1 | 5.0 5.0 6.6 1.0 1.0 | 7.7 7.5 8.9 8.4 7.1 | 4.0 5.3 3.8 .6 .6 | 5.6 5.6 1.1 1.1 |
| Net exports ² Previous Tealbook ² Exports Imports | -424 -424 7.9 8.3 | -416 -416 3.6 1.4 | -403 -403 4.7 1.2 | -404 -396 4.3 3.8 | -387 -394 6.9 2.3 | -380 -389 5.8 3.5 | -379 -395 5.5 4.3 | -379 -395 5.6 4.6 | -373 -396 5.7 3.7 | -366 -395 5.7 3.5 | -359 -392 5.8 3.6 | -358 -391 5.8 4.7 | -412 -410 5.1 3.6 | -381 -393 5.9 3.7 | -364 -394 5.7 3.9 |
| Gov't. cons. & invest. <i>Previous Tealbook</i> Federal Defense Nondefense State & local | -5.9 -5.9 -9.4 -12.6 -2.7 | 9 9 7.0 -2.8 | 1 1 5.0 -1.6 | -4.5 -4.5 -6.9 -12.1 -2.2 | -1.4 .0 -2.6 -3.3 -1.1 | | 9 9 -1.6 -1.6 -2.5 | -1.0 -2.2 -2.1 -2.5 -2.1 | -1.2 -1.2 -2.5 -2.5 -2.5 -2.5 | -1.1 -1.1 -3.6 -4.1 -2.6 | -1 -1.4 -2.5 -2.6 8 | -1.4 -1.4 -4.9 -6.1 -2.6 | -2.8 -3.2 -2.5 -2.5 | 7 6 -1.4 -2.1 -2.1 | -1.3 -1.3 -2.6 -2.6 |
| Change in bus. inventories ² <i>Previous Tealbook</i> ² Nonfarm ² Farm ² | 49 49 60 -8 | 39 39 -9 | - 6 2 2 | 57 51 63 -6 | 57 48 58 -1 | 45 45 0 | 53 52 1 | 66 65 1 | 68 76 67 1 | 71 77 71 1 | 79 75 18 | $\begin{array}{c}100\\91\\1\\0\end{array}$ | 36 34 -7 | 55 54 0 | 80 80 1 |

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Change from fourth quarter of previous year to fourth quarter of year indicated.
 Billions of chained (2005) dollars.

| Item | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | |
|--|----------------------------------|--|--|---------------------------------------|--|--|--|-----------------------------|------------------------------|--|
| Real GDP Previous Tealbook | 2.8 2.8 | 2.4 2.4 | 2.2 | -3.3 -3.3 | , v.v. | 3.1 3.1 | 1.6 1.6 | 2.4 2.1 | 2.7 2.4 | |
| Final sales Previous Tealbook Priv. dom. final purch. Previous Tealbook | 2.7 3.2 3.2 | 2.2 2.8 4.4 | 2.4 1.2 1.2 | -2.6 -2.6 -4.5 | 8 -2.5 -2.5 | 2.4 3.6 3.6 | 1.5 1.5 2.4 2.4 | 2.3 2.6 2.5 | 2.4 3.0 2.9 | |
| Personal cons. expend. Previous Tealbook Durables Nondurables Services | 2.2.8 2.3.1 2.3.1 2.3.1 | 3.2 3.2 2.6 2.6 | 1.7 1.7 4.6 1.4 | -2.5 -2.5 -13.0 -3.1 5 | 3.0 | 3.0 3.0 3.5 3.5 1.6 | 1.7 1.7 6.6 .1.3 | 2.4 5.7 1.8 2.0 | 2.6 6.3 2.1 2.1 | |
| Residential investment Previous Tealbook | 5.3 5.3 | -15.7 -15.7 | -20.7 -20.7 | -24.4 -24.4 | -12.9 -12.9 | -6.3 -6.3 | 3.5 3.1 | 9.6 6.6 | 8.2 7.3 | |
| Business fixed invest. <i>Previous Tealbook</i> Equipment & software <i>Previous Tealbook</i> Nonres. structures <i>Previous Tealbook</i> | 4.5 4.5 6.2 6.2 1 | 7.8 7.8 6.0 6.0 13.0 13.0 | 7.9 7.9 3.9 3.9 17.3 17.3 | -9.4 -9.4 -13.6 -1.2 -1.2 | -14.4 -14.4 -5.8 -5.8 -29.3 -29.3 | 11.1 11.1 16.6 16.6 -1.8 -1.8 | 7.7 7.5 8.9 8.4 8.4 5.1 | -2.2 5.3 3.8 -2.1 | 4.6 5.6 6.4 1.1 | |
| Net exports ¹ <i>Previous Tealbook</i> ¹ Exports Imports | -723 -723 6.7 5.2 | -729 -729 10.2 4.1 | -649 -649 10.1 .8 | -495 -495 -2.5 -5.9 | -359 -359 1 -6.5 | -422 -422 8.8 10.7 | -412 -410 5.1 3.6 | -381 -393 5.9 3.7 | -364 -394 5.7 3.9 | |
| Gov't. cons. & invest. <i>Previous Tealbook</i> Federal Defense Nondefense State & local | 2.6 2.6 .4 | 1.5 1.5 1.5 1.2 1.2 1.2 | 1.9 1.9 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 | 2.7 2.7 6.8 6 | 1.1 1.1 4.6 6.9 -1.1 | 5 1 | -2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2 | 7 7 -1.6 -2.1 4 | -1.3 -1.3 -2.6 -7.6 | |
| Change in bus. inventories ¹ <i>Previous Tealbook</i> ¹ Nonfarm ¹ Farm ¹ | 50 50 0 | 59 59 4 | 28 28 -1 | -36 -36 -38 1 | -145 -145 -144 -1 | 59 59 61 -1 | 36 34 -7 | 55 55 0 | 80 80 1 | |

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March 7, 2012

Greensheets

1. Billions of chained (2005) dollars.

Greensheets

Contributions to Changes in Real Gross Domestic Product

(Percentage points, annual rate except as noted)

2.7 2.2 2.4 *wviwo* 1.8 vi ui O 90 vi vi 4 vi 1 0 <u>, i</u> $\ddot{\omega}$ $\ddot{\omega}$ $\ddot{\omega}$ $\ddot{\omega}$ $\ddot{\omega}$ $\ddot{\omega}$ 20131 4. ω. 0. <u>-</u>. 0. 8. L 2.3 2.0 2.1 -. 0. 0. 4. w 0.1 <u>-i</u> 2.4 20121 4 0 -- $1.6 \\ 1.6$ $1.5 \\ 1.5$ 2.0 2011^{1} . 1. 0. ×. ь. 9 0.0 99 $\ddot{\omega}$ $\dot{\omega}$ $\dot{\omega}$ $\dot{\omega}$ -----2.6 2.6 $3.0 \\ 2.8 \\ 2.8 \\ 3.0$ $2.4 \\ 2.3 \\ 2.3 \\ 2.4$ $2.0 \\ 1.8$ чü -.0. 00 $\infty \infty$ $\nu \sim 0.0$ v 4 – 4 vi 4.0 က်က် 4. e. -. 9 -2.8 2.5 2.6 1.9 vi ui O 00 *i*.0 4 9. -.0. × 9 0000 $\dot{0}$ ---6 2013 2.2 2.5 vi ui di -.0. 2.400 -.0 00 % . 0 .0. NNNN <u>9</u>9 $\dot{\omega}$ Ξ. 8 2.3 $2.2 \\ 1.8$ 2.3 9.9 4 m 0 00 vi 4 4 4 0 0 <u>8</u>, 6 $\dot{\vec{G}}$ $\dot{\omega}$ $\dot{\omega}$ $\dot{\omega}$ $\dot{\omega}$ $\dot{\omega}$ $\dot{\omega}$ 5 2.7 2.5 2.3 2.5 2.144400 \dot{O} , \dot{O} , $\dot{\infty}$, $\dot{\tilde{\infty}}$, $\dot{\tilde{\omega}}$ ЧŅ 4440 N 4 ... 9 2.6 2.3 $2.4 \\ 1.9$ 2.5 $1.8 \\ 1.8$ 0.0 vi 4. 🗌 un 4 4 <u>.</u>, $\infty \infty$ <u>, i</u> 0. <u>4</u> 90 ----63 2012 2.0 2.0 $\dot{o}\dot{o}$ $2.2 \\ 1.8$ 1.9 in in i <u>-i</u> 4.0 4ω 0.0 0 s ö 0. 4. 4.0 ---7 8 1.8 6.7 1.6 1.6 v. v. o. i. 0[.]4 v. - 4. $\omega \omega$ ν.O Ś <u>.</u> 4. ώö 0. -<u>i</u>--5 9.1. 6.<u>1</u> 0. 3.1 0 1 0 2.1 2.0 i. S - 4 00 ww 4000 .-. <u>8</u>.6. 9.1 -: ņ 6.1 Ξ 9 . 9 9 9 $1.8 \\ 1.8$ 2.8 2.8 $3.2 \\ 3.2$ 6 0.0 $\dot{0}$ $\dot{0}$ $\dot{0}$ $\dot{0}$ -1.4 -1.4 -1.5 00 4 is is 44 8 4 4 4 7 Ξ 7 -201 $1.6 \\ 1.6$ [.6 400 1.0 in in 00 i, i, 1.3ыŅ ----4 4 <u>, i</u> 0 4 <u>'</u> ' ' ' က်က် ώÖ 8 -1.4 -1.2 0.0.0.0 4.4 -.7 -.1 44 NN 0 i i i 4 ЧŅ $\ddot{\omega}$ 4 i ni 5 Previous Tealbook Previous Tealbook Priv. dom. final purch. Previous Tealbook Equipment & software Previous Tealbook **Previous** Tealbook Previous Tealbook Previous Tealbook **P**revious Tealbook Change in bus. inventories Residential investment Personal cons. expend. **Previous Tealbook** Gov't. cons. & invest. **Previous Tealbook** Business fixed invest. Previous Tealbook Nonres. structures Nondefense Nondurables State & local Item Defense Services Durables Net exports Imports Exports Federal Nonfarm Final sales Real GDP

Farm

| | | 20 | 11 | | | 20 | 12 | | | 20 | 13 | | | | |
|---|--------------------------------|--|--------------------------|-----------------------------------|------------------------|--|-------------------|---|-------------------|--|--|-------------------------------|----------------------------------|--------------------------|--------------------------|
| Item | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | 2011 ¹ | 2012 ¹ | 20131 |
| GDP chain-wt. price index Previous Tealbook | 2.5 2.5 | 2.5 | 2.6 | ونون | 1.5 1.7 | 2.0 | 1.5 | 1.4 1.4 | 1.5 1.5 | 1.5 | 1.5 | $1.5 \\ 1.4$ | 2.1 | 1.6 1.6 | 1.5 |
| PCE chain-wt. price index Previous Tealbook | 3.9 3.9 | 3.3 | 2.3 2.3 | 1.2 .5 | 2.1 1.4 | 2.2 1.7 | $1.5 \\ 1.4$ | 1.4 1.3 | $1.4 \\ 1.3$ | $1.4 \\ 1.3$ | $1.4 \\ 1.3$ | $1.4 \\ 1.3$ | 2.7 2.5 | $1.8 \\ 1.4$ | 1.4 1.3 |
| Energy Previous Tealbook | 40.7 40.7 | $15.0 \\ 15.0$ | 3.3 | -3.2 -6.8 | 6.3 .7 | 9.5 4.9 | <u>г</u> .г. | -1.0 5 | 6 9 | -1.5 9 | -1.9 | -1.9 8 | 12.8 11.7 | 3.8 1.4 | -1.6 8 |
| Food Previous Tealbook | 6.5 6.5 | 6.4 6.4 | 4.7 4.7 | 3.3 2.6 | 1.7 .9 | $1.6 \\ 1.1$ | $1.5 \\ 1.2$ | $1.3 \\ 1.2$ | $1.2 \\ 1.2$ | $1.2 \\ 1.2$ | $1.2 \\ 1.2$ | $1.2 \\ 1.2$ | 5.2 5.0 | $1.6 \\ 1.1$ | 1.2 1.2 |
| Ex. food & energy Previous Tealbook | 1.6 1.6 | 2.3 2.3 | 2.1 | 1.3 9. | 1.8 1.5 | $1.7 \\ 1.5$ | $1.6 \\ 1.5$ | $1.6 \\ 1.4$ | $1.6 \\ 1.4$ | $1.6 \\ 1.4$ | $1.6 \\ 1.4$ | $1.6 \\ 1.4$ | 1.8 1.7 | 1.7 1.5 | $1.6 \\ 1.4$ |
| Ex. food & energy, market based Previous Tealbook | 1.3 | 2.4 2.4 | 2.3 2.3 | $1.4 \\ 1.1$ | 1.8 | $1.6 \\ 1.4$ | $1.5 \\ 1.3$ | $1.5 \\ 1.3$ | $1.4 \\ 1.3$ | $1.4 \\ 1.3$ | 1.5 | 1.5 1.3 | 1.8 1.8 | $1.6 \\ 1.4$ | $\frac{1.5}{1.3}$ |
| CPI Previous Tealbook Ex. food & energy Previous Tealbook | 4.5 5.2 1.8 1.7 | 4.4 4.1 2.5 | 3.1 3.1 2.5 2.7 | 1.3 .9 1.7 | 2.4 1.6 1.7 | 2.6 1.9 2.0 1.5 | 1.5 1.5 1.5 | 1.3 1.3 1.6 1.5 | 1.4 1.3 1.5 | $1.3 \\ 1.7 \\ 1.7 \\ 1.5 $ | $1.3 \\ 1.7 \\ 1.7 \\ 1.5 $ | 1.3 1.2 1.7 1.5 | 3.3 2.2 2.2 | 2.0 1.6 1.8 1.6 | 1.3 1.3 1.7 |
| ECI, hourly compensation ² <i>Previous Tealbook</i> ² | 2.1 | 3.2 3.2 | $1.4 \\ 1.4$ | $1.8 \\ 2.0$ | 2.5 2.5 | 2.5 2.5 | 2.5 2.4 | 2.5 2.4 | 2.6 2.3 | 2.6 2.3 | 2.6 2.3 | 2.6 2.3 | 2.2 | 2.5 2.4 | 2.6 2.3 |
| Nonfarm business sector Output per hour <i>Previous Tealbook</i> Compensation per hour <i>Previous Tealbook</i> Unit lahor costs | -1.0 6 5.1 5.6 | <u></u> | 1.8 5.7 2 3.9 | 1.1 .8 .2 .3 .7 .8 | -1.6 .3 2.3 8 | 1.8 1.3 2.4 2.4 | 1.9 2.3 8 | 2.2 2.3 2.3 | 1.1 2.2 1.4 | 1.5 1.3 2.2 1.1 | 1.7 1.5 2.1 2.1 | 1.8 1.8 2.1 2.1 | 4. v. v. 1. v. 7. v. v. 1. v. | 1.1 2.5 2.5 | 1.6 1.4 1.2 1.1 |
| Previous Tealbook Core goods imports chain-wt. price index ³ Previous Tealbook ³ | 833 <u>65</u> 833 <u>65</u> | - 12 - 12 - 12 - 12 - 12 - 12 - 12 - 12 | -2.1 4.4 4.4 | 1.5 | 2.0 5 | $\begin{array}{c}1.1\\1.5\\0\end{array}$ | | $\begin{array}{c} 1.1\\ 1.7\\ 1.4\\ 1.4\end{array}$ | 1.1 | .9 1.6 | 1.5 | $\frac{1}{10}$ $\frac{1}{10}$ | 1.3 4.3 4.2 | 0. 1.0 6. | 1.5 1.5 |
| Change from fourth quarter of previous Private-industry workers. Core goods imports exclude computers, | s year to f | ourth qu | larter of , oil, and | year indi | cated. gas. | 2 | : | | | | | | | ! | |

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

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Greensheets

Class II FOMC - Restricted (FR)

Authorized for Public Release

March 7, 2012

Changes in Prices and Costs Greensheets

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| (Change from fourth quart | er of previo | us year to | fourth quar | ter of year | indicated, | unless oth | erwise note | (pa | | |
|--|--------------------------|-------------------|-------------------|---------------------|-------------------|---|--|---|--|--|
| Item | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | |
| GDP chain-wt. price index <i>Previous Tealbook</i> | 3.5 3.5 | 2.9 2.9 | 2.6 2.6 | 2.1 2.1 | Ľ. | 1.6 1.6 | 2.1 2.1 | 1.6 1.6 | 1.5 1.4 | |
| PCE chain-wt. price index <i>Previous Tealbook</i> | 3.2 3.2 | 1.9 1.9 | 3.5 3.5 | 1.7 1.7 | 1.5 1.5 | $\begin{array}{c} 1.3\\ 1.3\end{array}$ | 2.7 2.5 | $\begin{array}{c} 1.8\\ 1.4\end{array}$ | 1.4 | |
| Energy Previous Tealbook | 21.5 21.5 | -3.7 -3.7 | 19.3 19.3 | -8- 8.8- 8.8- | 2.6 2.6 | 6.2 6.2 | 12.8 11.7 | 3.8 1.4 | -1.6 8 | |
| Food Previous Tealbook | 1.5 1.5 | $1.7 \\ 1.7$ | 4.7 7.4 | 7.0 7.0 | -1.7 -1.7 | 1.3 1.3 | 5.2 5.0 | $1.6 \\ 1.1$ | $1.2 \\ 1.2$ | |
| Ex. food & energy Previous Tealbook | 2.3 2.3 | 2.3 2.3 | 2.4 2.4 | 2.0 2.0 | $\frac{1.7}{1.7}$ | $1.0 \\ 1.0$ | $1.8 \\ 1.7$ | $\begin{array}{c} 1.7\\ 1.5\end{array}$ | $\begin{array}{c} 1.6\\ 1.4 \end{array}$ | |
| Ex. food & energy, market based <i>Previous Tealbook</i> | 2.0 2.0 | 2.2 2.2 | 2.1 2.1 | 2.2 | 1.7 1.7 | Ľ.Ľ. | $1.8 \\ 1.8$ | $1.6 \\ 1.4$ | 1.5 1.3 | |
| CPI Previous Tealbook Ex. food & energy Previous Tealbook | 3.7 3.7 2.1 2.1 | 2:0 2:7 2:7 | 4.0 2.3 2.3 | 1.6 1.6 2.0 | 1.5 1.5 1.7 | 1:2 1:2 .6 | 3.3 3.3 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 | 2.0 1.6 1.8 | 1.3 1.7 1.5 | |
| ECI, hourly compensation ¹ <i>Previous Tealbook</i> ¹ | 2.9 2.9 | 3.2 3.2 | 3.0 3.0 | 2.4 2.4 | $1.2 \\ 1.2$ | 2.1 2.1 | 2.2 2.2 | 2.5 2.4 | 2.6 2.3 | |

Private-industry workers.
 Core goods imports exclude computers, semiconductors, oil, and natural gas.

Class II FOMC - Restricted (FR)

Authorized for Public Release

1.5

6.0

4.4 2.4

2.6 2.6

-1.7

3.7 3.7

2.9

2.5 2.5

2.22.2

Core goods imports chain-wt. price index² *Previous Tealbook*²

Previous Tealbook

Unit labor costs

 $\begin{array}{c} 1.6 \\ 1.4 \\ 2.2 \\ 2.2 \\ 1.1 \\ .7 \end{array}$

 $\begin{array}{c} 1.1 \\ 1.4 \\ 2.5 \\ 1.4 \\ 1.6 \\ 1.0 \end{array}$

2.3 2.5 1.4 1.6 -.9 -.9

 $\begin{array}{c} 2.5 \\ 2.5 \\ 3.6 \\ 3.6 \\ 1.1 \\ 1.1 \end{array}$

8. 8. 4.5 3.3 6.5 3.6 3.6

 $\begin{array}{c} 1.6 \\ 1.6 \\ 3.5 \\ 3.5 \\ 1.9 \\ 1.9 \\ \end{array}$

Compensation per hour Previous Tealbook

Previous Tealbook

Nonfarm business sector Output per hour

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2.5 2.5 3.7

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|-----|------------|---|--|--|--|--|---|---|---|---|--|--|--|---|
| | 20131 | 2.4 | 7.8 8.2 | 6.0 6.0 | -4.0 -5.2 | 2.6 3.1 2.9 | 3.2 79.5 78.2 | .9 15.0 | 4.2 2.0 1.7 | 4.3 4.1 | 1 11.5 | -793 -4 | 13.9 1.5 | |
| | 20121 | 2.1 | 8.2 8.6 | 6.0 6.0 | -4.6 -5.4 | 4.1 2.7 | 2.8 78.5 76.9 | .7 14.4 | 4.0 3.3 | 4.8 4.9 | .5 12.0 | -1,012 -37 | $13.4 \\ 1.0$ | |
| | 2011 | 1.8 | 8.7 8.7 | 6.0 6.0 | -5.0 -5.5 | 3.9 3.7 3.7 | 4.0 75.8 75.6 | .6 12.7 | 3.9 | 4.5 4.1 | 4.1 12.4 | -1,184 -62 | 13.0 .5 | |
| | Q4 | ۲. | 7.8 8.2 | 6.0 6.0 | -4.0 -5.2 | 3.0 3.4 3.4 | 2.9 79.5 78.2 | $1.0 \\ 15.2$ | 4.6 3.3 3.1 | 4.3 4.1 | 2.3 11.5 | -764 2 | $13.9 \\ 1.5$ | |
| [] | Q3 | .6 | 7.9 8.3 | 6.0 6.0 | 4.v v.v | 2.7 3.7 3.1 | 4.1 79.1 77.9 | .9 15.2 | 4.3 2.6 | 4.2 4.0 | .8 11.6 | -782 -1 | $\frac{13.7}{1.3}$ | |
| 201 | Q2 | .6 | 8.0 8.4 | 6.0 6.0 | -5.4 4.4 | 2.4 2.6 2.6 | 3.3 78.8 77.5 | .9 14.9 | 4.1 2.3 | 4.1 4.0 | 9 11.7 | -804 -2 | $13.6 \\ 1.2$ | |
| - | Q1 | , vi | 8.1 8.5 | 6.0 6.0 | -4.6 -5.4 | 2.3 2.3 | 2.5 78.7 77.1 | .8 14.6 | 3.8 -1.3 | 4.1 4.0 | -2.5 11.8 | -822 -15 | $13.5 \\ 1.1$ | , |
| | Q4 | i. | 8.2 8.6 | 6.0 6.0 | -4.6 -5.4 | 3.7 3.6 3.6 | 2.7 78.5 76.9 | .8 14.5 | 4.3 3.5 3.5 | 4.8 4.9 | 9 12.0 | -985 -23 | $13.4 \\ 1.0$ | - |
| 5 | Q3 | S | 8.3 8.6 | 6.0 6.0 | -4.8 -5.6 | 3.9 2.2 2.8 | 2.1 78.0 76.6 | .7 14.5 | 4.1 3.1 3.3 | 4.7 4.7 | 4 12.1 | -1,003 -33 | 13.3 .9 | |
| 201 | Q2 | , vi | 8.4 8.7 | 6.0 6.0 | -5.0 | 5.5 3.8 3.8 | 2.5 77.6 76.4 | .7 14.3 | 4.2 3.0 | 4.6 4.5 | 7.7 12.3 | -1,039 -39 | 13.2 .7 | , |
| - | Q1 | .9 | 8.4 8.7 | 6.0 6.0 | -5.0 -5.6 | 3.5 8.0 8.0 | 4.1 77.1 76.2 | .7 14.5 | 3.4 3.4 3.4 | 4.6 4.4 | -3.9 12.2 | -1,022 -51 | 13.2 .7 | |
| | Q4 | 4. | 8.7 8.7 | 6.0 6.0 | 5.5 5.5 | 3.9 3.1 5.1 | 3.9 75.8 75.6 | .7 13.4 | 4.0 1.4 2.7 | 4.5 4.1 | -7.1 12.4 | -1,097 -68 | 13.0 .5 | |
| 11 | 0 3 | , ui | 9.1 9.1 | 6.0 6.0 | , v, v v. 8. | 6.2 6.3 4.9 | 5.0 75.1 75.1 | .6 12.4 | 4.4 .7 -1.9 | 4.6 3.9 | 6.9 12.8 | -1,161 -83 | 12.9 .2 | , |
| 20 | Q2 | .9 | 9.1 9.1 | 6.0 6.0 | -5.3 6.2 8.2 | | .1 74.4 74.4 | .6 12.1 | 4.0 5 5 | 4.8 8.4 | 13.7 12.7 | -1,275 -40 | 12.4 4 | |
| | Q1 | نہ | 9.0 9.0 | 6.0 6.0 | -5.2 -5.2 | 4.8 7.2 | 7.2 74.5 74.5 | .6 13.0 | 3.1 1.2 1.2 | 5.0 5.0 | 4.2 12.4 | -1,201 -57 | 12.6 1 | |
| | Item | <i>Employment and production</i> Nonfarm payroll employment ² | Unemployment rate ³ <i>Previous Tealbook³</i> | NAIRU ³ Previous Tealhook ³ | GDP gap ⁴ Previous Tealbook ⁴ | Industrial production ⁵ <i>Previous Tealbook</i> ⁵ Manufacturing industr. prod. ⁵ | <i>Previous Tealbook</i> ⁵ Capacity utilization rate - mfg. ³ <i>Previous Tealbook</i> ³ | Housing starts ⁶ Light motor vehicle sales ⁶ | Income and saving Nominal GDP ⁵ Real disposable pers. income ⁵ <i>Previous Tealbook</i> ⁵ | Personal saving rate ³ Previous Tealbook ³ | Corporate profits ⁷ Profit share of GNP ³ | Net federal saving ⁸ Net state & local saving ⁸ | Gross national saving rate ³ Net national saving rate ³ | |

Other Macroeconomic Indicators

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Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise indicated.
 Change, millions.
 Percent; annual values are for the fourth quarter of the year indicated.
 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.

Percent change, annual rate.
 Level, millions; annual values are annual averages.
 Percent change, annual rate, with inventory valuation and capital consumption adjustments.
 Billions of dollars; annual values are annual averages.

Greensheets

(Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise noted) **Other Macroeconomic Indicators**

| Item | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | |
|---|--|------------------------------------|--|--|---|-------------------------------------|-----------------------------------|-------------------------------------|--|--|
| <i>Employment and production</i> Nonfarm payroll employment ¹ Unemployment rate ² <i>Previous Tealbook</i> ² | 2.4 5.0 5.0 | 2.1 4.5 4.5 | 1.2 4.8 4.8 | -2.8 6.9 6.9 | -5.6 9.9 9.9 | 8. 9.6 9.6 | 1.8 8.7 8.7 | 2.1 8.2 8.6 | 2.4 7.8 8.2 | |
| NAIRU ² Previous Tealbook ² GDP gap ³ Previous Tealbook ³ | 5.0 5.0 .0 | 5.0 .0 .0 | 5.0 5.0 .2 | | 6.0 6.0 -6.9 | 6.0 6.0 -5.4 | 6.0 -5.0 -5.5 | 6.0 6.0 -5.4 | 6.0 6.0 -4.0 | |
| Industrial production ⁴ <i>Previous Tealbook</i> ⁴ Manufacturing industr. prod. ⁴ <i>Previous Tealbook</i> ⁴ Capacity utilization rate - mfg. ² <i>Previous Tealbook</i> ² | 2.3 3.4 7855 7855 | 2.3 2.0 78.4 78.4 78.4 | 2.5 2.5 2.8 79.0 79.0 | -9.1 -9.1 -11.8 -11.8 70.1 70.1 | -5.5 -5.5 -6.1 -6.1 67.7 67.7 | 6.2 6.1 6.1 73.3 73.3 | 3.9 3.7 4.3 75.8 75.8 | 4.1 2.7 78.5 76.9 | 2.6 3.1 79.5 78.2 78.2 | |
| Housing starts ⁵ Light motor vehicle sales ⁵ | $\begin{array}{c} 2.1 \\ 16.9 \end{array}$ | $1.8 \\ 16.5$ | 1.4 16.1 | .9 13.1 | .6 10.3 | .6 11.5 | .6 12.7 | .7 14.4 | .9 15.0 | |
| Income and saving Nominal GDP ⁴ Real disposable pers. income ⁴ <i>Previous Tealbook</i> ⁴ Personal saving rate ² <i>Previous Tealbook</i> ² | 6.4 .6 .6 1.6 1.6 | 5.3 2.4.6 2.8 2.8 | 4.9 1.6 2.5 | -1.2 1.0 6.2 6.2 | -2- -2- -2- -2:4 -3:3 -2:4 -3:3 -2:4 -3:4 -2:4 -2:4 -2:4 -2:4 -2:4 -2:4 -2:4 -2 | 4.8.8.3 5.5 2.5 2.5 2.5 | 3.9 .7 .1 .1 .1 | 4.0.8 8.3.3 9.9 9.9 9.9 | 4.2 1.7 4.1 3 | |
| Corporate profits ⁶ Profit share of GNP ² | 19.6 11.8 | 3.7 11.6 | -8.1 10.1 | -33.5 6.8 | 61.8 11.0 | 18.2 12.4 | 4.1 12.4 | .5 12.0 | 1 11.5 | |
| Net federal saving ⁷ Net state & local saving ⁷ | -283 26 | -204 51 | -245 12 | -613 -72 | -1218 -78 | -1274 -25 | -1184 -62 | -1012 -37 | -793 -4 | |
| Gross national saving rate ² Net national saving rate ² | 15.6 3.6 | 16.5 4.4 | $\begin{array}{c} 13.9\\ 1.7\end{array}$ | 12.6 6 | 11.3 -1.9 | 12.3 4 | 13.0 .5 | $13.4 \\ 1.0$ | $\begin{array}{c} 13.9\\ 1.5\end{array}$ | |
| 1. Change, millions.2. Percent; values are for the four | rth quarter o | of the year | indicated. | | | | | | | |

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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.

Percent change.
 Level, millions; values are annual averages.
 Percent change, with inventory valuation and capital consumption adjustments.
 Billions of dollars; values are annual averages.

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a Actual.

| | | Fisca | l vear | | | 20 | 11 | | | 201 | 2 | | | 201 | 6 | |
|---|--|---|--|---|---|--|--|--|---|--|--|---|--|---|---|-------------------------|
| Item | 2010 ^a | 2011 ^a | 2012 | 2013 | Q1 ^a | Q2 ^a | Q3 ^a | Q4 | Q1 | Q2 | 63 | Q4 | Q1 | Q2 | Q3 | Q4 |
| 11 | | | | | | | | | | | 1 | - | | | | |
| Unined budget Receipts ¹ | 2163 | 2303 | 2476 | 2750 | 488 | 714 | 568 | 555 | 527 | 766 | LLY adjust 627 | ea | 576 | 853 | 713 | 668 |
| Outlays ¹ Surplus/deficit ¹ <i>Previous Tealbook</i> | 3456 -1293 -1293 | 3603 -1300 -1297 | 3603 -1127 -1107 | 3584 -834 -853 | 949 -460 -460 | 855 -141 -141 | 895 -326 -326 | 877 -322 -322 | 959 -432 -443 | 907 -140 - <i>130</i> | -233 -233 -213 | 927 -318 -317 | 923 -347 -350 | 884 -31 -43 | 850 -138 -143 | 935 -267 -280 |
| On-budget Off-budget | -1370 77 | -1367 67 | -1110 -17 | -826 -8 | -451 -10 | -202 61 | -311 -15 | -346 24 | -412 -20 | -169 28 | -183 -50 | -323 6 | -324 -23 | -75 43 | -104 -33 | -286 19 |
| Means of financing Borrowing Cash decrease Other ² | 1474 -35 -146 | 1110 252 -62 | 1201 -12 -62 | 894 20 -80 | 260 225 -24 | 93 -19 67 | 389 79 -142 | 326 -28 23 | 424 56 -47 | 184 -49 6 | 268 10 -45 | 318 20 -20 | 367 0 -20 | 51 0 -20 | 158 0 -20 | 287 0 -20 |
| Cash operating balance, end of period | 310 | 58 | 70 | 50 | 118 | 137 | 58 | 86 | 30 | 80 | 70 | 50 | 50 | 50 | 50 | 50 |
| NIPA federal sector | | | | | | | | | - Season | ally adjust | ed annual | rates — | | | | |
| Receipts Expenditures Consumption expenditures | 2379 3648 1042 | 2534 3765 1070 | 2709 3750 1073 | 2970 3819 1069 | 2528 3729 1059 | 2554 3829 1078 | 2583 3744 1085 | 2612 3709 1069 | 2702 3724 1072 | 2745 3784 1076 | 2778 3781 1075 | 2813 3798 1074 | 2990 3812 1074 | 3022 3826 1069 | 3057 3839 1061 | 3094 3858 1053 |
| Defense Nondefense | 697 346 | 715 355 | 715 358 | 714 355 | 701 358 | 723 354 | 733 | 711 358 | 713 359 | 718 359 | 718 358 | 717 357 | 717 356 | 713 355 | 707 354 | 701 353 |
| Other spending Current account surplus | 2606 -1269 | 2695 -1231 | 2677 -1040 | 2749 -848 | 2670 -1201 | 2752 -1275 | 2659 -1161 | 2640 -1097 | 2652 -1022 | 2708 -1039 | 2706 -1003 | 2724 -985 | 2738 -822 | 2757 -804 | 2777 -782 | 2805 -764 |
| Gross investment Gross saving less gross | 165 | 165 | 156 | 152 | 161 | 160 | 164 | 157 | 155 | 156 | 156 | 155 | 153 | 151 | 148 | 145 |
| investment ³ | -1305 | -1260 | -1052 | -846 | -1227 | -1298 | -1185 | -1113 | -1034 | -1050 | -1011 | -989 | -823 | -800 | -772 | -749 |
| Fiscal indicators ⁴ High-employment (HEB) surmlus/deficit | -085 | סאס | 769 | -576 | -041 | -1004 | 980 | .87 | 750 | 760 | 927- | 017 | 342 | -570 | 500 | 70V |
| Change in HEB, percent of potential GDP | 1.0 | , | -1.4 | -1.3 | Ľ- | ς. | ×. | 4 | | | - ⁻ | | -1.1 | | 1 | - 1. |
| Fiscal impetus (FI), percent of GDP <i>Previous Tealbook</i> | 0.5 0.5 | -0.3 -0.4 | -0.5 -0.4 | -1.1 -1.1 | 9.0- 0.6 | 0.4 0.4 | -0.1 -0.1 | -1.0 -1.2 | -0.7 -0.2 | -0.5 -0.5 | -0.5 -0.5 | -0.5 -0.4 | -1.8 -1.8 | -0.9 -0.9 | 0.1- 0.1 | -0.7 |
| Budget receipts, outlays, and s surplus and shown separately as Other means of financing are of 3. Gross saving is the current acc | urplus/defici off-budget, a hecks issuec | it include c is classified i less check plus consu | orrespondi 1 under curr cs paid, acc imption of | ng social secu rent law. rued items, ai | urity (OASD nd changes in of the genera | l) categorié 1 other finé 1 governme | es. The OA ancial asset ent as well | SDI surplu is and liabil as goverm | is and the F lities. | Postal Serv | ice surplus | are exclud | led from the | e on-budge | | |
| 4. HEB Is gross saving less gross NAIRU. The sign on Change in HI by real GDP. The FI estimates are in HEB and FI are not at annual rati | Investment 3B, as a perc calendar yea 3s. | (NIPA) of tent of non: r contribut | the rederal tinal potent tons to Q4/ | government ial GDP, is re Q4 real GDP | in current do versed. FI i growth. Als | llars, with s the weigh o, for FI ai | cyclically a ted differe nd the char | sensitive re ince of disc ige in HEB | cerpts and retionary c , positive v | outlays ad hanges in alues indic | justed to tr federal spe sate aggreg | ie statt's m inding and (gate demane | easure of p taxes in chi d stimulus. | otential ou ained (2005 Quarterly | tput and th 5) dollars, : figures foi | e scaled : change |

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

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| | | | Households | | | | | |
|---------------------------|---|---------------------------------------|----------------------|---------------------|-------------------|-----------------------------|-----------------------|-------------------------|
| Period ¹ | Total | Total | Home mortgages | Consumer credit | Business | State and local governments | Federal government | Memo: Nominal GDP |
| Year | | | | | | | | |
| 2007 | 8.5 | 6.7 | 6.9 | 5.8 | 13.6 | 5.4 | 4.9 | 4.9 |
| 2008 | 6.0 | .1 | 5 | 1.5 | 6.2 | L. | 24.2 | -1.2 |
| 2009 | 3.1 | -1.7 | -1.4 | -4.4 | -2.4 | 3.9 | 22.7 | 0. |
| 2010 | 4.1 | -2.1 | -2.9 | -1.8 | L. | 2.2 | 20.2 | 4.7 |
| 2011 | 3.7 | 6:- | -2.1 | 3.5 | 4.2 | -1.9 | 11.4 | 3.9 |
| 2012 | 4.6 | 9. | -1.2 | 6.0 | 4.1 | 2 | 11.4 | 4.0 |
| 2013 | 4.0 | 1.6 | 2 | 7.0 | 4.3 | 9. | 7.4 | 4.2 |
| 2014 | 4.0 | 1.9 | 0. | 7.5 | 4.3 | 1.0 | 6.5 | 4.8 |
| Quarter | | | | | | | | |
| 2010:1 | 3.5 | -3.1 | -4.8 | -3.9 | 1 | 2.4 | 20.6 | 5.5 |
| 2 | 3.9 | -2.2 | -2.5 | -3.3 | -1.3 | 5 | 22.5 | 5.4 |
| 3 | 3.7 | -2.2 | -2.5 | -2.2 | 1.8 | 2.1 | 16.0 | 3.9 |
| 4 | 4.9 | <i>L.</i> - | -1.8 | 2.3 | 2.5 | 4.8 | 16.4 | 4.2 |
| 2011:1 | 2.3 | -1.9 | -2.7 | 2.2 | 4.1 | -3.3 | 7.9 | 3.1 |
| 2 | 3.0 | 6 | -2.4 | 3.6 | 4.4 | -3.5 | 8.6 | 4.0 |
| 3 | 4.4 | -1.2 | -1.9 | 1.4 | 3.6 | 0. | 14.1 | 4.4 |
| 4 | 4.9 | ë | -1.5 | 6.9 | 4.6 | -1.0 | 13.1 | 4.0 |
| 2012:1 | 4.9 | 6 | -1.6 | 5.5 | 4.2 | <i>L.</i> - | 13.3 | 3.4 |
| 2 | 4.4 | 4. | -1.3 | 5.5 | 3.9 | ë. | 11.0 | 4.2 |
| ю | 3.8 | ×. | -1.0 | 6.0 | 4.0 | 1 | 8.1 | 4.1 |
| 4 | 4.9 | 1.0 | | 6.3 | 4.2 | ω. | 11.4 | 4.3 |
| 2013:1 | 4.7 | 1.3 | ن | 6.6 | 4.3 | 9. | 10.0 | 3.8 |
| 7 | 3.5 | 1.5 | ι. ε | 6.9 | 4.2 | 9. | 5.5 | 4.1 |
| ю | 3.0 | 1.8 | 0. | 6.9 | 4.3 | 9. | 3.8 | 4.3 |
| 4 | 4.8 | 1.8 | 0. | 7.0 | 4.3 | 9. | 9.5 | 4.6 |
| | | | | | | | | |
| Note: Qua | rterly data are at sea | isonally adjusted a | unnual rates. | | | | , | |
| 1. Data aft GDP growth | er 2011:Q4 are staff which is calculated | projections. Chan I from 04 to 04. | ges are measured fro | om end of the prece | ding period to en | d of period indicated | except for annual 1 | nominal |
| | | | | | | | | |

Change in Debt of the Domestic Nonfinancial Sectors (Percent)

| | Class | II FO | MC - Restricted | (FR) | | . 101 1 4011 | | | | |
|---------------|-------|----------|--|--|--|--|--|---|---|--|
| | - | Q4 | 1606.8 -360.0 1966.8 | 249.5 11.8 | 245.5 0.0 196.8 106.4 | 86.1 -360.0 538.1 | 17.8 258.5 | 1165.4 287.0 267.0 | 512.6 | |
| | 013 | Q3 | 880.8 -360.0 1240.8 | 249.9 7.6 | 238.5 0.0 190.7 107.1 | 53.0 -360.0 527.7 | 17.8 254.1 | 456.8 157.6 137.6 | 488.4 | |
| | 5 | Q2 | 1082.9 -320.0 1402.9 | 250.5 8.6 | 204.4 -29.1 186.1 107.8 | 31.2 -320.0 519.1 | 17.8 251.3 | 661.5 51.5 31.5 | 466.1 | |
| | | Q1 | 1557.8 -320.0 1877.8 | 250.5 11.7 | 175.8 -48.6 177.3 108.5 | 10.6 -320.0 515.4 | 17.8 235.7 | 1168.8 367.0 347.0 | 465.2 | |
| | | Q4 | 1517.1 -420.0 1937.1 | 249.8 12.2 | 134.9 -77.9 166.3 108.4 | -52.2 -420.0 504.3 | 9.8 226.1 | 1288.1 317.7 317.6 | 458.7 | |
| ed) |)12 | Q3 | 1053.8 -420.0 1473.8 | 249.8 9.3 | 103.4 -97.6 156.3 109.4 | -98.6 -420.0 474.7 | -2.2 214.1 | 897.8 267.9 232.6 | 398.3 | |
| cept as not | 50 | Q2 | 1298.9 -400.0 1698.9 | 249.8 10.9 | 56.7 -127.3 140.8 110.5 | -138.4 -400.0 461.5 | -10.2 206.1 | 1190.9 183.8 140.5 | 448.8 | |
| ial rates ex | - | Q1 | 1484.2 -400.0 1884.2 | 249.5 12.2 | 24.2 -157.3 138.4 111.8 | -119.0 -400.0 487.4 | -22.2 192.6 | 1394.8 423.5 432.3 | 776.8 | 9 |
| justed ann | 11 | Q4 | 1351.7 -514.8 1866.5 | 248.5 12.2 | 43.1 -150.3 170.4 112.8 | -136.9 -514.8 531.3 | -29.1 175.2 | 1321.2 326.0 321.7 | 606.2 | |
| isonally ad | 3(| Q3 | 1029.6 -606.6 1636.2 | 248.0 10.8 | -159.3 -184.8 34.6 113.6 | -252.9 -606.6 411.9 | 1.0 212.1 | 1382.6 389.1 328.1 | 498.1 | |
| ollars at sea | | 2014 | 1307.7 -340.0 1647.7 | 248.6 9.6 | 262.7 0.0 213.3 104.5 | 101.3 -340.0 541.5 | 29.8 236.2 | 813.8 813.8 733.8 | 598.6 | : |
| llions of de | | 2013 | 1282.1 -340.0 1622.1 | 250.1 9.9 | 216.1 -19.4 187.7 107.5 | 45.2 -340.0 525.1 | 17.8 249.9 | 863.1 863.1 783.1 | 483.1 | - |
| (Bi | | 2012 | 1338.5 -410.0 1748.5 | 249.7 11.1 | 79.8 -115.0 150.4 110.1 | -102.0 -410.0 482.0 | -6.2 209.7 | 1192.9 1192.9 1122.9 | 520.7 | |
| | | 2011 | 878.5 -489.9 1368.3 | 249.3 9.1 | -113.9 -213.2 86.3 114.4 | -183.2 -489.9 472.9 | -58.6 214.9 | 1067.9 1067.9 1251.4 | 200.5 | ions. |
| | | Category | Domestic nonfinancial sectors Net funds raised Total Net equity issuance Net debt issuance | Borrowing indicators Debt (percent of GDP) ¹ Borrowing (percent of GDP) | Households Net borrowing ² Home mortgages Consumer credit Debt/DPI (percent) ³ | Business Financing gap ⁴ Net equity issuance Credit market borrowing | State and local governments Net borrowing Current surplus ⁵ | Federal government Net borrowing Net borrowing (n.s.a.) Unified deficit (n.s.a.) | Depository institutions Funds supplied | Note: Data after 2011:Q4 are staff project |

Flow of Funds Projections: Highlights

Average debt levels in the period (computed as the average of period-end debt positions) divided by nominal GDP.
 Includes change in liabilities not shown in home mortgages and consumer credit.
 Average debt levels in the period (computed as the average of period-end debt positions) divided by disposable personal income.
 For corporations, excess of capital expenditures over U.S. internal funds.

5. NIPA state and local government saving plus consumption of fixed capital and net capital transfers. n.s.a. Not seasonally adjusted.

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|---|---------------|-------------|------------|----------------|--------------|------------|------------|-------------|------------|------------|------------|------------|
| | | 20 | 11 | | | 20 | 12 | | | 20 | 13 | |
| Measure and country | Q1 | Q2 | Q3 | Q4 | QI | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Real GDP ¹ | | | | | | | | | | | | |
| Total foreign | 3.6 | 2.4 | 3.8 | 1.2 | 3.1 | 2.8 | 2.8 | 3.0 | 3.0 | 3.1 | 3.2 | 3.3 |
| Previous Tealbook | 3.7 | 2.3 | 3.6 | 2.0 | 2.5 | 2.3 | 2.5 | 2.7 | 2.8 | 2.9 | 3.0 | 3.1 |
| Advanced foreign economies | 1.8 | | 3.1 | .1 | 1.1 | 1.1 | 1.2 | 1.5 | 1.6 | 1.7 | 1.9 | 2.1 |
| Canada | 3.7 | 6 | 4.2 | 1.8 | 2.0 | 1.9 | 2.2 | 2.3 | 2.2 | 2.2 | 2.2 | 2.4 |
| Japan | -6.8 | -1.5 | 7.0 | -2.3 | 2.7 | 2.3 | 2.0 | 1.8 | 1.4 | 1.4 | 1.5 | 1.5 |
| United Kingdom | 1.3 | Ŀ. | 2.2 | | 1.2 | 6: | 6. | 1.2 | 1.7 | 1.9 | 2.3 | 2.5 |
| Euro area | 3.1 | 9. | i. | -1.3 | | 6 | 4. | - | 9. | 6. | 1.3 | 1.4 |
| Germany | 5.5 | 1.1 | 2.3 | <i>L</i> | e. | i. | L. | 1.0 | 1.3 | 1.5 | 1.8 | 2.0 |
| Emerging market economies | 5.4 | 5.0 | 4.6 | 2.4 | 5.2 | 4.7 | 4.6 | 4.6 | 4.5 | 4.6 | 4.7 | 4.7 |
| Asia | 7.5 | 4.8 | 4.9 | 2.6 | 6.4 | 5.7 | 5.5 | 5.5 | 5.8 | 5.8 | 5.9 | 5.9 |
| Korea | 5.4 | 3.6 | 3.3 | 1.4 | 3.2 | 3.5 | 3.5 | 3.5 | 3.7 | 3.8 | 4.0 | 4.1 |
| China | 8.7 | 9.5 | 9.5 | 8.2 | 8.0 | 8.0 | 8.0 | 8.0 | 8.2 | 8.2 | 8.2 | 8.2 |
| Latin America | 3.1 | 5.3 | 4.3 | 2.1 | 3.9 | 3.6 | 3.5 | 3.5 | 3.1 | 3.2 | 3.3 | 3.3 |
| Mexico | 2.1 | 6.0 | 5.1 | 1.7 | 4.0 | 3.5 | 3.4 | 3.4 | 2.9 | 2.9 | 3.1 | 3.1 |
| Brazil | 2.5 | 2.0 | 2 | 1.3 | 3.1 | 3.3 | 3.5 | 3.5 | 3.7 | 3.8 | 4.0 | 4.0 |
| c | | | | | | | | | | | | |
| Consumer prices ² | | | | | | | | | | | | |
| Total foreign | 4.1 | 3.3 | 3.1 | 2.9 | 3.1 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| Previous Tealbook | 4.3 | 3.2 | 3.1 | 3.1 | 2.3 | 2.4 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| Advanced foreign economies | 3.0 | 2.3 | 1.1 | 2.5 | 2.1 | 1.4 4.1 | 1.4 • | 1.4 | 1.3 | 1.3 | 1. | 1.4 |
| Canada | 3.3 0 | | 1.0 | 2.9 | 2.6 | 2.0 | 5.0 | 1.8 8 | 1.8 | 1.8 | l.8 | 1.9 |
| | ⊃ ť | \. | - t | - 0 | o ç | 7.4 | 7.0 | - - - | | | | 0.0 |
| United Kingdom | /.0 | 4.I | 5.7 | 7.4 | 1. 2. c | U.1 | 1.8 2 | 6.7 | 1.0 1 | U r | 0. I | 0.7 |
| Euro Area Germany | 0.7 7 7 | 0.7 V C | 1.1 | 0.0 0 0 | 2 7.7 2 8 | 1.0 0 C | 0.1 1 | 0.1 0 | 0 1 | 01 | 0.1 C L | C.1 |
| Emarcina morbet accuration | - C 2 | ; - | 7.7 | 0 C | 0 1 7 | 1 C | , c | i c | , c c | , c c | | , c |
| Lineiging market computes Asia | 0. v 0. v | 4.1 7 0 | 0.0 t v | 4.C | 0.0 0 | 4.0 4 1 | 1.0 0.0 | 4.0 7.0 | 4.0 7 0 | 2.0 7 0 | 4 C 7 C | 4.0 7 0 |
| Korea | 6'0 9 | 8.0 | 5.7 8.4 | 1 C | 2.0 | | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 |
| China | 4.6 | 8 | 6.2 | - - | | 2.9 | 2.8 | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 |
| Latin America | 4.2 | 2.4 | 3.6 | 5.5 | 5.6 | 3.4 | 3.7 | 3.8 | 3.8 | 3.8 | 3.8 | 8.00 |
| Mexico | 3.6 | 1.8 | 3.3 | 5.3 | 5.5 | 3.1 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| Brazil | 8.1 | 7.1 | 5.3 | 6.4 | 5.4 | 5.2 | 5.0 | 5.9 | 6.0 | 5.1 | 4.9 | 4.9 |
| ¹ Ecraian GDD acaracetes colorilated i | eina charae | of LI S avi | orte | | | | | | | | | |
| ² Foreign CPI aggregates calculated us | ing shares of | f U.S. non | -oil impor | ts. | | | | | | | | |
| | | | | | | | | | | | | |

| ner Prices: Selected Countries | ge, Q4 to Q4) |
|--------------------------------|----------------|
| GDP and Consun | (Percent chang |
| Foreign Real | |

| Measure and country | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | rujeucu 2012 | 2013 |
|-------------------------------------|------------|--------|------------|------------|------------|------------|------------|-----------------|------------|
| Real GDP ¹ | | | | | | | | | |
| Total foreign | 4.0 | 4.2 | 4.4 | 6 | 6. | 4.4 | 2.8 | 2.9 | 3.2 |
| Previous Tealbook | 4.0 | 4.2 | 4.3 | <i>6</i> | 6. | 4.4 | 2.9 | 2.5 | 3.0 |
| Advanced foreign economies | 2.7 | 2.6 | 2.6 | -2.0 | -1.3 | 2.8 | 1.3 | 1.2 | 1.8 |
| Canada | 3.1 | 1.9 | 2.5 | <i>L</i> | -1.4 | 3.3 | 2.2 | 2.1 | 2.3 |
| Japan | 2.1 | 2.1 | 1.6 | -4.8 | 6 | 3.2 | -1.0 | 2.2 | 1.5 |
| United Kingdom | 2.8 | 2.1 | 4.1 | -5.4 | 8 | 1.7 | L. | 1.1 | 2.1 |
| Euro area | 2.2 | 3.8 | 2.3 | -2.1 | -2.1 | 2.0 | L. | 5 | 1.0 |
| Germany | 1.6 | 4.9 | 2.4 | -1.9 | -2.2 | 3.8 | 2.0 | 9. | 1.6 |
| Emerging market economies | 5.8 | 6.3 | 6.7 | ы. | 3.5 | 6.2 | 4.4 | 4.8 | 4.6 |
| Asia | 7.6 | 7.8 | 8.9 | 6. | 8.0 | 7.6 | 5.0 | 5.8 | 5.8 |
| Korea | 5.2 | 4.6 | 5.8 | -3.2 | 6.3 | 4.7 | 3.4 | 3.4 | 3.9 |
| China | 10.3 | 12.8 | 13.7 | 7.7 | 11.4 | 9.6 | 9.0 | 8.0 | 8.2 |
| Latin America | 3.9 | 4.8 | 4.4 | 4 | 6 | 4.6 | 3.7 | 3.6 | 3.2 |
| Mexico | 3.6 | 4.1 | 3.5 | -1.2 | -2.4 | 4.3 | 3.7 | 3.6 | 3.0 |
| Brazil | 2.2 | 4.9 | 6.6 | 6. | 5.3 | 5.4 | 1.4 | 3.3 | 3.9 |
| Consumer nrices ² | | | | | | | | | |
| T_{atal} | ((| ר ר | Г С | с с | с - | с с | ç | Ċ | Ċ |
| I otal Ioreign Dravious Taalbook | 2.2 5.2 | 7.7 | 3.1 2.7 | 0.0 6 6 | 1.5 1.2 | 5.5 C & | 0.0 4.0 | 0.7 7 | 4.7 4.7 |
| | C.7 2 | 7.7 |).) | U.U 0 0 | C.1 | 7.C | 5.5 5.0 | C.7 7 | 0.4 |
| Advanced foreign economies | 1.6 2.2 | 4 | 2.2 | 2.0 | 7.0 | 1.7 | 2.2 | 1.6 2.1 | 1.3 |
| Canada | 2.3 | 1.4 | 2.5 | 1.8 | ×. | 2.2 | 2.7 | 2.1 | 1.8 |
| Japan | 7 | ω. | iرم | 1.1 | -2.0 | | | 0 | 1 |
| United Kingdom | 2.1 | 2.7 | 2.1 | 3.9 | 2.2 | 3.4 | 4.7 | 1.9 | 1.7 |
| Euro Area | 2.3 | 1.8 | 2.9 | 2.3 | 4. | 2.0 | 2.9 | 2.0 | 1.5 |
| Germany | 2.2 | 1.3 | 3.1 | 1.7 | ω. | 1.6 | 2.6 | 2.3 | 1.8 |
| Emerging market economies | 3.0 | 2.9 | 5.1 | 4.6 | 2.1 | 4.3 | 4.3 | 3.4 | 3.2 |
| Asia | 2.5 | 2.4 | 5.5 | 3.6 | 1.3 | 4.3 | 4.4 | 3.1 | 3.0 |
| Korea | 2.5 | 2.1 | 3.4 | 4.5 | 2.4 | 3.2 | 4.0 | 3.0 | 3.0 |
| China | 1.4 | 2.1 | 6.7 | 2.5 | 9. | 4.7 | 4.6 | 3.0 | 2.9 |
| Latin America | 3.8 | 4.1 | 4.2 | 6.7 | 3.9 | 4.4 | 3.9 | 4.1 | 3.8 |
| Mexico | 3.1 | 4.1 | 3.8 | 6.2 | 4.0 | 4.3 | 3.5 | 3.9 | 3.5 |
| Brazil | 6.1 | 3.1 | 4.3 | 6.3 | 4.3 | 5.6 | 6.7 | 5.4 | 5.2 |

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U.S. Current Account

| | | | | Qua | rterly Dai | ta, | | | | | | |
|--|-------------------------|--|-------------------------|-------------------------|---------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|-------------------------|--------------------------|
| | | 2 | 011 | | | 2 | 012 | Projecte | be | 2 | 013 | |
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| | | | | | Bill | ions of de | ollars, s.a. | .a.r. | | | | |
| J.S. current account balance Previous Tealbook | -474.9 -478.4 | -495.4 -498.9 | -437.7 -441.1 | -458.5 -453.4 | -467.4 -465.5 | -422.7 -422.5 | -426.3 -439.2 | -450.7 -461.0 | -480.4 -497.7 | -438.4 -463.5 | -444.0 -476.7 | -460.7 -497.8 |
| Current account as percent of GDP Previous Tealbook | -3.2 -3.2 | $\dot{\omega}$, $\dot{\omega}$, $\dot{\omega}$, $\dot{\omega}$, | -2.9 -2.9 | -3.0 - <i>3</i> .0 | -3.0 - <i>3</i> .0 | -2.7 -2.7 | -2.7 -2.8 | -2.8 -2.9 | -3.0 -3.1 | -2.7 -2.9 | -2.7 -2.9 | -2.8 - <i>3</i> .0 |
| Net goods & services | -556.4 | -581.4 | -538.9 | -555.4 | -581.7 | -531.3 | -534.6 | -547.5 | -570.6 | -520.0 | -511.7 | -518.2 |
| Investment income, net | 219.5 315 0 | 236.6 377 1 | 242.1 373 5 | 233.5 | 255.8 305.0 | 246.2 780.7 | 249.2 202 1 | 239.8 788 0 | 231.7 788.6 | 219.1 285 7 | 208.6 285 1 | 200.4 287.5 |
| Portfolio, net | -96.4 | -85.5 | | | -49.2 | -43.0 | -42.9 | -48.1 | -56.8 | -66.6 | -76.6 | |
| Other income and transfers, net | -138.0 | -150.7 | -140.9 | -136.6 | -141.5 | -137.6 | -140.9 | -143.0 | -141.5 | -137.6 | -140.9 | -143.0 |
| | | | | A | nnual Do | uta | | | | | | |
| | | | | | | | | | | Pro | jected | |
| | 2005 | 5 2 | 006 | 2007 | 2008 | 2 | 600 | 2010 | 201 | 1 | 2012 | 2013 |
| | | | | | | Billions | of dollar. | S | | | | |
| J.S. current account balance Previous Tealbook | -745.8 -745.8 | 8 % | 0.6 0.6 | -710.3 | - 677.] -677.] | بن ني | 76.6 76.6 | -470.9 -470.9 | -466. -467.9 | 2 0 4 4 | 41.8 47.1 | - 455.9 -483.9 |
| Current account as percent of GDP | -5.5 | | 6.0 6.0 | -5.1 | 44 | | -2.7 | -3.2 2 2 | ين ب | 1 | -2.8 -2.0 | -2.8 |
| Net goods & services | -708.6 | 52- 5 | 3.3 | -696.7 | -698.3 | -35 | 81.3 | -500.0 | -558.(| ں ج | 48.8 | -530.1 |
| Investment income, net | 78.7 | 5 | 4.7 | 111.1 | 157.8 | .1 | 37.1 | 174.5 | 232.9 | 9 | 47.7 | 215.0 |
| Direct, net | 173.2 | 2 17 | '4.0 | 244.6 | 284.3 | 3 | 52.2 | 280.6 | 314.2 | 2 | 93.6 | 286.7 |
| Portfolio, net | -94.5 | 5 -11 | 9.4 | -133.5 | -126.5 | 5 -13 | 25.1 | -106.2 | -81.3 | r m | 45.8 | -71.8 |
| Other income and transfers, net | -115.9 |) -1(| 02.0 | -124.7 | -136.6 | 5 -1. | 32.3 | -145.3 | -141.5 | 5 | 40.8 | -140.8 |

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Abbreviations

| ABS | asset-backed securities |
|--------------------|---|
| AFE | advanced foreign economy |
| BEA | Bureau of Economic Analysis, Department of Commerce |
| BHC | bank holding company |
| BLS | Bureau of Labor Statistics, Department of Labor |
| BOE | Bank of England |
| BOJ | Bank of Japan |
| CDS | credit default swap |
| C&I | commercial and industrial |
| ECB | European Central Bank |
| EME | emerging market economy |
| E&S | equipment and software |
| ETF | exchange-traded fund |
| EU | European Union |
| EUC | Emergency Unemployment Compensation |
| FDIC | Federal Deposit Insurance Corporation |
| FOMC | Federal Open Market Committee; also, the Committee |
| FRBNY | Federal Reserve Bank of New York |
| FX | foreign exchange |
| GDP | gross domestic product |
| GSE | government-sponsored enterprise |
| IMF | International Monetary Fund |
| IPO | initial public offering |
| LIBOR | London interbank offered rate |
| LTRO | longer-term refinancing operation |
| MBS | mortgage-backed securities |
| Michigan survey | Thomson Reuters/University of Michigan Surveys of Consumers |

| NAIRU | non-accelerating inflation rate of unemployment |
|-------|--|
| NFIB | National Federation of Independent Business |
| NIPA | national income and product accounts |
| OIS | overnight index swap |
| OTC | over the counter |
| PCE | personal consumption expenditures |
| PMI | purchasing managers index |
| REIT | real estate investment trust |
| repo | repurchase agreement |
| SCOOS | Senior Credit Officer Opinion Survey on Dealer Financing Terms |
| SOMA | System Open Market Account |
| S&P | Standard & Poor's |
| TIPS | Treasury inflation-protected securities |
| WTI | West Texas Intermediate |

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