## 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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## Part 1

## CURRENT ECONOMIC AND FINANCIAL CONDITIONS

## Summary and Outlook

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

September 10, 2008

## Summary and Outlook

## Class II FOMC—Restricted (FR)

## Domestic Developments

Real gross domestic product (GDP) is now estimated to have increased at a solid pace in the second quarter; however, the available indicators point to a sharp deceleration in economic activity in the third quarter. Some of the factors that had provided a substantial boost to activity last quarter-most notably, net exports and government purchasesappear likely to make much smaller contributions in the current quarter. More fundamentally, consumer spending has softened appreciably in recent months, and housing construction remains on a steep downtrend. No doubt, some of the weakness in the household sector reflects the ongoing deterioration in the labor market; the unemployment rate moved above 6 percent in August. But the effects of the earlier runup in oil prices, weakening balance sheets, and restrictive financial conditions have also put many households and businesses under considerable pressure. All told, we project real GDP to rise at an annual rate of about $3 / 4$ percent in the second half of 2008 , much the same as in our forecast in the July/August Greenbook.

As in previous forecasts, we anticipate that the restraint on household and business spending associated with financial market turmoil will gradually ease over the course of the forecast period. This improvement, coupled with a diminishing drag on activity from the earlier increase in oil prices and the end of the contraction in the housing market, leads to a modest acceleration in economic activity beginning in 2009. Indeed, we project that the pace of real GDP growth will step up to about 2 percent in 2009 and to $23 / 4$ percent in 2010. Relative to the last Greenbook, our forecast for growth in 2009 is just a touch lower, as the added boost to activity from a lower path for crude oil prices in this projection is more than offset by an upward shift in the path of the exchange value of the dollar and weaker foreign activity. We have also marked up our forecast of the unemployment rate-it now averages $61 / 4$ percent next year-in light of both its recent jump and the slightly weaker economy in this forecast. With economic growth projected to move above potential in 2010, the unemployment rate drifts back below 6 percent by the end of that year.

The outlook for both core and overall PCE inflation over the next two years has changed little since the July/August Greenbook. We continue to project core inflation to edge lower over the projection period—from 2.4 percent in 2008 to 2.1 percent in 2009 and 1.9 percent in 2010 - as the prices of imports, energy, and other commodities decelerate and the margin of resource slack remains relatively wide. In 2009 and 2010, we project overall PCE prices to move roughly in line with core prices.

## Key Background Factors

Given the somewhat weaker prospects for economic activity, we have revised the monetary policy assumption underlying our projection. We now assume that the Committee will hold the federal funds rate steady at 2 percent until the middle of next year, rather than starting to tighten policy just after the turn of the year. With the later onset of tightening, we assume that the federal funds rate reaches $21 / 2$ percent by the end of 2009, 25 basis points below the level assumed in the last Greenbook, and that it rises to 3 percent by the end of 2010. Financial market participants have lowered their expected path for the federal funds rate by much more; indeed, by the end of 2010, the market's expected path has shifted down $3 / 4$ percentage point. As a result of these revisions, the market's outlook for the federal funds rate is now similar to our path through 2010.

Reflecting the revision to the market's outlook for monetary policy and an apparent decline in term premiums, long-term Treasury yields have fallen about $1 / 2$ percentage point since we closed the July/August Greenbook. We are assuming that long-term Treasury yields will drift up over the next two years as the 10-year window moves beyond the low short rates prevailing in the near term.

The financial headwinds facing the economy remain substantial. Since the close of the last Greenbook, deepening concerns about asset quality have pushed up premiums on credit default swaps for investment and commercial banks. In short-term funding markets, Libor spreads have drifted up from already elevated levels. Yields on speculative-grade corporate bonds have edged up further, and those on investment-grade bonds have declined less than comparable-maturity Treasury yields. The federal takeover earlier this week of Fannie Mae and Freddie Mac reduced some uncertainty that had been weighing on markets and appears to have resulted in a decline in conforming fixed mortgage rates. Although this action essentially eliminated the odds of an outright failure of the government-sponsored enterprises (GSEs) and the associated macroeconomic tail risks, our early assessment is that it will have a limited effect on our baseline projection.

In light of recent developments, we have lowered the assumed starting level of the fixed mortgage rate 50 basis points. We expect the mortgage rate will edge down over the forecast period as its spread over the 10-year Treasury yield narrows somewhat further with the improvement in economic activity. The starting level for the Baa corporate rate has been revised down about 20 basis points, and we continue to expect that this rate will trend down through 2010 as the outlook for the business sector brightens.

## Class II FOMC - Restricted (FR)

## Key Background Factors Underlying the Baseline Staff Projection



Equity Prices


## Crude Oil Prices



Long-Term Interest Rates


House Prices


## Broad Real Dollar



Note. In each panel, shading represents the projection period, which begins in 2008:Q4 except as noted.

## Judgmental Effects of Financial Market Turmoil in the Staff Projection

Over the past year, financial market conditions have deteriorated substantially, likely contributing to the weakening that has occurred in economic activity. But the infrequency of episodes of financial turmoil, difficult econometric identification problems, and the absence of a generally accepted paradigm for real-financial linkages suggest that our standard models probably do not fully capture the effects of changes in financial conditions on real GDP. A related problem is that our models also appear to miss the types of nonlinear effects that may occur during periods of marked economic deceleration. For these reasons, we have employed supplementary analyses and models to account for these factors in our judgmental projections over the past year.

To quantify the extent of financial turmoil, we have used two types of financial data: indicators of stress from capital markets, such as risk spreads and volatility measures, and indicators of bank lending conditions from the Senior Loan Officers' Opinion Survey (SLOOS). These measures are meant to capture nonprice rationing and other channels that are not fully represented in our standard models. In the chart on the facing page, we have plotted a financial stress index along with an index of changes in bank credit standards for the major loan categories constructed from the SLOOS. In our empirical work, we have also employed a measure from the SLOOS that focuses on changes in standards on commercial and industrial loans and one that uses the first principal component of responses to seven questions. All of these measures show a clear deterioration in financial conditions over the past year.

The empirical methods that we use to inform our views on the effects of financial turmoil on real
activity fall into two broad classes. The first method isolates the portion of FRB/US spending equation residuals that are correlated with movements in financial stress, then uses these correlations to project residuals for simulations of the FRB/US model. The second method incorporates indicators of stress within smallscale VAR models. Each method has its merits and drawbacks, as do the data that underlie them. Indeed, quantifying the magnitude and dynamics of stress effects is difficult whatever the method, and the confidence interval around any estimate is large. The accompanying table summarizes estimates from a range of models and data. As the note to the table indicates, projected stress is generated endogenously within a model in some instances and phased out exogenously in others. Although all of the exercises incorporate a gradual fading of the financial stress, the rate at which it fades varies in the different scenarios.

The effects of the financial turmoil are difficult to disentangle from other types of nonlinear effects that often seem to occur during cyclical slowdowns but are not well captured by standard models. For example, in the current episode, the unusually low readings on consumer sentimentwhich we think have contributed to the weakness in spending-probably reflect reactions to both financial turmoil and broader recession concerns. Similarly, financial accelerator effects are in force in any business cycle episode to some extent; after all, bank lending standards normally vary inversely with the business cycle.
Moreover, financial conditions this year, as always, have not only affected real activity but have responded themselves to observed or expected economic outcomes. And because both of the last two recessions were also accompanied by financial distress, the empirical effects that we
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have identified are likely capturing some portion of these "recession effects" as well. For all of these reasons, we do not attempt in our projection to disentangle effects that stem purely from financial turmoil from those that might normally occur during a period of very weak economic activity.

The judgmental adjustments to the staff forecast to encompass these influences are shown in the bottom row of the table. All told, we estimate that these effects will have held down the level of real GDP by $13 / 4$ percent by the end of this year, consistent with the range of model estimates shown in the table. For the coming year, the various estimates imply that financial turmoil should restrain GDP growth next year even as financial conditions start to improve. On net, the drag on the level of GDP is projected to increase just a bit further to 2 percent by the end of 2009 before diminishing to $1 \frac{1}{4}$ percent in 2010 (not shown). We view these adjustments as consistent with a phasing out over the next year of the extramodel effects described above. The drag from

financial conditions more broadly, however, will last into 2010 as foreclosures continue and lower real estate values restrain lending as a part of the normal course of the cycle. Only in 2011 do we envision the economy returning to normal levels of activity, providing some boost to GDP growth.

Selected Estimates of Effects of Financial Turmoil on Real GDP

| Selected Estimates of Effects of Financial Turmoil on Real GDP |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Data source | Methodology | Percent deviation from Q4 baseline level |  |  |
|  |  | 2007 | 2008 | 2009 |
| Senior loan officers' survey |  |  |  |  |
| Index of survey responses | FRB/US ${ }^{2}$ | -0.3 | -3.2 | -4.7 |
| Commercial loan credit standards | VAR ${ }^{1}$ | -0.4 | -1.3 | -2.2 |
| Change in bank credit standards ${ }^{3}$ | VAR ${ }^{1}$ | -0.0 | -0.7 | -1.3 |
| Capital markets data |  |  |  |  |
| 9 -variable stress index | FRB/US ${ }^{1}$ | -0.1 | -1.4 | -2.0 |
| 9 -variable stress index | FRB/US ${ }^{2}$ | -0.4 | -2.0 | -2.5 |
| 9-variable stress index | $\mathrm{VAR}^{1}$ | -0.0 | -0.4 | -1.6 |
| Memo item: Projection adjustments | Staff judgment | -0.3 | -1.8 | -2.0 |

1. Stress treated as endogenous and simulated as part of a system of equations.
2. Stress treated as exogenous and phased out over four quarters.
3. Series shown as the dashed line in the chart; includes both business and consumer lending standards.

Equity prices have fallen more than 3 percent, on net, since we closed the July/August Greenbook, leaving our estimate of the equity premium at its highest level in the past two decades. We continue to project that the equity premium will decline over the forecast period; by the end of 2010, we assume that it will have retraced slightly more than half of its run-up since mid-2007. As a result, we have equity prices rising at an annual rate of 8 percent over the rest of this year and 12 percent, on average, over 2009 and 2010.

As for house prices, the rate of decline in the second quarter was a bit slower than we had assumed in the last Greenbook, and we have edged up our house price forecast in the near term. We now expect the purchase-only price index published by the Office of Federal Housing Enterprise Oversight to drop at an annual rate of about $61 / 2$ percent through the middle of 2009, with the declines tapering off over the remainder of the forecast period. In total, this index of house prices is projected to fall roughly another 9 percent before stabilizing in late 2010.

As in the July/August Greenbook, we expect federal fiscal policy to provide an impetus to real GDP growth on an average annual basis of about $3 / 4$ percentage point in 2008, primarily reflecting steep increases in defense spending, the stimulus rebates, and the temporary extended unemployment compensation (TEUC) program. In 2009 and 2010, fiscal policy is essentially a neutral factor for economic growth.

We are now expecting larger unified budget deficits than we were in July. In fiscal year 2008, we expect the deficit to total $\$ 403$ billion, $\$ 45$ billion more than in the July/August Greenbook. The incoming data on federal receipts have been a bit weaker than we anticipated, while federal spending has risen much more than we projected, primarily because of outlays by the Federal Deposit Insurance Corporation (FDIC) to cover insured deposits at failed financial institutions. In response to both the greater-than-expected outlays for deposit insurance since July and the FDIC's expansion of the problem-bank watch list in August, we now expect FDIC outlays for deposit insurance to be $\$ 20$ billion in fiscal 2008 and then remain at an elevated level of $\$ 12$ billion next year. Also, we anticipate the Treasury's decision to place Fannie Mae and Freddie Mac in conservatorship with the Federal Housing Finance Agency to raise the expected budget costs to the Treasury for these institutions. The Treasury's expected outlays for purchasing equity and mortgage-backed securities of Fannie and Freddie are highly uncertain, but we put in a placeholder for these costs of $\$ 20$ billion in calendar 2008 and $\$ 60$ billion in 2009, well above the Congressional Budget Office’s $\$ 25$ billion estimate
for the total cost that we had assumed in the July/August Greenbook. ${ }^{1}$ All told, we now expect the unified budget deficit to increase to $\$ 455$ billion in fiscal 2009, about $\$ 60$ billion more than in the last Greenbook. The deficit is projected to narrow a bit in fiscal 2010 to $\$ 430$ billion, primarily because we currently assume that the elevated outlays for deposit insurance and GSE support do not persist into 2010.

The foreign exchange value of the dollar has moved up roughly 5 percent since the time of the last Greenbook. We carried the higher level forward and trimmed slightly the projected rate of depreciation of the real trade-weighted dollar to about $21 / 2$ percent annually over the next two years. After rising at a $1 \frac{3}{4}$ percent rate in the first half of this year, foreign GDP growth is expected to remain sluggish in the second half before reviving to about 3 percent in 2009 and $3 ½$ percent in 2010, roughly in line with the growth of potential output. Compared with the last Greenbook, the projected pace of foreign economic activity is a good bit slower this year and somewhat slower next year, reflecting softer-than-expected incoming readings for both advanced and emerging economies.

The spot price of West Texas intermediate (WTI) crude oil has fallen markedly in recent weeks and now stands at $\$ 103$ per barrel, about $\$ 20$ per barrel below its level at the time of the July/August Greenbook. The recent drop in oil prices appears to reflect, in part, the belief that slower world economic growth will curb the demand for oil. In addition, the International Energy Agency reported somewhat greater supply from Saudi Arabia in recent months. So far, the hurricane season has left oil facilities in the Gulf of Mexico relatively unscathed. ${ }^{2}$ Consistent with futures prices, we expect WTI to edge up to about $\$ 107$ by the end of 2009 and to hold at that level in 2010.

## Recent Developments and the Near-Term Outlook

Real GDP is now estimated to have risen at an annual rate of $31 / 2$ percent in the second quarter, nearly 1 percentage point more than we projected in the July/August Greenbook. To a significant degree, this upside surprise to growth reflects a stronger-than-expected contribution from net exports that we do not expect to be repeated. More broadly, the

[^0]Summary of the Near-Term Outlook
(Percent change at annual rate except as noted)

| Measure | 2008:Q2 |  | 2008:Q3 |  | 2008:Q4 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | July/ <br> Aug. <br> GB | Sept. GB | July/ <br> Aug. <br> GB | Sept. GB | July/ <br> Aug. <br> GB | Sept. GB |
| Real GDP | 2.7 | 3.5 | . 7 | . 6 | . 4 | 1.1 |
| Private domestic final purchases | 1.1 | 1.3 | -. 1 | -1.2 | -3.9 | -2.1 |
| Personal consumption expenditures | 2.0 | 1.7 | 1.6 | -. 5 | -2.8 | -1.6 |
| Residential investment | -19.4 | -13.4 | -24.1 | -17.6 | -29.7 | -20.0 |
| Business fixed investment | 3.3 | 3.5 | -2.7 | . 1 | -2.3 | . 7 |
| Government outlays for consumption and investment | 4.1 | 4.1 | 1.5 | 1.9 | 1.7 | 1.7 |
|  | Contribution to growth (percentage points) |  |  |  |  |  |
| Inventory investment | -1.4 | -1.5 | -. 5 | . 6 | 2.7 | 1.5 |
| Net exports | 2.3 | 3.1 | 1.0 | . 7 | . 8 | 1.0 |

ongoing deterioration in labor market conditions, widespread declines in industrial production (IP), and recent soft readings on consumer spending point to a marked deceleration in real GDP in the second half of the year. This downshift in the pace of activity likely reflects the effects on spending of restrictive credit conditions, declining household wealth, and the waning influence of the tax rebates. The quarterly pattern of growth has been modified to reflect our view that the tax rebates contributed more to consumer spending growth in the second quarter-and thus less in the third-than we had previously anticipated.

In the labor market, private payroll employment declined another 100,000 in August, while the unemployment rate jumped 0.4 percentage point, to 6.1 percent. Although the decline in payrolls was close to our forecast, we were surprised by the extent of the increase in unemployment. Preliminary readings on the number of individuals filing for extended unemployment compensation suggest that some of the unexpected rise in the jobless rate may stem from a larger effect on measured unemployment from the TEUC program than we had built into the July/August projection. However, the jump in the unemployment rate and the elevated readings on regular initial claims in recent weeks suggest to us that labor market conditions have deteriorated somewhat more than we had
previously anticipated. ${ }^{3}$ We have carried forward this more negative outlook for the labor market into the forecast period, with private payrolls projected to fall, on average, by about 110,000 per month over the remainder of this year and the unemployment rate expected to average $61 / 4$ percent in the fourth quarter, $1 / 4$ percentage point above our projection in the last Greenbook. ${ }^{4}$

Activity in the manufacturing sector has also been sluggish in recent months. After falling at an annual rate of nearly 4 percent in the second quarter, manufacturing output is projected to decline 2 percent in the current quarter and then rise a little over 1 percent in the fourth quarter. Although motor vehicle assemblies moved up in June and July from their strike-depressed pace, they dropped sharply in August in response to weak sales; in addition, automakers slashed their planned assembly rates for the third quarter from previously announced levels, and they expect production to remain near that reduced pace in the fourth quarter. In light of these developments, we have marked down total motor vehicle production by about $1 / 2$ million units in both the third and fourth quarters. Outside of motor vehicles, manufacturing IP is expected to edge down, on net, over the second half of this year, with the weakness widespread across categories. ${ }^{5}$

After three moderate monthly increases, real consumer spending declined in June and July. The strength in spending in the spring and the weakness this summer were both greater than we had anticipated, and the pattern of these surprises led us to reassess our view about the timing (but not the overall magnitude) of the rebate effect on consumption. We now think that the rebates provided a larger boost to spending in the second quarter and a smaller boost in the current quarter than we had built into the July/August Greenbook. Apart from these timing effects, consumer spending appears to be on a weaker trajectory than was the case earlier this year; sentiment remains gloomy, housing and equity wealth are falling, conditions in the labor market have deteriorated, and credit conditions have tightened further. As a result, we now project real PCE to

[^1]decline at an annual rate of about $1 / 2$ percent in the third quarter, in contrast with the $11 / 2$ percent increase in our previous forecast. We continue to expect real PCE to decline further in the fourth quarter as rebate-induced spending dissipates, but the drop-off is not as large as we had assumed in the last Greenbook.

In the housing sector, single-family starts have continued to slide-to an annual rate of 640,000 units in July. Meanwhile, sales of new and existing homes have basically moved sideways in recent months, although they remain at very low levels. ${ }^{6}$ This flat pace of sales together with the further declines in new residential construction have allowed homebuilders to make progress in reducing the number of unsold homes. Even so, the overhang of new home inventories still looks quite high, and we expect single-family starts to continue to trend down over the remainder of the year. All told, real residential investment is projected to decline at an annual rate of close to 20 percent in the second half of 2008, a pace that would subtract roughly $3 / 4$ percentage point from real GDP growth over that period.

Real investment in equipment and software (E\&S) fell at an annual rate of $31 / 2$ percent in the second quarter as a precipitous decline in business outlays for motor vehicles outweighed a moderate gain in high-tech expenditures and an uptick in spending on other capital goods. More recently, the incoming data on orders and shipments of equipment outside of the transportation and high-tech sectors suggest that demand for these goods is holding up somewhat better than we had expected, and we have revised up our near-term outlook for spending in this category. Even so, with economic activity slowing and with credit more difficult to obtain, we expect business spending on E\&S to remain relatively weak over the remainder of the year. Specifically, we project real E\&S outlays to decline at an annual rate of 3 percent in the current quarter and then to turn up at about a 4 percent pace in the fourth quarter. ${ }^{7}$

Nonresidential construction spending appears to have risen much faster in the first half of this year than we assumed in the July/August Greenbook. Part of the upside surprise reflects sizable increases in outlays for drilling and mining structures, apparently in response to the high prices for crude oil and natural gas; we expect robust gains for these structures to continue over the remainder of the year. Excluding drilling and mining,

[^2]construction spending also advanced at a vigorous pace in the first half, but nominal expenditures turned down in July, and forward-looking indicators, such as the architectural billings index, remain weak. Furthermore, greater financing constraints and soaring costs for building materials will likely weigh on investment demand in the second half of this year. As a result, we expect real construction outlays in this category to flatten out this quarter and to decline sharply in the fourth quarter.

In the government sector, real federal expenditures on consumption and gross investment are projected to rise at a $23 / 4$ percent pace in the third quarter, led by a sizable increase in defense spending. Given the appropriations now in place and the likelihood of a continuing resolution to cover appropriations in the fourth quarter and into early next year, we expect defense spending to increase at nearly a 5 percent rate in both the third and fourth quarters; in contrast, real nondefense spending is expected to edge down in both of these quarters. Meanwhile, we expect growth of real purchases by state and local governments to slow from an annual rate of $21 / 2$ percent in the second quarter to about $11 / 4$ percent in the second half, as these governments begin to adjust to tighter budget conditions.

We estimate that net exports added a remarkable 3 percentage points to real GDP growth in the second quarter as exports surged and imports, most notably of oil, dropped sharply. Export growth is expected to slow but remain solid in the second half of the year, while imports decline slightly further; as a result, the external sector's contribution to GDP growth is expected to average about $3 / 4$ percentage point over this period.

Real nonfarm inventories were drawn down considerably in the second quarter, and our projection has stocks falling by another sizable amount in the current quarter before leveling out in the fourth quarter. We expect automakers to keep production low enough to bring motor vehicle stocks to comfortable levels in coming months. Outside of motor vehicles, the pattern of inventory investment is influenced importantly by our assumptions about the response to the effects of the tax rebates. In particular, we continue to assume that, in the first instance, firms have been meeting roughly half of the stimulus-induced demand for their products by drawing down inventories. Over the longer term, as the prospects for demand become clearer, they rebuild their stocks to more normal levels. These assumptions have the effect of tempering the production response to rebate spending in the near term and prolonging it by a few quarters.

The latest readings on core inflation have come in noticeably above the relatively low readings of last spring, likely reflecting some pass-through of high energy and import prices as well as the disappearance of some factors that we think temporarily held down inflation earlier this year; indeed, the latest readings have been a little higher than we expected. We now expect core inflation to rise to an annual rate of nearly 3 percent in the third quarter before slowing to about $21 / 2$ percent in the fourth quarter. Price increases for consumer food and energy continued to come in quite high in July, pushing our projection of overall PCE inflation in the current quarter to $51 / 2$ percent. However, the sharp drop in crude oil prices since July is starting to feed through to consumer energy prices and should help hold down overall inflation-to about $1 / 2$ percent-in the fourth quarter. In contrast, food price inflation has continued to run ahead of even the more pessimistic outlook that we adopted in the previous Greenbook, and we have marked up our projection for these price increases over the second half of this year.

## The Medium-Term Outlook

The pace of economic activity is expected to pick up over the next two years as financial conditions gradually improve, the contraction in housing construction comes to a close, and the drag from the past run-up in oil prices fades away. After rising $11 / 2$ percent this year, real GDP is projected to expand about 2 percent in 2009, a touch lower than in the July/August Greenbook, and about $23 / 4$ percent in 2010. The small downward revision to GDP growth next year primarily reflects the contractionary effect of the dollar's recent appreciation and weaker foreign activity, which more than outweighs the boost from the lower path of crude oil prices.

Household sector. As noted above, an end to the contraction in residential construction in our forecast remains an important source of the improvement in economic activity projected over the next two years. In this regard, we see the recent signs of some stabilization in housing demand as encouraging. We continue to expect that home sales will rise next year as credit conditions improve, real household incomes turn up, and the favorable effects of house price declines on affordability begin to outweigh their negative influence on expected house price changes. As the improvement in housing demand further reduces the overhang of unsold homes, we expect new construction to turn up next year as well. In particular, single-family housing starts are projected to bottom out early next year at an annual rate of about 540,000 units and then move up gradually to an 860,000 unit pace by the end of 2010. Consistent with our forecast of housing starts, we expect real residential investment to remain a significant negative for real GDP growth in early 2009 before turning positive in 2010.

## Projections of Real GDP

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

| Measure | 2008 |  | 2009 | 2010 |
| :---: | :---: | :---: | :---: | :---: |
|  | H1 | H2 |  |  |
| Real GDP | 2.2 | . 8 | 2.1 | 2.7 |
| Previous | 1.8 | . 6 | 2.2 |  |
| Final sales | 2.9 | -. 2 | 1.6 | 2.8 |
| Previous | 2.5 | -. 5 | 1.4 | $\ldots$ |
| PCE | 1.3 | -1.1 | 1.9 | 2.6 |
| Previous | 1.6 | -. 7 | 1.2 | $\ldots$ |
| Residential investment | -19.5 | -18.8 | -6.2 | 17.1 |
| Previous | -22.0 | -26.9 | -8.3 |  |
| BFI | 3.0 | . 4 | -. 3 | 4.9 |
| Previous | 1.9 | -2.5 | -. 6 | . . |
| Government purchases | 3.0 | 1.8 | 1.3 | . 8 |
| Previous | 3.1 | 1.6 | 1.5 | $\ldots$ |
| Exports | 9.1 | 5.6 | 5.6 | 5.1 |
| Previous | 8.1 | 7.0 | 7.5 |  |
| Imports | -4.2 | -. 5 | 2.8 | 4.9 |
| Previous | -3.0 | . 1 | 2.4 |  |
|  | Contribution to growth (percentage points) |  |  |  |
| Inventory change | -. 8 | 1.0 | . 4 | -. 1 |
| Previous | -. 7 | 1.1 | . 7 | . |
| Net exports | 1.9 | . 8 | . 3 | -. 1 |
| Previous | 1.5 | . 9 | . 6 | ... |

The basic contour of real consumer spending is unchanged from the July/August Greenbook. After essentially no growth in 2008, consumer spending is projected to rise about 2 percent in 2009 as real income growth increases, consumer sentiment improves, and credit conditions begin to recover. For 2010, we look for the increase in consumption expenditures to move back up to about $21 / 2$ percent, reflecting further gains in both real income and household wealth and an improvement in borrowing conditions.

Business investment. We expect business expenditures on capital equipment to remain tepid in the first half of 2009 as sales prospects and financial conditions generally remain unfavorable. By the middle of next year, however, investment in E\&S should begin to rise more rapidly in response to an acceleration in business output and some slackening in financial headwinds. For next year as a whole, we project real E\&S outlays to increase about 3 percent. In 2010, we expect E\&S spending to rise $81 / 4$ percent as sales prospects continue to improve.

Real investment in nonresidential structures is projected to fall $61 / 4$ percent in 2009, a slightly faster rate of decline than in the previous Greenbook. We have scaled back considerably the projected rise in investment in drilling and mining structures in response to the lower path of oil and natural gas prices in this forecast. At the same time, our projection that building construction will turn down sharply next year is largely unrevised; financing conditions for this sector are expected to remain tight for some time, and we anticipate that the current economic weakness will soon show through more noticeably to building activity. In 2010, we project that the contraction in business construction will gradually ebb as economic activity picks up and credit conditions in this sector begin to improve.

We continue to expect inventory investment to return to positive territory by early 2009. Stockbuilding should rise over the course of next year as final demand gains speed and uncertainties about the economic outlook diminish; inventory investment should then flatten out in 2010 at a level consistent with the pace of sales. Given this pattern, inventory investment is projected to contribute about $1 / 2$ percentage point to real GDP growth in 2009 and is roughly a neutral influence in 2010.

Government spending. We continue to expect government spending at both the federal and state and local levels to decelerate over the projection period. Given our fiscal assumptions, growth in real federal consumption and investment is projected to step down to a little less than 3 percent in 2009 and 2 percent in 2010 from $41 / 2$ percent in 2008. Given mounting budget pressures, we expect real purchases in the state and local sector to increase just $1 / 2$ percent next year and to be essentially flat in 2010.

Net exports. After advancing $71 / 4$ percent in 2008, real exports are expected to decelerate to growth of $51 / 2$ percent in 2009 and 5 percent in 2010 as the impetus from past rapid dollar depreciation fades. Real imports, which appear likely to decline this year, are projected to move up in 2009 and rise at a solid pace in 2010 as the U.S. economy
recovers and import prices rise more slowly. All told, after having added nearly $11 / 2$ percentage points in 2008, net exports are expected to contribute only about $1 / 4$ percentage point to real GDP growth in 2009 and to subtract about $1 / 4$ percentage point in 2010. (The International Developments section provides more detail on the outlook for the external sector.)

## Aggregate Supply, the Labor Market, and Inflation

In response to the annual revision to the national income and product accounts (NIPA), we nudged down our estimates of growth of structural labor productivity and potential GDP by about 0.1 percentage point per year from 2004 to 2006. However, we have made no significant changes to our estimates over the forecast period. Structural labor productivity is still assumed to rise 2 percent per year in 2008 and 2009, and we have extended that assumption into 2010; similarly, our projected growth rate for potential GDP remains at $21 / 2$ percent per year. Given these adjustments, real GDP is still estimated to have been about $1 / 2$ percent below potential in the second quarter of this year. With actual GDP projected to rise more slowly than potential over the next year and a half, the output gap widens to negative $11 / 2$ percent of GDP by the end of 2009 before narrowing a bit in 2010.

Productivity and the labor market. Although productivity growth in recent quarters has been surprisingly strong, that strength followed a period in which productivity was unusually weak, and the current level of productivity is not far from our estimate of its trend. Our sense is that businesses will continue to keep a tight rein on staffing levels. Accordingly, we expect productivity to rise at a pace close to trend, on average, over the projection period.

As noted earlier, we expect employment to continue to contract in coming months, when activity is projected to be especially weak. With the growth of real output expected to pick up gradually next year, employment should begin to turn up as well. Following sizable declines in the second half of this year, we project increases in private payroll employment to average about 65,000 per month in 2009 and 90,000 per month in 2010. The unemployment rate is expected to hold near $6 \frac{1}{4}$ percent through 2009 and then to edge down to just under 6 percent by the end of 2010.

Prices and labor costs. Although larger-than-expected increases in recent monthly data on consumer prices have led us to raise our projection for core inflation a bit this year, we continue to expect it to fall back during the next two years as the upward pressure from

# Decomposition of Structural Labor Productivity Nonfarm Business Sector 

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

| Measure | $1974-$ <br> 95 | $1996-$ <br> 2000 | $2001-$ <br> 06 | 2007 | 2008 | 2009 | 2010 |
| :--- | ---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Structural labor productivity <br> $\quad$ Previous | $\mathbf{1 . 5}$ | $\mathbf{2 . 5}$ | $\mathbf{2 . 6}$ | $\mathbf{2 . 1}$ | $\mathbf{2 . 0}$ | $\mathbf{2 . 0}$ | $\mathbf{2 . 0}$ |
| Contributions $^{1}$ | 1.5 | 2.5 | 2.7 | 2.1 | 2.0 | 2.0 | $\ldots$ |
| Capital deepening $^{\text {Previous }}$ |  |  |  |  |  |  |  |
| $\quad$Multifactor productivity | .7 | 1.4 | .7 | .7 | .5 | .5 | .7 |
| $\quad$ Previous | .5 | 1.4 | .7 | .6 | .5 | .5 | $\ldots$ |
| Labor composition | .5 | .7 | 1.6 | 1.2 | 1.3 | 1.3 | 1.2 |
| MEMO | .3 | .3 | 1.7 | 1.2 | 1.3 | 1.3 | $\ldots$ |
| Potential GDP |  |  |  | .2 | .2 | .2 | .1 |
| $\quad$ Previous | 3.0 | 3.4 | 2.6 | 2.5 | 2.5 | 2.5 | 2.4 |

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.

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

| Measure | 2007 | 2008 | 2009 | 2010 |
| :--- | ---: | ---: | ---: | :---: |
| Output per hour, nonfarm business | 2.7 | 2.4 | 1.8 | 2.1 |
| $\quad$ Previous | 2.9 | 2.1 | 1.8 | $\ldots$ |
| Nonfarm private payroll employment | .9 | -.9 | .7 | .9 |
| $\quad$ Previous | .9 | -.8 | .8 | $\ldots$ |
| Household survey employment | .4 | -.6 | .6 | 1.0 |
| $\quad$ Previous | .4 | -.6 | .7 | $\ldots$ |
| Labor force participation rate $^{1}$ | 66.0 | 66.0 | 65.7 | 65.5 |
| $\quad$ Previous | 66.0 | 65.9 | 65.6 | $\ldots$ |
| Civilian unemployment rate $^{1}$ | 4.8 | 6.2 | 6.2 | 5.9 |
| $\quad$ Previous | 4.8 | 5.9 | 5.9 | $\ldots$ |
| MEMO $_{\text {GDP gap }}{ }^{1}$ |  |  |  |  |
| $\quad$ Previous | -.2 | -1.2 | -1.6 | -1.4 |

1. Percent, average for the fourth quarter.
2. Actual less potential GDP in the fourth quarter of the year indicated as a percent of potential GDP. A negative number thus indicates that the economy is operating below potential.

## Inflation Projections

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

| Measure | 2007 | 2008 | 2009 | 2010 |
| :---: | ---: | :---: | :---: | :---: |
| PCE chain-weighted price index | 3.5 | 3.5 | 2.2 | 1.9 |
| Previous | 3.4 | 3.7 | 2.4 | $\ldots$ |
| Food and beverages | 4.5 | 6.1 | 3.2 | 2.1 |
| Previous | 4.5 | 5.4 | 3.1 | $\ldots$ |
| Energy | 19.1 | 10.8 | 1.2 | .8 |
| Previous | 19.6 | 17.4 | 2.5 | $\ldots$ |
| Excluding food and energy | 2.2 | 2.4 | 2.1 | 1.9 |
| Previous | 2.1 | 2.3 | 2.2 | $\ldots$ |
| Consumer price index | 4.0 | 4.0 | 2.3 | 2.0 |
| Previous | 4.0 | 4.4 | 2.5 | $\ldots$ |
| Excluding food and energy | 2.3 | 2.6 | 2.3 | 2.1 |
| Previous | 2.3 | 2.5 | 2.4 | $\ldots$ |
| GDP chain-weighted price index | 2.6 | 2.9 | 2.2 | 1.9 |
| Previous | 2.6 | 2.2 | 2.3 | $\ldots$ |
| ECI for compensation of private |  |  |  |  |
| industry workers ${ }^{1}$ | 3.0 | 2.9 | 3.1 | 3.0 |
| Previous | 3.0 | 3.4 | 3.4 | $\ldots$ |
| Compensation per hour, |  |  |  |  |
| nonfarm business sector | 3.6 | 4.1 | 3.9 | 3.6 |
| Previous | 4.4 | 4.2 | 4.1 | $\ldots$ |
| Prices of core nonfuel imports | 3.4 | 7.1 | 1.0 | 1.3 |
| Previous | 3.3 | 6.9 | 1.4 | $\ldots$ |

1. December to December.
rising energy and materials prices recedes, core nonfuel import prices decelerate, and resource utilization remains slack. Reflecting these considerations, our projection calls for core PCE inflation to slow from 2.4 percent in 2008 to 2.1 percent in 2009 and to 1.9 percent in 2010.

Overall PCE inflation is projected to slow from $31 / 2$ percent this year to $21 / 4$ percent in 2009. This decline in inflation mainly reflects the sharp deceleration in energy prices now under way as a result of the recent decline in crude oil prices. We also expect a noticeable step-down in food price inflation next year as crude food costs decelerate in line with current futures-markets expectations. In 2010, overall PCE inflation is expected
to slow further-to just below 2 percent-reflecting a further deceleration in food and energy prices and the projected slowing in core inflation.

Hourly compensation has continued to rise moderately this year. Average hourly earnings rose $31 / 2$ percent over the 12 months ending in August, about $1 / 2$ percentage point less than its pace in the previous 12-month period. In addition, compensation per hour in the nonfarm business sector was revised down $3 / 4$ percentage point in both 2006 and 2007 following the NIPA revision and by a similar amount, on average, in the first half of this year with the receipt of the first-quarter unemployment insurance records. We now project that hourly compensation will rise at an annual rate of about 4 percent in 2008, roughly the same rate of change as in the previous three years, and then decelerate over the projection period to $31 / 2$ percent in 2010 in response to slack labor markets. We also received a surprisingly low reading for ECI compensation inflation in the second quarter, particularly for benefits. As a result, we revised the annual rate of change in the employment cost index down to about 3 percent over the projection period, compared with nearly $3 ½$ percent in the last Greenbook.

## The Long-Term Outlook

We have extended the staff forecast to 2013 using the FRB/US model, adjusted to incorporate staff assessments of long-run potential output growth, fiscal policy, and foreign economic conditions. The contour of the long-run outlook depends on several key assumptions:

- Monetary policy aims to stabilize PCE inflation at $1 \frac{134}{4}$ percent, consistent with the discussion of longer-term inflation forecasts provided by FOMC participants in June.
- Risk premiums on corporate bonds and equity continue to fall back to historically more normal levels beyond 2010 as financial-market strains abate.
- Fiscal policy is an essentially neutral factor at all levels of government.
- Beyond 2010, foreign real GDP expands $31 / 4$ percent per year while the dollar depreciates $11 / 2$ percent per year in real terms; nominal crude oil prices are roughly flat, consistent with far-dated futures prices. Under these assumptions, the current account deficit diminishes to about 3 percent of GDP by 2013, and movements in prices of energy and imports have only minor implications for domestic inflation.
- The NAIRU remains flat at $43 / 4$ percent, and potential GDP continues to expand about 2122 percent per year from 2011 to 2013.


# The Long-Term Outlook <br> (Percent change, Q4 to Q4, except as noted) 

| Measure | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Real GDP | 1.5 | 2.1 | 2.7 | 3.3 | 3.1 | 2.8 |
| Civilian unemployment rate $^{1}$ | 6.2 | 6.2 | 5.9 | 5.3 | 4.9 | 4.7 |
| PCE prices, total | 3.5 | 2.2 | 1.9 | 1.8 | 1.7 | 1.7 |
| Core PCE prices $_{\text {Federal funds rate }^{1}}$ | 2.4 | 2.1 | 1.9 | 1.8 | 1.7 | 1.7 |

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

Core inflation enters 2011 somewhat above the assumed long-run objective, accompanied by considerable economic slack. As the lingering effects of financial turmoil continue to fade away and residential construction extends its recovery, real GDP expands 3 percent per year, on average, from 2011 to 2013 despite a gradual rise in the federal funds rate to 41/4 percent. With actual output growth outpacing its potential, the unemployment rate falls back to the NAIRU by late 2013. Given the persistent (albeit diminishing) slack and tightening monetary policy over this period, inflation moves down to 1.7 percent in 2012 and 2013.

## Financial Flows and Conditions

Domestic nonfinancial debt rose at an annual rate of about $41 / 2$ percent in the first half of 2008, down from $81 / 2$ percent last year; we expect debt will increase at an average annual rate of about $41 / 2$ percent through the end of 2010.

In the household sector, debt expanded at an annual rate of $2 \frac{1}{4}$ percent in the first half of this year, well below the nearly 7 percent rise in 2007, as the rise in mortgage debt slowed dramatically. We expect overall household debt to increase at a subdued pace of less than $11 / 2$ percent, on average, through the end of 2009, before picking up moderately in 2010. The projection of a slow rise in overall household debt is mainly the result of the persistent weakness expected in home mortgage borrowing amid falling home prices and tighter standards on mortgage loans. In addition, we anticipate that the growth of consumer credit will be tempered by tight lending conditions for other forms of household debt and sluggish increases in consumer durables spending.

The debt of nonfinancial businesses rose at an annual rate of $61 / 2$ percent in the first half of this year after increasing 13 percent in 2007; we expect that it will increase at an
average annual pace of $41 / 2$ percent through the end of $2010 .{ }^{8}$ The slowdown reflects mainly the current and projected tightness of financial conditions as well as a projected moderation in the pace of cash-financed mergers and acquisitions.

Federal government debt increased at an annual rate of 7 percent in the first half of 2008 and is expected to rise at a $10 \frac{1}{4}$ percent pace in the second half of this year. While the inflow of federal revenues is projected to slow with economic activity, federal spending accelerates, boosted by FDIC outlays to resolve failed financial institutions and by the costs associated with the takeover of Fannie Mae and Freddie Mac. Federal debt growth is expected to rise $91 / 2$ percent in 2009 as outlays to cover deposit insurance and GSErelated costs are expected to remain elevated and revenue growth picks up only slowly with the expected recovery in economic activity. Federal debt growth is anticipated to slow to $71 / 4$ percent in 2010 as revenue growth increases and outlays to cover troubled financial institutions subside.

State and local government debt increased at an annual rate of 2 percent in the first half of this year. Debt growth was held down by the rising costs of municipal debt financing amid mounting concerns over the financial health of bond insurers and by the collapse of the market for auction rate securities. Over the next two and half years, we expect state and local debt to expand at a more typical pace, roughly 7 percent annually on average, as conditions in the municipal bond market improve.

After having increased at an annual rate of $73 / 4$ percent in the first half of 2008, M2 is projected to rise at an average rate of just $21 / 4$ percent through the end of 2010 , held down by the anticipated increases in M2 opportunity costs.

## Alternative Simulations

In this section, we illustrate risks to the staff forecast using simulations of the FRB/US model. In the first scenario, financial conditions deteriorate more and remain strained for longer than in the baseline, leading to weaker real activity. In the second scenario, the various forces buffeting the economy are the same as in the baseline, but households and firms respond more negatively, in line with what typically occurs in recessions. The third scenario, in contrast, considers the more optimistic possibility that financial conditions

[^3]| Alternative Scenarios <br> (Percent change, annual rate, from end of preceding period except as noted) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Measure and scenario | 2008 |  | 2009 | 2010 | 2011 | $\begin{gathered} 2012- \\ 13 \end{gathered}$ |
|  | H1 | H2 |  |  |  |  |
| Real GDP |  |  |  |  |  |  |
| Greenbook extension | 2.2 | 0.8 | 2.1 | 2.7 | 3.3 | 2.9 |
| More-persistent headwinds | 2.2 | -0.1 | 0.2 | 2.2 | 3.9 | 3.5 |
| Typical recession | 2.2 | -1.5 | 1.0 | 3.7 | 4.4 | 3.4 |
| Financial rebound | 2.2 | 1.4 | 2.9 | 3.2 | 3.4 | 2.6 |
| Stronger aggregate supply | 2.3 | 1.1 | 2.6 | 3.2 | 3.8 | 3.4 |
| Costly reallocation | 2.2 | -0.3 | 1.6 | 2.6 | 3.4 | 2.9 |
| Unanchored inflation expectations | 2.2 | 0.7 | 2.1 | 2.5 | 3.1 | 2.8 |
| Unemployment rate ${ }^{1}$ |  |  |  |  |  |  |
| Greenbook extension | 5.3 | 6.2 | 6.2 | 5.9 | 5.3 | 4.7 |
| More-persistent headwinds | 5.3 | 6.3 | 6.9 | 6.9 | 6.0 | 4.8 |
| Typical recession | 5.3 | 6.5 | 7.0 | 6.6 | 5.5 | 4.4 |
| Financial rebound | 5.3 | 6.1 | 5.9 | 5.4 | 4.7 | 4.4 |
| Stronger aggregate supply | 5.3 | 6.2 | 6.1 | 5.7 | 5.1 | 4.4 |
| Costly reallocation | 5.3 | 6.2 | 6.6 | 6.2 | 5.4 | 4.8 |
| Unanchored inflation expectations | 5.3 | 6.2 | 6.2 | 6.0 | 5.4 | 4.9 |
| Core PCE inflation |  |  |  |  |  |  |
| Greenbook extension | 2.2 | 2.7 | 2.1 | 1.9 | 1.8 | 1.7 |
| More-persistent headwinds | 2.2 | 2.7 | 2.1 | 1.9 | 1.6 | 1.4 |
| Typical recession | 2.2 | 2.7 | 2.0 | 1.7 | 1.5 | 1.4 |
| Financial rebound | 2.2 | 2.7 | 2.1 | 1.9 | 1.9 | 1.9 |
| Stronger aggregate supply | 2.2 | 2.6 | 1.7 | 1.3 | 1.2 | 1.0 |
| Costly reallocation | 2.2 | 2.7 | 2.3 | 2.2 | 2.1 | 1.8 |
| Unanchored inflation expectations | 2.2 | 3.2 | 2.8 | 2.5 | 2.4 | 2.3 |
| Federal funds rate ${ }^{1}$ |  |  |  |  |  |  |
| Greenbook extension | 2.1 | 2.0 | 2.5 | 3.0 | 3.3 | 4.2 |
| More-persistent headwinds | 2.1 | 1.6 | 0.4 | 0.6 | 1.9 | 3.8 |
| Typical recession | 2.1 | 1.0 | 0.2 | 1.6 | 3.0 | 4.4 |
| Financial rebound | 2.1 | 2.2 | 3.5 | 4.4 | 4.6 | 4.8 |
| Stronger aggregate supply | 2.1 | 2.0 | 2.1 | 2.2 | 2.4 | 3.1 |
| Costly reallocation | 2.1 | 2.0 | 2.3 | 3.0 | 3.6 | 4.3 |
| Unanchored inflation expectations | 2.1 | 2.1 | 3.2 | 3.9 | 4.0 | 4.7 |

1. Percent, average for the final quarter of the period.
will improve more quickly and restrain spending by less than we anticipate in the baseline. The next two scenarios investigate risks associated with the supply side of the economy. First, we consider the possibility that the NAIRU may be lower and structural productivity growth faster than we estimate, both in the past and future. Next, we explore a contrasting risk-that recent disruptions to the economy may temporarily boost the

NAIRU and depress productivity growth. The final scenario outlines the implications of an unanchoring of inflation expectations. In each of these scenarios, we assume that monetary policy responds to changes in the baseline scenario as prescribed by an estimated Taylor rule.

More-persistent headwinds. Our baseline forecast assumes an easing of financial market strains over the next year. In this scenario, credit losses and solvency concerns are instead assumed to intensify into next year and remain elevated through 2010, with adverse consequences for asset prices, the cost of borrowing, and credit availability. Risk premiums on conventional mortgages, investment-grade private securities, and corporate equities move up about 50 basis points from their current levels and remain high over the next two years. Problems in the housing market deepen in this environment, causing home prices to decline an additional 10 percent relative to baseline by the end of next year. The confluence of these events causes household and business spending to weaken appreciably. Real GDP is close to flat through next year, pushing the unemployment rate to almost 7 percent by the end of 2009. Monetary policy responds by cutting the federal funds rate to less than $1 / 2$ percent by the end of 2009, which contributes to a gradual recovery thereafter. The additional slack subtracts, on average, about $1 / 4$ percentage point from core inflation in the 2011-13 period.

Typical recession. In contrast with the previous scenario, here we assume that overall financial conditions are the same as in baseline. However, these forces induce households and businesses to curtail their spending in a manner typical of their behavior in recessions, rather than in the somewhat smaller but more drawn out manner incorporated in the baseline. Specifically, for each category of private spending outside of housing, we assume a shortfall in outlays relative to fundamentals that is typical of that seen in the last six recessions. Combined with the baseline weakness in residential construction, these assumptions cause real GDP to decline at an annual rate of $11 / 2$ percent in the second half of this year and to increase only 1 percent in 2009. This weakness is sufficient to push the unemployment rate to 7 percent by the end of next year and to put modest downward pressure on inflation. In response, the federal funds rate falls almost to zero next year and does not move back up to 2 percent until early 2011. This accommodative policy sets the stage for a strong recovery beginning in 2010. Nevertheless, inflation runs somewhat below baseline through 2013 because of the additional slack in this scenario.

Financial rebound. Our baseline outlook is predicated on a gradual easing in risk spreads on loans, bonds, and corporate equity and on a slow improvement in the willingness of banks to supply credit. But financial conditions could improve more rapidly than we expect, implying a faster rebound in aggregate spending. In this scenario, risk spreads return to more typical levels by early next year. In addition, the assumed restraint on private spending from tighter lending standards and other stress factors in the baseline fades much more rapidly. As a result, real GDP increases at an annual rate of about 3 percent in 2009 and 3¼ percent in 2010, and the unemployment rate falls below 5 percent in 2011. Stronger real activity leads to a faster and more pronounced tightening of monetary policy; the federal funds rate rises to $3 ½$ percent by the end of next year and to $41 / 2$ percent by 2010. With less slack, inflation is a bit higher than in the baseline.

Stronger aggregate supply. We have not interpreted the large gain in output per hour over the past year as signaling an acceleration in its longer-run trend and project that structural labor productivity will continue to expand at an annual rate of 2 percent. We also have not read the moderate pace at which nominal wage rates have been rising over the past few years as a manifestation of greater labor market slack. In this scenario, we assume instead that structural labor productivity has risen, and continues to rise, $1 / 2$ percentage point faster than in the baseline; moreover, the NAIRU is assumed to be 4114 percent rather than the staff's estimate of $43 / 4$ percent. With additional labor market slack and higher productivity, labor costs are lower than in the baseline, and the projected deceleration in prices over the next two years is more pronounced; core inflation falls to 1114 percent in 2010. More favorable supply-side conditions also imply more favorable prospects for permanent household income and corporate earnings and thus stronger spending and employment growth. Real GDP expands more than $21 / 2$ percent next year and $31 / 4$ percent in 2010, and the unemployment rate declines a bit more rapidly, reaching 53/4 percent by late 2010. Because this faster growth is consistent with less inflationary pressure-reflecting the lower labor costs due to the lower NAIRU and the higher productivity-there is less need for monetary tightening than in the baseline. As a result, the nominal federal funds rate runs a little below $21 / 4$ percent, on average, over the next two years.

Costly reallocation. The implosion of the housing market, high energy costs, and the net decline in the dollar in recent years are inducing reallocations of labor and capital across sectors, and these reallocations could raise equilibrium unemployment and slow overall productivity growth for a time. Reflecting this risk, the scenario incorporates a
temporary increase of $1 / 2$ percentage point in the effective NAIRU and a temporary decline of $1 / 2$ percentage point in structural productivity growth over the next two years relative to baseline. This shock initially implies less slack in labor markets, which, along with weaker productivity, implies higher trend unit labor costs that boost inflation. In addition, less favorable supply-side conditions cause households and firms to trim their expenditures in response to the weaker outlook for income and earnings, although not as much as the decline in potential output. The conflicting signals coming from more slack in product markets and higher inflation result in a monetary policy that is similar to baseline.

Unanchored inflation expectations. Although long-term inflation expectations seem to have edged up over the past few years, the increase has been small relative to the large step-up in headline inflation. In this scenario, we assume that this relative stability in expectations comes to an end. Both short- and long-term inflation expectations move up about $1 / 2$ percentage point relative to baseline by the end of this year. As a result, core PCE inflation rises above 3 percent in the second half of this year and runs at close to 3 percent next year. Under the estimated Taylor rule (which responds to actual rather than expected inflation), the federal funds rate increases only gradually, implying that real short-term interest rates do not rise above baseline levels until 2010, causing inflation to moderate only slowly.

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

| Measure | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Real GDP <br> (percent change, Q4 to Q4) |  |  |  |  |  |  |
| Projection | 1.5 | 2.1 | 2.7 | 3.3 | 3.1 | 2.8 |
| Confidence interval |  |  |  |  |  |  |
| Greenbook forecast errors | .7-2.3 | .5-3.7 | 1.3-4.1 |  |  |  |
| FRB/US stochastic simulations | .9-2.1 | .9-3.4 | 1.3-4.1 | 1.8-4.9 | 1.5-4.7 | 1.2-4.4 |
| Civilian unemployment rate (percent, Q4) |  |  |  |  |  |  |
| Projection | 6.2 | 6.2 | 5.9 | 5.3 | 4.9 | 4.7 |
| Confidence interval |  |  |  |  |  |  |
| Greenbook forecast errors | 5.9-6.4 | 5.5-6.8 | 4.9-6.9 | . . |  |  |
| FRB/US stochastic simulations | 6.0-6.4 | 5.7-6.6 | 5.3-6.4 | 4.6-5.9 | 4.2-5.6 | 3.9-5.4 |
| PCE prices, total (percent change, Q4 to Q4) |  |  |  |  |  |  |
| Projection | 3.5 | 2.2 | 1.9 | 1.8 | 1.7 | 1.7 |
| Confidence interval |  |  |  |  |  |  |
| Greenbook forecast errors | 3.0-3.9 | 1.3-3.1 | .6-3.1 | . . |  |  |
| FRB/US stochastic simulations | 3.1-3.8 | 1.5-3.0 | 1.1-2.7 | 1.0-2.7 | .8-2.7 | .8-2.7 |
| PCE prices excluding food and energy |  |  |  |  |  |  |
| Projection | 2.4 | 2.1 | 1.9 | 1.8 | 1.7 | 1.7 |
| Confidence interval |  |  |  |  |  |  |
| Greenbook forecast errors | 2.1-2.8 | 1.5-2.8 | .8-3.0 | $\ldots$ | . |  |
| FRB/US stochastic simulations | 2.3-2.6 | 1.7-2.6 | 1.4-2.5 | 1.2-2.5 | 1.0-2.4 | 1.0-2.5 |
| Federal funds rate (percent, Q4) |  |  |  |  |  |  |
| Projection | 2.0 | 2.5 | 3.0 | 3.3 | 3.8 | 4.2 |
| Confidence interval <br> FRB/US stochastic simulations | 1.6-2.4 | 1.3-3.8 | 1.6-4.6 | 1.8-4.9 | 2.4-5.6 | 2.8-6.0 |

Notes: Intervals derived from Greenbook forecast errors are based on projections made from 1987-2007.
Shocks underlying FRB/US stochastic simulations are randomly drawn from the 1987-2007 set of model equation residuals.
. . . Not applicable. The Greenbook forecast horizon has typically extended about two years.

Forecast Confidence Intervals and Alternative Scenarios under the Assumption that Monetary Policy Follows an Estimated Taylor Rule

Confidence Intervals based on FRB/US Stochastic Simulations

\author{

- Greenbook extension <br> $\square$ More-persistent headwinds <br> $\square$ Typical recession
}

Real GDP


PCE Prices excluding Food and Energy
4-quarter percent change


Unemployment Rate


Federal Funds Rate


Class II FOMC - Restricted (FR)

## Evolution of the Staff Forecast



Unemployment Rate


Greenbook publication date

Change in PCE Prices excluding Food and Energy



[^4]Class II FOMC
Changes in Real Gross Domestic Product and Related Items
（Percent，annual rate except as noted）

|  | － | $\stackrel{\text { i }}{\text { i }}$ | $\stackrel{\infty}{\infty}: \stackrel{n}{n}$ | $\stackrel{\bullet}{\mathrm{i}}: \stackrel{\infty}{+} \underset{\sim}{\mathrm{i}} \overline{\mathrm{i}}$ | $\stackrel{\rightharpoonup}{\square}$ | $\underset{\sim}{\sigma}: \infty: \infty$ | $\underset{\underset{1}{\infty}}{\infty}: \stackrel{-}{i}$ | $\infty:$ 넌ㄱㄴ． | $\bar{m}: \bar{m}-$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \hat{0} \\ & \hat{\theta} \\ & \text { N } \end{aligned}$ | $\vec{i} \underset{\sim}{N}$ | $\stackrel{+}{-}$ |  | $\underset{\substack{0}}{\substack{0}}$ | $\prod_{i}^{\infty} \underset{i}{\square} \rightrightarrows \underset{i}{\sim} \underset{i}{\infty}$ | $\underset{r}{\text { ® }} \underset{\sim}{\mathrm{m}} \underset{i}{\infty}$ | $\underset{\sim}{n} \underset{\sim}{\infty} \underset{\sim}{\infty} \stackrel{\infty}{\infty} \xrightarrow{*} .$ | min ${ }^{\text {m－}}$ |
|  | $\stackrel{\infty}{\infty}$ | $\stackrel{n}{\sim}$ | $\underset{\sim}{+} 0_{i} \varphi_{i}^{\infty}$ | $\rightarrow+\underset{i}{\underset{i}{i}} \underset{i}{0}$ | $\underset{i}{\sim} \stackrel{n}{\underset{1}{4}}$ | $\underset{i}{\sim} \rightarrow \underset{i}{\infty} \underset{\sim}{\square}$ | $\underset{\sim}{\infty} \underset{\sim}{\underset{F}{F}} \underset{\sim}{c}$ |  | $\underset{\text { Nos }}{\substack{\text { ¢ }}}$ |
| $\stackrel{0}{8}$ | $\pm$ | $\stackrel{3}{\text { i }}$ ： | $\underset{\mathrm{i}}{\boldsymbol{i}}: \dot{n}:$ |  | $\begin{aligned} & \underset{\infty}{\infty} \\ & \hline \end{aligned}$ | $\stackrel{\bullet}{n}: \underset{\infty}{\stackrel{+}{\infty}}: \longrightarrow$ |  | $\infty: 000-$ 수 | $m: m-$ |
|  | $\stackrel{3}{0}$ | $\stackrel{\infty}{\text { i }}$ ： | $\stackrel{+}{\sim}: \stackrel{0}{m}$ |  | $\stackrel{0}{\mathrm{~N}}:$ | $\stackrel{0}{n}: \infty$ | $\underset{\underset{\sim}{\infty}}{\underset{\sim}{c}}: \stackrel{a}{\nabla}$ | $\infty: 0 \bigcirc \bigcirc \bigcirc$ | 이능 |
|  | $\underset{O}{\mathrm{O}}$ | $\begin{aligned} & 0 \\ & i \\ & i \end{aligned}$ | $\stackrel{\rightharpoonup}{n}: \dot{m}$ | $\underset{\sim}{n}: \dot{\sim}$ | $0$ | $\underset{\sim}{\Pi}: \underset{\sim}{r}: \underset{i}{N}$ | $\underset{\underset{1}{2}}{\underset{\sim}{n}}$ | $\infty$ ：i i i， N N | $\cdots: n-$ |
|  | $\nabla$ | $\stackrel{ \pm}{\text { i }}$ | $\stackrel{\infty}{-}: \stackrel{\text { in }}{ }$ |  | $\bigcirc \bigcirc$ | $\stackrel{\sim}{\sim}$ | $\frac{N}{r}: \stackrel{\rightharpoonup}{r}$ |  | $\vec{\sigma}: \mathrm{N}-$ |
| $\stackrel{\substack{0 \\ \hline \\ \hline}}{ }$ | 0 | $\begin{aligned} & \text { no } \\ & i \end{aligned}$ | $\stackrel{\bullet}{i} \underset{\sim}{\sim} \underset{\sim}{\sim}$ | $\underset{i}{n} \underset{\sim}{*} \underset{\sim}{r}$ | $\stackrel{\bigcirc}{i} \underset{-}{9}$ |  | NNOT． तิते | $\rightrightarrows \rightrightarrows \stackrel{0}{\square} \rightrightarrows$ | トのホー |
|  | $\cdots$ | $\stackrel{N}{N}$ | $\bar{i} \because \stackrel{0}{-}=$ | $\vec{i} \vec{\cdots} \vec{i} \overrightarrow{-}$ | ה? |  | $\underset{\sim}{\infty} \underset{\sim}{\infty} \stackrel{i}{i}$ ${\underset{1}{\infty}}_{\infty}^{\infty}$ | $\rightarrow \text { To o }$ <br> －i i | $\stackrel{\infty}{\sim}{ }_{\sim}^{\text {a }}$－ |
|  | $\underset{O}{i}$ | $\underset{N}{N}$ | $\underset{\sim}{n} \underset{\sim}{n} \rightrightarrows .$ | $\stackrel{\infty}{-} \underset{-}{\underset{\sim}{+}} \underset{\sim}{\infty} \underset{-}{+}$ | $\stackrel{9}{+} 9$ | $\underset{\sim}{O} \underset{1}{\sim} \underset{\sim}{\sim} \rightarrow \underset{\sim}{\sim}$ | $\underset{i}{\infty} \underset{\substack{\infty \\ \cdots}}{\substack{i}}$ | $\underset{\sim}{+\infty} \underset{i}{\infty} \underset{\sim}{n} \underset{\sim}{\bullet}$ | へ®N－ |
|  | $\cdots$ | $\stackrel{+}{-}$ | $\infty \rightarrow \overbrace{i}$ | $\xrightarrow{n} \times \overrightarrow{0}=0$ | $\begin{aligned} & 00 \\ & n \underset{1}{0} \\ & \end{aligned}$ | $\underset{\sim}{m} \underset{\sim}{n} \underset{i}{\sim} \underset{\sim}{N} \underset{\sim}{n}$ | $\begin{aligned} & \text { ow o } \\ & \underset{1}{n} \stackrel{1}{n} \end{aligned}$ | $\stackrel{n}{\infty} \underset{-}{0} \text { rin }$ | N®®－ |
| $\underset{\substack{\infty \\ \hline 8 \\ \hline \\ \hline}}{ }$ | $\pm$ | $\rightrightarrows$ | $\underset{i}{\underset{i}{N}}$ | $\stackrel{0}{\underset{i}{\infty} \underset{i}{\infty} \stackrel{n}{i} \underset{+}{\underset{T}{i}} \underset{-}{0}}$ | ON |  | $\underset{\sim}{\text { d}}$ | Ni | NN－－ |
|  | $\stackrel{\sim}{0}$ | Or． | $0 . \underset{\sim}{\sim} \underset{\sim}{\sim}$ |  | $\underset{\sim}{0} \underset{\sim}{\underset{\sim}{4}}$ | $\rightarrow$－の「かい へべゥi | ${\underset{r}{\infty}}_{\infty}^{\infty} \underset{\sim}{\infty} \underset{\sim}{o} \underset{i}{\infty}$ |  |  |
|  | $\underset{O}{\sim}$ | $\stackrel{n}{n}$ | $\stackrel{O}{\square} \because=$ | $\underset{\sim}{i} \underset{\sim}{i} \underset{1}{n} \underset{+}{+}$ | $\underset{\sim}{\text { ri}} \underset{\sim}{t}$ |  rimi $\infty=$ |  | $\vec{\forall} \neq \infty$ | $\underset{\sim}{n} \underset{\sim}{n}$ |
|  | $\cdots$ | $90$ | OOT? | $a \rightrightarrows \underset{i}{\square} \stackrel{m}{i}$ | $\begin{aligned} & \rightarrow \underset{\sim}{\sim} \\ & \underset{1}{\sim} \\ & \underset{1}{4} \end{aligned}$ | $\underset{\sim}{\tau} \underbrace{0}_{i} \varphi_{i}^{0} \underset{\sim}{0}$ | $\underset{+}{\hat{y}} \underset{寸}{\circ} \underset{\sim}{\infty}$ |  | $\underset{\rightarrow 1}{\circ}{\underset{1}{\infty}}_{\infty}^{\infty}$ |
| E. |  |  |  |  | Residential investment Previous |  |  |  |  |


| $\stackrel{\square}{0}$ | $\stackrel{\text { N }}{ }$ ： | $\stackrel{\infty}{\mathrm{N}}: \vdots \stackrel{n}{n}:$ | $\stackrel{o}{\mathrm{i}}: \stackrel{\infty}{\dot{+}} \underset{\mathrm{N}}{\mathrm{~N}}$ | $\underset{\sim}{\sim}$ | $\underset{\forall}{\square}: \infty \quad \underset{\sim}{\infty}:$ |  | $\infty: 000-$ <br> ：i i i | $\hat{m}: \hat{m}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \overline{2} \\ & \stackrel{\rightharpoonup}{8} \\ & \hline \end{aligned}$ | $\overline{\mathrm{N}}$ | $\underset{\sim}{0}$ | $\underset{-}{9} \underset{\sim}{\top} \underset{\sim}{i}$ | $\underset{\substack{\text { yon } \\ 0 \\ \hline \\ \hline}}{ }$ | $\prod_{i}^{0} \underset{i}{0} \rightrightarrows \underset{i}{\sim} \underset{i}{\infty}$ |  |  | miner |
| $\begin{aligned} & \bar{\infty} \\ & \underset{\sim}{8} \end{aligned}$ | $\because$ | $\underset{-}{+}{\underset{\sim}{0}}_{\infty}^{\infty}$ | $\rightarrow \underset{\underset{i}{-}}{\sim}+$ | $\underset{1}{2} \underset{1}{\underset{\sim}{n}}$ | $\underset{i}{n} \underbrace{\infty}_{i} \underset{\sim}{n} \underset{-}{n}$ | $\underset{\sim}{\infty} \underset{\sim}{\rightleftharpoons} \underset{\sim}{\sim}$ | $\stackrel{+}{i} \stackrel{n}{+} \rightarrow \stackrel{m}{\square}$ | $\underset{1}{\underset{1}{*} \underset{1}{\infty} \underset{1}{\infty} N}$ |
| त | nin | $n \underset{\sim}{\infty} \underset{\sim}{+}$ | $\stackrel{N}{N} \underset{\sim}{\sim} \underset{\sim}{i}$ | $\dot{0} \dot{\infty}$ |  |  | サッツヘn ヘヘ ヘヘ・ヘ | No |
| ¢ | $\stackrel{\rightharpoonup}{i} \stackrel{\rightharpoonup}{i}$ | $\cdots \xrightarrow[\infty]{\infty} \underset{\sim}{n} \underset{\sim}{t}$ |  nゥ or i | $\begin{gathered} n \\ \sim \\ \sim \end{gathered}$ |  <br>  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | $\underset{\sim}{\operatorname{Nin}} \mathfrak{\sim}$ | $\underset{\sim}{\text { No }}$ |
| $\stackrel{i}{\circ}$ | $\hat{i}$ |  |  | $\stackrel{\rightharpoonup}{*}$ | $\underset{\sim}{*} \underset{\sim}{r} \because ?$ | $\underset{\substack{N}}{\infty} \underset{\sim}{\infty} \stackrel{\infty}{\dot{r}}$ |  | べmへo |
| $\begin{aligned} & \dot{+} \\ & \underset{\sim}{8} \end{aligned}$ | $\bar{m} \vec{m}$ | $\infty \times \underset{\sim}{\infty} \underset{\sim}{\infty}$ | N下Gにm ウ் rim | $\underset{0}{0}$ |  |  | $\text { N. } \underset{\sim}{*} \cap n_{i}$ | $\stackrel{+}{\text { が }}$ |
| $\begin{aligned} & \bar{m} \\ & \underset{\sim}{\delta} \end{aligned}$ | $\underset{\sim}{r}$ | $\stackrel{N}{\text { ले }} \underset{\dot{\gamma}}{ }$ | $\rightarrow+m a N$ min n N | $\underset{=}{\Xi}$ |  | $\stackrel{\sigma}{n} \stackrel{\infty}{n} \stackrel{\infty}{i}$ |  | $\pm \pm \pm 0$ |
| $\stackrel{\overline{\mathrm{O}}}{\mathrm{O}}$ | $9$ | $\infty \times \sim$ | $99$ | $\underset{\sim}{\circ}$ |  | $\underset{寸}{\underset{寸}{*}} \underset{\sim}{\infty}$ | $\underset{\forall}{\bigcirc} \underset{\sim}{\circ} \underset{\sim}{\infty} \underset{\sim}{\star} \underset{\sim}{\infty} \underset{\sim}{\sim}$ | ำ |
| $\underset{=}{E}$ |  |  |  |  |  |  |  |  |

[^5]|  | － | $\stackrel{\sim}{\sim}{ }^{\text {a }}$ | $\begin{gathered} \infty \\ \mathrm{N} \end{gathered} \vdots \stackrel{\infty}{\infty} \dot{\mathrm{~N}} \quad \vdots$ | $\infty \quad \vdots \cdots \bigcirc$ | $\bigcirc:$ | $\text { ? }: 0.7:$ |  | $\cdots:--00$ | $7: 70$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \overline{\mathrm{a}} \\ & \stackrel{\rightharpoonup}{\mathrm{o}} \end{aligned}$ | $\overrightarrow{\mathrm{N}}$ | $\stackrel{+}{-} \underset{-}{\square}$ | $\cdots \Omega m+!$ | $\underset{i}{~}$ | $0 \rightarrow \uparrow \vdash \underset{i}{ }$ | $n_{0} \infty$ | ๓n Nก̣ー． | $\forall \uparrow . \bigcirc$ |
|  | $\stackrel{\bar{\infty}}{\stackrel{\infty}{8}}$ | $\because$ | $\underset{\sim}{+}$ | - | $\infty_{i}{\underset{i}{0}}_{i}$ | NOTH No． | $\underset{\sim}{+} \text { N }$ | nnmmo－ | $\rightarrow \sim$ ¢ |
| $\begin{aligned} & 0 \\ & \frac{0}{2} \\ & \cdots \end{aligned}$ | $\pm$ | a : | $\underset{\text { i }}{t} \vdots \vdots$ | $\infty: ~ ก \bigcirc$ | $\bigcirc:$ | $\bigcirc: 0_{0} \quad 0 \quad \vdots$ | $\overbrace{i}: \overbrace{i}^{*}$ | $\text { ก : } \mathrm{Y}-0.0$ | $n: n 0$ |
|  | $\cdots$ | $\begin{array}{ll} \infty & \vdots \\ i & \vdots \end{array}$ | $\stackrel{n}{n}: \stackrel{o}{n}:$ | $\infty: m \bullet$ | $\bigcirc:$ | $\bigcirc: \varphi_{0}: \bigcirc \quad \text { : }$ | $\text { N }: ~ r ?$ | $\mathrm{N}: ~ \mathrm{~N}-\mathrm{O}$ | $\varphi_{i}: \varphi_{i} \bigcirc$ |
|  | $\underset{O}{\mathrm{O}}$ | $\stackrel{o}{\mathrm{i}}:$ | $\stackrel{O}{\dot{m}} \vdots \stackrel{N}{\mathrm{~N}} \vdots$ | $\infty:+n 9$ | $n:$ | $\text { ナ } \vdots n: \sqcap:$ | $\wedge: \wedge$ | ก:-TOO. | $\underset{1}{0}: \frac{0}{1} 0 .$ |
|  | $\overline{0}$ | $\stackrel{\star}{\mathrm{i}}:$ | $\stackrel{\infty}{\infty} \dot{\sim} \dot{\sim}$ |  | $\because:$ |  | $\overbrace{i}: \infty$ | บ：－TOO． | $\bigcirc: 00$ |
| $\stackrel{\rightharpoonup}{8}$ | $\pm$ | ${ }_{i}^{n}$ | $\stackrel{\sim}{\sim} \underset{\sim}{\sim} \underset{\sim}{\sim}$ |  | $\bigcirc \cdot$ |  | $\underset{i}{\sim_{i}} \infty$ | บソ บ－OO． | roro. |
|  | $\underset{\sim}{2}$ | $\stackrel{N}{N}$ |  |  | $\underset{i}{Y}$ |  | $\cap \uparrow \infty$ |  | N® No． |
|  | $\approx$ | N No | $\underset{\sim}{N} \underset{\sim}{n} \text { O. }$ | $\because \infty \quad n+\infty$ | $\because ;$ | $\Gamma_{i} \rightarrow-0 \cdots \rightarrow$ | $\bigcirc$ |  | $\because \because T O$ |
|  | $\overline{0}$ | $\stackrel{+}{-}$ | $\infty-\underset{i}{\infty}$ |  | $?$ | $\overbrace{i}+\underset{i}{+} \prod_{i}$ |  | ๑．ก．¢ ¢－ | $\infty \cdots \infty$ |
| $\stackrel{\infty}{\infty}$ | $\pm$ | $\underset{-}{\square}$ |  |  | $\underset{i}{T}$ |  | $0 \infty$ | ๓n บソO－ | $\cdots \underset{\sim}{n} \stackrel{n}{9}$ |
|  | $\dot{\sigma}$ | $0 \uparrow$ | $0 \underset{\sim}{0} \underset{\sim}{O}$ | $\forall_{i} \because ?$ | ${\underset{i}{i}}_{i}$ | $O_{1} \prod_{i} \prod_{1} \bigcirc$ | $\text { o. } \because$ | ナー บ บon | $0 \text { in } 0$ |
|  | $\underset{\sigma}{\sim}$ | $\stackrel{n}{n}$ | $\stackrel{O}{\dot{\circ}} \underset{\sim}{\square} \because$ | $\cdots \underset{\sim}{n} \underset{\sim}{\sim}$ | $n_{i}^{\infty}$ | ナ．$\quad$ ¢ 0. | $\underset{\sim}{n} \underset{\sim}{\sim}$ | $\infty \infty$ n + ¢ | $\underset{\sim}{n} \underset{\sim}{\sim} \underset{\sim}{\sim}$ |
|  | $\bar{\sigma}$ | $90$ | $00 ?$ | $0 \infty \quad ? \rightarrow 0$ | $\underset{i}{T}$ | n－oono． | $\infty, \infty$－－ | ナ．サ．サ．－ | OOP \ |
| 霏 |  | $\begin{aligned} & \text { sno!̣дяd } \\ & \text { dQĐ [еәу } \end{aligned}$ |  |  | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |  |  |  |  |


| Item | 2008 |  |  |  | 2009 |  |  |  | 2010 |  |  |  | $2008{ }^{1}$ | $2009{ }^{1}$ | $2010^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |  |  |  |
| GDP chain-wt. price index | 2.6 | 1.2 | 4.9 | 2.7 | 2.3 | 2.3 | 2.1 | 2.0 | 1.9 | 2.0 | 1.9 | 1.9 | 2.9 | 2.2 | 1.9 |
| Previous | 2.7 | . 5 | 3.5 | 2.0 | 2.6 | 2.5 | 2.2 | 2.1 |  |  |  |  | 2.2 | 2.3 |  |
| PCE chain-wt. price index | 3.6 | 4.2 | 5.5 | . 6 | 2.3 | 2.4 | 2.2 | 2.0 | 1.9 | 1.9 | 1.8 | 1.8 | 3.5 | 2.2 | 1.9 |
| Previous | 3.6 | 4.1 | 4.7 | 2.5 | 2.9 | 2.4 | 2.2 | 2.0 |  |  |  |  | 3.7 | 2.4 |  |
| Energy | 19.0 | 27.6 | 34.7 | -26.4 | -1.4 | 3.0 | 2.1 | 1.2 | 1.0 | . 7 | . 7 | . 8 | 10.8 | 1.2 | . 8 |
| Previous | 18.6 | 28.1 | 28.4 | -2.5 | 5.9 | 2.7 | 1.1 | . 5 | . . . | . . . | . . . | . . | 17.4 | 2.5 |  |
| Food | 4.9 | 6.4 | 8.0 | 5.0 | 4.1 | 3.5 | 2.8 | 2.4 | 2.2 | 2.1 | 2.0 | 2.0 | 6.1 | 3.2 | 2.1 |
| Previous | 4.8 | 6.5 | 5.9 | 4.4 | 3.9 | 3.3 | 2.7 | 2.4 | . . |  | . . | . . | 5.4 | 3.1 |  |
| Ex. food \& energy | 2.3 | 2.1 | 2.9 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 2.4 | 2.1 | 1.9 |
| Previous | 2.3 | 1.9 | 2.6 | 2.6 | 2.4 | 2.3 | 2.2 | 2.1 |  |  |  |  | 2.3 | 2.2 |  |
| CPI | 4.3 | 5.0 | 7.2 | -. 4 | 2.3 | 2.6 | 2.3 | 2.2 | 2.1 | 2.0 | 2.0 | 2.0 | 4.0 | 2.3 | 2.0 |
| Previous | 4.3 | 5.0 | 5.9 | 2.4 | 3.1 | 2.6 | 2.2 | 2.1 | . . | . . | . . | . . | 4.4 | 2.5 | . . . |
| Ex. food \& energy | 2.5 | 1.9 | 3.4 | 2.7 | 2.5 | 2.3 | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.6 | 2.3 | 2.1 |
| Previous | 2.5 | 1.9 | 2.8 | 2.7 | 2.5 | 2.4 | 2.3 | 2.3 |  |  |  |  | 2.5 | 2.4 |  |
| ECI, hourly compensation ${ }^{2}$ | 3.0 | 2.3 | 3.2 | 3.2 | 3.1 | 3.1 | 3.1 | 3.1 | 3.0 | 3.0 | 3.0 | 3.0 | 2.9 | 3.1 | 3.0 |
| Previous ${ }^{2}$ | 3.0 | 3.3 | 3.5 | 3.5 | 3.4 | 3.4 | 3.4 | 3.4 |  |  | . . |  | 3.4 | 3.4 |  |
| Nonfarm business sector Output per hour |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Output per hour Previous | 2.6 2.8 | 4.5 3.4 | 1.0 1.2 | 1.7 .9 | 1.7 1.4 | 1.8 2.0 | 1.8 1.9 | 1.8 1.9 | 2.0 | 2.0 | 2.1 | 2.1 | 2.4 2.1 | 1.8 | 2.1 |
| Compensation per hour | 3.8 | 3.7 | 4.7 | 4.0 | 4.0 | 3.9 | 3.8 | 3.8 | 3.7 | 3.6 | 3.6 | 3.6 | 4.1 | 3.9 | 3.6 |
| Previous | 5.0 | 4.0 | 4.1 | 4.0 | 4.1 | 4.1 | 4.1 | 4.0 | . . | ... | . . | ... | 4.2 | 4.1 |  |
| Unit labor costs | 1.2 | -. 7 | 3.7 | 2.3 | 2.3 | 2.0 | 2.0 | 2.0 | 1.7 | 1.5 | 1.4 | 1.4 | 1.6 | 2.1 | 1.5 |
| Previous | 2.1 | . 6 | 2.8 | 3.0 | 2.6 | 2.0 | 2.1 | 2.1 |  | . . | . . | . . | 2.1 | 2.2 |  |

[^6]Class II FOMC
Restricted (FR)

| Item | 2008 |  |  |  | 2009 |  |  |  | 2010 |  |  |  | $2008{ }^{1}$ | $2009^{1}$ | $2010^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |  |  |  |
| Employment and production Nonfarm payroll employment ${ }^{2}$ | -. 1 | -. 2 | -. 2 | -. 3 | . 2 | . 3 | . 3 | . 2 | . 3 | . 5 | . 1 | . 2 | -. 9 | . 9 | 1.2 |
| Unemployment rate ${ }^{3}$ | 4.9 | 5.3 | 6.0 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.1 | 6.0 | 5.9 | 5.9 | 6.2 | 6.2 | 5.9 |
| Previous ${ }^{3}$ | 4.9 | 5.3 | 5.8 | 5.9 | 6.0 | 6.0 | 6.0 | 5.9 |  |  |  |  | 5.9 | 5.9 |  |
| GDP gap ${ }^{4}$ | -. 6 | -. 4 | -. 9 | -1.2 | -1.4 | -1.5 | -1.6 | -1.6 | -1.6 | -1.6 | -1.5 | -1.4 | -1.2 | -1.6 | -1.4 |
| Previous ${ }^{4}$ | -. 3 | -. 3 | -. 7 | -1.3 | -1.5 | -1.5 | -1.6 | -1.5 | . . . |  |  | . . . | -1.3 | -1.5 |  |
| Industrial production ${ }^{5}$ | . 4 | -3.2 | -2.6 | 4.1 | 3.2 | 2.2 | 3.1 | 3.5 | 3.8 | 4.1 | 3.8 | 3.7 | -. 4 | 3.0 | 3.8 |
| Previous ${ }^{5}$ | . 5 | -3.1 | 1.3 | 1.1 | 1.7 | 1.7 | 2.4 | 3.9 | . . |  |  |  | -. 1 | 2.4 |  |
| Manufacturing industr. prod. ${ }^{5}$ | -1.0 | -3.9 | -2.1 | 1.3 | 2.3 | 2.3 | 3.0 | 3.5 | 4.4 | 4.8 | 4.3 | 4.2 | -1.5 | 2.8 | 4.5 |
| Previous ${ }^{5}$ | -. 9 | -3.7 | . 2 | -. 1 | 1.1 | 1.9 | 2.4 | 3.9 |  |  |  |  | -1.1 | 2.3 |  |
| Capacity utilization rate $-\mathrm{mfg} .{ }^{3}$ | 78.7 | 77.6 | 76.8 | 76.8 | 77.0 | 77.1 | 77.4 | 77.8 | 78.4 | 79.0 | 79.5 | 80.1 | 76.8 | 77.8 | 80.1 |
| Previous ${ }^{3}$ | 78.7 | 77.6 | 77.3 | 77.0 | 77.0 | 77.1 | 77.3 | 77.8 | . . | . . . |  | . . . | 77.0 | 77.8 |  |
| Housing starts ${ }^{6}$ | 1.1 | 1.0 | . 9 | . 8 | . 8 | . 8 | . 9 | . 9 | 1.0 | 1.1 | 1.1 | 1.2 | 1.0 | . 9 | 1.1 |
| Light motor vehicle sales ${ }^{6}$ | 15.2 | 14.1 | 13.2 | 13.7 | 14.3 | 14.5 | 14.8 | 15.0 | 15.3 | 15.6 | 15.9 | 15.9 | 14.1 | 14.6 | 15.7 |
| Income and saving Nominal GDP5 | 3.5 | 4.7 | 5.5 | 3.8 | 4.0 | 4.6 | 4.4 | 4.3 | 4.3 | 4.6 | 4.7 | 4.8 | 4.4 | 4.3 | 4.6 |
| Real disposable pers. income ${ }^{5}$ | -. 7 | 11.4 | -8.3 | -1.5 | 4.3 | 1.5 | 1.5 | 2.6 | 3.6 | 1.9 | 3.4 | 2.8 | . 0 | 2.5 | 2.9 |
| Previous ${ }^{5}$ | 1.4 | 11.3 | -9.2 | -2.6 | 3.5 | 1.4 | 1.6 | 2.7 |  |  |  |  | . 0 | 2.3 |  |
| Personal saving rate ${ }^{3}$ | . 2 | 2.6 | . 7 | . 7 | 1.4 | 1.4 | 1.3 | 1.4 | 1.7 | 1.6 | 1.8 | 1.8 | . 7 | 1.4 | 1.8 |
| Previous ${ }^{3}$ | . 4 | 2.6 | -. 2 | -. 1 | . 6 | . 7 | . 8 | 1.1 |  |  |  |  | -. 1 | 1.1 |  |
| Corporate profits ${ }^{7}$ | -4.3 | -8.6 | 12.4 | 7.2 | 3.7 | 5.1 | 4.1 | 4.5 | 6.4 | 4.7 | 4.4 | 4.7 | 1.3 | 4.4 | 5.0 |
| Profit share of GNP3 | 11.2 | 10.8 | 11.0 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 |
| Net federal saving ${ }^{8}$ | -331 | -636 | -450 | -383 | -428 | -417 | -402 | -411 | -431 | -406 | -421 | -420 | -450 | -415 | -419 |
| Net state \& local saving ${ }^{8}$ | -52 | -76 | -80 | -86 | -77 | -79 | -72 | -67 | -60 | -57 | -47 | -40 | -73 | -74 | -51 |
| Gross national saving rate ${ }^{3}$ | 12.4 | 11.6 | 11.5 | 12.2 | 12.1 | 12.2 | 12.2 | 12.3 | 12.5 | 12.5 | 12.6 | 12.7 | 12.2 | 12.3 | 12.7 |
| Net national saving rate ${ }^{3}$ | . 0 | -1.0 | -1.0 | -. 3 | -. 3 | -. 2 | -. 1 | . 1 | . 3 | . 4 | . 6 | . 8 | -. 3 | . 1 | . 8 |

[^7]| Item | Fiscal year |  |  |  | 2008 |  |  |  | 2009 |  |  |  | 2010 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $2007{ }^{\text {a }}$ | 2008 | 2009 | 2010 | Q1 ${ }^{\text {a }}$ | Q2 ${ }^{\text {a }}$ | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Unified budget |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Receipts ${ }^{1}$ | 2568 | 2555 | 2691 | 2819 | 540 | 788 | 621 | 642 | 536 | 833 | 681 | 650 | 586 | 875 | 709 | 684 |
| Outlays ${ }^{1}$ | 2729 | 2958 | 3146 | 3249 | 746 | 744 | 755 | 786 | 798 | 789 | 773 | 828 | 816 | 811 | 794 | 859 |
| Surplus/deficit ${ }^{1}$ | -162 | -403 | -455 | -430 | -206 | 44 | -134 | -144 | -262 | 43 | -92 | -178 | -230 | 64 | -85 | -175 |
| Previous | -162 | -358 | -395 | -399 | -206 | 44 | -89 | -133 | -242 | 59 | -79 | -164 | -226 | 69 | -79 | -168 |
| On-budget | -343 | -596 | -641 | -615 | -237 | -47 | -146 | -216 | -279 | -47 | -98 | -247 | -247 | -31 | -90 | -244 |
| Off-budget | 181 | 194 | 186 | 185 | 31 | 91 | 12 | 72 | 17 | 91 | 6 | 68 | 17 | 95 | 5 | 69 |
| Means of financing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Borrowing | 206 | 395 | 508 | 448 | 200 | -48 | 153 | 151 | 259 | -16 | 114 | 168 | 220 | -40 | 100 | 165 |
| Cash decrease | -23 | 30 | -5 | 0 | 11 | -7 | 8 | 5 | 15 | -15 | -10 | 15 | 15 | -20 | -10 | 15 |
| Other ${ }^{2}$ | -22 | -22 | -48 | -18 | -5 | 12 | -28 | -12 | -12 | -12 | -12 | -5 | -5 | -5 | -5 | -5 |
| Cash operating balance, end of period | 75 | 45 | 50 | 50 | 46 | 53 | 45 | 40 | 25 | 40 | 50 | 35 | 20 | 40 | 50 | 35 |
| NIPA federal sector |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Receipts | 2624 | 2629 | 2787 | 2950 | 2673 | 2491 | 2671 | 2716 | 2769 | 2800 | 2862 | 2896 | 2934 | 2966 | 3004 | 3042 |
| Expenditures | 2832 | 3042 | 3194 | 3367 | 3003 | 3127 | 3121 | 3099 | 3197 | 3217 | 3265 | 3307 | 3365 | 3372 | 3425 | 3462 |
| Consumption expenditures | 842 | 904 | 962 | 1006 | 898 | 918 | 929 | 938 | 958 | 970 | 981 | 992 | 1002 | 1011 | 1021 | 1031 |
| Defense | 569 | 620 | 665 | 696 | 614 | 629 | 640 | 649 | 663 | 671 | 679 | 686 | 693 | 699 | 705 | 711 |
| Nondefense | 273 | 285 | 296 | 311 | 284 | 289 | 289 | 289 | 296 | 299 | 302 | 306 | 309 | 312 | 316 | 319 |
| Other spending | 1990 | 2137 | 2233 | 2361 | 2105 | 2209 | 2192 | 2160 | 2239 | 2247 | 2284 | 2315 | 2363 | 2360 | 2404 | 2431 |
| Current account surplus | -209 | -413 | -408 | -417 | -331 | -636 | -450 | -383 | -428 | -417 | -402 | -411 | -431 | -406 | -421 | -420 |
| Gross investment | 123 | 134 | 148 | 155 | 129 | 139 | 142 | 144 | 147 | 149 | 151 | 153 | 154 | 156 | 157 | 159 |
| Gross saving less gross investment ${ }^{3}$ | -221 | -431 | -433 | -443 | -344 | -657 | -473 | -407 | -453 | -442 | -428 | -437 | -456 | -431 | -446 | -445 |
| Fiscal indicators ${ }^{4}$ <br> High-employment (HEB) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| surplus/deficit | -229 | -409 | $-350$ | -348 | -329 | -638 | -423 | -337 | -375 | -355 | -333 | -337 | -361 | -338 | -355 | -359 |
| Change in HEB, percent of potential GDP | -0.3 | 1.2 | -0.5 | -0.1 | 0.6 | 2.1 | -1.5 | -0.6 | 0.2 | -0.2 | -0.2 | 0.0 | 0.1 | -0.2 | 0.1 | -0.0 |
| Fiscal impetus (FI), percent of GDP | 0.2 | 0.7 | -0.0 | 0.0 | 0.1 | 0.5 | 0.5 | -0.3 | -0.2 | 0.1 | -0.1 | -0.0 | -0.0 | 0.0 | 0.0 | 0.0 |
| Previous | 0.2 | 0.7 | 0.0 | -0.0 | 0.1 | 0.4 | 0.7 | -0.5 | -0.1 | 0.1 | -0.1 | -0.0 | -0.0 | 0.0 | 0.0 | 0.0 |

3. Gross saving is the current account surplus plus consumption of fixed capital of the general government as well as government enterprises.
4. HEB is gross saving less gross investment (NIPA) of the federal government in current dollars, with cyclically sensitive receipts and outlays adjusted to the staff's measure of potential output and the NAIRU. Quarterly figures for change in HEB and FI are not at annual rates. The sign on Change in HEB, as a percent of nominal potential GDP, is reversed. FI is the weighted difference of discretionary changes in federal spending and taxes in chained (2000) dollars, scaled by real GDP. The annual FI estimates are on a calendar year basis. Also, for FI and the change in HEB, positive values indicate
[^8]| Class II FOMC Restricted (FR) |  | Change in Debt of the Domestic Nonfinancial Sectors (Percent) |  |  |  |  | September 10, 2008 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Households |  |  |  |  |  |
| Period ${ }^{1}$ | Total | Total | Home mortgages | Consumer credit | Business | State and local governments | Federal government | Nominal GDP |
| Year |  |  |  |  |  |  |  |  |
| 2003 | 8.1 | 11.5 | 14.2 | 5.2 | 2.5 | 8.3 | 10.9 | 5.9 |
| 2004 | 8.9 | 11.2 | 13.7 | 5.5 | 6.2 | 7.4 | 9.0 | 6.5 |
| 2005 | 9.5 | 11.2 | 13.1 | 4.3 | 8.5 | 10.2 | 7.0 | 6.3 |
| 2006 | 9.1 | 10.2 | 11.2 | 4.5 | 10.5 | 8.1 | 3.9 | 5.3 |
| 2007 | 8.6 | 6.8 | 6.8 | 5.6 | 13.0 | 9.3 | 4.9 | 4.9 |
| 2008 | 4.2 | 1.6 | . 9 | 3.4 | 5.2 | 4.9 | 8.9 | 4.4 |
| 2009 | 4.4 | 1.7 | 1.2 | 2.7 | 4.8 | 7.4 | 9.4 | 4.3 |
| 2010 | 4.9 | 3.4 | 2.9 | 4.3 | 5.1 | 7.0 | 7.3 | 4.6 |
| Quarter |  |  |  |  |  |  |  |  |
| 2008:1 | 5.4 | 3.3 | 2.6 | 5.2 | 7.4 | 3.4 | 8.1 | 3.5 |
| 2 | 3.5 | 1.4 | . 8 | 4.4 | 5.7 | . 5 | 5.9 | 4.7 |
| 3 | 3.9 | . 8 | . 2 | 2.0 | 3.4 | 8.6 | 11.1 | 5.5 |
| 4 | 3.7 | . 7 | . 1 | 2.0 | 4.0 | 7.0 | 9.5 | 3.8 |
| 2009:1 | 4.1 | . 7 | . 1 | 2.0 | 4.1 | 7.2 | 11.6 | 4.0 |
| 2 | 3.8 | 1.2 | . 5 | 2.5 | 4.5 | 7.1 | 7.6 | 4.6 |
| 3 | 4.5 | 2.2 | 1.8 | 2.9 | 5.2 | 7.3 | 7.3 | 4.4 |
| 4 | 5.1 | 2.7 | 2.4 | 3.2 | 5.1 | 7.2 | 9.8 | 4.3 |
| 2010:1 | 4.9 | 3.1 | 2.7 | 3.7 | 5.1 | 7.0 | 8.0 | 4.3 |
| 2 | 4.6 | 3.3 | 2.8 | 4.2 | 5.1 | 6.9 | 5.5 | 4.6 |
| 3 | 4.6 | 3.4 | 2.9 | 4.5 | 4.8 | 6.8 | 5.9 | 4.7 |
| 4 | 5.2 | 3.5 | 3.0 | 4.7 | 4.8 | 6.7 | 8.9 | 4.8 |

Note. Quarterly data are at seasonally adjusted annual rates.
GDP growth, which is calculated from Q4 to Q4.
2.6.3 FOF
Class II FOMC
Flow of Funds Projections: Highlights

| Class II FOMC Flow of Funds Projections: Highlights <br> Restricted (FR) (Billions of dollars at seasonally adjusted annual rates except as noted) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Category | 2007 | 2008 | 2009 | 2010 | 2008 |  | 2009 |  |  |  | 2010 |  |  |  |
|  |  |  |  |  | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Domestic nonfinancial sectors Net funds raised |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1681.0 | 902.7 | 1173.0 | 1417.0 | 861.9 | 762.7 | 1036.7 | 965.5 | 1232.5 | 1457.4 | 1435.9 | 1319.8 | 1340.9 | 1571.5 |
| Net equity issuance | -834.2 | -431.5 | -297.0 | -272.0 | -404.0 | -452.0 | -332.0 | -312.0 | -272.0 | -272.0 | -272.0 | -272.0 | -272.0 | -272.0 |
| Net debt issuance | 2515.2 | 1334.2 | 1470.0 | 1689.0 | 1265.9 | 1214.7 | 1368.7 | 1277.5 | 1504.5 | 1729.4 | 1707.9 | 1591.8 | 1612.9 | 1843.5 |
| Borrowing indicators |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Debt (percent of GDP) ${ }^{1}$ | 220.6 | 224.9 | 224.8 | 225.2 | 224.7 | 224.8 | 224.8 | 224.5 | 224.4 | 224.7 | 225.1 | 225.2 | 225.1 | 225.2 |
| Borrowing (percent of GDP) | 18.2 | 9.3 | 9.8 | 10.8 | 8.7 | 8.3 | 9.3 | 8.5 | 10.0 | 11.3 | 11.1 | 10.2 | 10.2 | 11.5 |
| Households |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net borrowing ${ }^{2}$ | 880.4 | 217.5 | 241.4 | 481.8 | 117.3 | 102.9 | 103.7 | 164.9 | 310.9 | 386.0 | 445.5 | 469.0 | 497.7 | 515.1 |
| Home mortgages | 669.6 | 97.0 | 127.6 | 312.0 | 23.6 | 9.5 | 9.5 | 56.7 | 189.1 | 255.3 | 293.1 | 302.5 | 321.4 | 330.9 |
| Consumer credit | 136.0 | 87.5 | 70.8 | 117.5 | 51.8 | 52.0 | 52.3 | 65.8 | 78.4 | 86.7 | 101.0 | 114.5 | 123.7 | 130.7 |
| Debt/DPI (percent) ${ }^{3}$ | 131.8 | 130.8 | 128.5 | 125.9 | 130.8 | 131.3 | 129.4 | 128.5 | 127.8 | 127.2 | 126.4 | 126.2 | 125.6 | 125.3 |
| Business |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Financing gap ${ }^{4}$ | 185.6 | 255.6 | 301.0 | 309.9 | 244.9 | 247.3 | 308.0 | 290.6 | 291.5 | 313.8 | 333.0 | 301.8 | 288.4 | 316.1 |
| Net equity issuance | -834.2 | -431.5 | -297.0 | -272.0 | -404.0 | -452.0 | -332.0 | -312.0 | -272.0 | -272.0 | -272.0 | -272.0 | -272.0 | -272.0 |
| Credit market borrowing | 1211.6 | 551.9 | 534.6 | 589.4 | 371.3 | 438.2 | 452.5 | 508.1 | 590.8 | 587.0 | 597.8 | 604.5 | 570.4 | 585.0 |
| State and local governments |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net borrowing | 186.1 | 108.3 | 169.5 | 173.5 | 190.8 | 157.5 | 165.5 | 165.5 | 173.5 | 173.5 | 173.5 | 173.5 | 173.5 | 173.5 |
| Current surplus 5 | 246.6 | 142.0 | 140.1 | 170.8 | 127.1 | 123.4 | 133.9 | 133.7 | 142.9 | 150.0 | 158.7 | 163.8 | 175.9 | 184.6 |
| Federal government |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net borrowing | 237.1 | 456.4 | 524.6 | 444.3 | 586.5 | 516.2 | 647.1 | 439.0 | 429.3 | 583.0 | 491.1 | 344.7 | 371.3 | 569.9 |
| Net borrowing (n.s.a.) | 237.1 | 456.4 | 524.6 | 444.3 | 153.5 | 151.1 | 258.8 | -16.3 | 114.2 | 167.8 | 219.8 | -39.8 | 99.7 | 164.6 |
| Unified deficit (n.s.a.) | 187.9 | 440.0 | 489.1 | 426.3 | 134.0 | 144.2 | 262.0 | -43.4 | 92.2 | 178.3 | 230.3 | -64.3 | 85.2 | 175.1 |
| Depository institutions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Funds supplied | 851.7 | 385.0 | 456.5 | 728.3 | 300.7 | 266.7 | 227.8 | 381.7 | 639.8 | 576.8 | 735.7 | 938.6 | 702.0 | 537.1 |

[^9]
## Class II FOMC—Restricted (FR)

## International Developments

Our near-term outlook for foreign economic activity is even gloomier than in the previous Greenbook. Based on surprisingly weak incoming data, we revised downward our estimate of output growth in the second quarter by nearly 1 percentage point in both the advanced and emerging market economies. We expect that overall foreign growth will remain sluggish in the second half of this year before strengthening in 2009, as financial market stresses begin to ease and U.S. activity picks up. However, given continued unsettled conditions in financial markets, troubled housing sectors, and negative sentiment in many countries, there are significant downside risks to the recovery scenario both in advanced and developing economies.

Sizable recent declines in oil and some food commodity prices should allow headline inflation in our trading partners to fall substantially from its recent elevated pace.
Moreover, slower growth in foreign real activity is expected to eventually have a restraining influence on price inflation. Relative to the July/August Greenbook, we have revised downward our forecast for foreign consumer price inflation about $3 / 4$ percentage point in the second half of this year, in line with the downward revisions to our forecast for the path of oil and other commodity prices.

Summary of Staff Projections
(Percent change from end of previous period except as noted, s.a.a.r.)

| Indicator | 2007 | $\begin{gathered} \text { 2008: } \\ \text { H1 } \end{gathered}$ | Projection |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 2008 |  | 2009 | 2010 |
|  |  |  | Q3 | Q4 |  |  |
| Foreign output | 4.2 | 1.7 | 1.8 | 2.0 | 3.0 | 3.5 |
| July/Aug. Greenbook | 4.1 | 2.4 | 2.4 | 2.5 | 3.3 | $\ldots$ |
| Foreign CPI | 3.6 | 5.1 | 4.4 | 2.7 | 2.6 | 2.4 |
| July/Aug. Greenbook | 3.6 | 5.1 | 5.1 | 3.3 | 2.7 | ... |
|  | Contribution to growth (percentage points) |  |  |  |  |  |
| U.S. net exports | 0.8 | 1.9 | 0.7 | 1.0 | 0.3 | -0.1 |
| July/Aug. Greenbook | 0.8 | 1.5 | 1.0 | 0.8 | 0.6 | $\ldots$ |

Note. Changes for years measured as Q4/Q4; half-year is measured as Q2/Q4.
... Not applicable.

Against the backdrop of heightened pessimism about growth prospects abroad, the foreign exchange value of the dollar has risen about 5 percent against a broad group of our trading partners’ currencies since the time of the previous Greenbook. Starting from this higher level, we project that the broad real dollar will depreciate by about $21 / 2$ percent per year over the forecast period, largely in response to pressures associated with the financing of the persistent U.S. current account deficit.

Real exports surged in the second quarter of this year, supported by rapid expansions in capital goods and industrial supplies, and real imports fell, led by a drop in real oil imports. As a result, real net exports contributed 3.1 percentage points to U.S. GDP growth in the second quarter. This contribution was $3 / 4$ percentage point larger than we had anticipated in the previous Greenbook, mainly reflecting much stronger-thanexpected exports in June. We expect the contribution from net exports to step down to about $3 / 4$ percentage point in the second half of 2008, as export growth moderates and the contraction in imports abates. This contribution should diminish further thereafter, eventually becoming slightly negative in 2010, as imports expand in response to the projected pickup in U.S. growth. Compared with the previous Greenbook, our projection of the contribution is little changed on average in the second half of this year and about $1 / 4$ percentage point weaker in 2009.

## Oil and Other Commodity Prices

Oil prices continued to decline in recent weeks, with the spot price of West Texas Intermediate (WTI) crude oil closing at $\$ 103.26$ per barrel on September 9, about $\$ 20$ lower than at the time of the previous Greenbook. Since peaking in July at over $\$ 145$ per barrel, the spot price of WTI has fallen 30 percent. The price of the December 2016 futures contract has also fallen since the July/August Greenbook, closing about $\$ 10$ per barrel lower at $\$ 107.66$ per barrel on September 9. Given the path of futures prices, we project that the price of WTI crude oil will average about $\$ 103$ in the fourth quarter of this year, then edge up to $\$ 107$ by the end of 2010. Relative to the July/August Greenbook, this projection is about $\$ 16$ per barrel lower, on average, across the forecast period.

The decline of oil prices during the intermeeting period appears to reflect the weakening outlook for global economic activity as well as some favorable supply-side developments. Recent data released by the International Energy Agency indicate that Saudi Arabia increased production more than 5 percent (or $1 / 2$ million barrels per day) late in the second quarter and maintained production at this higher level through August.

Oil prices have declined despite recent threats to supply from increased geopolitical tensions and hurricanes. Market reaction to the conflict between Russia and Georgia has thus far been muted, and the recent passage of Hurricane Gustav through the Gulf of Mexico occurred with minimal damage to oil production infrastructure. Hurricane Ike is not expected to cause much damage either. Oil prices have shown little reaction to today's announcement of OPEC's intention to scale back production by $1 / 2$ million barrels per day.

Nonfuel commodity prices have generally fallen since the July/August Greenbook. These declines appear mainly attributable to the weakening global economic outlook, though improved supply conditions have also contributed to a sharp drop in the prices of certain agricultural products, including corn and soybeans. Given recent price movements and the path of futures prices, we now project that our trade-weighted average of nonfuel commodity prices will decline at an annual rate of about 14 percent during the third and fourth quarters before flattening out over the remainder of the forecast period. The revised forecast differs noticeably from the previous Greenbook, in which we projected that commodity prices would remain roughly unchanged from their elevated second-quarter levels.

## International Financial Markets

The dollar has appreciated broadly since the time of the last Greenbook, with the major currencies index up $61 / 2$ percent. The dollar gained over 12 percent against sterling and 10 percent against the euro after releases of weaker-than-expected macroeconomic data and widespread downward revisions to growth forecasts for the United Kingdom and the euro area. The index of the dollar against our other important trading partners rose nearly 4 percent as growth prospects in emerging market economies also deteriorated and despite the intervention of several central banks to support their currencies. As a result of these developments, the starting point for the projected path of the staff's broad real index of the dollar is 5 percent higher than in the previous Greenbook. We project that over the forecast period the broad real value of the dollar will decline at an annual rate of about $21 / 2$ percent, a bit less than in the previous forecast.

Despite the softening outlook in Europe, the Bank of England (BoE) and the European Central Bank (ECB) left their policy rates unchanged since the previous Greenbook, citing concerns about inflation being well above target. Financial market quotes suggest some decline in BoE and ECB policy rates by early next year.

## Foreign Holdings of Agency Debt Securities

Evolving concerns about Fannie Mae and Freddie Mac have had discernable effects on the foreign demand for their securities. The most recent information on foreign official holdings of GSE-issued debt securities comes from (confidential) daily data on custody holdings at the Federal Reserve Bank of New York. These holdings decreased from \$987 billion at their peak on July 15 to $\$ 953$ billion on September 9 (top left panel). The reduction was concentrated in holdings of short-term securities. Official holdings of mortgage-backed securities (MBS) issued by Fannie Mae and Freddie Mac decreased slightly, and holdings of their coupon bonds also edged down. In the two days following the U.S. government's announcement on September 7 regarding the GSEs, total custody holdings changed little on balance. The reduction in official holdings of agencies since July was more than offset by an increase in official holdings of U.S. Treasury securities.

The most comprehensive information on overall foreign holdings of agency debt, both official and private, comes from the Treasury International Capital (TIC) system, which estimates the value of these holdings at $\$ 1,566$ billion as of July 2008. ${ }^{1}$ Foreign holdings of equity issued by the GSEs are considerably smaller; as of June 2007, the time of the latest detailed survey of foreign holdings, foreign investors held only about $\$ 20$ billion in GSE equity.

Foreign investors’ holdings of agency debt have grown markedly in recent years, rising from 10 percent of total agency debt outstanding in 2001 to 21 percent as of June 2008 (upper right panel). Between 2004 and 2007, foreign investors’ net acquisitions of agencies accounted for more than half of the total increase in agency debt securities outstanding, but this pattern has changed in 2008, as foreign acquisitions accounted for only 10 percent of the increase in agency debt in the first half of the year.

Since mid-2006, foreign official holdings of agency debt securities have exceeded foreign private holdings (the lower left panel) and now account for nearly twothirds of all agencies held by foreigners. Whereas foreign official holdings rose through the middle of this year, private holdings began to turn down in March, with an especially large drop in July.

Focusing on overall foreign holdings (bottom right panel), as of July 2008 China was the largest holder of agency securities ( $\$ 560$ billion, or 36 percent of the total). Japan was a distant second (\$245 billion), followed by Russia (\$138 billion) and the United Kingdom (\$99 billion).

[^10]
## Foreign Holdings of Agency Debt Securities



Conditions in European money markets appear to have worsened a bit since the previous Greenbook. Spreads between three month sterling Libor and overnight index swap (OIS) rates increased, as U.K. markets responded to continuing declines in house prices and associated concerns over securities valuations. The ECB's decision to tighten its collateral framework appeared to drive spreads on some European asset-backed securities higher, but spreads between euro Libor and OIS rates were little changed. The demand for dollar funding in continental Europe appears to still be substantial. The initial 84-day auctions of U.S. dollars held at the ECB and Swiss National Bank, auctions conducted in conjunction with the first U.S. Term Auction Facility auctions of 84-day funds, were substantially oversubscribed. The 28-day auctions also drew heavy bidding.

Global stock markets have generally declined since the previous Greenbook. Stock markets in Japan have fallen 7 percent, while some emerging market stock markets, notably in China, have experienced even sharper declines. However, European stock markets have declined only modestly despite weakening economic outlooks and large ongoing write-downs by European banks.

## Advanced Foreign Economies

After contracting slightly in the second quarter, real GDP in the advanced foreign economies is forecast to grow only $1 / 2$ percent at an annual rate in the third and fourth quarters, roughly $1 / 2$ percentage point lower than in the previous Greenbook. Several factors account for the weak near-term growth outlook, including continued elevated oil and commodity prices, softening export markets, relatively tight credit conditions, plummeting consumer and business confidence, and significant housing corrections in several key economies. Moreover, we expect only a modest degree of monetary and fiscal stimulus.

Near-term prospects appear weakest in the United Kingdom, where the further deterioration in housing and financial markets and record low consumer confidence have reinforced our view that the U.K. economy will contract in the second half of this year. Output in the euro area fell almost 1 percent in the second quarter, and indicators for the third quarter, including retail sales and industrial production, have come in uniformly weak, leading us to mark down second-half growth to roughly $1 / 2$ percent. In Canada, we expect growth to remain anemic in the second half of this year as exports to the United States continue to fall. We expect Japan's economy to recover from its sharp secondquarter contraction, but to remain sluggish.

We project that growth in the advanced foreign economies will rise to $21 / 4$ percent, close to its potential rate, by the end of 2009 and remain at that pace thereafter, as U.S. growth picks up and financial conditions improve. Our forecast is about $1 / 4$ percentage point lower in 2009 than in the previous Greenbook, primarily reflecting a reassessment of the underlying strength of the industrial economies in light of very poor incoming data.

On average, we expect inflation in the advanced foreign economies to peak in the current quarter on a four-quarter basis and moderate thereafter, as the contribution from oil and food prices diminishes and slower economic growth restrains inflationary pressures. In the euro area, some moderation in inflation is already evident in data for August, and we project that inflation will continue to fall through the remainder of the year, easing to around 2 percent in 2010. In the United Kingdom, inflation is expected to peak at 5 percent in the fourth quarter, reflecting sharp upward adjustments in utility prices, and to remain above the BoE's 2 percent target until 2010. Overall, our forecast for consumer price inflation in the advanced economies is slightly lower than in July, primarily reflecting the sharp downward adjustment in the path of oil and other commodity prices.

Given the weaker growth outlook and the slightly more benign inflation outlook, we now assume that monetary policy will be slightly easier in most advanced economies than in the previous Greenbook. We see the BoE and the ECB holding policy rates steady through the end of the year before cutting rates in the first half of 2009. We assume that the Bank of Canada will ease policy in the fourth quarter of 2008, while the Bank of Japan keeps its rate steady at $1 / 2$ percent before tightening policy in the second half of next year.

## Emerging Market Economies

We estimate that real GDP growth in the emerging market economies fell 1 percentage point in the second quarter, to an annual rate of 3 percent. This estimate is $3 / 4$ percentage point lower than in the July/August Greenbook. Weakening exports, as well as tepid domestic demand in some countries, weighed on activity. For the remainder of this year and through the first half of next year, our outlook continues to call for subpar growth, as sluggish activity in the advanced economies depresses emerging market exports, and as monetary tightening in response to higher inflation tempers domestic demand. Although we see the slowdown in the second quarter as due partly to temporary factors, we have passed some of the weakness forward and have revised downward our outlook for the second half of the year by $1 / 2$ percentage point. In line with the subsequent recovery of
activity in the advanced economies, we see growth returning to around $51 / 4$ percent, a pace in line with trend, by the end of forecast period. However, there are clear downside risks to our growth outlook for emerging market economies. In addition to the possibility that advanced economies may prove weaker than we are currently projecting, financial stresses in emerging market economies have increased recently and may become even more acute going forward.

Four-quarter inflation in the emerging market economies rose to $63 / 4$ percent in the second quarter, driven by increases in the prices of food and energy. In China, inflation peaked earlier this year and continued to decline in August. Data from July and August indicate that inflation has begun to fall in several other emerging market economies as well. We expect that inflation in these economies will decline to a rate just above 3 percent by the end of the forecast period, due both to the flattening out of prices for oil and other commodities and to some tightening of monetary policy. Relative to the previous Greenbook, the outlook for inflation is slightly lower due to the downward revision to the paths for oil and commodity prices.

## Prices of Internationally Traded Goods

Core import prices continued to increase sharply in July, largely reflecting higher prices for material-intensive products, especially chemicals and steel. However, in contrast to the previous two months, prices for finished goods, especially capital goods excluding computers and semiconductors, also rose considerably. Given these data, we now project that core import prices will increase at an annual rate of $71 / 2$ percent in the third quarter, almost 2 percentage points higher than was projected in the previous Greenbook.

The higher path for the dollar and lower commodity prices should have a restraining effect on import prices by later this year. Accordingly, we project that core import price inflation will decline sharply, to about 2 percent, in the fourth quarter and dip below 1 percent in the first quarter of next year. Thereafter, we project that core import price inflation will run slightly over 1 percent as commodity prices level off and the dollar depreciates at only a modest pace. Relative to the previous Greenbook, we have revised downward our forecast of import price inflation by 1 percentage point in the first quarter of 2009 and about $1 / 4$ percentage point over the remainder of 2009, reflecting the stronger path for the dollar and weaker commodity price forecast.

After increasing at a 12 percent pace in the first quarter, core export prices rose $14 \frac{1}{4}$ percent in the second quarter, driven by higher prices for exported industrial
supplies. We expect core export price inflation to slow in the third quarter to 10 percent, reflecting lower rates of inflation for metals and nonfuel intermediate inputs. The projected flattening out of commodity prices is expected to push core export price inflation down to $1 \frac{1}{4}$ percent by the end of 2010 .

## Staff Projections of Selected Trade Prices

(Percent change from end of previous period excepted as noted; s.a.a.r.)

| Trade category | 2007 | $\begin{gathered} \text { 2008: } \\ \text { H1 } \end{gathered}$ | Projection |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 2008 |  | 2009 | 2010 |
|  |  |  | Q3 | Q4 |  |  |
| Imports |  |  |  |  |  |  |
| Core goods | 3.4 | 9.5 | 7.5 | 2.1 | 1.0 | 1.3 |
| July/Aug. Greenbook | 3.3 | 9.9 | 5.8 | 2.2 | 1.4 |  |
| Oil (dollars per barrel) | 80.11 | 108.51 | 111.71 | 98.35 | 102.07 | 102.39 |
| July/Aug. Greenbook | 80.11 | 108.60 | 113.29 | 117.07 | 118.77 | ... |
| Exports |  |  |  |  |  |  |
| Core goods | 6.2 | 13.1 | 9.9 | 1.0 | 1.5 | 1.2 |
| July/Aug. Greenbook | 6.4 | 10.9 | 5.9 | 2.3 | 1.6 | ... |

Note. Prices for core exports exclude computers and semiconductors. Prices for core imports exclude computers, semiconductors, oil, and natural gas. Both prices are on a National Income and Product Account chain-weighted basis.

The price of imported oil for multiquarter periods is the price for the final quarter of the period. Imported oil includes both crude oil and refined products.
. . . Not applicable.

## Trade in Goods and Services

Real exports of goods and services surged at an annual rate of $131 / 4$ percent in the second quarter, with growth widely distributed across categories of goods as well as destinations. The second-quarter increase was $21 / 2$ percentage points higher than estimated in the previous Greenbook. We project that the dollar’s sizable depreciation during the past couple of years will support export growth of $51 / 2$ percent in the second half of 2008. We expect that the strike at Boeing will disrupt aircraft exports in the third quarter and assume that a resolution of the strike will allow aircraft exports to recover in the fourth quarter. After continuing apace in 2009, total exports are expected to decelerate a bit in 2010 as the stimulative influence of previous dollar depreciation fades, offsetting the effects of strengthening growth abroad. Compared with the previous Greenbook, we have lowered our forecast for export growth by about $13 / 4$ percentage points in the second
half of 2008 and in 2009 on account of the higher projected path for the dollar and weaker outlook for foreign economic activity.

Real imports of goods and services declined at an annual rate of $71 / 2$ percent in the second quarter, led by a steep fall in real imports of oil that partly reflects residual seasonality. The second-quarter decline in imports was about $21 / 4$ percentage points larger than estimated in the last Greenbook, as imports came in weaker than expected in the trade data for June. Real imports are expected to fall slightly in the second half of 2008, notwithstanding some rise in oil imports, as weak U.S. activity and higher import prices restrain imports of non-oil goods. Real import growth is expected to pick up in 2009 and then rise further in 2010, as U.S. growth strengthens and non-oil import price inflation abruptly steps down. Lower projected real imports of oil have led us to revise down our forecast for overall import growth in the fourth quarter by $1 \frac{1}{4}$ percentage points, while the stronger dollar contributes to a modest upward revision in 2009.

Staff Projections for
Trade in Goods and Services (Percent change from end of previous period, a.r.)

| Measure | 2007 | $\begin{array}{\|c} \hline 2008: \\ \text { H1 } \end{array}$ | Projection |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 2008 |  | 2009 | 2010 |
|  |  |  | Q3 | Q4 |  |  |
| Real imports | 1.1 | -4.2 | -. 8 | -. 3 | 2.8 | 4.9 |
| July/Aug. Greenbook | 1.0 | -3.0 | -. 6 | . 8 | 2.4 | $\ldots$ |
| Real exports | 8.9 | 9.1 | 4.0 | 7.2 | 5.6 | 5.1 |
| July/Aug. Greenbook | 8.4 | 8.1 | 6.8 | 7.3 | 7.5 | ... |

Note. Changes for years are measured as Q4/Q4; half-year is measured as Q2/Q4.

## Alternative Simulations

Although our baseline projection has the dollar depreciating gradually over the forecast period, it is possible that the dollar may extend its recent upturn. In our first alternative scenario, we use the FRB/Global model to examine the implications of a continued appreciation of the dollar. In particular, we consider the effects of a sequence of shocks to the foreign exchange risk premium that begin in the fourth quarter of 2008 and induce the dollar to appreciate by 10 percent after four quarters in the absence of endogenous changes in domestic or foreign interest rates. The appreciation of the dollar causes U.S. net exports to contract, reducing real GDP growth 0.3 percentage point relative to baseline in 2009 and 0.4 percentage point in 2010. Core PCE price inflation declines
about 0.1 percentage point over the forecast period, mainly in response to lower prices for imported goods. Given lower activity and prices, the federal funds rate declines nearly 100 basis points below baseline by the end of the forecast period. The trade balance initially improves because of J-curve effects but deteriorates about 0.2 percentage point of GDP by the end of the forecast period and considerably more thereafter.

It is possible, however, that any number of factors may reverse the dollar's recent appreciation and precipitate a much more sizable decline in the dollar than is incorporated into our baseline forecast. Such a decline, by itself, would lead simply to the mirror image of the scenario described above: Dollar depreciation induces a rise in GDP growth, increase in inflation, and narrowing of the trade deficit. But it is also possible that dollar depreciation could be associated with a more generalized flight from dollar assets that widens risk premiums in domestic asset markets. To explore this possibility, we consider a "disorderly" decline scenario that combines two elements: (1) shocks to the foreign exchange risk premium, beginning in the fourth quarter of 2008, that would cause the dollar to depreciate 10 percent in the absence of endogenous changes in domestic or foreign interest rates and (2) shocks that boost term and equity premiums by 100 basis points over four quarters.

In this scenario, real GDP growth remains nearly unchanged over the forecast period, as the stimulative effects on net exports associated with a weaker dollar are offset by the contractionary effects of higher term and equity premiums on domestic demand. Core PCE inflation rises slightly as the dollar's depreciation boosts import prices. With activity and inflation changing little, the federal funds rate nudges up by the end of the forecast period. Notwithstanding initial J-curve effects, the combination of a weaker dollar and sizable decline in U.S. domestic demand contribute to an improvement in the trade balance of about $1 / 2$ percentage point of GDP by the end of the forecast period, with a considerably larger improvement thereafter. All told, the shocks incorporated in this scenario generate little net effect on output and inflation. However, a disorderly correction might very well have larger contractionary effects through channels such as business and consumer sentiment that are not explicitly modeled in FRB/Global.

# Alternative Scenarios: <br> Dollar Appreciation and a Disorderly Decline in the Dollar 

(Percent change from previous period, annual rate, except as noted)

| Indicator and simulation | 2008 | 2009 |  | 2010 | $2011-13$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | H 2 | H 1 | H 2 |  |  |
| U.S. real GDP |  |  |  |  |  |
| Baseline | 0.8 | 1.9 | 2.3 | 2.7 | 3.0 |
| Dollar appreciation | 0.8 | 1.7 | 1.9 | 2.3 | 3.2 |
| Disorderly dollar decline | 0.8 | 1.9 | 2.3 | 2.7 | 2.6 |
| U.S. PCE prices |  |  |  |  |  |
| excluding food and energy |  |  |  |  |  |
| Baseline | 2.7 | 2.3 | 2.0 | 1.9 | 1.7 |
| Dollar appreciation | 2.6 | 2.2 | 1.9 | 1.8 | 1.6 |
| Disorderly dollar decline | 2.8 | 2.5 | 2.1 | 2.0 | 1.9 |
|  |  |  |  |  |  |
| U.S. federal funds rate |  |  |  |  |  |
| (percent) | 2.0 | 2.0 | 2.5 | 3.0 | 3.7 |
| Baseline | 2.0 | 1.9 | 2.1 | 2.1 | 3.2 |
| Dollar appreciation | 2.0 | 2.1 | 2.7 | 3.3 | 3.5 |
| Disorderly dollar decline |  |  |  |  |  |
| U.S. trade balance |  |  |  |  |  |
| (percent share of GDP) | -4.0 | -3.7 | -3.6 | -3.5 | -3.1 |
| Baseline | -3.9 | -3.5 | -3.5 | -3.7 | -3.8 |
| Dollar appreciation | -4.1 | -3.9 | -3.6 | -3.0 | -1.7 |
| Disorderly dollar decline |  |  |  |  |  |

Note. H1 is Q2/Q4; H2 is Q4/Q2. The federal funds rate is the average rate for the final quarter of the period.

## Evolution of the Staff Forecast

## Current Account Balance



## Foreign Real GDP



Core Import Prices*

*Prices for merchandise imports excluding computers, semiconductors, oil, and natural gas.

| Measure and country | 2008 |  |  |  | $\begin{gathered} \text { Projected } \\ 2009 \end{gathered}$ |  |  |  | 2010 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| REAL GDP (1) |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Foreign | 2.3 | 1.1 | 1.8 | 2.0 | 2.5 | 3.0 | 3.3 | 3.4 | . 5 | 3.5 | 3.6 | 3.6 |
| Advanced Foreign Economies | 1.0 | -0.3 | 0.4 | 0.5 | 1.1 | 1.8 | 2.1 | 2.2 | 2.2 | 2.3 | 2.3 | 2.3 |
| Canada | -0.8 | 0.3 | 0.2 | 0.4 | 1.0 | 2.2 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Japan | 3.2 | -2.4 | 1.5 | 0.6 | 1.0 | 1.4 | 1.4 | 1.6 | 1.7 | 1.7 | 1.7 | 1.7 |
| United Kingdom | 1.1 | -0.2 | -0.4 | -0.3 | 0.3 | 1.0 | 1.4 | 1.8 | 2.1 | 2.4 | 2.6 | 2.7 |
| $\underset{\substack{\text { Euro Area } \\ \text { Germany }}}{ }$ | 2.7 5.2 | -0.8 -2.0 | 0.3 0.2 | 0.7 0.8 | 1.2 1.2 | 1.7 1.8 | 2.0 2.3 | 2.1 2.7 | 2.1 | 2.1 2.7 | 2.2 2.8 | 2.2 2.8 |
| Emerging Market Economies | 4.0 | 3.0 | 3.7 | 4.0 | 4.3 | 4.6 | 4.8 | 5.1 | 5.2 | 5.2 | 5.2 | 5.2 |
| Asia | 8.0 | 3.2 | 5.2 | 5.4 | 5.9 | 6.1 | 6.3 | 6.3 | 6.4 | 6.5 | 6.5 | 6.5 |
| Korea | 3.3 | 3.4 | 3.5 | 3.7 | 3.9 | 4.3 | 4.4 | 4.5 | 4.6 | 4.6 | 4.7 | 4.7 |
| China | 11.7 | 9.9 | 8.9 | 8.7 | 9.3 | 9.3 | 9.5 | 9.5 | 9.6 | 9.6 | 9.6 | 9.6 |
| Latin America | -0.3 | 2.5 | 1.9 | 2.3 | 2.6 | 2.9 | 3.3 | 3.8 | 3.9 | 3.9 | 4.0 | 4.0 |
| Mexico | -0.5 | 0.6 | 1.3 | 1.7 | 2.2 | ${ }_{2} .6$ | 3.0 | 3.8 | 3.9 | 3.9 | 3.9 | 3.9 |
| Brazil | 3.4 | 6.5 | 3.6 | 3.6 | 3.8 | 3.8 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 |
| CONSUMER PRICES (3) | Four-quarter changes |  |  |  |  |  |  |  |  |  |  |  |
| Total Foreign | 4.1 | 4.7 | 4.8 | 4.3 | 3.8 | 3.1 | . 6 | 2.6 | 2.5 | 2.5 | 2.4 | 2.4 |
| Advanced Foreign Economies of which: | 2.2 | 2.7 | 3.3 | 2.9 | 2.8 | 2.2 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.6 |
| Canada | 1.8 | 2.3 | 3.0 | 2.9 | 3.0 | 2.2 | 1.8 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 |
| Japan | 1.0 | $\frac{1}{3} \cdot 4$ | 2.1 | 1.9 | 1.7 | 1.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| United Kingdom (4) | 2.4 | 3.4 3.6 | 4.6 3.9 | 5.0 3.1 | 4.8 | 3.9 | 2.9 | 2.4 | ${ }_{2}^{2.1}$ | ${ }_{2} 2.0$ | 2.0 | 1.9 |
| $\underset{\substack{\text { Euro Area (2) } \\ \text { Germany }}}{ }$ | 3.1 | 3.0 | 3.0 | 2.4 | 2.1 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Emerging Market Economies | 5.9 | 6.7 | 6.2 | 5.7 | 4.8 | 4.0 | 3.5 | 3.3 | 3.2 | 3.2 | 3.1 | 3.1 |
| Asia | 6.5 | 7.1 | 6.2 | 5.5 | 4.4 | 3.6 | 3.3 | 3.2 | 3.1 | 3.0 | 3.0 | 2.9 |
| Korea | 3.8 | 4.8 | 5.6 | 5.1 | 5.0 | 3.6 | 2.9 | 2.7 | 2.6 | 2.6 | 2.6 | 2.6 |
| China | 8.0 | 7.8 | 5.5 | 4.7 | 3.2 | 2.9 | 3.3 | 3.2 | 3.1 | 3.0 | 3.0 | 2.9 |
| Latin America | 4.5 | 5.5 | 6.0 | 6.0 | 5.6 | 4.8 | 3.9 | 3.7 | 3.6 | 3.5 | 3.5 | 3.5 |
| Mexico | 3.9 | 4.9 | 5.4 | 5.3 | 5.1 | 4.2 | 3.4 | 3.2 | 3.1 | 3.0 | 3.0 | 3.0 |
| Brazil | 4.6 | 5.5 | 6.3 | 6.3 | 5.9 | 5.3 | 4.6 | 4.6 | 4.5 | 4.5 | 4.5 | 4.5 |

[^11]Class II FOMC
Restricted (FR)

| Measure and country | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | -----Projected---- |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | 2008 | 2009 | 2010 |
| REAL GDP (1) |  |  |  |  |  |  |  |  |  |
| Total Foreign | 3.0 | 2.9 | 3.8 | 4.0 | 4.0 | 4.2 | 1.8 | 3.0 | 3.5 |
| Advanced Foreign Economies of which: | 2.5 | 1.8 | 2.6 | 2.7 | 2.7 | 2.5 | 0.4 | 1.8 | 2.3 |
| Canada | 3.5 | 1.5 | 3.7 | 3.0 | 2.2 | 2.8 | 0.0 | 2.0 | 2.5 |
| Japan | 2.0 | 2.4 | 1.1 | 2.9 | 2.5 | 1.4 | 0.7 | 1.3 | 1.7 |
| United Kingdom | 2.3 | 3.4 | 2.6 | 1.8 | 3.2 | 2.8 | 0.1 | 1.1 | 2.4 |
| Euro Area (2) | 1.1 | 1.2 | 1.7 | 2.1 | 3.3 | 2.1 | 0.7 | 1.7 | 2.2 |
| Germany | 0.0 | 0.2 | 0.2 | 1.6 | 4.1 | 1.7 | 1.0 | 2.0 | 2.7 |
| Emerging Market Economies | 3.9 | 4.5 | 5.5 | 5.8 | 5.7 | 6.4 | 3.7 | 4.7 | 5.2 |
| Asia | 6.4 | 6.9 | 6.0 | 7.6 | 7.0 | 7.8 | 5.5 | 6.2 | 6.5 |
| Korea | 7.7 | 4.1 | 2.9 | 5.6 | 4.2 | 5.9 | 3.5 | 4.2 | 4.6 |
| China | 8.6 | 10.3 | 9.8 | 10.2 | 10.6 | 11.3 | 9.8 | 9.4 | 9.6 |
| Latin America | 1.6 | 1.8 | 4.9 | 3.9 | 4.5 | 4.9 | 1.6 | 3.1 | 4.0 |
| Mexico | 2.0 | 1.3 | 4.4 | 3.4 | 3.7 | 4.2 | 0.8 | 2.9 | 3.9 |
| Brazil | 4.9 | 1.0 | 4.5 | 3.4 | 5.0 | 6.1 | 4.2 | 3.8 | 3.9 |
| CONSUMER PRICES (3) |  |  |  |  |  |  |  |  |  |
| Total Foreign | 2.5 | 2.1 | 2.8 | 2.3 | 2.1 | 3.6 | 4.3 | 2.6 | 2.4 |
| Advanced Foreign Economies of which: | 2.1 | 1.3 | 1.8 | 1.6 | 1.4 | 2.2 | 2.9 | 1.8 | 1.6 |
| Canada | 3.8 | 1.7 | 2.3 | 2.3 | 1.3 | 2.4 | 2.9 | 2.0 | 1.9 |
| Japan | -0.5 | -0.3 | 0.5 | -1.0 | 0.3 | 0.5 | 1.9 | 0.5 | 0.5 |
| United Kingdom (4) | 1.5 | 1.3 | 1.4 | 2.1 | 2.7 | 2.1 | 5.0 | 2.4 | 1.9 |
| Euro Area (2) | 2.3 | 2.0 | 2.3 | 2.3 | 1.8 | 2.9 | 3.1 | 2.3 | 1.9 |
| Germany | 1.2 | 1.1 | 2.1 | 2.2 | 1.3 | 3.1 | 2.4 | 2.0 | 2.0 |
| Emerging Market Economies | 2.9 | 3.1 | 3.9 | 3.0 | 2.9 | 5.1 | 5.7 | 3.3 | 3.1 |
| Asia | 0.8 | 2.3 | 3.1 | 2.6 | 2.3 | 5.4 | 5.5 | 3.2 | 2.9 |
| Korea | 3.4 | 3.5 | 3.4 | 2.5 | 2.1 | 3.4 | 5.1 | 2.7 | 2.6 |
| China | -0.6 | 2.7 | 3.2 | 1.4 | 2.1 | 6.6 | 4.7 | 3.2 | 2.9 |
| Latin America | 6.4 | 4.9 | 5.7 | 3.8 | 4.1 | 4.3 | 6.0 | 3.7 | 3.5 |
| Mexico | 5.2 | 3.9 | 5.3 | 3.1 | 4.1 | 3.8 | 5.3 | 3.2 | 3.0 |
| Brazil | 10.7 | 11.5 | 7.2 | 6.1 | 3.2 | 4.3 | 6.3 | 4.6 | 4.5 |

[^12]Class II FOMC
Restricted (FR)

## September 10, 2008

OUTLOOK FOR U.S. INTERNATIONAL TRANSACTIONS

|  | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | $\begin{array}{r} \text { Project } \\ 2009 \end{array}$ | 2010 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NIPA REAL EXPORTS and IMPORTS |  |  |  |  |  |  |  |  |  |
|  | Percent | e point | contribu | ion to | growth | Q4/Q4 |  |  |  |
| Net Goods \& Services | -0.9 | -0.1 | -0.9 | -0.1 | 0.4 | 0.8 | 1.4 | 0.3 | $-0.1$ |
| Exports of G\&S | 0.4 | 0.6 | 0.7 | 0.7 | 1.1 | 1.0 | 0.9 | 0.8 | 0.7 |
| Imports of G\&S | $-1.3$ | -0.7 | $-1.7$ | -0.8 | -0.6 | -0.2 | 0.4 | -0.5 | -0.9 |
| Percentage change, Q4/Q4 |  |  |  |  |  |  |  |  |  |
| Exports of G\&S | 3.8 | 5.8 | 7.4 | 7.0 | 10.1 | 8.9 | 7.3 | 5.6 | 5.1 |
| Services | 10.2 | 3.0 | 8.3 | 4.0 | 11.5 | 9.3 | 4.4 | 3.4 | 5.0 |
| Computers | -1.1 | 11.3 | 5.8 | 14.2 | 8.1 | 0.9 | 14.8 | 9.5 | 9.5 |
| Semiconductors | 10.1 | 38.3 | -6.0 | 17.6 | 2.9 | 29.3 | 4.5 | 11.0 | 11.0 |
| Core Goods 1/ | 0.6 | 4.9 | 8.0 | 7.4 | 10.0 | 8.2 | 8.5 | 6.3 | 4.8 |
| Imports of G\&S | 9.7 | 4.8 | 11.5 | 4.8 | 3.8 | 1.1 | -2. 4 | 2.8 | 4.9 |
| Services | 8.8 | 2.2 | 9.3 | -0.1 | 8.0 | 1.8 | -0.6 | 3.6 | 3.7 |
| Oil | 3.8 | 1.2 | 10.8 | 1.0 | -9.2 | 0.6 | -5.9 | -1.5 | 1.7 |
| Natural Gas | 19.5 | 1.3 | 4.9 | 13.7 | -12.6 | 12.1 | -15.4 | 4.2 | 0.5 |
| Computers | 13.2 | 17.0 | 23.2 | 12.5 | 13.8 | 8.4 | 11.5 | 15.5 | 15.5 |
| Semiconductors | 11.0 | $-0.1$ | 9.8 | 7.5 | -0.3 | 3.8 | 5.2 | 5.0 | 5.0 |
| Core Goods 2 / | 10.0 | 5.2 | 11.4 | 5.9 | 5.7 | 0.1 | -2.5 | 2.9 | 5.5 |
| Billions of Chained 2000 Dollars |  |  |  |  |  |  |  |  |  |
| Net Goods \& Services |  | $-518.9$ |  |  |  |  |  |  |  |
| Exports of G\&S | $1013.3$ | $1026.1$ | $1126.1$ | 1205.3 | 1314.8 | 1425.9 | 1550.5 | 1646.1 | 1734.0 |
| Imports of G\&S | 1484.6 | 1545.0 | 1719.9 | 1821.9 | 1930.5 | 1972.4 | 1931.8 | 1946.0 | 2031.6 |
| Billions of dollars |  |  |  |  |  |  |  |  |  |
| US CURRENT ACCOUNT BALANCE | $-461.3$ | $-523.4$ | $-625.0$ | -729.0 | -788.1 | -731.2 | $-695.5$ | -577.2 | $-532.7$ |
| Current Acct as Percent of GDP | -4.4 | -4.8 | -5.3 | -5.9 | -6.0 | -5.3 | -4.8 | -3.8 | $-3.4$ |
| Net Goods \& Services (BOP) | $-423.7$ | -496.9 | -607.7 | -711.6 | $-753.3$ | $-700.3$ | -670.4 | -556.7 | -556.5 |
| Investment Income, Net |  |  | 73.4 |  |  |  |  |  |  |
| Direct, Net | 102.4 | 112.7 | 150.9 | 173.2 | 184.1 | 233.9 | 250.5 | 238.9 | 262.7 |
| Portfolio, Net | -69.4 | -61.7 | -77.5 | -94.4 | -120.3 | -145.1 | -150.4 | -136.2 | $-117.6$ |
| Other Income \& Transfers, Net | $-70.5$ | $-77.5$ | -90.6 | -96.2 | -98.6 | -119.7 | $-125.2$ | -123.2 | $-121.2$ |

[^13]NIPA REAL EXPORTS and IMPORTS

|  |  | 2005 |  |  |  | 2006 |  |  |  | 2007 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| NIPA REAL EXPORTS and IMPORTS |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Percentage point contribution to GDP growth |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net | Goods \& Services | 0.3 | 0.8 | -0.1 | -1.3 | 0.1 | 0.6 | -0.1 | 1.3 | -1.2 | 1.7 | 2.0 | 0.9 |
|  | Exports of G\&S | 0.8 | 0.9 | 0.0 | 1.1 | 1.7 | 0.6 | 0.4 | 1.7 | 0.1 | 1.0 | 2.5 | 0.5 |
|  | Imports of G\&S | -0.5 | -0.1 | -0.1 | -2.4 | -1.6 | 0.0 | -0.5 | -0.3 | -1.2 | 0.7 | -0.5 | 0.4 |
| Percentage change from previous period, s.a.a.r. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Exports of G\&S |  | 8.1 | 8.8 | 0.4 | 10.9 | 16.7 | 5.5 | 3.5 | 15.6 | 0.6 | 8.8 | 23.0 | 4.4 |
|  | Services | 10.2 | -2.8 | 3.2 | 5.7 | 13.4 | 2.7 | 3.2 | 28.6 | -2.7 | 13.3 | 25.9 | 2.7 |
|  | Computers | 16.8 | 27.9 | 8.3 | 5.2 | 12.0 | 17.5 | -7.9 | 12.7 | 3.9 | -4.0 | 14.4 | -9.2 |
|  | Semiconductors | -5.2 | 11.7 | 30.7 | 38.0 | 20.3 | 16.1 | -5.6 | -15.0 | 15.9 | 23.7 | 20.5 | 61.7 |
|  | Core Goods 1/ | 7.3 | 13.8 | -2.9 | 12.4 | 18.3 | 5.6 | 4.8 | 11.8 | 1.3 | 6.6 | 22.1 | 3.7 |
| Imports of G\&S |  | 3.2 | 0.6 | 0.8 | 15.3 | 10.3 | 0.1 | 3.1 | 2.0 | 7.7 | -3.7 | 3.0 | -2.3 |
| ServicesOil |  | -5.7 | -0.0 | -1.0 | 6.8 | 17.7 | $-2.0$ | -0.3 | 18.4 | 4.2 | -2.0 | 6.3 | -0.9 |
|  |  | 5.1 | -27.1 | -11.6 | 53.6 | -2.8 | -27.1 | 7.5 | -10.6 | 30.9 | -22.3 | -13.5 | 16.5 |
| Natural Gas |  | 58.6 | -14.1 | 111.1 | -41.9 | -50.7 | 91.9 | 26.6 | -51.2 | 70.8 | 74.2 | 28.2 | -58.6 |
| Natural Gas |  | 3.2 | 11.6 | 20.4 | 15.4 | 20.7 | 21.1 | 19.7 | -4.3 | 34.9 | -6.5 | -0.2 | 9.7 |
| Computers |  | -9.2 | 7.7 | 14.0 | 20.0 | 0.2 | -0.5 | 17.7 | -15.8 | 1.2 | 6.7 | 1.0 | 6.4 |
| Core Goods 2/ |  | 4.8 | 6.1 | 0.3 | 12.7 | 13.7 | 4.9 | 1.2 | 3.2 | 2.2 | -1.1 | 5.8 | -6.0 |
| Billions of Chained 2000 Dollars, s.a.a.r. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Exports of G\&S | $1177.9$ | $1203.1$ | $1204.3$ | $1235.7$ | $1284.3$ | $1301.4$ | $1312.6$ | $1361.1$ | $1363.2$ | $1392.2$ | $1466.2$ | $1482.1$ |
|  | Imports of $G \& S$ | 1801.7 | 1804.4 | 1807.9 | 1873.6 | 1920.2 | 1920.9 | 1935.7 | 1945.3 | 1981.8 | 1963.4 | 1978.0 | 1966.5 |
| Billions of dollars, s.a.a.r. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| US CURRENT ACCOUNT BALANCE Current Account as \% of GDP |  | -696.2 | -711.3 | -675.6 | -832.9 | -783.8 | -799.6 | -843.6 | -725.4 | -787.7 | -776.4 | -691.8 | -669.0 |
|  |  | -5.7 | -5.8 | -5.4 | -6.6 | -6.0 | -6.1 | -6.4 | -5.4 | -5.8 | -5.7 | -5.0 | -4.8 |
| Net Goods \& Services (BOP) |  | -664.0 | -682.9 | -721.4 | -778.0 | -756.4 | -767.4 | -789.9 | -699.5 | -718.2 | -715.3 | -672.5 | -695.1 |
| Investment Income, Net |  | 88.6 | 77.8 | 88.7 | 59.9 | 65.2 | 70.7 | 51.7 | 67.7 | 57.8 | 45.8 | 98.9 | 152.6 |
|  |  | 170.2 | 168.5 | 187.8 | 166.3 | 177.2 | 189.2 | 171.9 | 198.2 | 201.1 | 196.2 | 238.8 | 299.3 |
| Portfolio, Net |  | -81.6 | -90.7 | -99.0 | -106.5 | -112.0 | -118.5 | -120.3 | -130.5 | -143.2 | -150.4 | -139.9 | -146.7 |
| Other Inc. \& Transfers, Ne |  | t-120.9 | -106.2 | -42.9 | -114.8 | -92.6 | -103.0 | -105.4 | -93.6 | -127.4 | -106.9 | -118.3 | -126.4 |

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NIPA REAL EXPORTS and IMPORTS
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| $\forall$ | 6 | 0 |
| :---: | :---: | :---: |
| $m$ | $\ddots$ | 0 |
| 0 | 0 | 6 |
| $m$ | $r$ | 0 |
| 1 | $r$ | 0 |



[^15]
[^0]:    ${ }^{1}$ The Congressional Budget Office's estimate in July was based on their assumption at that time that there probably was a better than 50 percent chance that the Treasury would not have to use their authority to provide financial assistance to the GSEs. Because the GSEs have now been moved into conservatorship and because the Treasury has committed to purchasing both mortgage-backed securities and equity from the GSEs, we have assumed that the expected federal budget costs have increased.
    ${ }^{2}$ However, the return to production of some oil and natural gas platforms that were evacuated in advance of Hurricane Gustav will be further delayed by Hurricane Ike.

[^1]:    ${ }^{3}$ Although we had expected the introduction of the TEUC program to result in an increase in initial claims for regular unemployment insurance benefits in the early weeks of the program (as individuals filing for TEUC benefits were deemed eligible for regular benefits), we think that most of that effect probably would have passed by the end of August. Our guess is that the TEUC program is currently boosting the level of the unemployment rate by $1 / 4$ percentage point.
    ${ }^{4}$ The monthly pattern of employment is likely to be distorted by the Boeing strike that began on September 6. Our working assumption is that the strike will last about one month, in line with the length of the previous Boeing strike in 2005. On this assumption, the change in private payrolls is expected to be held down by 27,000 in September and boosted by the same amount in October.
    ${ }^{5}$ The effect of the Boeing strike on aircraft production is expected to hold down the change in manufacturing IP in September by $1 / 2$ percentage point.

[^2]:    ${ }^{6}$ The first-time homebuyer tax credit is assumed to provide a small boost to home sales beginning this quarter.
    ${ }^{7}$ This swing in growth is exaggerated by the strike at Boeing, which seems likely to cause a temporary drop in deliveries of domestic aircraft this quarter.

[^3]:    ${ }^{8}$ The figure for 2007 reflects revisions to the Flow of Funds accounts that will be released to the public on September 18. The revised data show that the expansion of business debt slowed more sharply since mid-2007 than do the currently published data; the revision is largely the result of the incorporation of new information on syndicated business loans held by institutional investors.

[^4]:    1. Level, except for two-quarter and four-quarter intervals.
    
[^5]:    1．Change from fourth quarter of previous year to fourth quarter of year indicated．
    2．Billions of chained（2000）dollars．

[^6]:    1. Change from fourth quarter of previous year to fourth quarter of year indicated.
[^7]:    1. Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise indicated
    2. Percent, annual values are for the fourth quarter of the year indicated
    3. Percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential. (In previous Greenbooks, we expressed the GDP gap with the opposite sign, so that a positive number indicated that actual output fell short of potential.) Annual change, annual rate.
    4. Percent change, annual rate, with inventory valuation and capital consumption adjustments.
    5. Billions of dollars, annual values are annual averages.
[^8]:    aggregate demand stimulus.
    a--Actual

[^9]:    Note. Data after 2008:Q2 are staff projections.

    1. Average debt levels in the period (computed as the average of period-end debt positions) divided by nominal GDP.
    2. Includes change in liabilities not shown in home mortgages and consumer credit.
    3. Average debt levels in the period (computed as the average of period-end debt positions) divided by disposable personal income. 4. For corporations, excess of capital expenditures over U.S. internal funds.
    4. NIPA state and local government saving plus consumption of fixed capital and net capital transfers
    n.s.a. Not seasonally adjusted.
    2.6.4 FOF
[^10]:    ${ }^{1}$ Custody holdings at the FRBNY are reported at face value, whereas TIC data on these holdings are at market value.

[^11]:    1. Foreign GDP aggregates calculated using shares of U.S. exports.
    2. Foreign CPI aggregates calculated using shares of U.S. non-oil imports.
    3. CPI excluding mortgage interest payments, which is the targeted inflation rate.
[^12]:    1. Foreign GDP aggregates calculated using shares of U.S. exports. 2. Harmonized data for euro area from Eurostat.
    
[^13]:    2. Merchandise imports excluding oil, natural gas, computers, and semiconductors.
[^14]:    1. Merchandise exports excluding computers and semiconductors.
    2. Merchandise imports excluding oil, natural gas, computers, and semiconductors.
[^15]:    Merchandise exports excluding computers and semiconductors
    1
    2.
    2. Merchandise imports excluding oil, natural gas, computers, and semiconductors.

