## 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

## Summary and Outlook

## Class II FOMC—Restricted (FR)

## Domestic Developments

The data for real activity that we have received since the last Greenbook have sent mixed signals regarding the thrust of economic activity. On one hand, real gross domestic product (GDP) in the second quarter appears to have increased substantially faster than we had anticipated in the June Greenbook. ${ }^{1}$ On the other hand, the labor market has been weaker than expected, consumer and business attitudes have remained downbeat, and industrial production (IP) has been sluggish. Considering the totality of the evidence, we continue to think that a significant weakening in activity is in train. Moreover, because of the developments in financial markets over the past six weeks, we think that the weakening will be a bit more pronounced and persist a little longer than we had thought earlier. In our assessment, the recent drop in crude oil prices and slightly greater fiscal stimulus that we have built into this projection are not quite sufficient to offset the stronger headwinds. All told, we now expect real GDP to rise at an annual rate of roughly $1 / 2$ percent in the second half of 2008 and $21 / 4$ percent in 2009. This projection is just a bit lower than that in the June Greenbook, but with the level of real GDP in the second quarter of this year higher than we had expected, the GDP gap at the end of 2009 is the same as we had anticipated in the prior projection. The unemployment rate is more noticeably revised, primarily because of the temporary extension of unemployment insurance benefits.

The outlook for core PCE inflation is much the same as in the June Greenbook. In the first half of the year, core PCE inflation was held down in part by unusually low readings for some components. On the assumption that these low readings are largely behind us, and as the indirect effects of this year's run-up in prices of energy and imports show through, we expect core inflation to pick up somewhat in the second half. Core inflation edges down in 2009 as the impetus from prices of imports, as well as from prices of energy and other commodities, begins to abate and the margin of resource slack widens. We expect headline PCE inflation to move up to $43 / 4$ percent in the third quarter as a result of sizable increases in prices of food and energy; it is projected to drop to $21 / 2$ percent in 2009 as the direct effects from prices of food and energy taper off and core inflation eases a bit.

[^0]
## Key Background Factors

We have maintained the same monetary policy assumption as in the previous Greenbook. As before, we assume that the federal funds rate will remain at 2 percent over the rest of 2008 and be raised to $23 / 4$ percent over the first half of 2009. Market participants have revised down their expectations for the federal funds rate in 2009 by more than 50 basis points and now expect it to be 3 percent at the end of that year.

With respect to longer-term rates, the 10-year Treasury yield has fallen slightly since we closed the June Greenbook; we expect it to remain at current levels through the end of 2009. Although the Treasury yield would, all else equal, tend to rise as the 10-year window moves beyond the low short-term rates prevailing in the near term, the staff's assumed path for the federal funds rate implies a small downside surprise for market participants that exerts an offsetting effect on long-term yields. We also expect the term premium to fall somewhat from elevated levels.

Stresses in financial markets increased over the intermeeting period, and we expect them to persist a while longer than we did in the June forecast. The recent intensification of these stresses was rooted in heightened concerns about the health of Fannie Mae and Freddie Mac as well as some banks. Although these concerns have eased a bit in recent weeks on moves to support the government-sponsored enterprises (GSEs) and on some earnings reports that beat expectations, spreads of the London interbank offered rate, or Libor, to rates for comparable-maturity overnight index swaps stayed high, premiums on credit default swaps for regional banks rose, and risk spreads on the subordinated debt of bank holding companies surged. Equity prices have fallen about 7 percent, on net, since we closed the June Greenbook, leaving the equity premium wider than in the last Greenbook and near the highs of the past two decades. Meanwhile, yields on corporate bonds rose as risk spreads widened notably; yields and spreads on primary mortgage rates also rose as investors in GSE mortgage-backed securities reportedly demanded extra compensation as banks sold these securities to raise cash at a time when issuance was robust. Moreover, the July Senior Loan Officer Opinion Survey on Bank Lending Practices indicated that the vast majority of domestic commercial banks further tightened their lending standards and terms on most categories of loans to businesses and households.

In our forecast, we have raised the assumed paths for the interest rate on Baa-rated corporate bonds and the mortgage rate to reflect recent developments, but we still expect those rates to decline over the projection period; although spreads over yields on

## Class II FOMC - Restricted (FR)

## Key Background Factors Underlying the Baseline Staff Projection

Federal Funds Rate


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:Q3 except as noted.
In the upper-left panel that reports the federal funds rate, the dashed line is not apparent because the paths of the federal funds rate in the June and current Greenbooks are the same.

Treasury securities are expected to remain elevated, the spreads should narrow somewhat with the anticipated improvement in economic activity. We have also lowered the starting point for equity prices. As in previous Greenbooks, we assume that the equity premium will narrow a bit in 2009; consistent with that assumption, we have conditioned our forecast on a path that has equity prices rising at an annual rate of 7 percent over the rest of this year and 12 percent in 2009. As for house prices, we continue to expect the Office of Federal Housing Enterprise Oversight's purchase-only price index to decline 7 percent this year and continue to fall at about this rate in the first half of 2009; in the second half of next year, these declines taper off significantly.

We now expect federal fiscal policy to be a little more stimulative in the near term because of the passage of temporary extended unemployment compensation (TEUC); federal fiscal impetus is estimated to be $3 / 4$ percentage point in 2008 and close to zero in 2009. ${ }^{2}$ We have also taken on board the Housing and Economic Recovery Act of 2008, which provides temporary authority for the Treasury to purchase debt and equity issued by the housing-related GSEs, a tax credit for first-time homebuyers, a program that will allow the Federal Housing Administration to refinance certain mortgages, and grants to states for foreclosure relief. According to the Congressional Budget Office, this act will add less than $\$ 2$ billion to the deficit in fiscal year 2008 and $\$ 37$ billion in fiscal 2009, with the bulk of the 2009 estimate reflecting the GSE provisions. We expect the tax credit to have some effect on the timing of home sales but essentially no effect on construction.

Although the newly enacted legislation implies somewhat larger deficits in 2008 and especially 2009, incoming data and some other factors go in the opposite direction. As a result, we now expect the unified budget deficit to total $\$ 358$ billion in fiscal 2008, compared with a projection of $\$ 370$ billion in the June Greenbook; our forecast for the deficit in fiscal 2009 is little changed at $\$ 395$ billion.

In the foreign-exchange markets, the broad real dollar is about 1 percent lower than in the June Greenbook; the dollar is projected to depreciate at a pace of about $21 / 2$ percent annually over the next year and a half. Economic activity abroad now appears to have risen at an annual rate of just 2 percent in the second quarter, a little less than we had

[^1]anticipated; we expect foreign growth to remain sluggish in the second half before picking up to $31 / 4$ percent in 2009.

After having shot up between mid-June and early July, the spot price of West Texas intermediate (WTI) crude oil has fallen markedly in recent weeks and now stands at \$122 per barrel, $\$ 12$ per barrel below its level at the time of the June Greenbook (but still about $\$ 30$ per barrel higher than at the start of the year). In part, the recent drop in oil prices reflects the belief that slower world economic growth will curb the demand for oil, while recent reports from the International Energy Agency point to a somewhat greater supply, in particular from Saudi Arabia. Consistent with futures prices, we expect WTI to be near current levels at the end of 2009.

## Recent Developments and the Near-Term Outlook

We now estimate that real GDP rose at an annual rate of $23 / 4$ percent in the second quarter, 1 percentage point more than we had projected in the June Greenbook. Although residential construction continued to contract, net exports jumped, defense spending rose rapidly, and-apart from their motor vehicle components-consumer and business spending were more resilient than we had expected a few months ago. However, we continue to expect real GDP growth to slow to the neighborhood of $1 / 2$ percent in the third and fourth quarters. The main driver of the projected slowing is our view that the restraint on activity from high energy prices and financial headwinds will soon start to bite with greater force than it did in the first half of the year. To be sure, one should not read too much into monthly data, but the weakness in consumer spending around midyear, along with the increase in the unemployment rate and ongoing declines in payroll employment, may be signaling that such a downshift in aggregate demand is already under way.

In the labor market, private payroll employment is reported to have dropped 90,000 in each month of the second quarter, and the unemployment rate did not fall back as expected in June after jumping to $51 / 2$ percent in May. We now expect private payrolls to fall 110,000 per month in the third quarter, roughly twice the rate of decline anticipated in the June Greenbook. The unemployment rate is expected to average $53 / 4$ percent this quarter; this projection is $1 / 4$ percentage point above that in the June Greenbook and reflects both the higher-than-expected unemployment rate in June and the likelihood that the TEUC program will induce some unemployed individuals to extend their job search.

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

| Measure | 2008:Q2 |  | 2008:Q3 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | June GB | July GB | June GB | July GB |
| Real GDP | 1.7 | 2.7 | . 9 | . 7 |
| Private domestic final purchases | . 5 | 1.1 | . 9 | -. 1 |
| Personal consumption expenditures | 2.2 | 2.0 | 2.6 | 1.6 |
| Residential investment | -23.7 | -19.4 | -24.8 | -24.1 |
| Business fixed investment | -1.2 | 3.3 | -. 9 | -2.7 |
| Government outlays for consumption and investment | 3.1 | 4.1 | 1.6 | 1.5 |
|  | Contribution to growth (percentage points) |  |  |  |
| Inventory investment | -1.5 | -1.4 | -. 9 | -. 5 |
| Net exports | 2.1 | 2.3 | . 7 | 1.0 |

Activity in the manufacturing sector has also been subdued in recent months. Although manufacturing industrial production ticked up in June, the increase was attributable to a resumption of production at automotive plants that had been idled by strikes from March to May. Despite the rebound, motor vehicle production was quite soft in June, and current schedules imply only a small additional increase in the third quarter; even so, motor vehicle inventories-especially those of light trucks and sport-utility vehicles-are likely to remain excessive in the face of flagging sales. Manufacturing IP apart from motor vehicles fell at an annual rate of about 2 percent in the second quarter, as the boost from net trade provided only a partial offset to the weakness in domestic demand; we expect non-auto production to continue to decline modestly in the third quarter, in line with the pattern of new orders and other indicators.

Personal consumption expenditures (PCE) turned in a solid performance for much of the second quarter despite a sharp drop in sentiment and deteriorating fundamentals. However, the latest data on retail sales and purchases of motor vehicles point to a considerable slackening in spending around midyear, and we now project real PCE to rise at an annual rate of just $11 / 2$ percent in the third quarter, 1 percentage point less than in the June Greenbook. We still expect the tax rebates to provide important support to consumption this quarter (and have built in a small additional boost from the extension of unemployment benefits), but this stimulus is likely to be offset by a long list of negatives, including mounting job losses, high energy prices, declining wealth, and tighter lending
standards. As in the June Greenbook, our forecast for the fourth quarter has a decline in real PCE as the impetus to spending from the rebates dissipates.

In the housing sector, single-family starts have continued to slide in recent months and were down to an annual rate of 650,000 units in June, about in line with our expectations. Moreover, sales of homes have fallen further-and likely will continue to drop in the near term, especially in light of the recent upturn in mortgage rates, tighter lending standards, and ongoing concerns about the prospects for house prices. On the production side, homebuilders have made some progress recently in reducing the number of unsold units, but the months' supply of new homes for sale remains extremely high. In this environment, we expect new construction to drop further in the second half of 2008, pushing the level of single-family housing starts in the fourth quarter down to 490,000 units, roughly 70 percent below the high reached in the third quarter of 2005. All told, we now expect real residential investment to subtract roughly 1 percentage point from real GDP growth in both the third and fourth quarters, about the same as over the preceding six quarters.

Real investment in equipment and software (E\&S) appears to have been about flat in the second quarter as a steep drop in outlays on motor vehicles offset a moderate gain in high-tech expenditures and a small upturn in spending outside the high-tech and transportation areas. We expect real $\mathrm{E} \& \mathrm{~S}$ outlays to fall nearly 4 percent in the current quarter as spending comes under downward pressure from slowing aggregate demand, downbeat assessments of the business climate, and tighter credit conditions.

Based on monthly construction data through May and the high-frequency indicators of drilling activity, we have penciled in a sizable increase in real outlays for nonresidential construction in the second quarter. In the aggregate, these expenditures are projected to decline slightly, on net, over the second half of the year as further robust gains in investment in drilling and mining structures are offset by a marked contraction in building construction. Indeed, the architectural billings diffusion index—a useful leading indicator of building activity-dropped precipitously earlier this year, and construction reportedly is coming under severe downward pressure from difficulties in obtaining financing, rising vacancy rates, and soaring costs of building materials.

In the government sector, real federal expenditures on consumption and gross investment appear to have risen sharply in the second quarter, mainly because of strong growth in defense spending. Given the appropriations now in place and the likelihood of a
continuing resolution this fall, we expect defense spending to continue to increase in the second half of the year-albeit less rapidly than in the first half—while real nondefense spending continues to rise at a slow pace. Meanwhile, real purchases by state and local governments appear to have risen about 2 percent in the second quarter as employment posted another moderate increase and construction reversed its first-quarter dip; we expect spending gains to diminish in coming quarters as these governments adjust to tighter budget conditions.

We estimate that net exports added a remarkable $21 / 4$ percentage points to real GDP growth in the second quarter as exports accelerated while imports were held down by a sharp drop in oil imports. With export demand expected to remain brisk in the second half of the year while imports are little changed, the external sector's contribution to GDP growth is expected to average just under 1 percentage point.

Based largely on book-value data through May, we estimate that real nonfarm inventory investment outside motor vehicles fell sharply in the second quarter. The available indicators send mixed signals about the current inventory situation. Nonetheless, on the assumption that firms want to keep a tight rein on stocks in light of the uncertain prospects for demand in coming quarters, we expect further liquidation of non-auto inventories in the second half. We expect businesses to begin rebuilding these stocks next year.

We estimate that core PCE prices rose at an annual rate of 2 percent in the second quarter, while higher prices of food and energy boosted overall PCE inflation to 4 percent. As before, we expect core inflation to pick up to $2^{1 ⁄ 2}$ percent in the third quarter and to remain in that neighborhood in the fourth quarter; this step-up reflects both the waning of some low readings in the first half and some upward pressure from prices of energy and imports. Meanwhile, the jump in gasoline prices in July points to another big increase in consumer energy prices for the third quarter as a whole, although we have significantly marked down our forecast for the second half of the year to reflect the lower crude oil prices. In contrast, food prices currently are running a good deal higher than we had anticipated-and likely will continue to do so for the remainder of the year. In all, we now expect total PCE prices to rise $43 / 4$ percent in the third quarter and $21 / 2$ percent in the fourth quarter.

## The Medium-Term Outlook

We have trimmed our projection for real GDP growth in 2009 to $2 \frac{1}{4}$ percent, $1 / 4$ percentage point less than in the June Greenbook. As noted, we now assume that financial stresses are a bit more severe and that healing will take somewhat longer than we had previously anticipated; we have also taken on board the changes in the conventional factors such as lower equity prices and lower oil prices. Nonetheless, we still expect GDP growth to be close to its potential rate by the middle of next year as financial conditions improve, the contraction in housing construction draws to close, and the drag from the run-up in oil prices lessens.

Household sector. As in recent Greenbooks, an end to the contraction in housing construction is a key driver of the pickup in economic activity projected for 2009. Indeed, as we move into next year, the underlying determinants of housing demand should start to look better as the declines in house prices start to taper off, conditions in mortgage markets improve, and real household incomes turn up. ${ }^{3}$ The firming in demand, combined with the diminishing drag on production from the overhang of unsold new homes, should contribute to a gradual resuscitation of new construction, with singlefamily housing starts bottoming out around the end of this year and then moving up to a 600,000 unit pace by the end of 2009. If our projected path for housing starts materializes, residential investment will remain a significant negative for real GDP growth in early 2009, but the drag will subsequently fade.

Meanwhile, consumer spending is projected to remain quite sluggish in 2009—in fact, we have trimmed a few tenths from our forecast to reflect the lower stock market and more restrictive credit conditions, including tighter lending conditions at banks. As a result, we now have PCE rising just 1114 percent next year. That said, spending should strengthen a bit over the course of next year as hiring picks up, energy prices flatten out, and credit conditions start to improve.

Business investment. We expect the weakness in equipment spending in the second half of 2008 to extend into 2009 as financial conditions generally remain unfavorable and sales prospects and business sentiment continue to be downbeat. By the middle of next year, however, investment should start to perk up as business output strengthens and

[^2]
## Projections of Real GDP

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

| Measure | 2008 |  | 2009 |
| :---: | :---: | :---: | :---: |
|  | H1 | H2 |  |
| Real GDP | 1.8 | . 6 | 2.2 |
| Previous | 1.4 | . 7 | 2.4 |
| Final sales | 2.5 | -. 5 | 1.4 |
| Previous | 2.0 | -. 5 | 1.9 |
| PCE | 1.6 | -. 7 | 1.2 |
| Previous | 1.7 | -. 7 | 1.5 |
| Residential investment | -22.0 | -26.9 | -8.3 |
| Previous | -24.2 | -25.8 | -6.4 |
| BFI | 1.9 | -2.5 | -. 6 |
| Previous | -. 7 | -1.1 | 1.9 |
| Government purchases | 3.1 | 1.6 | 1.5 |
| Previous | 2.6 | 1.8 | 1.5 |
| Exports | 8.1 | 7.0 | 7.5 |
| Previous | 6.4 | 7.2 | 7.5 |
| Imports | -3.0 | . 1 | 2.4 |
| Previous | -3.7 | 1.0 | 2.8 |
|  | Contribution to growth (percentage points) |  |  |
| Inventory change | -. 7 | 1.1 | . 7 |
| Previous | -. 6 | 1.1 | . 5 |
| Net exports | 1.5 | . 9 | . 6 |
| Previous | 1.5 | . 7 | . 5 |

financial headwinds slacken a bit. For the year as a whole, we expect real E\&S outlays to rise just 1 percent, 1122 percentage points less than in the June Greenbook.

We now expect real investment in nonresidential structures to fall nearly 4 percent in 2009; in the June Greenbook, we had projected a small increase. We have scaled back the projected rise in investment in drilling and mining structures because of the lower energy prices. We have also deepened the projected contraction in building construction to 9 percent (compared with 6 percent in the June Greenbook) in line with the weaker
fundamentals and our expectation that financing conditions for this sector will remain tight.

As noted, we expect inventory investment to return to positive territory by early 2009. Stockbuilding should rise over the course of the year as final demand gains speed and uncertainties about the economic outlook diminish.

Government spending. Given our fiscal assumptions, real federal expenditures for consumption and investment are projected to rise 3 percent in 2009 after rising $41 / 2$ percent in 2008; virtually all of the growth next year is expected to be in defense outlays. In the state and local sector, real purchases are forecast to increase just $1 / 2$ percent next year as governments hold the line on spending in response to budget pressures.

Net exports. Real exports are projected to rise $71 / 2$ percent in 2009, the same as in 2008. After declining in 2008, real imports turn up in 2009 as U.S. economic activity picks up. All told, net exports are expected to add a bit more than $1 / 2$ percentage point to real GDP growth in 2009 after having added $11 / 4$ percentage points in 2008. (The International Developments section provides more detail on the outlook for the external sector.)

## Aggregate Supply, the Labor Market, and Inflation

We have made no significant changes to our estimates of structural labor productivity and potential GDP over the forecast period. ${ }^{4}$ Structural productivity is still assumed to grow 2 percent per year in 2008 and 2009, while potential GDP is assumed to grow $21 / 2$ percent per year. With actual GDP projected to increase more slowly than potential for much of the projection period, the output gap is expected to widen from negative $1 / 4$ percent of GDP in the second quarter of 2008 to negative $11 / 2$ percent of GDP by early 2009, then to remain in that neighborhood over the rest of the year-about the same as in the June Greenbook.

Productivity and the labor market. We anticipate that employment will continue to fall through the end of 2008. By early 2009, however, businesses should resume their hiring, and job gains should pick up over the course of the year as output accelerates. In all, we expect employment in the private sector to increase about 50,000 per month, on average, in the first half of 2009 and 100,000 per month in the second half. Mirroring the

[^3]
# 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> 05 | 2006 | 2007 | 2008 | 2009 |
| :--- | ---: | :---: | :---: | ---: | ---: | ---: | ---: |
| Structural labor productivity <br> $\quad$ Previous | $\mathbf{1 . 5}$ | $\mathbf{2 . 5}$ | $\mathbf{2 . 8}$ | $\mathbf{2 . 1}$ | $\mathbf{2 . 1}$ | $\mathbf{2 . 0}$ | $\mathbf{2 . 0}$ |
| Contributions $^{1}$ | 1.5 | 2.5 | 2.8 | 2.1 | 2.1 | 2.0 | 2.0 |
| Capital deepening $^{\quad \text { Previous }}$ |  |  |  |  |  |  |  |
| Multifactor productivity | .7 | 1.4 | .7 | .7 | .6 | .5 | .5 |
| $\quad$ Previous | .7 | 1.4 | .7 | .7 | .6 | .5 | .6 |
| Labor composition | .5 | .7 | 1.8 | 1.1 | 1.2 | 1.3 | 1.3 |
| MEMO | .3 | .7 | 1.8 | 1.1 | 1.2 | 1.3 | 1.3 |
| Potential GDP | .3 | .3 | .2 | .2 | .2 | .2 |  |
| $\quad$ Previous |  |  |  |  |  |  |  |

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 | 2006 | 2007 | 2008 | 2009 |
| :--- | ---: | ---: | ---: | ---: |
| Output per hour, nonfarm business | .8 | 2.9 | 2.1 | 1.8 |
| $\quad$ Previous | .8 | 2.9 | 1.8 | 2.1 |
| Nonfarm private payroll employment | 1.7 | .9 | -.8 | .8 |
| $\quad$ Previous | 1.7 | .9 | -.6 | 1.0 |
| Household survey employment $^{\text {Previous }}$ | 2.1 | .4 | -.6 | .7 |
| Labor force participation rate $^{1}$ | 2.1 | .4 | -.3 | .8 |
| $\quad$ Previous | 66.3 | 66.0 | 65.9 | 65.6 |
| Civilian unemployment rate $^{1}$ | 66.3 | 66.0 | 65.8 | 65.6 |
| $\quad$ Previous | 4.4 | 4.8 | 5.9 | 5.9 |
| MEMO $^{2}$ | 4.4 | 4.8 | 5.6 | 5.6 |
| GDP gap |  |  |  |  |
| $\quad$ Previous |  |  |  |  |

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.
upside surprise in output in the second quarter, productivity in the nonfarm business sector appears to have risen smartly then, as it has over the past year. We expect productivity growth to slow appreciably in the second half as output decelerates; in 2009, it should move back up toward its underlying structural pace as output growth improves and businesses return to more normal operations and staffing. The unemployment rate is expected to be 5.9 percent in the fourth quarter of 2009; this projection is 0.3 percentage point higher than that in the June Greenbook, with the TEUC program accounting for more than half of the difference. ${ }^{5}$

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

| Measure | 2006 | 2007 | 2008 | 2009 |
| :--- | ---: | ---: | ---: | ---: |
| PCE chain-weighted price index | 1.9 | 3.4 | 3.7 | 2.4 |
| $\quad$ Previous | 1.9 | 3.4 | 4.2 | 2.1 |
| Food and beverages | 2.3 | 4.5 | 5.4 | 3.1 |
| $\quad$ Previous | 2.3 | 4.5 | 4.1 | 2.3 |
| Energy | -4.0 | 19.6 | 17.4 | 2.5 |
| $\quad$ Previous | -4.0 | 19.6 | 28.0 | .8 |
| Excluding food and energy | 2.3 | 2.1 | 2.3 | 2.2 |
| $\quad$ Previous | 2.3 | 2.1 | 2.3 | 2.2 |
| Consumer price index | 1.9 | 4.0 | 4.4 | 2.5 |
| $\quad$ Previous | 1.9 | 4.0 | 5.0 | 2.2 |
| Excluding food and energy | 2.7 | 2.3 | 2.5 | 2.4 |
| $\quad$ Previous | 2.7 | 2.3 | 2.4 | 2.4 |
| GDP chain-weighted price index | 2.7 | 2.6 | 2.2 | 2.3 |
| $\quad$ Previous | 2.7 | 2.6 | 2.0 | 2.2 |
| ECI for compensation of private |  |  |  |  |
| industry workers |  |  |  |  |

1. December to December.
[^4]Prices and labor costs. Although core inflation is projected to pick up in the second half of 2008, we expect it to fall back next year as core nonfuel import prices decelerate, the upward pressure from rising energy prices recedes, and the gap in resource utilization widens. Our projection for core PCE inflation over 2008 as a whole is 2.3 percent; in 2009, core inflation edges down to 2.2 percent. These projections are unchanged from those in the June Greenbook.

Overall PCE inflation is expected to drop from 3 $3 / 4$ percent in 2008 to $21 / 2$ percent in 2009, mainly because of the sharp deceleration in energy prices. The projection for 2009 is $1 / 4$ percentage point above that in the June Greenbook. This upward revision reflects in part higher food prices, which have been raised in response to incoming data showing sizable increases for a wide variety of food items (including food away from home) as well as indications that current pressures will be more persistent than we had thought. Even so, we still expect food prices to contribute to the projected slowdown in overall inflation next year.

We have received little new information on hourly compensation and continue to expect the productivity and cost measure of hourly compensation to rise a bit more than 4 percent in both 2008 and 2009. The employment cost index is expected to rise about $31 / 2$ percent both this year and next.

## The Long-Term Outlook

We have extended the staff forecast to 2012 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 at stabilizing PCE inflation at $13 / 4$ 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 as financial market strains abate. The ebbing of financial strains is accompanied by an easing in lending terms and standards.
- Fiscal policy is an essentially neutral factor at all levels of government.

The Long-Term Outlook
(Percent change, Q4 to Q4, except as noted)

| Measure | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Real GDP | 2.5 | 1.2 | 2.2 | 3.1 | 3.2 | 3.0 |
| Civilian unemployment rate $^{1}$ | 4.8 | 5.9 | 5.9 | 5.5 | 5.1 | 4.9 |
| PCE prices, total | 3.4 | 3.7 | 2.4 | 1.9 | 1.9 | 1.7 |
| Core PCE prices $_{\text {Federal funds rate }^{1}}$ | 2.1 | 2.3 | 2.2 | 2.0 | 1.8 | 1.7 |

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

- Beyond 2009, foreign real GDP expands $31 / 4$ percent per year while the dollar depreciates $1 \frac{1}{4}$ 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 $31 / 4$ percent of GDP by 2012, 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 2½ percent per year from 2010 to 2012.

With core inflation entering 2010 above 2 percent, the federal funds rate continues to climb to just above 4 percent by the end of 2012. This monetary policy stance generates sufficient economic slack to bring inflation down to $13 / 4$ percent in 2012, with the unemployment rate poised to settle in at the NAIRU in 2013. Real GDP advances a bit more than 3 percent per year, on average, from 2010 to $2012,1 / 2$ percentage point above its projected potential growth rate over that period.

## Financial Flows and Conditions

Growth of domestic nonfinancial debt slowed from 8¼ percent in 2007 to a 5 percent annual rate in the first half of this year, and we expect growth of just $41 / 2$ percent, on average, through the end of next year.

In the household sector, debt growth slowed sharply from a 63/4 percent pace in 2007 to a 3 percent annual rate in the first half of this year. We anticipate growth of only $21 / 4$ percent, on average, through the end of 2009. The deceleration is mainly due to a slowdown in home mortgage borrowing amid falling home prices and tightened standards on mortgage loans. In addition, tighter lending conditions for other forms of household
debt and sluggish increases in consumer durables spending are expected to temper the growth of consumer credit.

The debt of nonfinancial businesses, which grew at an annual rate of 7 percent in the first half of this year, is expected to increase at an average pace of $41 / 2$ percent over the second half of this year and 2009. The slowdown reflects a subdued pace of cash-financed mergers and acquisitions as well as tightened financial conditions.

Federal government debt, which increased 5 percent in 2007, is expected to rise 8 percent this year, boosted by the slowing in federal revenue growth as the economy has weakened and by the need to fund this year's portion of the fiscal stimulus package. We project federal debt to increase $81 / 2$ percent next year as growth in receipts steps up only moderately and as the expected costs of the Housing and Economic Recovery Act contribute to a further widening in the deficit. State and local government debt, which grew $911 / 4$ percent in 2007, slowed to a 4 percent pace in the first half of this year, in part because problems among bond insurers raised the cost of debt financing for some municipalities and because of the shutdown in the market for auction rate securities. We expect debt to grow at an average annual rate of $71 / 4$ percent over the second half of this year and 2009.

After increasing $73 / 4$ percent at an annual rate in the first half of 2008, M2 is projected to grow just $41 / 2$ percent, on average, over the next year and a half.

## Alternative Simulations

In this section, we illustrate several risks to the staff forecast using simulations of the FRB/US model. In the first scenario, financial conditions deteriorate considerably more 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 private spending will prove to be unexpectedly resilient. We then turn to the supply side in the fourth scenario and consider whether recent indicators suggest that we may be on course for stronger productivity growth. The fifth scenario explores an unfavorable supply-side risk-that the NAIRU is temporarily boosted by changes in relative energy prices and other factors. The final scenario outlines the implications of an unanchoring of inflation expectations that triggers an inflationary spiral. In each of these scenarios, we assume that monetary
(Percent change, annual rate, from end of preceding period except as noted)

| Measure and scenario | 2008 |  | 2009 | 2010 | $\begin{gathered} 2011- \\ 12 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | H1 | H2 |  |  |  |
| Real GDP |  |  |  |  |  |
| Greenbook baseline | 1.8 | 0.6 | 2.2 | 3.1 | 3.1 |
| Severe financial stress | 1.8 | -0.4 | 0.5 | 2.6 | 3.6 |
| Typical recession | 1.8 | -1.1 | 1.5 | 4.1 | 3.6 |
| Resilient spending | 1.8 | 3.1 | 1.8 | 2.5 | 2.8 |
| Stronger productivity | 1.8 | 0.8 | 2.7 | 3.8 | 3.7 |
| Costly sectoral reallocation | 1.8 | -0.5 | 1.9 | 3.4 | 3.3 |
| Inflationary spiral | 1.8 | 0.5 | 2.2 | 2.9 | 2.8 |
| Unemployment rate ${ }^{1}$ |  |  |  |  |  |
| Greenbook baseline | 5.3 | 5.9 | 5.9 | 5.5 | 4.9 |
| Severe financial stress | 5.3 | 6.0 | 6.7 | 6.5 | 5.4 |
| Typical recession | 5.3 | 6.1 | 6.5 | 5.9 | 4.8 |
| Resilient spending | 5.3 | 5.6 | 5.5 | 5.3 | 5.0 |
| Stronger productivity | 5.3 | 5.9 | 5.9 | 5.3 | 4.5 |
| Costly sectoral reallocation | 5.3 | 5.5 | 6.1 | 5.6 | 4.9 |
| Inflationary spiral | 5.3 | 5.9 | 5.9 | 5.6 | 5.3 |
| Core PCE inflation |  |  |  |  |  |
| Greenbook baseline | 2.1 | 2.6 | 2.2 | 2.0 | 1.8 |
| Severe financial stress | 2.1 | 2.6 | 2.2 | 1.9 | 1.5 |
| Typical recession | 2.1 | 2.6 | 2.1 | 1.8 | 1.5 |
| Resilient spending | 2.1 | 2.6 | 2.3 | 2.1 | 2.0 |
| Stronger productivity | 2.1 | 2.5 | 2.0 | 1.7 | 1.5 |
| Costly sectoral reallocation | 2.1 | 2.7 | 2.4 | 2.3 | 2.0 |
| Inflationary spiral | 2.1 | 2.8 | 2.9 | 2.9 | 2.7 |
| Federal funds rate ${ }^{1}$ |  |  |  |  |  |
| Greenbook baseline | 2.1 | 2.0 | 2.8 | 3.3 | 4.1 |
| Severe financial stress | 2.1 | 1.6 | 0.8 | 1.1 | 3.2 |
| Typical recession | 2.1 | 1.2 | 1.2 | 2.7 | 4.2 |
| Resilient spending | 2.1 | 3.0 | 3.8 | 3.5 | 4.0 |
| Stronger productivity | 2.1 | 1.9 | 2.8 | 3.4 | 4.4 |
| Costly sectoral reallocation | 2.1 | 2.0 | 2.7 | 3.5 | 4.4 |
| Inflationary spiral | 2.1 | 2.0 | 3.4 | 4.4 | 4.9 |

1. Percent, average for the final quarter of the period.
policy responds to changes from the baseline scenario as implied by an estimated Taylor rule.

Severe financial stress. Our baseline forecast assumes a gradual waning in financial market strains over the next two years. In this scenario, credit losses and solvency
concerns intensify for many financial institutions, restricting their ability to supply credit and causing them to tighten lending standards more than in the baseline. Risk premiums rise on loans, private securities, and corporate equities; for example, the spread of the 30 -year conventional mortgage rate over the 10-year Treasury bond jumps nearly $3 / 4$ percentage point above baseline. In addition, housing market problems 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. All told, real GDP contracts at an annual rate of about $1 / 2$ percent in the second half of this year and rises only $1 / 2$ percent in 2009, pushing the unemployment rate to $63 / 4$ percent by the end of next year. Monetary policy responds by cutting the federal funds rate to $3 / 4$ percent by the end of 2009, contributing to a gradual recovery thereafter. The additional slack pushes core inflation $1 / 4$ percentage point below baseline, on average, in 2011 and 2012.

Typical recession. In contrast with the previous scenario, here we assume that overall financial conditions and other forces battering the economy are the same as in the baseline. However, these forces induce households and businesses to curtail their spending in a manner typical of their behavior in recessions. In particular, for each category of demand outside of housing, we assume a shortfall in spending relative to fundamentals that equals the average 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 1 percent in the second half of this year and to increase only $11 / 2$ percent in 2009. This weakness is sufficient to push the unemployment rate to $61 / 2$ percent by the middle of next year and to put modest downward pressure on inflation. In response, the federal funds rate falls to just over 1 percent by late next year, thereby setting the stage for a strong recovery in 2010.

Resilient spending. In the baseline forecast we judgmentally hold spending below fundamentals this year; next year and beyond, the waning of the judgmental weakness contributes to growth. In this scenario, we consider the possibility that household and business spending proves more resilient than we expect; to illustrate this risk, we remove the judgmental adjustments. Accordingly, real GDP increases at an annual rate of about 3 percent during the second half of this year and then moderates to an average pace of almost $2 \frac{1}{4}$ percent in 2009 and 2010. The unemployment rate averages nearly $1 / 2$ percentage point below baseline through the end of next year; with less slack than in the baseline, inflation is a touch higher. In response to stronger real activity and slightly higher inflation, monetary policy tightens somewhat faster and more appreciably.

Stronger productivity. Although actual productivity growth has been surprisingly strong in recent quarters in the context of a weakening economy and high energy prices, we continue to assume structural productivity growth of 2 percent per year in our baseline. In this alternative, we assume instead that structural productivity will henceforth grow at a $21 / 2$ percent annual rate. The rosier outlook for productivity boosts households' estimates of permanent income and firms' expectations of future earnings, leading to higher consumption and investment spending. Consequently, real GDP accelerates to a gain of about $23 / 4$ percent in 2009 and to around $33 / 4$ percent thereafter. The sluggishness of the nominal wage adjustment means that unit labor costs rise more slowly than in the baseline; competitive pressures oblige firms to pass on most of the resulting cost savings, so core inflation moves down to $1 \frac{1}{2}$ percent by 2012. While inflation is lower than in the baseline, so is unemployment: The competing influences on monetary policy result in a path for the federal funds rate that is little different from baseline through much of the scenario.

Costly sectoral reallocation. The implosion of the housing market, higher energy costs, and the decline in the dollar may induce reallocations of labor and capital across sectors that prove to be unexpectedly costly. These costs could hamper the efficiency of the labor market, and accordingly, this scenario incorporates a temporary increase of $1 / 2$ percentage point in the effective NAIRU going forward. As a result, the productive capacity of the economy is below baseline for about two years. The shock implies less slack in resource utilization initially, boosting inflation. However, it also causes households to trim their expenditures in response to the weakened outlook for income, firms to curtail capital expenditures, and equity prices to fall. In response to higher inflation and weaker real GDP growth through 2009, the federal funds rate remains close to baseline but then tightens more after the NAIRU falls back to baseline because inflation remains elevated.

Inflationary spiral. Although long-term inflation expectations seem to have edged up over the past few years, the increase has been remarkably small given the persistently elevated readings on headline inflation. In this scenario, we assume that this stability has come to an end. Both short- and long-term inflation expectations move up about $1 / 2$ percentage point this quarter as total PCE inflation climbs to almost 5 percent. Subsequently, actual and expected inflation feed on each other in a more insidious dynamic than we usually assume. As a result, core PCE inflation rises to 3 percent by the middle of next year. Under the estimated Taylor rule (which responds to actual rather than expected inflation), the federal funds rate increases only gradually in response to
higher inflation, implying that real short-term interest rates do not rise above baseline levels until 2010. However, monetary policy eventually tightens by enough to begin to reverse the upward spiral, both by increasing slack in labor and product markets and by damping expectations directly.

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

| Measure | 2008 | 2009 | 2010 | 2011 | 2012 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Real GDP <br> (percent change, Q4 to Q4) |  |  |  |  |  |
| Projection | 1.2 | 2.2 | 3.1 | 3.2 | 3.0 |
| Confidence interval |  |  |  |  |  |
| Greenbook forecast errors | .4-1.9 | .6-3.8 | 1.7-4.5 |  |  |
| FRB/US stochastic simulations | . $4-2.0$ | .9-3.6 | 1.5-4.7 | 1.4-4.9 | 1.2-4.7 |
| Civilian unemployment rate (percent, Q4) |  |  |  |  |  |
| Projection | 5.9 | 5.9 | 5.5 | 5.1 | 4.9 |
| Confidence interval |  |  |  |  |  |
| Greenbook forecast errors | 5.7-6.1 | 5.2-6.6 | 4.5-6.5 |  |  |
| FRB/US stochastic simulations | 5.6-6.2 | 5.4-6.4 | 4.8-6.0 | 4.4-5.8 | 4.0-5.7 |
| PCE prices, total (percent change, Q4 to Q4) |  |  |  |  |  |
| Projection | 3.7 | 2.4 | 1.9 | 1.9 | 1.7 |
| Confidence interval |  |  |  |  |  |
| Greenbook forecast errors | 3.3-4.1 | 1.5-3.2 | .6-3.1 |  |  |
| FRB/US stochastic simulations | 3.2-4.3 | 1.6-3.3 | .9-2.9 | .9-3.0 | .8-2.8 |
| PCE prices excluding food and energy (percent change, Q4 to Q4) |  |  |  |  |  |
| Projection | 2.3 | 2.2 | 2.0 | 1.8 | 1.7 |
| Confidence interval |  |  |  |  |  |
| Greenbook forecast errors | 2.0-2.7 | 1.5-2.9 | .9-3.1 |  |  |
| FRB/US stochastic simulations | 2.1-2.6 | 1.7-2.8 | 1.4-2.7 | 1.1-2.6 | 1.1-2.6 |
| Federal funds rate (percent, Q4) |  |  |  |  |  |
| Projection | 2.0 | 2.8 | 3.3 | 3.5 | 4.1 |
| Confidence interval FRB/US stochastic simulations | 1.5-2.5 | 1.5-4.1 | 2.0-4.8 | 2.1-5.2 | 2.7-5.8 |

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

Resilient spending
$\square$ Stronger productivity
$\square$ Costly sectoral reallocation
$\square$ Inflationary spiral

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

(Page I-24 left intentionally blank.)


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



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| Item | 2007 |  |  |  | 2008 |  |  |  | 2009 |  |  |  | $2007{ }^{1}$ | $2008{ }^{1}$ | $2009{ }^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |  |  |  |
| GDP chain-wt. price index | 4.2 | 2.6 | 1.0 | 2.4 | 2.7 | . 5 | 3.5 | 2.0 | 2.6 | 2.5 | 2.2 | 2.1 | 2.6 | 2.2 | 2.3 |
| Previous | 4.2 | 2.6 | 1.0 | 2.4 | 2.7 | . 2 | 3.0 | 2.3 | 2.4 | 2.3 | 2.1 | 2.0 | 2.6 | 2.0 | 2.2 |
| PCE chain-wt. price index | 3.5 | 4.3 | 1.8 | 3.9 | 3.6 | 4.1 | 4.7 | 2.5 | 2.9 | 2.4 | 2.2 | 2.0 | 3.4 | 3.7 | 2.4 |
| Previous | 3.5 | 4.3 | 1.8 | 3.9 | 3.6 | 4.1 | 5.9 | 3.1 | 2.5 | 2.1 | 2.0 | 2.0 | 3.4 | 4.2 | 2.1 |
| Energy | 16.1 | 51.3 | -6.7 | 24.9 | 18.6 | 28.1 | 28.4 | -2.5 | 5.9 | 2.7 | 1.1 | . 5 | 19.6 | 17.4 | 2.5 |
| Previous | 16.1 | 51.3 | -6.7 | 24.9 | 18.6 | 27.4 | 61.7 | 10.0 | 3.5 | . 0 | -. 5 | . 2 | 19.6 | 28.0 | . 8 |
| Food | 4.8 | 4.7 | 4.7 | 3.6 | 4.8 | 6.5 | 5.9 | 4.4 | 3.9 | 3.3 | 2.7 | 2.4 | 4.5 | 5.4 | 3.1 |
| Previous | 4.8 | 4.7 | 4.7 | 3.6 | 4.8 | 6.1 | 3.0 | 2.7 | 2.5 | 2.4 | 2.3 | 2.2 | 4.5 | 4.1 | 2.3 |
| Ex. food \& energy | 2.4 | 1.4 | 2.0 | 2.5 | 2.3 | 1.9 | 2.6 | 2.6 | 2.4 | 2.3 | 2.2 | 2.1 | 2.1 | 2.3 | 2.2 |
| Previous | 2.4 | 1.4 | 2.0 | 2.5 | 2.2 | 2.0 | 2.5 | 2.6 | 2.4 | 2.3 | 2.1 | 2.1 | 2.1 | 2.3 | 2.2 |
| CPI | 3.7 | 4.6 | 2.8 | 5.0 | 4.3 | 5.0 | 5.9 | 2.4 | 3.1 | 2.6 | 2.2 | 2.1 | 4.0 | 4.4 | 2.5 |
| Previous | 3.7 | 4.6 | 2.8 | 5.0 | 4.3 | 4.7 | 7.6 | 3.5 | 2.7 | 2.1 | 2.0 | 2.1 | 4.0 | 5.0 | 2.2 |
| Ex. food \& energy | 2.3 | 2.0 | 2.5 | 2.5 | 2.5 | 1.9 | 2.8 | 2.7 | 2.5 | 2.4 | 2.3 | 2.3 | 2.3 | 2.5 | 2.4 |
| Previous | 2.3 | 2.0 | 2.5 | 2.5 | 2.5 | 1.7 | 2.6 | 2.7 | 2.5 | 2.4 | 2.3 | 2.3 | 2.3 | 2.4 | 2.4 |
| ECI, hourly compensation ${ }^{2}$ | 2.7 | 3.1 | 3.1 | 3.5 | 3.0 | 3.3 | 3.5 | 3.5 | 3.4 | 3.4 | 3.4 | 3.4 | 3.0 | 3.4 | 3.4 |
| Previous ${ }^{2}$ | 2.7 | 3.1 | 3.1 | 3.5 | 3.0 | 3.3 | 3.5 | 3.5 | 3.4 | 3.4 | 3.4 | 3.4 | 3.0 | 3.4 | 3.4 |
| Nonfarm business sector |  |  |  |  |  |  |  | 9 | 1.4 | 20 |  |  | 29 | 21 | 1.8 |
| Previous | 1.3 | 2.7 | 6.0 6.0 | 1.8 1.8 | 2.8 2.9 | 3.4 2.3 | 1.2 | . 8 | 1.4 1.3 | 2.4 | 1.9 2.3 | 1.9 2.2 | 2.9 2.9 | 1.8 | 1.8 2.1 |
| Compensation per hour | 6.4 | 1.3 | 3.3 | 6.6 | 5.0 | 4.0 | 4.1 | 4.0 | 4.1 | 4.1 | 4.1 | 4.0 | 4.4 | 4.2 | 4.1 |
| Previous | 6.4 | 1.3 | 3.3 | 6.6 | 4.9 | 3.9 | 4.0 | 3.9 | 4.1 | 4.1 | 4.1 | 4.1 | 4.4 | 4.1 | 4.1 |
| Unit labor costs | 5.0 | -1.3 | -2.5 | 4.7 | 2.1 | . 6 | 2.8 | 3.0 | 2.6 | 2.0 | 2.1 | 2.1 | 1.4 | 2.1 | 2.2 |
| Previous | 5.0 | -1.3 | -2.5 | 4.7 | 2.0 | 1.5 | 2.7 | 3.0 | 2.8 | 1.7 | 1.8 | 1.8 | 1.4 | 2.3 | 2.0 |

[^6]| Item | 2007 |  |  |  | 2008 |  |  |  | 2009 |  |  |  | $2007{ }^{1}$ | $2008^{1}$ | $2009^{1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |  |  |  |
| Employment and production Nonfarm payroll employment ${ }^{2}$ | . 4 | . 3 | . 3 | . 3 | -. 1 | -. 2 | -. 2 | -. 1 | . 2 | . 2 | . 3 | . 4 | 1.2 | -. 7 | 1.0 |
| Unemployment rate ${ }^{3}$ | 4.5 | 4.5 | 4.7 | 4.8 | 4.9 | 5.3 | 5.8 | 5.9 | 6.0 | 6.0 | 6.0 | 5.9 | 4.8 | 5.9 | 5.9 |
| Previous ${ }^{3}$ | 4.5 | 4.5 | 4.7 | 4.8 | 4.9 | 5.3 | 5.5 | 5.6 | 5.7 | 5.7 | 5.7 | 5.6 | 4.8 | 5.6 | 5.6 |
| GDP gap ${ }^{4}$ | -. 4 | . 0 | . 5 | . 1 | -. 3 | -. 3 | -. 7 | -1.3 | -1.5 | -1.5 | -1.6 | -1.5 | . 1 | -1.3 | -1.5 |
| Previous ${ }^{4}$ | -. 4 | . 0 | . 5 | . 1 | -. 3 | -. 5 | -. 9 | -1.4 | -1.6 | -1.6 | -1.5 | -1.5 | . 1 | -1.4 | -1.5 |
| Industrial production ${ }^{5}$ | 1.5 | 3.2 | 3.6 | . 3 | . 5 | -3.1 | 1.3 | 1.1 | 1.7 | 1.7 | 2.4 | 3.9 | 2.1 | -. 1 | 2.4 |
| Previous ${ }^{5}$ | 1.5 | 3.2 | 3.6 | . 3 | -. 3 | -3.2 | 1.8 | 2.4 | 2.6 | 1.9 | 2.4 | 3.8 | 2.1 | . 1 | 2.7 |
| Manufacturing industr. prod. ${ }^{5}$ | 1.1 | 4.7 | 4.0 | -. 6 | -. 9 | -3.7 | . 2 | -. 1 | 1.1 | 1.9 | 2.4 | 3.9 | 2.3 | -1.1 | 2.3 |
| Previous ${ }^{5}$ | 1.1 | 4.7 | 4.0 | -. 6 | -1.2 | -3.5 | . 7 | . 9 | 1.8 | 2.2 | 2.7 | 3.8 | 2.3 | -. 8 | 2.6 |
| Capacity utilization rate - mfg. ${ }^{3}$ | 78.9 | 79.5 | 79.8 | 79.3 | 78.7 | 77.6 | 77.3 | 77.0 | 77.0 | 77.1 | 77.3 | 77.8 | 79.3 | 77.0 | 77.8 |
| Previous ${ }^{3}$ | 78.9 | 79.5 | 79.8 | 79.3 | 78.6 | 77.6 | 77.4 | 77.3 | 77.4 | 77.5 | 77.7 | 78.1 | 79.3 | 77.3 | 78.1 |
| Housing starts ${ }^{6}$ | 1.5 | 1.5 | 1.3 | 1.2 | 1.1 | 1.0 | . 9 | . 7 | . 8 | . 8 | . 9 | . 9 | 1.4 | . 9 | . 9 |
| Light motor vehicle sales ${ }^{6}$ | 16.3 | 16.0 | 15.9 | 16.1 | 15.2 | 14.1 | 14.0 | 14.3 | 14.5 | 14.7 | 14.8 | 14.9 | 16.1 | 14.4 | 14.7 |
| Income and saving Nominal GDP5 | 4.9 | 6.6 | 6.0 | 3.0 | 3.7 | 3.2 | 4.3 | 2.4 | 4.0 | 4.9 | 4.7 | 4.8 | 5.1 | 3.4 | 4.6 |
| Real disposable pers. income ${ }^{5}$ | 5.4 | -. 8 | 4.0 | . 9 | 1.4 | 11.3 | -9.2 | -2.6 | 3.5 | 1.4 | 1.6 | 2.7 | 2.4 | . 0 | 2.3 |
| Previous ${ }^{5}$ | 5.4 | -. 8 | 4.0 | . 9 | 1.7 | 12.0 | $-10.4$ | -2.8 | 3.7 | 1.7 | 1.4 | 2.4 | 2.4 | -. 2 | 2.3 |
| Personal saving rate ${ }^{3}$ | 1.0 | . 3 | . 4 | . 2 | . 4 | 2.6 | -. 2 | -. 1 | . 6 | . 7 | . 8 | 1.1 | . 2 | -. 1 | 1.1 |
| Previous ${ }^{3}$ | 1.0 | . 3 | . 4 | . 2 | . 5 | 2.8 | -. 5 | -. 3 | . 4 | . 4 | . 4 | . 5 | . 2 | -. 3 | . 5 |
| Corporate profits ${ }^{7}$ | 4.4 | 26.8 | -4.9 | -12.4 | -1.3 | 15.0 | 2.9 | -. 5 | 3.2 | 2.9 | 1.6 | 3.8 | 2.5 | 3.8 | 2.9 |
| Profit share of GNP3 | 11.4 | 11.9 | 11.5 | 11.0 | 10.9 | 11.2 | 11.2 | 11.1 | 11.1 | 11.0 | 10.9 | 10.9 | 11.0 | 11.1 | 10.9 |
| Net federal saving ${ }^{8}$ | -219 | -207 | -230 | -218 | -308 | -610 | -431 | -387 | -419 | -411 | -394 | -398 | -221 | -434 | -405 |
| Net state \& local saving ${ }^{8}$ | -6 | 13 | -13 | -42 | -68 | -65 | -67 | -74 | -73 | -74 | -69 | -65 | -12 | -69 | -70 |
| Gross national saving rate ${ }^{3}$ | 13.8 | 13.8 | 13.2 | 12.6 | 11.8 | 11.6 | 10.9 | 11.3 | 11.2 | 11.3 | 11.5 | 11.7 | 12.6 | 11.3 | 11.7 |
| Net national saving rate ${ }^{3}$ | 1.7 | 1.7 | 1.2 | . 4 | -. 3 | -. 6 | -1.4 | -1.0 | -1.0 | -. 8 | -. 6 | -. 3 | . 4 | -1.0 | -. 3 |

[^7]| Item | Fiscal year |  |  |  | 2007 |  |  |  | 2008 |  |  |  | 2009 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $2006{ }^{\text {a }}$ | $2007{ }^{\text {a }}$ | 2008 | 2009 | Q1 ${ }^{\text {a }}$ | Q2 ${ }^{\text {a }}$ | Q3 ${ }^{\text {a }}$ | Q4 ${ }^{\text {a }}$ | Q1 ${ }^{\text {a }}$ | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Unified budget $\quad$ Not seas |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Receipts ${ }^{1}$ | 2407 | 2568 | 2564 | 2695 | 547 | 824 | 622 | 606 | 540 | 788 | 630 | 638 | 539 | 836 | 682 | 652 |
| Outlays ${ }^{1}$ | 2655 | 2729 | 2922 | 3090 | 725 | 687 | 663 | 713 | 746 | 744 | 720 | 771 | 781 | 777 | 761 | 816 |
| Surplus/deficit ${ }^{1}$ | -248 | -162 | -358 | -395 | -178 | 137 | -41 | -107 | -206 | 44 | -89 | -133 | -242 | 59 | -79 | -164 |
| Previous | -248 | -162 | -370 | -394 | -178 | 137 | -41 | -107 | -206 | 39 | -96 | -142 | -240 | 72 | -83 | -165 |
| On-budget | -434 | -343 | -552 | -583 | -212 | 53 | -48 | -166 | -237 | -47 | -102 | -204 | -260 | -33 | -86 | -233 |
| Off-budget | 186 | 181 | 194 | 188 | 34 | 85 | 7 | 59 | 31 | 91 | 12 | 71 | 18 | 92 | 7 | 69 |
| Means of financing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Borrowing | 237 | 206 | 361 | 448 | 152 | -110 | 106 | 89 | 200 | -48 | 120 | 139 | 234 | -27 | 101 | 153 |
| Cash decrease | -16 | -23 | 30 | -5 | 25 | -19 | -50 | 18 | 11 | -7 | 8 | 6 | 19 | -20 | -10 | 15 |
| Other ${ }^{2}$ | 28 | -22 | -33 | -48 | 1 | -8 | -15 | -1 | -5 | 12 | -39 | -12 | -12 | -12 | -12 | -5 |
| Cash operating balance, end of period | 52 | 75 | 45 | 50 | 6 | 25 | 75 | 57 | 46 | 53 | 45 | 39 | 20 | 40 | 50 | 35 |
| NIPA federal sector |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Receipts | 2437 | 2635 | 2625 | 2804 | 2620 | 2670 | 2689 | 2715 | 2702 | 2412 | 2670 | 2737 | 2788 | 2816 | 2877 | 2911 |
| Expenditures | 2685 | 2845 | 3017 | 3207 | 2838 | 2877 | 2920 | 2933 | 3010 | 3023 | 3101 | 3124 | 3207 | 3227 | 3271 | 3309 |
| Consumption expenditures | 798 | 843 | 907 | 967 | 830 | 850 | 868 | 877 | 901 | 921 | 931 | 942 | 963 | 976 | 987 | 997 |
| Defense | 533 | 570 | 620 | 667 | 556 | 574 | 590 | 596 | 614 | 631 | 639 | 649 | 664 | 674 | 682 | 690 |
| Nondefense | 266 | 273 | 287 | 300 | 274 | 276 | 278 | 281 | 287 | 289 | 291 | 293 | 299 | 302 | 305 | 307 |
| Other spending | 1887 | 2001 | 2109 | 2240 | 2008 | 2027 | 2052 | 2056 | 2109 | 2102 | 2170 | 2182 | 2244 | 2251 | 2284 | 2312 |
| Current account surplus | -248 | -209 | -392 | -403 | -219 | -207 | -230 | -218 | -308 | -610 | -431 | -387 | -419 | -411 | -394 | -398 |
| Gross investment | 117 | 121 | 125 | 135 | 117 | 120 | 123 | 121 | 123 | 128 | 130 | 132 | 134 | 137 | 139 | 141 |
| Gross saving less gross investment ${ }^{3}$ | -262 | -221 | -403 | -418 | -227 | -216 | -242 | -227 | -318 | -624 | -445 | -401 | -434 | -427 | -411 | -414 |
| Fiscal indicators ${ }^{4}$ <br> High-employment (HEB) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| surplus/deficit | -278 | -233 | -389 | -336 | -233 | -223 | -259 | -233 | -311 | -610 | -403 | -336 | -355 | -338 | -314 | -317 |
| Change in HEB, percent of potential GDP | -0.5 | -0.4 | 1.0 | -0.5 | 0.1 | -0.1 | 0.2 | -0.2 | 0.5 | 2.1 | -1.5 | -0.5 | 0.1 | -0.1 | -0.2 | -0.0 |
| Fiscal impetus (FI), percent of GDP | 0.3 | 0.2 | 0.7 | 0.0 | -0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.4 | 0.7 | -0.5 | -0.1 | 0.1 | -0.1 | -0.0 |
| Previous | 0.3 | 0.2 | 0.6 | -0.0 | -0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.4 | 0.7 | -0.5 | -0.1 | 0.1 | -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 <br> Restricted (FR) |  | Change in Debt of the Domestic Nonfinancial Sectors (Percent) |  |  |  |  | July 30, 2008 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Households |  |  |  |  |  |
| Period ${ }^{1}$ | Total | Total | Home mortgages | Consumer credit | Business | State and local governments | Federal government | Nominal GDP |
| Year |  |  |  |  |  |  |  |  |
| 2002 | 7.3 | 10.8 | 13.3 | 5.7 | 2.4 | 11.0 | 7.6 | 3.6 |
| 2003 | 8.1 | 11.5 | 14.2 | 5.2 | 2.4 | 8.3 | 10.9 | 5.9 |
| 2004 | 8.8 | 11.2 | 13.7 | 5.5 | 5.8 | 7.4 | 9.0 | 6.5 |
| 2005 | 9.2 | 11.2 | 13.1 | 4.3 | 7.7 | 10.2 | 7.0 | 6.3 |
| 2006 | 8.8 | 10.2 | 11.2 | 4.5 | 9.7 | 8.2 | 3.9 | 5.4 |
| 2007 | 8.2 | 6.8 | 6.8 | 5.7 | 11.7 | 9.2 | 4.9 | 5.1 |
| 2008 | 4.8 | 2.6 | 2.3 | 3.3 | 5.7 | 6.1 | 8.0 | 3.4 |
| 2009 | 4.5 | 2.3 | 1.9 | 2.8 | 4.8 | 6.8 | 8.4 | 4.6 |
| Quarter |  |  |  |  |  |  |  |  |
| 2007:1 | 8.0 | 7.0 | 7.9 | 4.8 | 9.4 | 11.2 | 6.7 | 4.9 |
| 2 | 7.1 | 7.2 | 7.4 | 5.6 | 11.0 | 10.3 | -1.4 | 6.6 |
| 3 | 9.1 | 6.4 | 5.3 | 8.1 | 13.7 | 6.5 | 8.8 | 6.0 |
| 4 | 7.5 | 6.1 | 5.8 | 3.9 | 10.6 | 7.7 | 5.1 | 3.0 |
| 2008:1 | 6.1 | 3.3 | 3.0 | 4.9 | 8.1 | 6.4 | 9.5 | 3.7 |
| 2 | 3.8 | 2.6 | 2.2 | 3.3 | 5.8 | 1.8 | 3.8 | 3.2 |
| 3 | 4.6 | 2.3 | 1.9 | 2.6 | 4.2 | 9.1 | 9.4 | 4.3 |
| 4 | 4.2 | 2.2 | 1.8 | 2.3 | 4.2 | 6.5 | 8.4 | 2.4 |
| 2009:1 | 4.5 | 2.1 | 1.8 | 2.2 | 4.1 | 6.8 | 10.7 | 4.0 |
| 2 | 3.9 | 2.2 | 1.8 | 2.7 | 4.6 | 6.7 | 5.4 | 4.9 |
| $3$ | $4.5$ | 2.3 | 1.9 | 2.9 | 5.1 | 6.6 | 7.6 | 4.7 |
| 4 | 4.7 | 2.4 | 2.0 | 3.2 | 5.1 | 6.5 | 8.7 | 4.8 |

[^9] 1. Data after 2008:Q1 are staff projections. Changes are measured from end of the preceding period to end of period indicated except for annual nominal
GDP growth, which is calculated from Q4 to Q4.
Class II FOMC
Flow of Funds Projections: Highlights
(Billions of dollars at seasonally adjusted annual rates except as noted)

| Category | 2006 | 2007 | 2008 | 2009 | 2007 |  | 2008 |  |  |  | 2009 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Domestic nonfinancial sectors Net funds raised |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1720.4 | 1533.0 | 1071.9 | 1188.8 | 1906.2 | 1195.8 | 1393.2 | 860.4 | 1086.5 | 947.3 | 1217.5 | 1007.8 | 1220.7 | 1309.3 |
| Net equity issuance | -614.1 | -830.7 | -414.5 | -272.0 | -831.2 | -1104.8 | -515.2 | -346.7 | -384.0 | -412.0 | -272.0 | -272.0 | -272.0 | -272.0 |
| Net debt issuance | 2334.5 | 2363.7 | 1486.3 | 1460.8 | 2737.4 | 2300.6 | 1908.4 | 1207.1 | 1470.5 | 1359.3 | 1489.5 | 1279.8 | 1492.7 | 1581.3 |
| Borrowing indicators |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Debt (percent of GDP) ${ }^{1}$ | 210.3 | 217.4 | 222.7 | 224.0 | 217.4 | 220.2 | 222.0 | 223.0 | 223.0 | 224.0 | 224.3 | 223.9 | 223.7 | 223.6 |
| Borrowing (percent of GDP) | 17.7 | 17.1 | 10.3 | 9.8 | 19.6 | 16.3 | 13.4 | 8.4 | 10.2 | 9.3 | 10.1 | 8.6 | 9.9 | 10.4 |
| Households |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net borrowing ${ }^{2}$ | 1196.9 | 883.6 | 363.4 | 326.0 | 856.2 | 829.9 | 460.5 | 366.2 | 322.7 | 304.1 | 300.0 | 317.4 | 334.5 | 352.0 |
| Home mortgages | 990.2 | 668.8 | 239.6 | 204.2 | 547.1 | 604.9 | 320.9 | 231.4 | 207.7 | 198.3 | 193.6 | 198.3 | 207.7 | 217.2 |
| Consumer credit | 104.4 | 138.3 | 84.7 | 73.5 | 202.1 | 98.5 | 125.6 | 84.7 | 68.5 | 59.8 | 58.9 | 71.1 | 78.2 | 85.7 |
| Debt/DPI (percent) ${ }^{3}$ | 128.3 | 131.6 | 130.7 | 129.6 | 132.0 | 132.5 | 132.4 | 128.5 | 130.9 | 131.7 | 130.4 | 129.9 | 129.4 | 128.6 |
| Business |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Financing gap ${ }^{4}$ | 186.6 | 253.7 | 199.5 | 308.5 | 271.4 | 302.6 | 232.8 | 186.6 | 148.8 | 229.9 | 305.9 | 285.6 | 300.8 | 341.9 |
| Net equity issuance | -614.1 | -830.7 | -414.5 | -272.0 | -831.2 | -1104.8 | -515.2 | -346.7 | -384.0 | -412.0 | -272.0 | -272.0 | -272.0 | -272.0 |
| Credit market borrowing | 803.1 | 1057.8 | 579.7 | 514.6 | 1307.7 | 1048.1 | 819.7 | 603.6 | 445.6 | 450.2 | 438.2 | 495.2 | 562.9 | 561.8 |
| State and local governments |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net borrowing | 151.2 | 185.2 | 132.7 | 157.5 | 138.5 | 164.8 | 139.5 | 39.1 | 202.7 | 149.5 | 157.5 | 157.5 | 157.5 | 157.5 |
| Current surplus ${ }^{5}$ | 243.8 | 223.7 | 146.2 | 142.6 | 229.2 | 200.6 | 173.4 | 138.9 | 138.6 | 133.8 | 136.6 | 138.0 | 144.5 | 151.1 |
| Federal government |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net borrowing | 183.4 | 237.1 | 410.5 | 462.8 | 435.0 | 257.8 | 488.8 | 198.3 | 499.4 | 455.5 | 593.8 | 309.6 | 437.7 | 509.9 |
| Net borrowing (n.s.a.) | 183.4 | 237.1 | 410.5 | 462.8 | 105.7 | 89.4 | 200.2 | -48.4 | 119.9 | 138.9 | 234.4 | -26.6 | 101.4 | 153.5 |
| Unified deficit (n.s.a.) | 209.2 | 187.9 | 383.9 | 426.8 | 40.6 | 106.8 | 205.9 | -44.1 | 89.4 | 132.6 | 241.9 | -58.6 | 79.4 | 164.0 |
| Depository institutions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

[^10](This page intentionally blank.)

## Class II FOMC—Restricted (FR)

## International Developments

Recent indicators have confirmed our expectation that the pace of economic activity abroad would slow in the second quarter. Foreign economic growth in the second quarter was below trend, with particular softness in the advanced foreign economies. We expect overall foreign growth to remain weak in the second half of this year before strengthening in 2009, in line with the projected easing of financial stresses and the pickup in U.S. activity. This outlook is a touch below that in the last forecast, reflecting weaker-thanexpected data in the near term and the small markdown to U.S. growth further out.

The sharp decline in oil prices in recent weeks should relieve some upward pressure on top-line inflation abroad. Even so, we have revised up both our estimate of inflation in the second quarter and our projection for the remainder of 2008, as recent data suggest that past commodity price increases are likely having larger and more persistent effects on inflation than we had anticipated. However, we expect inflation to moderate in 2009 as commodity prices level off.

## Summary of Staff Projections

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

| Indicator | 2007 | $\begin{gathered} \text { 2008: } \\ \text { Q1 } \end{gathered}$ | Projection |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 2008 |  | 2009 |
|  |  |  | Q2 | H2 |  |
| Foreign output June GB | 4.1 | 2.8 | 2.0 | 2.4 | 3.3 |
|  | 4.1 | 2.9 | 2.2 | 2.6 | 3.4 |
| Foreign CPI June GB | 3.6 | 4.8 | 5.4 | 4.2 | 2.7 |
|  | 3.6 | 4.8 | 4.8 | 3.8 | 2.7 |
|  | Contribution to growth (percentage points) |  |  |  |  |
| U.S. net exports June GB | . 8 | . 8 | 2.3 | . 9 | . 6 |
|  | . 8 | . 8 | 2.1 | . 7 | . 5 |

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

The foreign exchange value of the dollar fell through mid-July, apparently on heightened concern about the U.S. financial system, but the dollar has since rebounded somewhat. On balance, the trade-weighted broad real dollar is about 1 percent lower than in the June Greenbook. Going forward, we project that the broad real dollar will depreciate at a pace
of about $21 / 2$ percent annually, reflecting pressures associated with the financing of the U.S. current account deficit.

We estimate that real net exports contributed $21 / 4$ percentage points to U.S. GDP growth in the second quarter; real exports expanded robustly and real imports fell, pulled down by a large decline in real oil imports. The contribution of net exports is expected to moderate to just under 1 percentage point in the second half of the year, as export growth slows from the second-quarter pace and real oil imports resume their growth. In 2009, the contribution steps down to $1 / 2$ percentage point, with the recovery of U.S. GDP growth supporting a pickup in imports. Compared with the June Greenbook, our projection for net exports is a little stronger, as imports are damped by the weaker outlook for U.S. growth and higher projected core import price inflation.

## Oil and Other Commodity Prices

The spot price of West Texas intermediate (WTI) crude oil closed at $\$ 122.19$ per barrel on July 29, about $\$ 12$ lower than at the time of the June Greenbook. The price of the December 2016 futures contract fell to $\$ 118$ per barrel, about $\$ 20$ lower than at the time of the previous Greenbook. Given the path of futures prices, we project that the price of WTI crude oil will drift up to about $\$ 124$ per barrel by the second quarter of next year and then move down to $\$ 121$ per barrel over the second half of next year. Relative to the June Greenbook, this projection is about $\$ 12$ per barrel lower, on average, across the forecast period.

Heightened geopolitical risks put upward pressure on oil prices early in the intermeeting period, as increased tensions in the Middle East and continued violence in Nigeria combined to push the spot price of WTI up to $\$ 145$ per barrel in early July. Since that time, however, prices have fallen dramatically. In addition to markdowns in expectations for global economic activity, the easing of prices was also due to recent reports that Saudi Arabia put more oil on the market during June and to market chatter suggesting that further production increases likely occurred in July. With this additional output from Saudi Arabia, OPEC production will have returned to early 2006 levels.

Since the time of the previous Greenbook, the performance of nonfuel commodity prices has been mixed. Because of improved growing conditions, prices for corn and wheat are both down sharply. In contrast, industrial metals prices have moved up since the June Greenbook, boosted largely by aluminum prices, which spiked in early July due to supply disruptions. Based on prices in spot and futures markets, we project that our trade-
weighted average of nonfuel commodity prices will be roughly flat throughout the forecast period, a path little changed from the previous Greenbook.

## International Financial Markets

The dollar depreciated against the other major currencies in mid-July when worries about the government-sponsored enterprises were at their height, but subsequently appreciated as investor sentiment improved. ${ }^{1}$ On balance, the major currencies index is unchanged from its level at the time of the June Greenbook.

Headline indexes for stock markets in the advanced foreign economies have declined 6-to-8 percent on net since the time of the June Greenbook, amid signs that growth in these economies is slowing. Funding pressures in euro and sterling interbank markets appeared to ease modestly as the quarter-end passed, despite the quarter-point increase in the policy rate of the European Central Bank (ECB) on July 3. There were some indications that the interest rates paid by European banks for dollar funding also eased slightly. However, demand at the dollar auctions of the ECB and Swiss National Bank remained strong; the ECB's auctions drew record bids.

Since the June Greenbook, long-term sovereign bond yields have fallen about 15 to 30 basis points in the euro area, Japan, and the United Kingdom but remained unchanged in Canada. Ten-year inflation compensation has declined roughly 10 basis points in the euro area and Japan and 45 basis points in the United Kingdom, as oil prices fell and growth prospects softened.

Many emerging market economies continued to tighten monetary policy in response to rising prices of food and energy, and the index of the dollar against our other important trading partners fell $3 / 4$ percent. China raised its reserve requirement ratio again and allowed the renminbi to appreciate a further $3 / 4$ percent against the dollar. However, Chinese authorities appear to have increasing concerns regarding prospects for growth, and in a nod to these concerns we slightly decreased the projected rate of dollar depreciation versus the renminbi in our forecast.

On balance, the starting point for the projected path of the staff's broad real index of the foreign exchange value of the dollar is down 1 percent from that in the June Greenbook.

[^11]We project a further decline in the broad real value of the dollar at an annual rate of about $2^{1 ⁄ 2}$ percent, slightly less than in the June Greenbook.

## Advanced Foreign Economies

We estimate that real GDP in the advanced foreign economies rose just $3 / 4$ percent at an annual rate in the second quarter, roughly half the first-quarter pace. Preliminary GDP data for the United Kingdom show growth slowing to $3 / 4$ percent in the second quarter, led by declines in manufacturing and construction. Given deteriorating housing and financial market conditions, we project a slight contraction of U.K. output in the second half of this year. In Japan and the euro area, growth is estimated to have fallen sharply in the second quarter from the rapid rate of the previous quarter; Japanese exports and retail sales contracted, and euro area industrial production, orders, and sentiment declined. In Canada, a pickup in industrial production supports our estimate of a subdued secondquarter recovery after a first-quarter contraction.

Overall, growth in the advanced foreign economies is projected to run at around 1 percent in the second half of this year before rising to $21 / 2$ percent by the end of 2009, in line with the projected pickup in the United States and improvements in financial conditions. Compared with the June Greenbook, our forecast is about $1 / 4$ percentage point lower in the second half of 2008, primarily stemming from larger-than-anticipated drag from the U.K. housing sector. In 2009, the outlook for GDP growth is roughly unchanged.

Our forecast for inflation in the second half of the year is significantly higher than in the June Greenbook, despite the lower oil price projection. Incoming inflation data have continued to surprise on the upside, as past increases in commodity prices have boosted headline prices more than we had expected. Additionally, we now expect further sharp upward adjustments in U.K. utility prices in the second half of this year. U.K. inflation (four-quarter rate) is expected to peak at $51 / 4$ percent later this year and then decline to about $2 ½$ percent in 2009, still above the Bank of England's 2 percent target. In Canada, an acceleration of previously quiescent food prices, along with past energy price increases, is projected to cause headline inflation to average over $31 / 4$ percent in the second half of this year and into next year before declining to the Bank of Canada's 2 percent target later in 2009. Euro-area inflation is expected to peak at 4 percent in the third quarter and to decline to $21 / 2$ percent by the end of the forecast period, in line with the flattening of oil and commodity prices. A similar trajectory is projected for inflation in Japan, which is expected to jump to $2^{11 / 4}$ percent this quarter and then slow to $1 / 2$ percent
by the end of 2009. Excluding food and energy, inflation in Japan is expected to increase from near zero currently to about $1 / 2$ percent by the end of the forecast period.

Our near-term monetary policy assumptions are little changed from the June Greenbook. As before, we assume that the ECB, the Bank of Canada, and the Bank of Japan will view the surge in headline inflation as transitory and thus keep policy interest rates steady throughout the forecast period. The Bank of England is expected to raise its policy interest rate 25 basis points in the second half of this year and then remain on hold through the end of next year.

## Emerging Market Economies

We estimate that real GDP growth in the emerging market economies fell 1 percentage point to $33 / 4$ percent in the second quarter, as slower growth in emerging Asia more than offset a slight acceleration in activity in Latin America. The pace of activity in emerging Asia was pulled down by a moderation of growth in China to a still robust 10 percent, reflecting a weaker contribution from net exports. An estimated sharp downward swing in Singapore's growth also contributed to the second-quarter slowdown in emerging Asia. Latin American growth was supported by a pickup in activity in Brazil and the resumption of growth in Colombia and Venezuela, which more than offset a step-down in growth in Mexico. Our estimate of growth in the emerging market economies in the second quarter is little changed relative to the June Greenbook.

We expect growth in the emerging market economies to remain relatively subdued at $4 \frac{1}{4}$ percent in the second half of 2008 before strengthening to 5 percent in 2009. In particular, growth in Mexico is expected to strengthen in line with the U.S. recovery, and activity in emerging Asia should pick up as firming global growth boosts external demand. We have revised down our projection for the remainder of 2008 and 2009 by $1 / 4$ percentage point on account of weaker projected activity in the United States.

Four-quarter inflation in the emerging market economies rose to $63 / 4$ percent in the second quarter amid continued increases in prices of food and energy. We expect inflation to begin moderating in the current quarter and to decline to $31 / 2$ percent by the end of the forecast period. Inflation has already moved down in China, led by lower food price inflation. In contrast, inflationary pressures are mounting in Mexico, where the government is reducing domestic fuel subsidies, and in other Latin American countries. The outlook for inflation in the emerging market economies is slightly higher in the near term than in the previous Greenbook, as an upward revision to Latin American inflation
more than offsets the effects of lower oil prices on inflation in the emerging market economies.

## Prices of Internationally Traded Goods

Core import prices continued to increase sharply in June, largely reflecting higher prices for material-intensive products, especially for iron and steel. In contrast, for the second consecutive month, prices for finished goods rose modestly and at a much slower pace than earlier in the year. For the second quarter as a whole, we estimate that core import prices increased at an annual rate of $11 \frac{1}{2}$ percent, more than 3 percentage points faster than the first-quarter pace. We revised up the second-quarter estimate 1 percentage point from the June Greenbook, in light of the higher-than-expected prices in June. Our read of the data continues to suggest that these surprisingly high rates of import price inflation are mostly attributable to an unusually strong effect of rising commodity prices on prices of material-intensive imports. The incoming data have not given us cause to revise up our estimate of exchange rate pass-through to import prices. That said, an increase in pass-through remains an important risk to our forecast.

For the third quarter, we project that core import prices will increase 53/4 percent, up $31 / 4$ percentage points from the June Greenbook in response to the June trade prices. We project that core import price inflation will fall to $2 \frac{1}{4}$ percent in the last quarter of 2008 and then drift down to $1 \frac{1}{4}$ percent in late 2009, as commodity prices are projected to level off and as the dollar depreciates at a modest pace. Relative to the June Greenbook, the forecast for 2009 is unchanged.

After running at a $1211 / 4$ percent pace in the first quarter, core export price inflation appears to have downshifted to $91 / 2$ percent in the second quarter, as prices of agricultural exports rose at a more moderate pace. We expect core export price inflation to slow further in the third quarter to 6 percent, reflecting lower rates of inflation for metals and nonfuel intermediate inputs. Over the remainder of the forecast period, the projected flattening out of commodity prices is expected to push down core export price inflation to $11 / 4$ percent by the end of 2009 .

## Staff Projections of Selected Trade Prices

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

| Indicator | 2007 | $\begin{gathered} \text { 2008: } \\ \text { Q1 } \end{gathered}$ | Projection |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 2008 |  | 2009 |
|  |  |  | Q2 | H2 |  |
| Imports |  |  |  |  |  |
| Core goods | 3.3 | 8.3 | 11.5 | 4.0 | 1.4 |
| June GB | 3.3 | 8.3 | 10.5 | 2.3 | 1.4 |
| Imported Oil (dollars/barrel) | 80.11 | 87.44 | 108.60 | 117.07 | 118.77 |
| June GB | 80.11 | 87.44 | 109.88 | 131.05 | 131.20 |
| Exports |  |  |  |  |  |
| Core goods | 6.4 | 12.2 | 9.5 | 4.1 | 1.6 |
| June GB | 6.4 | 12.4 | 8.6 | 3.7 | 1.3 |

Note. Prices for core exports exclude computers and semiconductors. Prices for core imports exclude computers, semiconductors, oil, and natural gas. Both price series are on a NIPA 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.

## Trade in Goods and Services

Real exports of goods and services are estimated to have increased 103/4 percent at an annual rate in the second quarter, supported by large gains in exports of capital goods and industrial supplies. We project that export growth will step down to a still robust 7 percent pace in the second half of 2008, supported by the effects of previous dollar depreciation. Export growth edges up in 2009, as the recovery in foreign GDP growth more than offsets the waning effect of previous dollar depreciation. Stronger-thanexpected exports in the May trade data led us to revise up our estimate for the second quarter by $3 ½$ percentage points. Beyond the second quarter, our forecast is little changed.

## Prices of Imported Goods from China

The Bureau of Labor Statistics started reporting a price series for imported goods from China in December 2003. The index fell steadily through the beginning of 2007 but has since turned up, increasing 6 percent at an annual rate in the second quarter of 2008. For prices of imports excluding computers and semiconductors, the second-quarter increase was even larger, at $91 / 2$ percent. (Computers and semiconductors account for almost one-fifth of imports from China and generally have decreasing prices.)

Although rising prices for imports from China have attracted considerable attention, their increase explains only a small portion of the acceleration in overall core import price inflation observed in the first half of 2008. Imports from China are not concentrated in the material-intensive goods that have been the largest contributors to the overall run-up. However, higher prices for imports from China have been an important factor in pushing up inflation in certain categories of finished goods. For example, the price of imported consumer goods, of which roughly one-third are sourced from China, increased 53/4 percent (a.r.) in the second quarter, the largest quarterly increase in over 15 years.

Increases in import prices for goods from China likely reflect both the recent faster pace of renminbi appreciation and a pickup in Chinese domestic prices. After increasing roughly 3 percent in 2006 and 6 percent in 2007, the pace of renminbi appreciation accelerated to $11 \frac{1}{2}$ percent at an annual rate in the first half of 2008. Since the beginning of 2007, Chinese CPI inflation has also stepped up. After running below 3 percent in 2006, inflation averaged above 6 percent in 2007 and the first half of 2008. Although CPI inflation in China has largely reflected higher food prices, producer prices have also risen markedly, suggesting broader price pressures.

Do recent movements in China's exchange rate and CPI explain the run-up in import prices from China? We believe they do. The available data sample is too short to estimate a separate econometric equation for import prices from China alone. However, using a model for prices of imported finished goods that has been estimated with data from all our trading partners, we find that the increase in import prices of goods from China seems to be well explained by appreciation of the renminbi and increases in Chinese domestic prices.

## Prices of Imported Goods from China (continued)

Prices of Goods Imported From China


CPI and Exchange Rate


Overall Core Import Price Inflation


Model Forecast*


Real imports of goods and services are estimated to have declined 5¼ percent in the second quarter, as a large drop in real oil imports more than offset modest growth in nonoil goods and services. Imports are expected to remain depressed in the second half of the year despite a resumption in oil import growth, as weak U.S. demand and high core import price inflation restrain imports of non-oil goods. In 2009, real import growth is expected to step up to $21 / 2$ percent, as U.S. growth strengthens and non-oil import price inflation declines. We have revised up our second quarter estimate by $11 / 2$ percentage points on account of stronger-than-expected imports of core goods and computers in the May trade data. We have revised down our projections for the second half of this year and 2009 by about $3 / 4$ percentage point, in line with the markup in the projected pace of core import price inflation as well as the small downward revision to the U.S. growth outlook.

## Staff Projections for Trade in Goods and Services

(Percent change from end of previous period, a.r.)

| Measure | 2007 | $2008:$ | Projection |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 2008 |  |  |
|  |  |  | Q2 | H2 |  |
| Real imports | 1.0 | -.7 | -5.3 | .1 | 2.4 |
| June GB | 1.0 | -.5 | -6.7 | 1.0 | 2.8 |
| Real exports | 8.4 | 5.4 | 10.8 | 7.0 | 7.5 |
| June GB | 8.4 | 5.6 | 7.2 | 7.2 | 7.5 |

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

## Alternative Simulations

Higher import prices. Our baseline forecast calls for import prices to decelerate late this year and in 2009. However, recent experience highlights the upside risks to this forecast. In our first simulation, we use the SIGMA model to examine the effects of an increase in the markups of firms exporting to the United States. The rise in markups may reflect some "catch up" adjustment by foreign exporters seeking to let more of the past dollar depreciation pass through to the U.S. prices of their goods. It could also reflect a decision to pass a higher share of rising commodity costs on to U.S. buyers. The shock to markups occurs in the third quarter of 2008 and pushes U.S. non-oil import price inflation 2.5 percentage points above baseline over the following two years. Monetary policies in
the United States and foreign countries follow Taylor rules, and long-run inflation expectations remain anchored.

In this scenario, rising import prices boost core PCE inflation 0.3 percentage point relative to baseline in the second half of 2008 and 2009. The markup shock initially stimulates U.S. GDP growth, as consumers substitute away from foreign products to domestically produced goods. In the longer term, however, GDP growth falls below baseline, as tighter monetary policy reduces investment spending, thus lowering the stock of capital for a sustained period. Higher import prices also contribute to a widening of the U.S. nominal trade deficit of about 0.3 percent of GDP in the second half of 2009. However, this deterioration in the trade deficit does not persist, in part because import volumes decline in response to the shock.

Weaker foreign demand. Our baseline forecast assumes that foreign GDP growth will pick up in the second half of this year. Our second simulation (also using the SIGMA model) considers the implications of a marked further deceleration in foreign activity, driven by a decline in foreign consumption and investment. The shock begins in the third quarter of 2008 and is calibrated so that, relative to baseline, annual GDP growth in all major U.S. trading partners is reduced 1 percentage point until 2010:H1, after which the shock gradually dies away.

The adverse shock to foreign activity reduces U.S. real net exports directly through lower foreign spending and indirectly through a modest appreciation of the dollar. As a result, U.S. GDP growth declines about 0.3 percentage point relative to baseline in 2008: H 2 and 0.2 percentage point in 2009. The decline in output relative to baseline is cushioned by the U.S. monetary policy response, with the federal funds rate falling about 50 basis points below baseline by 2010. Core PCE inflation moves little initially but declines 0.2 percentage point below baseline by the end of 2009. The fall in core PCE inflation reflects both lower import prices, as a result of dollar appreciation, and the effect of the contraction in aggregate demand. The combination of weaker foreign activity and an appreciated dollar contribute to a deterioration of the ratio of the trade deficit to GDP. In the longer term, U.S. GDP growth rises above baseline, as U.S. monetary policy remains loose relative to baseline and the foreign economies recover.

## Alternative Scenarios:

Higher Foreign Export Markups And Weaker Foreign Demand (Percent change from previous period, annual rate, except as noted)

| Indicator and simulation | 2008 | 2009 |  | 2010 | 2011-12 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | H2 | H1 | H2 |  |  |
| U.S. real GDP |  |  |  |  |  |
| Baseline | 0.6 | 1.9 | 2.5 | 3.1 | 3.1 |
| Higher foreign export markups | 0.8 | 2.1 | 2.5 | 2.9 | 2.9 |
| Weaker foreign demand | 0.3 | 1.6 | 2.3 | 3.3 | 3.4 |
| U.S. PCE prices excluding food and energy |  |  |  |  |  |
|  | 2.6 | 2.3 | 2.1 | 2.0 | 1.8 |
| Higher foreign export markups | 2.9 | 2.7 | 2.4 | 2.1 | 1.6 |
| Weaker foreign demand | 2.6 | 2.2 | 1.9 | 1.8 | 1.8 |
| U.S federal funds rate (percent) |  |  |  |  |  |
| Baseline | 2.0 | 2.5 | 2.8 | 3.3 | 4.1 |
| Higher foreign export markups | 2.3 | 3.1 | 3.4 | 3.6 | 4.0 |
| Weaker foreign demand | 2.0 | 2.4 | 2.5 | 2.8 | 3.8 |
| U.S. trade balance (percent share of GDP) |  |  |  |  |  |
| Baseline | -5.0 | -4.6 | -4.1 | -3.9 | -3.6 |
| Higher foreign export markups | -5.2 | -4.9 | -4.4 | -4.1 | -3.6 |
| Weaker foreign demand | -5.2 | -5.0 | -4.7 | -4.7 | -4.2 |

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*


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

|  | 2007 |  |  |  | 2008 |  |  |  | jected－－－－－－9 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Measure and country | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| REAL GDP（1）－－－－－－－－－－－－－－－－－－Quarterly changes at an annual rate |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Foreign | 4.8 | 4.5 | 4.2 | 3.1 | 2.8 | 2.0 | 2.4 | 2.5 | 2.8 | 3.3 | 3.4 | 3.6 |
| Advanced Foreign Economies of which： | 3.8 | 2.4 | 2.3 | 1.5 | 1.4 | 0.7 | 1.0 | 1.1 | 1.4 | 2.0 | 2.2 | 2.4 |
| Canada | 4.1 | 3.9 | 2.3 | 0.8 | －0．3 | 0.9 | 1.2 | 1.2 | 1.3 | 2.4 | 2.5 | 2.7 |
| United Kingdom | 4.5 3.2 | -2.5 3.5 | 2.9 2.3 | 2.9 2.2 | ${ }_{1} .1$ | －0．7 | 1.8 -0.3 | －1．3 | 1.6 0.3 | 1.6 0.9 | 1.6 | 1.7 |
| Euro Area（2） | 3.3 | 1.4 | 2.6 | 1.5 | 2.9 | 0.4 | 0.8 | 1.2 | 1.6 | 1.9 | 2.2 | 2.2 |
| Germany | 2.6 | 0.7 | 2.7 | 1.1 | 6.3 | 0.2 | 0.6 | 1.3 | 1.6 | 2.2 | 2.6 | 2.8 |
| Emerging Market Economies | ${ }^{6} .0$ | 7.2 | 6.6 | 5.2 | 4.7 | 3.7 | 4.2 | 4.4 | 4.6 | 4.9 | 5.0 | 5.2 |
| Asia | 8.6 | 9.3 | 7.7 | 5.6 | 7.7 | 4.8 | 5.7 | 5.7 | 6.1 | 6.3 | 6.3 | 6.4 |
| Korea | 4.0 | 7.1 | 6.0 | 6.4 | 3.3 | 3.3 | 3.6 | 3.8 | 3.9 | 4.3 | 4.3 | 4.4 |
| China | 15.1 | 11.4 | 8.2 | 10.6 | 11.7 | 9.9 | 9.2 | 8.9 | 9.5 | 9.5 | 9.6 | 9.6 |
| Latin America | 3.6 | 5.2 | 5.6 | 4.4 | 1.5 | 2.4 | 2.6 | 2.9 | 3.0 | 3.4 | 3.7 | 4.0 |
| Mexico | 2.7 | 4.8 | 5.0 | 3.3 | 2.1 | 1.6 | 2.1 | 2.6 | 2.7 | 3.1 | 3.5 | 4.0 |
| Brazil | 4.0 | 6.2 | 7.5 | 6.6 | 2.9 | 4.0 | 3.8 | 3.8 | 4.0 | 4.0 | 4.0 | 4.0 |
| CONSUMER PRICES（3） |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Foreign | 2.3 | 2.5 | 3.0 | 3.6 | 4.1 | 4.7 | 4.9 | 4.6 | 4.2 | 3.5 | 2.9 | 2.7 |
| Advanced Foreign Economies of which： | 1.5 | 1.6 | 1.5 | 2.2 | 2.2 | 2.7 | 3.4 | 3.2 | 3.1 | 2.6 | 2.0 | 1.9 |
| Canada | 1.9 | 2.1 | 2.1 | 2.4 | 1.8 | 2.3 | 3.2 | 3.3 | 3.4 | 2.5 | 2.0 | 2.0 |
| Japan United Kingdom（4） | -0.1 2.9 | -0.1 2.5 | -0.1 1.8 | 0.5 2.1 | 1.0 2.4 | 1.4 3.4 | 2.2 4.6 | 2.0 5.3 | 1.9 5.1 | 1.5 4.2 | 0.6 3.6 | 0.5 2.4 |
| Euro Area（2） | 1.9 | 1.9 | 1.9 | 2.9 | 3.4 | 3.6 | 4.0 | 3.5 | 3.2 | 2.9 | 2.6 | 2.5 |
| Germany | 1.9 | 2.0 | 2.2 | 3.1 | 3.1 | 3.0 | 3.2 | 2.8 | 2.7 | 2.8 | 2.5 | 2.4 |
| Emerging Market Economies | 3.1 | 3.3 | 4.5 | 5.1 | 5.9 | 6.7 | 6.4 | 6.1 | 5.2 | 4.4 | 3.8 | 3.6 |
| Asia ${ }_{\text {Korea }}$ | 2.7 2.0 | 3.1 2.5 | 4.6 2.3 | 5.4 <br> 3.4 <br> 6.4 | 6.5 3.8 | 7.18 | ${ }_{5}^{6.5}$ | ${ }_{5}^{6.1}$ | 5.0 | 4.2 3.6 | 3.8 3.6 | 3．4 |
| China | 2.7 | 3.6 | 6.1 | 6.6 | 8.0 | 7.8 | 6.1 | 5.7 | 4.2 | 4.0 | 3.8 | 3.4 |
| Latin America | 4.2 | 4.1 | 4.3 | 4.3 | 4.5 | 5.5 | 6.0 | 5.9 | 5.7 | 4.9 | 4.2 | 4.0 |
| Mexico | 4.1 | 4.0 | 4.0 | 3.8 | 3.9 | 4.9 | 5.3 | 5.3 | 5.1 | 4.3 | 3.6 | 3.5 |
| Brazil | 3.1 | 3.4 | 4.2 | 4.3 | 4.6 | 5.5 | 6.5 | 6.8 | 6.5 | 6.0 | 5.1 | 5.0 |

[^12]Class II FOMC
Restricted (FR)

| Measure and country | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | $\begin{array}{cc} \text { Projected } \\ 2008 & 2009 \end{array}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| REAL GDP (1) |  |  |  |  |  |  |  |  |  |
| Total Foreign | 0.4 | 3.0 | 2.9 | 3.8 | 4.0 | 4.0 | 4.1 | 2.4 | 3.3 |
| Advanced Foreign Economies of which: | 0.9 | 2.5 | 1.8 | 2.6 | 2.7 | 2.7 | 2.5 | 1.0 | 2.0 |
| Canada | 1.3 | 3.5 | 1.5 | 3.7 | 3.0 | 2.2 | 2.8 | 0.7 | 2.2 |
| Japan | -1.7 | 2.0 | 2.4 | 1.1 | 2.9 | 2.5 | 1.4 | 1.5 | 1.6 |
| United Kingdom | 2.1 | 2.3 | 3.4 | 2.6 | 1.8 | 3.2 | 2.8 | 0.3 | 1.1 |
| Euro Area (2) | 1.0 | 1.1 | 1.2 | 1.7 | 2.1 | 3.3 | 2.2 | 1.3 | 2.0 |
| Germany | 1.1 | -0.0 | 0.1 | 0.1 | 1.6 | 3.9 | 1.7 | 2.1 | 2.3 |
| Emerging Market Economies | -0.3 | 3.9 | 4.6 | 5.4 | 5.8 | 5.7 | 6.3 | 4.3 | 4.9 |
| Asia | 1.0 | 6.4 | 6.9 | 6.0 | 7.6 | 7.0 | 7.8 | 6.0 | 6.3 |
| Korea | 4.7 | 7.7 | 4.1 | 2.9 | 5.6 | 4.2 | 5.9 | 3.5 | 4.2 |
| China | 7.2 | 8.6 | 10.3 | 9.8 | 10.2 | 10.6 | 11.3 | 9.9 | 9.5 |
| Latin America | -1.2 | 1.6 | 1.9 | 4.7 | 4.0 | 4.5 | 4.7 | 2.3 | 3.5 |
| Mexico | -1.3 | 2.0 | 1.4 | 4.1 | 3.5 | 3.7 | 4.0 | 2.1 | 3.3 |
| Brazil | -0.6 | 4.9 | 1.0 | 4.5 | 3.4 | 4.9 | 6.1 | 3.6 | 4.0 |
| CONSUMER PRICES (3) |  |  |  |  |  |  |  |  |  |
| Total Foreign | 1.7 | 2.5 | 2.1 | 2.8 | 2.3 | 2.1 | 3.6 | 4.6 | 2.7 |
| Advanced Foreign Economies of which: | 0.9 | 2.1 | 1.3 | 1.8 | 1.6 | 1.4 | 2.2 | 3.2 | 1.9 |
| Canada | 1.1 | 3.8 | 1.7 | 2.3 | 2.3 | 1.3 | 2.4 | 3.3 | 2.0 |
| Japan | -1.1 | -0.5 | -0.3 | 0.5 | -1.0 | 0.3 | 0.5 | 2.0 | 0.5 |
| United Kingdom (4) | 1.0 | 1.5 | 1.3 | 1.4 | 2.1 | 2.7 | 2.1 | 5.3 | 2.4 |
| Euro Area (2) | 2.1 | 2.3 | 2.0 | 2.3 | 2.3 | 1.8 | 2.9 | 3.5 | 2.5 |
| Germany | 1.5 | 1.2 | 1.1 | 2.1 | 2.2 | 1.3 | 3.1 | 2.8 | 2.4 |
| Emerging Market Economies | 2.8 | 2.9 | 3.1 | 3.9 | 3.0 | 2.9 | 5.1 | 6.1 | 3.6 |
| Asia | 1.2 | 0.8 | 2.3 | 3.1 | 2.6 | 2.3 | 5.4 | 6.1 | 3.4 |
| Korea | 3.3 | 3.4 | 3.5 | 3.4 | 2.5 | 2.1 | 3.4 | 5.1 | 3.0 |
| China | -0.1 | -0.6 | 2.7 | 3.2 | 1.4 | 2.1 | 6.6 | 5.7 | 3.4 |
| Latin America | 5.3 | 6.4 | 4.9 | 5.7 | 3.8 | 4.1 | 4.3 | 5.9 | 4.0 |
| Mexico | 5.1 | 5.2 | 3.9 | 5.3 | 3.1 | 4.1 | 3.8 | 5.3 | 3.5 |
| Brazil | 7.5 | 10.7 | 11.5 | 7.2 | 6.1 | 3.2 | 4.3 | 6.8 | 5.0 |

[^13]Class II FOMC
Restricted (FR)
OUTLOOK FOR U.S. INTERNATIONAL TRANSACTIONS

|  | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | $\begin{array}{r} \text { Pre } \\ 2008 \end{array}$ | $\begin{aligned} & \text { ected } \\ & 2009 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NIPA REAL EXPORTS and IMPORTS |  |  |  |  |  |  |  |  |  |
|  | Percent | ge point | contribu | ion to | growt | Q4/Q4 |  |  |  |
| Net Goods \& Services | -0. 2 | -0.9 | -0.1 | -0.9 | -0.1 | 0.4 | 0.8 | 1. 2 | 0.6 |
| Exports of G\&S | $-1.3$ | 0.4 | 0.6 | 0.7 | 0.7 | 1.0 | 1.0 | 1.0 | 1.0 |
| Imports of G\&S | 1.1 | $-1.3$ | $-0.7$ | $-1.7$ | -0.8 | -0.6 | -0.2 | 0.3 |  |
| Percentage change, Q4/Q4 |  |  |  |  |  |  |  |  |  |
| Exports of G\&S | -11.9 | 3.8 | 5.8 | 7.4 | 7.0 | 9.3 | 8.4 | 7.6 | 7.5 |
| Services | -8.9 | 10.2 | 3.0 | 8.3 | 4.1 | 8.3 | 7.0 | 6.3 | 6.2 |
| Computers | -23.5 | $-1.1$ | 11.3 | 5.8 | 14.0 | 8.2 | -5.9 | 12.1 | 9.9 |
| Semiconductors | -34.6 | 10.1 | 38.3 | -6.0 | 17.5 | 2.4 | 27.6 | 4.1 | 11.1 |
| Core Goods 1/ | $-10.2$ | 0.6 | 4.9 | 8.0 | 7.5 | 10.2 | 8.8 | 8.1 | 7.9 |
| Imports of G\&S | $-7.6$ | 9.7 | 4.8 | 11.5 | 5.1 | 3.7 | 1.0 | $-1.5$ | 2.4 |
| Services | $-5.9$ | 8.8 | 2.2 | 9.3 | 1.4 | 6.1 | 2.0 | 1.6 | 3.0 |
| Oil | 3.7 | 3.8 | 1.2 | 10.8 | 1.2 | -9.0 | 1.3 | -4.9 | -1.1 |
| Natural Gas | $-6.5$ | 19.5 | 1.3 | 4.9 | 11.3 | $-13.4$ | -18.0 | $-1.3$ | 7.0 |
| Computers | -13.6 | 13.2 | 17.0 | 23.2 | 12.2 | 13.6 | 6.8 | 13.2 | 15.6 |
| Semiconductors | -51.1 | 11.0 | $-0.1$ | 9.8 | 7.6 | -0.5 | 4.1 | 6.2 | 5.0 |
| Core Goods 2/ | -6.5 | 10.0 | 5.2 | 11.4 | 6.0 | 5.9 | 0.3 | -2.3 | 2.5 |
| Billions of Chained 2000 Dollars |  |  |  |  |  |  |  |  |  |
| Net Goods \& Services | -399.1 | -471.3 | -518.9 | -593.8 | $-618.0$ | $-624.5$ | $-555.6$ | -411.5 | -310.9 |
| Exports of G\&S | 1036.7 | 1013.3 | 1026.1 | 1126.1 | 1203.4 | 1304.1 | 1409.9 | 1532.1 | 1648.2 |
| Imports of G\&S | 1435.8 | 1484.6 | 1545.0 | 1719.9 | 1821.5 | 1928.6 | 1965.4 | 1943.6 | 1959.1 |
| Billions of dollars |  |  |  |  |  |  |  |  |  |
| US CURRENT ACCOUNT BALANCE | $-384.7$ | $-461.3$ | -523.4 | $-625.0$ | -729.0 | -788.1 | -731.2 | $-725.6$ | -626.9 |
| Current Acct as Percent of GDP | -3.8 | -4.4 | -4.8 | -5.3 | -5.9 | $-6.0$ | $-5.3$ | $-5.0$ | -4.2 |
| Net Goods \& Services (BOP) | $-365.1$ | $-423.7$ | -496.9 | -607.7 | $-711.6$ | $-753.3$ | $-700.3$ | $-721.0$ | -654.7 |
| Investment Income, Net | 36.9 | 33.0 | 51.0 | 73.4 | 78.8 | 63.8 | 88.8 | 118.1 | 150.7 |
| Direct, Net | 115.9 | 102.4 | 112.7 | 150.9 | 173.2 | 184.1 | 233.9 | 279.4 | 302.9 |
| Portfolio, Net | -79.0 | -69.4 | -61.7 | $-77.5$ | -94.4 | $-120.3$ | $-145.1$ | -161.4 | $-152.2$ |
| Other Income \& Transfers, Net | $-56.5$ | -70.5 | $-77.5$ | -90.6 | -96.2 | -98.6 | -119.7 | $-122.7$ | $-123.0$ |

[^14]NIPA REAL EXPORTS and IMPORTS
OUTLOOK FOR U.S. INTERNATIONAL TRANSACTIONS


[^15]Last Page
NIPA REAL EXPORTS and IMPORTS


| Billions of dollars, s.a.a. |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| US CURrent account balance | -787.7 | -776.4 | -691.8 | -669.0 | -705.5 | -734.5 | -740.4 | -722.1 | -711.1 | -629.6 | -585.5 | -581.6 |
| Current Account as \% of GDP | -5.8 | -5.6 | -5.0 | -4.8 | -5.0 | -5.1 | -5.1 | -5.0 | -4.8 | -4.2 | -3.9 | -3.8 |
| Net Goods \& Services (BOP) | -718.2 | -715.3 | -672.5 | -695.1 | -699.7 | -739.1 | -731.1 | -714.0 | -711.4 | -655.0 | -623.4 | -628.8 |
| Investment Income, Net Direct, Net | $\begin{array}{r} 57.8 \\ 201.1 \end{array}$ | 45.8 196.2 | 98.9 238.8 | 152.6 299.3 | 126.3 267.4 141.1 | 117.0 277.0 | 110.4 282.2 -171 | $\begin{array}{r}118.6 \\ 291 \\ \hline 172.5\end{array}$ | $\begin{array}{r}131.4 \\ 297 \\ \hline 16.5\end{array}$ | 145.7 301.7 156 | 158.2 304.3 | 167.5 308.0 |
| Portfolio, Net | -143.2 | -150.4 | -139.9 | -146.7 | -141.1 | -160.0 | -171.8 | -172.5 | -166.1 | -156.0 | -146.1 | -140.6 |
| Other Inc. \& Transfers, Net | -127.4 | -106.9 | -118.3 | -126.4 | -132.1 | -112.4 | -119.7 | -126.7 | -131.1 | -120.3 | -120.3 | -120.3 |

[^16]
[^0]:    ${ }^{1}$ The advance estimate for second-quarter GDP will be released tomorrow, July 31. The release will include revisions to the national income and product accounts, or NIPA, going back to 2005. The labor market report for July will be released on Friday, August 1.

[^1]:    ${ }^{2}$ The TEUC legislation provides an additional 13 weeks of benefits to workers who have exhausted their regular 26 weeks of benefits. The additional benefits are scheduled to expire in March 2009, but we assume that they will be continued through the end of 2009; we expect the benefits to add $\$ 4$ billion to the deficit in fiscal year 2008 and \$12 billion in fiscal 2009.

[^2]:    ${ }^{3}$ Home sales (and commissions) through the first half of next year should get a small boost from the new tax credit for first-time homebuyers, which will be available for transactions completed by June 2009. However, we expect most of the sales spurred by the tax credit to be pulled forward from a future date, with no significant effect on housing production.

[^3]:    ${ }^{4}$ Over the next few weeks, we will be revisiting our estimates of structural labor productivity and potential GDP as we digest the implications of tomorrow's annual revision to the NIPA.

[^4]:    ${ }^{5}$ We do not expect the increment to joblessness from the TEUC program to have much effect on wages, given the marginal attachment of many of the affected individuals to the labor force.

[^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.
    2. Private-industry workers.
[^7]:    1. Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise indicated
    2. Change, millions.
    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 values are for the fourth quarter of the year indicated.
    4. Percent change, annual rate.
    5. Level, millions, annual value
    6. Percent change, annual rate, with inventory valuation and capital consumption adjustments.
[^8]:    aggregate demand stimulus.
    a--Actual

[^9]:    Note. Quarterly data are at seasonally adjusted annual rates. 1
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[^10]:    Note. Data after 2008:Q1 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
[^11]:    ${ }^{1}$ Notably, concerns about the government-sponsored enterprises had little apparent effect on foreign official demand for agency debt.

[^12]:    1．Foreign GDP aggregates calculated using shares of U．S．exports． Harmonized data for euro area from Eurostat． Foreign CPI aggregates calculated using shares of U．S．non－oil imports．
    
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[^13]:    . Foreign GDP aggregates calculated using shares of U.S. exports. 2. Harmonized data for euro area from Eurostat. 3. Foreign CPI aggregates calculated using shares of U.S. non-oil imports.

[^14]:    2. Merchandise imports excluding oil, natural gas, computers, and semiconductors.
[^15]:    1. Merchandise exports excluding computers and semiconductors.
    2. Merchandise imports excluding oil, natural gas, computers, and semiconductors.
[^16]:    . Merchandise exports excluding computers and semiconductors
    $\frac{1}{2}$
    2. Merchandise imports excluding oil, natural gas, computers, and semiconductors.

