## 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) <br> Domestic Developments

The information received since the time of the last Greenbook has been decidedly downbeat. The drop in housing activity has continued to intensify, conditions in labor markets appear to have deteriorated noticeably near year-end, and factory output has weakened. Consumer confidence has remained low, and indicators of business sentiment have now worsened as well. Equity prices have fallen sharply so far this year, likely in response to the weakening outlook. Though the functioning of money markets has improved, conditions in other financial markets have become more restrictive. To be sure, not all of the news on real activity has been bad: We now estimate that real GDP rose a bit more in the fourth quarter of last year than we projected in the December Greenbook-and that final sales rose considerably more-as data on consumer spending and construction activity by businesses and governments came in above our expectations. But in the present environment, we do not see those spending data as an indication of stronger demand going forward. Thus, we have revised down our forecast for real GDP growth in the first half of this year to an annual rate of just under 1 percent. The economy does not tip into recession in this projection, but it is quite weak nonetheless.

In light of the sharp deterioration in the outlook, we have conditioned our projection on a substantially easier monetary policy. In addition to this week's 75 basis point cut in the federal funds rate, we assume that the Committee will lower the rate another 50 basis points at the January meeting. We also assume that the Congress and the Administration will reach agreement on a fiscal stimulus plan that provides support to aggregate demand by the second half of this year. We expect that these policy actions, together with gradually improving financial conditions, further depreciation of the dollar, and a reduced drag on activity from past increases in energy prices, will strengthen demand significantly. As a consequence, real GDP growth moves up to an annual rate of 2114 percent in the second half of this year-close to our estimate of potential GDP growth—and remains at that pace in 2009. With slow growth in the first half of this year, a modest degree of slack opens up in labor and product markets, and that slack persists through the end of 2009. From 2010 to 2012, we expect real GDP to rise a little more than $21 / 2$ percent per year-a bit faster than its potential rate-and the unemployment rate to drift down. ${ }^{1}$

[^0]Headline inflation has stepped up in recent months with further jumps in energy prices. Core inflation has moved higher as well. We interpret the recent increases in core inflation largely as a reversal of the unusually low numbers recorded in the first half of 2007. We project that, with energy prices easing from current levels, some slack in resource utilization opening up, and long-term inflation expectations remaining contained, core inflation will gradually move lower over the next two years. We project that prices for core personal consumption expenditures (PCE) will rise 2.1 percent this year-the same pace as over 2007 as a whole-before decelerating to an increase of 1.9 percent in 2009. This year’s projected increase is 0.1 percentage point higher than that in the December Greenbook, reflecting a variety of small adjustments: a bit more momentum from the recent higher core inflation readings and a bit more impetus from energy and import prices, both partially offset by greater slack in resource utilization. Beyond 2009, we expect some persistent slack in labor and product markets to be sufficient (assuming no offsetting pressure from food, energy, and import prices) to cause core inflation to moderate a bit further, so that both overall and core PCE inflation edge down by 2012 to $1 \frac{1}{4}$ percent, the midpoint of the range of the Committee's October forecasts for long-run inflation. Indeed, we designed our policy path to generate just such an outcome.

## Key Background Factors

With the appreciably weaker economic and financial conditions that have become evident since the December FOMC meeting, we assume that the Committee will reduce the federal funds rate by another 50 basis points at the January meeting and hold it at 3 percent through the end of 2009. Market participants currently expect a larger decline in the federal funds rate, to about 2 percent by the end of this year. ${ }^{2}$ Given the downward revision to the market's expected path for policy, and given the flight-to-quality flows to Treasuries, the ten-year Treasury yield has declined about 40 basis points since the time of the December Greenbook. We assume that the ten-year yield will move gradually higher over the next two years as term premiums widen with an improving economy and the associated reduction in concerns about asset quality, as the ten-year window moves past the especially low short-term rates this year and next, and as market participants’ expectations for policy move closer to ours.

Although stresses in short-term funding markets have abated since the December Greenbook, credit spreads for long-term financing have widened with growing concerns

[^1]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:Q1, except as noted.
about the economic outlook. For example, the spread of the Baa corporate bond yield over Treasuries has risen about 45 basis points since early December. Consequently, the Baa yield is up a bit over the intermeeting period despite the decline in comparable Treasury rates. We expect risk spreads on corporate bonds to narrow some this year and next as economic conditions improve; in that case, the Baa rate would be about unchanged this year and next even as Treasury yields increase.

Interest rates on conforming mortgages have declined roughly in line with Treasuries since the last Greenbook, but with spreads still on the high side, we expect these mortgage rates to move up a little less than Treasury rates over the next two years. Conditions in other mortgage markets remain strained, with very few loans being made to subprime borrowers and spreads remaining elevated for jumbo loans; we continue to expect that conditions in these markets will improve only gradually. As for house prices, the weaker projection for housing demand in this Greenbook led us to reduce our house price forecast a little. We now project that the OFHEO purchase-only index will fall at an annual rate of slightly more than 3 percent through 2009.

Equity prices have dropped about 11 percent since the last Greenbook and about 14 percent since the last FOMC meeting. These stock price declines imply a further increase of the equity premium to an unusually high level. As we do for risk spreads on bonds, we assume that the equity premium will start to move lower by the second half of this year as market participants see that the economy has avoided recession and has begun to strengthen. Thus, from the middle of 2008 through the end of 2009, equity prices rise at an annual rate of 13 percent-well above the $61 / 2$ percent rate of increase that we had regularly assumed in previous Greenbooks. That assumption is enough to move the equity premium closer to its normal range. Even so, the assumed level of equity prices in this Greenbook has been revised down by about 10 percent on average in 2008 and 5 percent in 2009.

The Congress and the Administration appear more likely than not to enact a temporary fiscal stimulus package. In our projection, we have assumed the enactment of a $\$ 125$ billion stimulus package for this year that includes a tax rebate for households and a bonus depreciation allowance on investment. (More discussion of the assumed fiscal stimulus package is in the adjacent box.)

## Fiscal Stimulus

The specifics of any stimulus package are still uncertain, and plausible variations in the size, composition, and timing of any package could have important consequences for the contour of economic activity this year and next. As a placeholder, we have assumed in the baseline projection that a fiscal stimulus package will be enacted with a total price tag of $\$ 125$ billion, which is a little less than 1 percent of GDP. This package has two components, both of which have been widely discussed in general terms though not in specific detail- $\$ 75$ billion for one-time tax rebates to households, and a one-year bonus depreciation allowance for business investment that reduces federal revenues by $\$ 50$ billion.

With regard to the rebate, we assume that the Treasury will send checks to all individuals who filed a tax return last year even if they had no income tax liability (as long as they had some payroll tax liability). Because the Treasury's regular peak-load tax filing and refund season runs through May, we assume that the checks will be distributed over a period of several weeks beginning in late June. Our projection assumes that about two-thirds of the dollar amount of the refunds will be spent by socalled rule-of-thumb households during the three quarters after the checks are received-the last two quarters of this year and the first quarter of next year-while the remaining one-third of the rebates will be mostly saved in the first instance, and then spent slowly. These assumed spend-out rates are consistent with our assessment of the empirical evidence from studies of the tax rebates distributed in 2001 and 2003. Nevertheless, there is obviously considerable uncertainty around the magnitude and the rate at which households are likely to spend their checks.

We also assume that businesses will be allowed a bonus depreciation allowance equal to 30 percent of the expenditure for eligible investments made in 2008. Bonus depreciation reduces the effective tax rate on investment because it allows firms to claim their depreciation tax shields more quickly. Economic theory predicts that this type of tax incentive should induce firms to make additional investment-particularly in long-lived assets-when the bonus is available. However, the empirical evidence suggests that the last time such a bonus was offered, its effect was small at best. Accordingly, in the baseline, we built in a very modest influence from bonus depreciation-only enough to boost the growth of real spending on equipment and software about $1 / 2$ percent this year, and trim it by roughly the same amount next year.

All told, we assume that the fiscal stimulus package will add about $3 / 4$ percentage point to the growth rate of final sales in 2008, all in the second half of this year. We assume that about half of this increment to final sales will be met by a reduction in inventories this year and about half by added production. The boosts to final sales and real GDP in 2008 are essentially unwound in 2009 after the bonus depreciation ends, the bulk of the tax refund has been spent, and the levels of investment and consumer spending fall back to roughly where they would have been in the absence of the stimulus. Because the fiscal package has little persistent effect on resource utilization, it also has little effect on inflation.

Our other fiscal policy assumptions are unchanged. As we had anticipated, the Congress extended relief from the alternative minimum tax for 2007 for most individuals, and we still expect that such relief will be further extended through 2009. Also, we continue to assume that the rise in spending for military activities in Iraq and Afghanistan will slow in 2008 and flatten out in 2009. We project the unified deficit to increase from $\$ 163$ billion in fiscal 2007 to about $\$ 340$ billion in fiscal 2008-considerably wider than in the December Greenbook because of the lower revenues associated with the stimulus package—and then to narrow to about \$290 billion in fiscal 2009.

The foreign exchange value of the dollar has moved little since the time of the December Greenbook. However, we now assume that the dollar will decline somewhat more rapidly than in the last Greenbook in response to the lower path of U.S. interest rates. We now project a real dollar depreciation of about $21 / 2$ percent annually during 2008 and 2009; this compares with a depreciation of $11 / 2$ percent per year in the previous Greenbook. And although there remains a noteworthy risk of a sharp slowdown in economic activity abroad, we continue to expect foreign real GDP to post solid rates of increase of nearly 3 percent in 2008- a little lower than in the previous projection-and a bit less than $3 ½$ percent in 2009.

The spot price of West Texas intermediate (WTI) crude oil has been volatile since early December, but on net, our assumed oil price path has changed very little. After rising to $\$ 100$ per barrel around the turn of the year, the spot price has retreated and now stands at $\$ 90$ per barrel, just slightly higher than its level at the time of the December Greenbook. Far-dated futures prices are essentially unchanged, and we continue to project that the oil price will decline gradually to about $\$ 85$ per barrel by the end of 2009.

## Recent Developments and the Near-Term Outlook

We now estimate that real GDP rose at an annual rate of about $1 / 2$ percent in the fourth quarter, a somewhat faster pace of growth than we had projected in the December Greenbook. This upward revision reflects surprisingly strong readings on consumer spending, nonresidential construction, and government outlays that were only partially offset by lower inventory investment. However, with many forward-looking indicators weaker than we had expected, we have interpreted that extra spending growth as being transitory; in addition, the incoming news on the housing market has been much worse than we were anticipating. Accordingly, we have reduced our projection for final sales in the first half of this year, but we have allowed inventories to offset some of that

| Summary of the Near-Term Outlook (Percent change at annual rate except as noted) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Measure | 2007:Q4 |  | 2008:Q1 |  |
|  | Dec. GB | Jan. GB | Dec. <br> GB | Jan. GB |
| Real GDP | . 1 | . 5 | . 7 | . 6 |
| Private domestic final purchases | -. 2 | . 9 | -. 3 | -. 9 |
| Personal consumption expenditures | 1.3 | 2.2 | 1.4 | 1.3 |
| Residential investment | -30.0 | -30.6 | -28.7 | -33.1 |
| Business fixed investment | 4.4 | 7.4 | . 9 | -1.1 |
| Government outlays for consumption and investment | 2.4 | 4.0 | 2.2 | 1.6 |
|  | Contribution to growth (percentage points) |  |  |  |
| Inventory investment | -. 4 | -1.3 | . 2 | . 9 |
| Net exports | . 1 | . 2 | . 3 | . 1 |

weakness. Even so, our projection for real GDP growth in the first and second quartersat annual rates of $1 / 2$ percent and $11 / 4$ percent—is lower than in the December Greenbook.

The output of the industrial sector declined in the fourth quarter as manufacturers adjusted production promptly in response to signs of softer demand. The fourth-quarter slowdown was fairly widespread but was most pronounced in motor vehicle production and construction-related industries. Automakers' schedules call for vehicle assemblies to remain low this quarter, and many near-term indicators of manufacturing IP, including regional business surveys and durable goods orders, have deteriorated. We therefore look for factory output to edge down again in the first quarter. With this path of output, capacity utilization in manufacturing is expected to move down to about 79 percent this quarter from the recent high of $801 / 2$ percent in the third quarter of 2007.

The labor market deteriorated in December, as private payroll employment declined 13,000 and the unemployment rate moved up 0.3 percentage point to 5 percent. We have weakened our labor market projection in response to this news, and we now expect essentially no growth in private employment in the first half of this year. We expect the unemployment rate to remain at 5 percent through March and to edge up to 5.1 percent in the second quarter.

Real PCE rose at an annual rate of $2 \frac{114}{4}$ percent in the fourth quarter, about 1 percentage point faster than we had previously projected. However, the monthly pattern of sales in the retail control category suggests that this category of spending entered 2008 on a weaker trajectory. In addition, industry contacts suggest that motor vehicle sales, which held up surprisingly well through the fourth quarter, have softened thus far in January. Given the subdued readings on spending of late, and with energy prices eating into real incomes, equity prices falling, and consumer sentiment remaining downbeat, we look for real PCE to decelerate to an annual rate of just above 1 percent in the first half of this year.

Activity in housing markets has continued to contract sharply. Single-family starts moved lower in November and December, and while these declines were only modestly larger than we had anticipated, permit issuance dropped more precipitously than we had expected. On the demand side, the news was mixed. Sales of existing single-family homes remained flat in the autumn, and pending home sales agreements suggest that existing home sales will continue near current levels in the near term. In contrast, sales of new homes fell sharply in November, as did a related measure of new homes sold by large builders in December. With the outlook for new home sales now weaker, reducing the overhang of unsold homes will require more pronounced production adjustments, and we have taken down our residential construction forecast appreciably in the near term. We now look for single-family starts to fall to an annual pace of about 680,000 units by the second quarter and for residential construction to be a noticeably larger drag on real GDP growth in the first part of this year than in our previous projection. In the multifamily sector, starts dropped sharply in December, but we attribute little signal to that reading and expect them to rebound in the near term.

The outlook for business fixed investment has turned more negative as well. Although spending on high-tech equipment appears to have increased modestly last quarter, the orders and shipments data through November suggest that real outlays declined at a 2 percent annual rate for the broad category of equipment outside of the transportation and high-tech categories. Meanwhile, indicators of business sentiment have weakened, and financing conditions for businesses have become more restrictive as evidenced by increased reports of tighter lending standards in the Senior Loan Officer Opinion Survey. In light of these developments, we now project that overall equipment and software (E\&S) spending will decline in the first half of this year. Real outlays for nonresidential construction apparently continued to rise rapidly through the fourth quarter, but we
expect this category of business investment to soften considerably in the near term in response to the deceleration of output and employment and tighter financial conditions.

In the government sector, information through December from the federal government's Monthly Treasury Statement suggests that real federal purchases rose at an annual rate of almost 5 percent in the fourth quarter, primarily because of another solid increase in defense spending. The rise in real federal purchases is projected to slow to an annual rate a bit below 2 percent in the first half of this year, as defense expenditures are expected to rise only modestly following three quarters of hefty increases. In the state and local sector, data on both employment and construction point to a noticeable increase$31 / 2$ percent at an annual rate-in the sector's real purchases last quarter. The rise in real state and local purchases is projected to slow to an annual rate of about $11 / 2$ percent in the first half of this year, as hiring and construction spending moderate toward a pace more consistent with expected growth of revenues.

The monthly Census data through November suggest that businesses outside of the motor vehicle sector added to inventories at about the same subdued pace in the fourth quarter as they did in the third quarter. At least to date, we see few signs that any serious inventory imbalances have developed. In the first quarter, we expect a somewhat faster pace of non-auto inventory accumulation as final sales weaken further. In the motor vehicle sector, production cutbacks led to a sharp decline in inventories last quarter, and with production expected to remain low this quarter and sales expected to decline, we look for stocks to remain about flat. Altogether, we are projecting inventory investment to cushion some wide swings in final demand, reducing real GDP growth by $11 / 4$ percentage points in the fourth quarter and boosting growth by 1 percentage point this quarter.

Real exports and imports have been erratic in recent quarters. Cutting through these swings, exports have risen rapidly while import growth has been subdued, and we expect this pattern to persist in the near term. We look for export growth to average an annual rate of 7 percent this quarter and next and for imports to move only slightly higher over this period. In all, real net exports are projected to contribute about $3 / 4$ percentage point to real GDP growth in the first half of this year.

We now estimate that core PCE prices rose at an annual rate of 2.7 percent in the fourth quarter, $1 / 2$ percentage point more than we had projected in the last Greenbook. Part of this revision is associated with the nonmarket component of PCE prices, which was
revised up considerably in both the third and fourth quarters and from which we take little signal. But the market-based component also came in higher in November than we expected, and, judging from the CPI and PPI data, it was higher in December as well. We interpret the more-rapid increases toward year-end, in large measure, as reflecting a rebound from the unusually low inflation readings registered in the first half of 2007, and we do not expect core inflation to continue at the pace of the fourth quarter. Still, we have revised up our near-term projection for core inflation; we expect core PCE inflation to slow to an annual pace of 2.4 percent this quarter and to a 2.1 percent pace in the second quarter, upward revisions of 0.3 percentage point and 0.1 percentage point, respectively, from our December projection. Meanwhile, sizable increases in energy prices have continued to push up headline inflation. We now estimate that overall PCE prices rose at an annual rate of 3.9 percent in the fourth quarter and project them to increase at a 3 percent pace this quarter; in the second quarter, we expect headline inflation to come back into line with core inflation.

## The Medium-Term Outlook

We expect the current economic weakness to gradually dissipate in response to a number of factors that should support demand. These factors include the easier monetary policy (both the easing already in place and the additional assumed easing), fiscal stimulus, and a lessening drag from high oil prices. Taken together, these factors should both attenuate this year's slowdown in growth and boost growth next year, in part by fostering higher equity values, a further depreciation of the dollar, and improvements in consumer and business confidence. In comparison with the December Greenbook, we have actually raised our projection of real GDP growth in the second half and in 2009. However, a higher estimate of potential output growth accounts for most of this upward revision. ${ }^{3}$

Household spending. We expect the pace of consumption growth to strengthen from an annual rate of only $11 / 4$ percent in the first half of this year to a $31 / 2$ percent pace in the second half. As in previous Greenbooks, some of this strengthening comes from faster real income gains as energy prices move lower, and some comes from a gradual improvement in financial conditions and consumer confidence, which offset an increasing drag from lower housing and equity wealth. In this Greenbook, our forecast

[^2]
## Projections of Real GDP

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

| Measure | 2007: <br> H2 | 2008: <br> H1 | 2008 | 2009 |
| :---: | ---: | ---: | ---: | ---: |
| Real GDP | 2.7 | . .9 | $\mathbf{1 . 5}$ | 2.2 |
| Previous | 2.5 | 1.0 | 1.3 | 2.1 |
| Final sales | 2.9 | .5 | 1.7 | 1.7 |
| Previous | 2.2 | 1.2 | 1.3 | 2.1 |
| PCE | 2.5 | 1.1 | 2.3 | 1.4 |
| Previous | 2.0 | 1.4 | 1.5 | 2.2 |
| Residential investment | -25.7 | -29.4 | -20.2 | -1.4 |
| Previous | -25.3 | -22.6 | -14.6 | -2.3 |
| BFI | 8.4 | -.6 | .5 | 2.8 |
| Previous | 7.3 | .6 | .6 | 2.4 |
| Government purchases | 3.9 | 1.7 | 1.4 | .9 |
| Previous | 3.1 | 2.1 | 1.6 | .8 |
| Exports | 11.6 | 7.0 | 7.2 | 7.3 |
| Previous | 13.0 | 7.0 | 7.0 | 6.7 |
| Imports | 3.2 | .7 | 1.9 | 3.8 |
| Previous | 4.3 | .7 | 2.1 | 4.1 |
|  | Contribution to growth |  |  |  |
|  | (percentage points) |  |  |  |
| Inventory change | -.2 | .4 | -.1 | .5 |
| Previous | .3 | -.2 | .0 | .0 |
| Net exports | .8 | .7 | .5 | .3 |
| Previous | .7 | .7 | .5 | .1 |

for the path of consumer spending is also heavily influenced by the income tax rebates that are part of our fiscal stimulus package. We expect the rebates to boost consumer spending growth sharply in the second half of this year because a large share of these rebates are assumed to go to so-called rule-of-thumb households, which we believe will spend them quickly. In the first half of next year, consumption nearly flattens out as spending returns to a more sustainable long-run level. Growth of real PCE then returns to a $21 / 2$ percent annual rate in the second half of next year. Averaging through the effects of the rebates on spending, this projection is about the same as in the December Greenbook, because the boost from the higher estimate of potential output growth and the additional
monetary stimulus in this projection roughly offsets a larger drag from the lower level of wealth.

Residential investment. We have once again lowered our projection for housing activity in response to incoming data that point to weaker demand and a larger months' supply of unsold homes. We now project that single-family starts will bottom out at an annual pace of around 680,000 units in the second quarter-one quarter later and 130,000 units lower than in our December projection-and hold near that level through the end of this year. With a gradual improvement in mortgage credit availability expected to promote some recovery in sales, we believe that the projected level of starts this year will be low enough to reduce the inventory overhang somewhat by the end of the year. These developments should prompt builders to increase activity slightly, and we look for single-family starts to edge up during 2009 to about a 740,000 unit pace by the fourth quarter of that year. Meanwhile, multifamily starts are anticipated to remain at about 300,000 units this year and to edge higher in 2009. All told, we project that real investment in residential construction will decline 20 percent in 2008, subtracting about $3 / 4$ percentage point from GDP growth (a little smaller than the drag in 2007), and will be about flat in 2009.

Business investment. Our projection for business investment is generally weaker than in the last Greenbook. As noted above, we expect business outlays for $\mathrm{E} \& \mathrm{~S}$ to decline in the first half of this year in response to signs of worsening business sentiment and heightened uncertainty; we had expected outlays to be about flat in our previous forecast. But we expect the growth of E\&S to pick up somewhat more rapidly in late 2008 and 2009 than we projected earlier, reflecting both the reversal of some of the recent adverse business sentiment as the economy improves and a response to the faster growth of business output that we are projecting later this year and in 2009. We think that the new depreciation incentives will boost E\&S growth only about $1 / 2$ percent this year and will reduce growth an equivalent amount in 2009 as the incentives come off; if we are wrong, the consequences should largely be one of timing, with any discrepancy in investment spending this year roughly offset next year. In all, we project investment in E\&S to be about flat this year and to rise a little less than 4 percent in 2009.

We continue to think that spending for nonresidential structures will decelerate sharply this year. The rapid spending growth of the past two years likely reflected, in large measure, a catch-up from the earlier period of stagnation; that catch-up likely is drawing to a close in an environment in which vacancy rates have edged up, employment growth has slowed, and financing conditions have tightened. We also expect outlays for drilling
and mining structures to flatten out at their recent high levels as oil and natural gas prices gradually move lower. In total, we expect spending on nonresidential structures to rise $11 / 4$ percent, on average, this year and next.

Government spending. Our projection for real government purchases has changed only a little from that in the last Greenbook. In the federal sector, we expect the rise in real federal purchases to slow to about $13 / 4$ percent in 2008 and $11 / 4$ percent in 2009 as defense spending decelerates. In the state and local sector, real purchases are projected to rise only $1 \frac{1}{4}$ percent in 2008 and $3 / 4$ percent in 2009 as slower increases in revenues from sales taxes, income taxes, and property taxes put pressure on the budgets of these jurisdictions.

Net exports. We expect the demand for U.S. exports to remain on a solid uptrend this year and next, supported by continued foreign growth and by past and projected depreciation of the dollar. Furthermore, with domestic demand anticipated to be quite weak in coming quarters, we project that imports will rise only modestly in 2008 before increasing somewhat more rapidly in 2009 as domestic demand strengthens and import prices decelerate. In total, we project that real net exports of goods and services will contribute about $1 / 2$ percentage point to the change in real GDP in 2008-similar to the 2007 contribution—and about $1 / 4$ percentage point in 2009; both contributions are slightly larger than in the December Greenbook, reflecting the faster rate of dollar depreciation in this projection. (The International Developments section provides more detail on the outlook for the external sector.)

## Aggregate Supply, the Labor Market, and Inflation

In this forecast, we have raised our estimate for the growth of potential output by about 0.2 percentage point per year from 2005 through 2009. About half of this upward revision reflects an assumed faster pace of structural productivity growth in response to the large increases in actual nonfarm business productivity in recent quarters; the remainder reflects our assessment that the trend of GDP outside the nonfarm business sector relative to nonfarm business output is rising more rapidly than was assumed in our previous estimate of potential output. Thus, we now estimate that potential real GDP rose $21 / 2$ percent in both 2006 and 2007 and that potential output will increase $21 / 4$ percent per year in 2008 and 2009. Given these adjustments and our forecast for actual GDP, the output gap is now close to zero in the fourth quarter of 2007 (in the December Greenbook, actual GDP was about $1 / 2$ percent above potential); but actual falls below potential in the current quarter, and the negative gap widens to about $3 / 4$ percent in 2009.

## 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 | $\mathbf{1 . 5}$ | $\mathbf{2 . 5}$ | $\mathbf{2 . 8}$ | $\mathbf{2 . 1}$ | $\mathbf{2 . 0}$ | $\mathbf{1 . 9}$ | $\mathbf{1 . 9}$ |
| Contributions |  |  |  |  |  |  |  |
| Capital deepening |  | 2.5 | 2.7 | 2.0 | 1.9 | 1.8 | 1.8 |
| $\quad$ Previous | .7 | 1.4 | .7 | .7 | .6 | .5 | .5 |
| Multifactor productivity | .7 | 1.4 | .7 | .7 | .6 | .6 | .5 |
| $\quad$ Previous | .5 | .7 | 1.8 | 1.2 | 1.2 | 1.2 | 1.2 |
| Labor composition | .5 | .7 | 1.8 | 1.1 | 1.1 | 1.1 | 1.1 |
| MEMO | .3 | .3 | .3 | .2 | .2 | .2 | .1 |
| Potential GDP |  |  |  |  |  |  |  |
| $\quad$ Previous | 3.0 | 3.3 | 2.7 | 2.4 | 2.4 | 2.3 | 2.3 |

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

1. Percentage points.

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

| Measure | 2006 | 2007 | 2008 | 2009 |
| :--- | ---: | ---: | ---: | ---: |
| Output per hour, nonfarm business | .9 | 2.7 | 1.6 | 1.9 |
| $\quad$ Previous | .9 | 2.3 | 1.3 | 1.9 |
| Nonfarm private payroll employment | 1.8 | 1.1 | .2 | .7 |
| $\quad$ Previous | 1.8 | 1.2 | .4 | .7 |
| Household survey employment $^{\text {Previous }}$ | 2.1 | .4 | .3 | .8 |
| Labor force participation rate $^{1}$ | 2.1 | .4 | .6 | .8 |
| $\quad$ Previous | 66.3 | 66.0 | 65.7 | 65.5 |
| Civilian unemployment rate $^{1}$ | 46.3 | 65.9 | 65.7 | 65.5 |
| $\quad$ Previous | 4.4 | 4.8 | 5.1 | 5.2 |
| MEMO $^{1}$ | 4.5 | 4.7 | 4.9 | 5.0 |
| GDP gap $^{2}$ |  |  |  |  |
| $\quad$ Previous | .1 | .1 | -.7 | -.8 |

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.

Productivity and the labor market. After rising rapidly over much of 2007, productivity is expected to decelerate sharply in the first half of this year as a consequence of the sluggish pace of output growth. We judge that, by midyear, the level of productivity will be about equal to our estimate for structural productivity, and as a result, we project productivity growth to rise about in line with its structural rate of about 2 percent through 2009. Private payroll employment is projected to change little over the first half of this year and then gradually strengthen to show average gains of about 65,000 per month in 2009. The unemployment rate is projected to move up a bit from current levels with this year's below-trend growth, reaching $51 / 4$ percent by the start of 2009, where it is expected to remain throughout the year.

Prices and labor costs. As noted earlier, recent readings on core PCE inflation have been above our expectations, and although we view most of that surprise as transitory, we nonetheless expect a bit of this faster pace to persist into this year. In addition, energy and import prices are projected to add slightly more to inflation pressures this year than in the December Greenbook. As a result, despite the greater slack in resource utilization, we have raised our projection for core PCE inflation over the four quarters of 2008 by 0.1 percentage point, to 2.1 percent. With expected inflation anticipated to remain well contained, we continue to project that core inflation will recede slightly to 1.9 percent next year in response to economic slack and the diminishing pass-through effect of higher energy prices.

The rapid run-up of crude oil prices late last year is boosting finished energy prices early in 2008, and with the slightly higher path of oil prices in this Greenbook, energy prices contribute a little more to our projection of overall PCE inflation this year than they did in the December Greenbook. Thus, we now expect total PCE inflation to be 2.2 percent this year, $1 / 4$ percentage point more than in our previous forecast. In 2009, with energy prices edging lower, we project headline inflation to move down to 1.7 percent, a little lower than core inflation. Our projection for consumer food prices is little changed in this Greenbook, and we continue to expect food price inflation to move down toward core inflation this year and next; retail food prices have been decelerating about as we had expected, and although spot commodity prices for some crops have moved notably higher of late, many livestock prices have moved lower, and futures prices continue to indicate moderation.

We have received little new information about hourly compensation since the last Greenbook, and our projection is about unchanged. We project hourly compensation to

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

| Measure | 2006 | 2007 | 2008 | 2009 |
| :--- | ---: | ---: | ---: | ---: |
| PCE chain-weighted price index | 1.9 | 3.4 | 2.2 | 1.7 |
| Previous | 1.9 | 3.2 | 2.0 | 1.7 |
| Food and beverages | 2.3 | 4.4 | 2.3 | 2.0 |
| Previous | 2.3 | 4.6 | 2.2 | 2.0 |
| Energy | -4.0 | 18.8 | 3.2 | -1.0 |
| $\quad$ Previous | -4.0 | 18.6 | 1.8 | -1.3 |
| Excluding food and energy | 2.3 | 2.1 | 2.1 | 1.9 |
| $\quad$ Previous | 2.3 | 2.0 | 2.0 | 1.9 |
| Consumer price index | 1.9 | 4.0 | 2.4 | 1.8 |
| $\quad$ Previous | 1.9 | 3.9 | 2.2 | 1.8 |
| Excluding food and energy | 2.7 | 2.3 | 2.3 | 2.1 |
| $\quad$ Previous | 2.7 | 2.3 | 2.2 | 2.1 |
| GDP chain-weighted price index | 2.7 | 2.6 | 2.2 | 1.9 |
| $\quad$ Previous | 2.7 | 2.4 | 2.2 | 2.0 |
| ECI for compensation of private |  |  |  |  |
| $\quad$ industry workers ${ }^{1}$ | 3.2 | 3.2 | 3.7 | 3.6 |
| Previous | 3.2 | 3.2 | 3.7 | 3.7 |
| Compensation per hour, |  |  |  |  |
| $\quad$ nonfarm business sector | 5.0 | 3.9 | 4.4 | 4.1 |
| Previous | 5.0 | 3.7 | 4.5 | 4.2 |
| Prices of core nonfuel imports | 2.4 | 3.1 | 1.7 | 1.2 |
| Previous | 2.4 | 2.9 | 1.1 | .9 |

1. December to December.
increase about $41 / 2$ percent this year-its average over 2006 and 2007-and then to decelerate to a 4 percent pace in 2009 in response to slack in resource utilization and moderating headline inflation. For the employment cost index, which has been running well below the nonfarm compensation measure, we project increases of about $33 / 4$ percent this year and $31 / 2$ percent in 2009.

## The Long-Term Outlook

We have extended the staff forecast to 2012 using the FRB/US model, adjusted to incorporate those elements of the medium-term outlook that we assess to be persistent. The contour of the long-run extension depends on several key assumptions

## The Long-Term Outlook

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

| Measure | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Real GDP | 2.4 | 1.5 | 2.2 | 2.7 | 2.7 | 2.5 |
| Civilian unemployment rate $^{1}$ | 4.8 | 5.1 | 5.2 | 5.0 | 4.9 | 4.8 |
| Total PCE prices $_{\text {Core PCE prices }^{\text {Federal funds rate }^{1}}} \quad 3.4$ | 2.2 | 1.7 | 1.8 | 1.8 | 1.8 |  |

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

- Monetary policy is assumed to aim at stabilizing PCE inflation at $13 / 4$ percent, the midpoint of the range of longer-term inflation forecasts provided by FOMC participants in October.
- Fiscal policy is an essentially neutral factor in the extended outlook. The deficit of the federal government remains about flat as a percent of GDP, while the fiscal balance of state and local governments improves somewhat.
- Beyond 2009, foreign real GDP expands $31 / 4$ percent per year while the dollar depreciates $11 / 4$ percent per year in real terms; real oil prices are roughly flat, as is consistent with far-dated futures prices. Under these assumptions, the current account deficit diminishes to about $41 / 4$ percent of GDP by 2012, and movements in energy and import prices have only minor implications for domestic inflation.
- The NAIRU remains flat at $43 / 4$ percent, and potential GDP expands about $2 \frac{1}{4}$ percent per year from 2010 to 2012.

Together, these assumptions imply that real GDP expands about $21 / 2$ percent per year, on average, from 2010 to 2012, a touch above the increase in potential GDP, and the unemployment rate moves down toward the NAIRU. Inflation settles in at $1 \frac{1}{4}$ percent per year. In 2010, with the unemployment rate above the NAIRU and inflation slowing, monetary policy remains accommodative. Thereafter, the nominal federal funds rate rises gradually, reaching about 4 percent by the end of 2012. The real federal funds rate reaches $2 \frac{1}{4}$ percent, a level we judge to be roughly neutral in the medium-to-long run.

## Financial Flows and Conditions

Domestic nonfinancial debt is expected to increase at an annual rate of $51 / 4$ percent this quarter, a big step down from the $81 / 4$ percent rise in 2007. We expect debt growth to moderate further to an average annual rate of $43 / 4$ percent through 2009, reflecting a
broad-based slowdown in borrowing by households, businesses, and state and local governments.

After having expanded an estimated 63/4 percent in 2007, household debt is expected to increase at an annual rate of just 4 percent this quarter, the smallest quarterly gain in fifteen years. This deceleration reflects a projected slowdown in home mortgage borrowing, which continues to be restrained by falling home prices and weak sales. We expect the growth of mortgage debt to moderate a little further over the rest of this year and to remain sluggish in 2009 amid a persistently weak housing market. In addition, we project that the growth of nonmortgage credit will slow in line with our outlook for modest growth of household spending on durable goods and tighter terms and standards on consumer loans. Taken together, we expect that total household debt will increase $31 / 2$ percent this year and $31 / 4$ percent in 2009.

Borrowing by nonfinancial businesses appears to be slowing from last year’s robust pace, and we project some further moderation in coming quarters. We expect net issuance of corporate bonds to be tempered by the projected falloff in the pace of cash-financed mergers and acquisitions and share repurchases. We anticipate that the pace of bank lending will also slow this quarter after having been boosted last quarter by leveraged loans that banks were unable to syndicate to other investors. We continue to expect that the resulting bloating of bank balance sheets will contribute to tighter lending standards and terms on new business loans, consistent with the results of the January Senior Loan Officer Opinion Survey. As a slight offset to the reduced pace of borrowing from banks and in the bond market, we expect net issuance of nonfinancial commercial paper to turn positive after two quarters of net paydowns. All told, our projection calls for the growth of business debt to move down to around 53/4 percent in 2008 and 2009 from roughly 11 percent in 2007.

Federal government debt rose moderately in the fourth quarter, bringing growth for 2007 as a whole to about 5 percent. We expect the growth of federal debt to move up to $61 / 4$ percent in 2008, boosted, in part, by borrowing to fund the proposed federal stimulus package. In 2009, we project that federal debt will expand at about the same pace despite a narrowing in the unified federal deficit, reflecting a shift away from cash and other nondebt sources of deficit finance. We expect the growth of state and local government debt to slow from 11 percent in 2007 to an average of $63 / 4$ percent in 2008 and 2009 as issuance declines for both long-term capital and advance refundings. In recent months, investors have lost confidence in the value of insurance offered by several large financial
guarantors, and Ambac, the second largest bond insurer, lost its AAA rating last week. We think that continued concerns about major bond insurers will restrain municipal bond issuance somewhat in 2008.

M2 is estimated to have expanded 6 percent in 2007, a rise likely reflecting a reduction in opportunity cost and a shift toward safe and liquid assets during the recent financial market turmoil. With opportunity costs expected to fall further through the first half of this year, M2 is projected to grow $51 / 2$ percent in 2008, significantly faster than the growth of nominal GDP. In 2009, we expect M2 to rise in line with nominal GDP.

## Alternative Simulations

In this section, we explore risks to the staff forecast using alternative simulations of the FRB/US model. In the first scenario, we assume that the generally downbeat tone of recent indicators signals the onset of a recession. Our second simulation assumes that a fiscal stimulus package is not enacted. The third scenario examines the possibility that financial conditions will remain restrictive for longer than assumed in the baseline, in part because of worsening capital problems at banks. We then consider an upside risk to real activity, namely that we have taken too much signal from incoming data and recent financial market developments, and that underlying aggregate demand is stronger than in the baseline. The fifth and sixth scenarios examine opposing risks to the inflation outlook: first, that weaker real activity will lead to greater worker insecurity and more quiescent wage demands, and second, that inflation expectations will rise in response to a prolonged period of elevated headline price increases and the easing of monetary policy in the baseline projection. In the final scenario, we assume that monetary policy follows a path implied by quotes from the futures market.

Recession. The baseline forecast skirts a recession. However, we may have underestimated the signal regarding weakening activity from the drop in equity prices, the downturn in business sentiment, and the rise in the unemployment rate since last summer. In this scenario, we assume that these signals are the harbinger of a sharp drop in household and business demand. In particular, for each category of spending outside of housing, we assume a shortfall in spending relative to fundamentals that equals the average seen in six previous postwar recessions. The result is a broad-based decline in demand such that real GDP growth turns negative in 2008 and remains below potential through the first half of 2009, causing the unemployment rate to peak just above 6 percent late next year. Under the estimated Taylor rule, the federal funds rate declines in response to the emerging weakness, falling below 1 percent for most of 2009. During

## Alternative Scenarios

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

| Measure and scenario | 2007 | 2008 |  | 2009 | 2010 | $\begin{gathered} 2011- \\ 12 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H2 | H1 | H2 |  |  |  |
| Real GDP |  |  |  |  |  |  |
| Greenbook baseline | 2.7 | 0.9 | 2.2 | 2.2 | 2.7 | 2.6 |
| Recession | 2.7 | -0.8 | -0.1 | 2.1 | 3.8 | 3.3 |
| No fiscal stimulus | 2.7 | 0.9 | 1.4 | 2.5 | 2.7 | 2.6 |
| Persistent weakness | 2.7 | 0.8 | 1.8 | 1.3 | 2.4 | 2.9 |
| Faster recovery | 2.7 | 1.1 | 2.6 | 2.9 | 2.9 | 2.4 |
| Worker insecurity | 2.7 | 0.7 | 2.0 | 2.2 | 3.1 | 2.9 |
| Unanchored inflation expectations | 2.7 | 0.9 | 2.2 | 2.3 | 2.6 | 2.5 |
| Market-based federal funds rate | 2.7 | 0.9 | 2.5 | 2.8 | . | . |
| Civilian unemployment rate ${ }^{1}$ |  |  |  |  |  |  |
| Greenbook baseline | 4.8 | 5.1 | 5.1 | 5.2 | 5.0 | 4.8 |
| Recession | 4.8 | 5.3 | 5.7 | 6.1 | 5.6 | 4.7 |
| No fiscal stimulus | 4.8 | 5.1 | 5.2 | 5.3 | 5.0 | 4.8 |
| Persistent weakness | 4.8 | 5.1 | 5.2 | 5.6 | 5.5 | 5.0 |
| Faster recovery | 4.8 | 5.1 | 5.0 | 4.9 | 4.6 | 4.6 |
| Worker insecurity | 4.8 | 5.1 | 5.2 | 5.3 | 5.0 | 4.5 |
| Unanchored inflation expectations | 4.8 | 5.1 | 5.1 | 5.2 | 5.0 | 4.9 |
| Market-based federal funds rate | 4.8 | 5.1 | 5.1 | 5.0 | . |  |
| Core PCE inflation |  |  |  |  |  |  |
| Greenbook baseline | 2.4 | 2.3 | 2.0 | 1.9 | 1.9 | 1.8 |
| Recession | 2.4 | 2.3 | 2.0 | 1.7 | 1.6 | 1.4 |
| No fiscal stimulus | 2.4 | 2.3 | 2.0 | 1.9 | 1.9 | 1.8 |
| Persistent weakness | 2.4 | 2.3 | 2.0 | 2.0 | 1.9 | 1.7 |
| Faster recovery | 2.4 | 2.3 | 2.0 | 1.9 | 1.9 | 1.9 |
| Worker insecurity | 2.4 | 2.3 | 1.9 | 1.7 | 1.6 | 1.5 |
| Unanchored inflation expectations | 2.4 | 2.3 | 2.3 | 2.3 | 2.3 | 2.2 |
| Market-based federal funds rate | 2.4 | 2.3 | 2.1 | 2.1 | . | . |
| Federal funds rate ${ }^{1}$ |  |  |  |  |  |  |
| Greenbook baseline | 4.5 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 |
| Recession | 4.5 | 2.3 | 1.2 | 0.8 | 2.0 | 4.0 |
| No fiscal stimulus | 4.5 | 3.0 | 3.0 | 3.0 | 2.9 | 3.9 |
| Persistent weakness | 4.5 | 3.0 | 2.7 | 1.9 | 1.7 | 3.3 |
| Faster recovery | 4.5 | 3.0 | 3.2 | 3.8 | 3.9 | 4.4 |
| Worker insecurity | 4.5 | 2.9 | 2.8 | 2.6 | 2.7 | 4.1 |
| Unanchored inflation expectations | 4.5 | 3.0 | 3.1 | 3.5 | 3.6 | 4.3 |
| Market-based federal funds rate | 4.5 | 2.5 | 2.0 | 2.4 | . | . |

1. Percent, average for the final quarter of the period.
the ensuing recovery, real GDP growth moves above potential for a time, but the excess demand necessary to return inflation to the assumed target of $13 / 4$ percent does not materialize until 2012. Thus, inflation is noticeably below baseline at the end of the scenario.

No fiscal stimulus. Although the odds now appear to favor passage of a fiscal stimulus package, the Congress and the Administration may yet fail to agree on a specific proposal. In this scenario, no agreement emerges, thereby eliminating the $\$ 75$ billion in federal personal tax rebates and $\$ 50$ billion in accelerated depreciation built into the baseline. On our assumptions, this would knock $1 / 2$ percentage point off real GDP growth in 2008 and add roughly that amount in 2009. These changes cause the unemployment rate to rise somewhat more this year but bring it back almost to baseline by the end of 2009; inflation is essentially unchanged from baseline because economic slack is only temporarily affected. ${ }^{4}$

Persistent weakness. In the baseline, waning concerns about recession and the health of the financial system provide a boost to asset prices and real activity later this year and in 2009. In this scenario, in contrast, uncertainty about the future does not diminish, so risk spreads on corporate bonds remain elevated, and equity prices rise at an annual rate of only 5 percent from the middle of 2008 through the end of 2009 (rather than 13 percent in the baseline). Financial conditions are further worsened by a 20 percent cumulative decline in nominal house prices by late 2009, as compared with 6 percent in the baseline. These developments not only reduce household wealth relative to baseline but also trigger a wave of mortgage defaults that impairs the ability of banks to provide credit. Consumers retrench under these conditions, increasing the personal saving rate more than $1 / 2$ percentage point relative to baseline by the second half of 2009. Thus, real GDP rises only $1 \frac{1}{4}$ percent on average this year and next, and the unemployment rate increases to $51 / 2$ percent by late next year. In response, the federal funds rate falls to $13 / 4$ percent by early 2010. This monetary easing, coupled with an assumed improvement over time in confidence and financial market functioning, causes real activity to slowly recover; inflation stays close to baseline because inflation expectations remain well anchored.

Faster recovery. The negative indicators that we have received recently may be revised or prove to be more temporary than we expect. Reflecting that possibility, this scenario

[^3]assumes that investor concerns about recession risk and financial market problems clear up more rapidly than in the baseline, allowing risk premiums on bonds and mortgages to fall an additional 25 basis points within a year; in addition, we assume a faster recovery in business and consumer sentiment. The stronger pace of consumer and business outlays boosts GDP growth about $1 / 2$ percentage point above baseline in the second half of this year and in 2009. The unemployment rate slowly edges down, falling below the NAIRU by 2010. The faster recovery reduces the need for monetary stimulus, and thus, under the estimated Taylor rule, the federal funds rate averages more than 75 basis points higher than the baseline path in 2009 and 2010. The effect on inflation, however, is small, as the stronger capital investment adds to the productive capacity of the economy.

Worker insecurity. In this scenario, we assume that a weakening economy results in unusually heightened insecurity among workers about their jobs, restraining wage growth. Relative to baseline, nominal compensation per hour rises about 1 percentage point less rapidly this year and next. Price inflation moderates as well, but by less than wages as firms resist passing all of the labor cost savings through to their customers; core PCE price inflation recedes to 1.7 percent by 2009. The resultant shift in the composition of aggregate income away from labor and toward capital puts a small degree of downward pressure on real consumer spending and hence GDP. In the face of lower inflation and slightly weaker real activity, the federal funds rate edges down to near $21 / 2$ percent in 2009 under the estimated Taylor rule. Spurred by lower real interest rates, economic conditions improve over the longer run, worker insecurity abates, and real wages return to baseline. However, price inflation remains subdued.

Unanchored inflation expectations. Recent indicators suggest that long-term inflation expectations remain within the narrow range that has prevailed for some time. But with overall PCE inflation having run well above 2 percent, on average, for the past three years, and with monetary policy now easing, inflation expectations may begin to drift up. In this scenario, we assume that long-run inflation expectations rise $1 / 2$ percentage point relative to baseline by the middle of this year. Over time, this upward drift leads to an increase in actual inflation so that core PCE inflation reaches about $2 \frac{1}{4}$ percent by yearend. Under the estimated Taylor rule, monetary policy tightens so gradually that the real federal funds rate does not rise above baseline until the middle of 2009. However, nominal bond yields show a larger and more rapid response to the change in inflation expectations, helping to restrain spending. On balance, these financial developments imply little change in real activity relative to baseline.

Market-based federal funds rate. Quotes from futures markets imply a path for the federal funds rate that is about 100 basis points below the staff's assumption for the end of 2008 and is a bit more than 50 basis points below the staff's assumption for the end of 2009. If the market's lower path were realized, the increased stimulus would boost the growth of real GDP to 1.7 percent in 2008 and 2.8 percent in 2009. Core PCE inflation would be a touch higher than in the baseline.

## Assessment of Forecast Uncertainty

The uncertainty that attends the staff forecast is always considerable, and the alternative scenarios discussed in the previous section represent just a few of the possible outcomes for real activity, inflation, and interest rates. Moreover, our ability to discriminate between periods of higher or lower degrees of uncertainty is extremely limited. That said, we think the uncertainty surrounding our current projection of real activity is probably greater than that seen on average over the past twenty years, as gauged by confidence intervals derived from historical forecasting errors. This assessment stems from the difficulty of predicting business-cycle turning points as well as from some evidence that the variance of our past GDP forecast errors was higher during times of financial stress. In addition, we see the distribution of future outcomes for output and employment growth as skewed to the downside, largely reflecting the same factors that are boosting uncertainty.

In contrast, we do not think that the uncertainty attached to our inflation projection is unusually wide relative to historical norms, nor do we see the risks to the price outlook as asymmetric. The behavior of core inflation has not been particularly surprising recently, given changes in energy prices and other factors, and we think that any unexpected movements in these factors are, in general, just as likely to move inflation up as down. In principle, the increased uncertainty and skewness of our real-side projection should work to alter the distribution of future inflation outcomes in a similar manner. But we see this influence as small given the apparent flatness of the aggregate supply curve.

## 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 | 1.5 | 2.2 | 2.7 | 2.7 | 2.5 |
| Confidence interval <br> Greenbook forecast errors FRB/US stochastic simulations | $\begin{aligned} & .0-3.0 \\ & .4-2.7 \end{aligned}$ | $\begin{aligned} & .7-3.6 \\ & .8-3.7 \end{aligned}$ | $1.1-4.4$ | $.9-4.5$ | .7-4.2 |
| Civilian unemployment rate (percent, Q4) |  |  |  |  |  |
| Projection | 5.1 | 5.2 | 5.0 | 4.9 | 4.8 |
| Confidence interval <br> Greenbook forecast errors FRB/US stochastic simulations | $\begin{aligned} & 4.7-5.6 \\ & 4.7-5.6 \end{aligned}$ | $\begin{aligned} & 4.3-6.1 \\ & 4.6-5.7 \end{aligned}$ | $4.3-5.7$ | $4.1-5.6$ | 3.9-5.6 |
| PCE prices, total (percent change, Q4 to Q4) |  |  |  |  |  |
| Projection | 2.2 | 1.7 | 1.8 | 1.8 | 1.8 |
| Confidence interval <br> Greenbook forecast errors <br> FRB/US stochastic simulations | $\begin{aligned} & 1.4-3.0 \\ & 1.5-3.0 \end{aligned}$ | $\begin{aligned} & .8-2.7 \\ & .9-2.6 \end{aligned}$ | .9-2.8 | .8-2.9 | . ${ }^{\text {c- }}$ - 2.9 |
| PCE prices excluding <br> food and energy <br> (percent change, Q4 to Q4) |  |  |  |  |  |
| Projection | 2.1 | 1.9 | 1.9 | 1.8 | 1.8 |
| Confidence interval <br> Greenbook forecast errors <br> FRB/US stochastic simulations | $\begin{aligned} & 1.5-2.7 \\ & 1.7-2.5 \end{aligned}$ | $\begin{aligned} & 1.1-2.8 \\ & 1.3-2.6 \end{aligned}$ | 1.2-2.6 | $\cdots$ $1.1-2.7$ | $\cdots$ $1.1-2.7$ |
| Federal funds rate (percent, Q4) |  |  |  |  |  |
| Projection | 3.0 | 3.0 | 3.0 | 3.7 | 4.0 |
| Confidence interval <br> FRB/US stochastic simulations | 2.0-4.0 | 1.6-4.6 | 1.6-4.7 | 2.2-5.6 | 2.4-5.9 |

Note: Intervals derived from Greenbook forecast errors are based on projections made from 1986-2006. Shocks underlying FRB/US stochastic simulations are randomly drawn from the 1986-2006 set of model equation residuals.
. . . Not applicable. The Greenbook forecast horizon has typically extended about two years.

Forecast Confidence Intervals and Alternative Scenarios
Greenbook baseline
Recession
$\square$ No fiscal stimulus
$\square$ Recession
$\square$ No fiscal stimulus
$\square$ Persistent weakness
$\square$ Faster recovery
$\square$ Worker insecurity
$\square$ Unanchored inflation expectations
$\square$ Market-based federal funds rate

Real GDP


PCE Prices excluding Food and Energy


Unemployment Rate


Federal Funds Rate


Class II FOMC - Restricted (FR)

## Evolution of the Staff Forecast

Change in Real GDP


Unemployment Rate


Change in PCE Prices excluding Food and Energy



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


|  | ¢ | $\mathrm{N}$ | $\underset{\sim}{i} \underset{\sim}{n}$ | $\underset{\sim}{+} \underset{\sim}{\sim}$ | $\underset{1}{+} \underset{1}{*}$ |  |  | $0 \infty \cdots$ |  |
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| $\begin{aligned} & \hat{8} \\ & \underset{i}{8} \end{aligned}$ | $\pm$ | $\stackrel{0}{i}-\vec{i}$ | $\stackrel{+}{-} \underset{\sim}{\sim} \underset{\sim}{\sim}$ | ナn nール ivin i | $\underset{i}{\sim}$ |  |  | No．00ㅇ．0 | NNNー |
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| $\begin{array}{\|c} \infty \\ \underset{\sim}{8} \\ \hline \end{array}$ | $\pm$ | $\stackrel{+}{i}$ | $\hat{N}=\stackrel{a}{n}$ | $\dot{n} \underset{\sim}{\sim} \underset{\sim}{n} \dot{m}$ | $\infty$ $\stackrel{\oplus}{i}$ |  |  | Gonomo | ন্ণন ત্ণ |
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|  | $\bar{\sigma}$ | $0 \uparrow$ | $? \forall \quad \pi_{i} ?$ | $\cdots \underset{\sim}{\sim} \underset{\sim}{0} \underset{\sim}{\sim}$ | $\underset{\sim}{\underset{\sim}{c}}$ | $\underset{-9}{\sim}$ | $\begin{aligned} & \text { No } \underset{\sim}{\circ} \text { a } \\ & \text { Nin } \end{aligned}$ | $\underset{\sim}{0} \text { N } \underset{\sim}{\bullet}-\infty$ | 잉 |
| $\begin{aligned} & \hat{e} \\ & \underset{N}{8} \end{aligned}$ | $\pm$ | $\cdots$－ | $\bigcirc$ | $\begin{array}{ll} \mathrm{NM} \\ \mathrm{~N} \\ \mathrm{~N} \\ \hline \end{array}$ | $$ |  |  |  | $\cdots \underset{1}{\infty}-$ |
|  | $\cdots$ | $\begin{array}{ll} 90 \\ i \end{array}$ | $\underset{\forall}{\circ} \underset{\sim}{\circ} \underset{\sim}{N}$ | in n n <br> N $\stackrel{+}{\sim} \times$ | $\begin{aligned} & n \\ & \underset{1}{n} \underset{1}{2} \\ & \hline 1 \end{aligned}$ |  | $\underset{\sim}{n} \underset{\sim}{n} \underset{\sim}{n}$ |  | লল N্র + |
|  | $\overline{0}$ | $\begin{aligned} & \infty \\ & \dot{n} \\ & \dot{n} \end{aligned}$ | $\stackrel{0}{0} \stackrel{r}{\mathrm{r}}=$ | $\underset{\rightarrow}{+} \underset{\sim}{*}$ |  |  | $\underset{i}{\star} \underset{\sim}{n} \underset{i}{N}$ |  | $\bullet \bullet$－ナ |
|  |  | $\bigcirc$ | $\underset{\sim}{n} \underset{\sim}{n}$ | ヘヘ $\dot{\operatorname{rin}} \dot{\operatorname{rin}}$ | $\begin{aligned} & n \\ & \underset{1}{0} \\ & \underset{1}{n} \end{aligned}$ | $\overrightarrow{\mathrm{N}} \overrightarrow{\mathrm{~N}}^{m}$ | $\begin{aligned} & N \\ & 6 \\ & 6 \end{aligned}$ | $\mathfrak{n} \because \underset{\substack{n} \infty}{\infty} \underset{\sim}{\infty} \underset{\sim}{0}$ | oopin |
| E |  |  |  |  |  |  |  |  |  |


| ¢ | $\stackrel{N}{\mathrm{~N}}$ | $\underset{\sim}{\sim} \underset{\sim}{n}$ | $\underset{\sim}{*} \underset{\sim}{\square}$ | $\underset{i}{*} \underset{i}{n}$ |  | $\underset{\sim}{\sim} \underset{\sim}{f} \underset{\sim}{\infty}$ | $a \infty \rightarrow \underset{\sim}{n}$ | $\ln 0-$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ¢ | $\because$ | №̣ | $\underset{\sim}{n} \underset{\sim}{\sim}$ |  | noon no． | $\underset{+}{\infty} \underset{+}{\infty} \underset{\sim}{\infty}$ | $\underset{-}{\sim} \underset{\sim}{\sim}$ | TO～ー |
| $\stackrel{\rightharpoonup}{\hat{O}}$ | $\stackrel{+}{i}$ | iñ | nooon <br> N N -i | $\underset{\sim}{\stackrel{\rightharpoonup}{\circ}} \stackrel{\ddots}{1}$ |  | $\begin{aligned} & \text { No } \\ & \text { o } \\ & \sim \end{aligned}$ |  <br>  | Nnmm |
| ¢ | $\begin{aligned} & 0 \\ & \cdots \\ & i \end{aligned}$ | $\bigcirc 0.7$ $\dot{\operatorname{rin}} \dot{\sim}$ | $\forall ナ \bullet \bullet \sigma$ м் $\dot{\operatorname{con}}$ | $\begin{array}{cc} \infty \\ \underset{1}{\infty} & \underset{1}{\mathrm{~N}} \end{array}$ | Nッツnmm nin N M |  | nい ペーか． $\operatorname{in}$ mi i－ | ¢ $\mathrm{f}_{\mathrm{f}}^{\text {¢ }}$ |
| ¢ | ה̀ | anmm Nतmm |  | $\stackrel{\rightharpoonup}{\bullet}$ |  | $\underset{\sigma_{1}}{\infty} \underset{\sigma}{\infty} \stackrel{0}{6}$ |  | $\cdots m \pm 0$ |
| ¢ | $\vec{m}$ | $\cdots \stackrel{\infty}{\infty} \underset{\sim}{\sim}$ | Nronm мゥ inm | O |  |  |  | いけ＋ |
| $\stackrel{\rightharpoonup}{\grave{\delta}}$ | $\stackrel{N}{\mathrm{r}}$ | $\stackrel{N}{\mathrm{~m}} \underset{\dot{\gamma}}{\dot{\gamma}}$ | ナ mon $\dot{\operatorname{rin}} \dot{\operatorname{riv}}$ | 클 |  | $\frac{\text { a }}{\stackrel{a}{n}} \stackrel{\infty}{i} \stackrel{\infty}{i}$ | Nin ningi | $\pm \pm \pm 0$ |
| 춍 | $9$ | $\infty \infty \text { Э }$ |  | $\begin{aligned} & \circ \\ & \sim \end{aligned}$ |  | $\underset{F}{\underset{F}{F}} \underset{\sim}{\infty}$ | $\underset{\forall}{\bigcirc} \underset{\sim}{\circ} \underset{\sim}{\infty} \underset{\sim}{\infty}-\underset{\sim}{\sim}$ | ㄴำ |
| － | ก บ | $\cdots \because 0$ | $\stackrel{\infty}{\infty} \stackrel{\infty}{\mathrm{N}} \stackrel{0}{0} \stackrel{0}{-}$ | $\underset{\sim}{\underset{\sim}{\tau}}$ | $0000-7$ かiか |  |  | Ñべ No |
| 気 | $\begin{aligned} & \text { sno!ıд.яd } \\ & \text { dG乌 [еәу } \end{aligned}$ |  |  | $\begin{aligned} & \text { Residential investment } \\ & \text { Previous } \end{aligned}$ |  |  |  |  |

[^4]

1. Change from fourth quarter of previous year to fourth quarter of year indicated.
Class II FOMC
Restricted (FR)

| 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 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 1.9 | 1.8 | 2.6 | 2.2 | 1.9 |
| Previous | 4.2 | 2.6 | . 9 | 1.8 | 2.5 | 2.2 | 2.0 | 1.9 | 2.1 | 2.0 | 1.9 | 1.9 | 2.4 | 2.2 | 2.0 |
| PCE chain-wt. price index | 3.5 | 4.3 | 1.8 | 3.9 | 3.0 | 2.1 | 2.0 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 3.4 | 2.2 | 1.7 |
| Previous | 3.5 | 4.3 | 1.7 | 3.5 | 2.5 | 2.0 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 3.2 | 2.0 | 1.7 |
| Energy | 16.1 | 51.3 | -6.7 | 21.6 | 11.8 | 1.2 | . 9 | -. 7 | -1.0 | -1.2 | -1.0 | -. 7 | 18.8 | 3.2 | -1.0 |
| Previous | 16.1 | 51.3 | -6.7 | 20.8 | 8.5 | 1.1 | -. 7 | -1.4 | -1.5 | -1.4 | -1.1 | -1.0 | 18.6 | 1.8 | -1.3 |
| Food | 4.8 | 4.7 | 4.7 | 3.5 | 2.6 | 2.3 | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 4.4 | 2.3 | 2.0 |
| Previous | 4.8 | 4.7 | 4.7 | 4.1 | 2.8 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 4.6 | 2.2 | 2.0 |
| Ex. food \& energy | 2.4 | 1.4 | 2.0 | 2.7 | 2.4 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 1.9 | 2.1 | 2.1 | 1.9 |
| Previous | 2.4 | 1.4 | 1.8 | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 |
| CPI | 3.8 | 6.0 | 1.9 | 4.3 | 3.5 | 2.2 | 2.1 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 4.0 | 2.4 | 1.8 |
| Previous | 3.8 | 6.0 | 1.9 | 4.0 | 2.9 | 2.1 | 1.9 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 3.9 | 2.2 | 1.8 |
| Ex. food \& energy | 2.3 | 1.9 | 2.5 | 2.5 | 2.7 | 2.3 | 2.2 | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 2.3 | 2.3 | 2.1 |
| Previous | 2.3 | 1.9 | 2.5 | 2.3 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.3 | 2.2 | 2.1 |
| ECI, hourly compensation ${ }^{2}$ | 2.3 | 3.5 | 3.1 | 3.7 | 3.7 | 3.7 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.2 | 3.7 | 3.6 |
| Previous ${ }^{2}$ | 2.3 | 3.5 | 3.1 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.6 | 3.2 | 3.7 | 3.7 |
| Nonfarm business sector Output per hour | . 7 | 2.2 | 6.2 | 1.8 | . 3 | 1.4 | 2.0 | 2.6 | 1.3 | 1.9 | 2.2 | 2.3 | 2.7 | 1.6 | 1.9 |
| Previous | . 7 | 2.2 | 6.3 | . 2 | . 5 | 1.5 | 1.6 | 1.8 | 2.0 | 2.0 | 1.9 | 1.9 | 2.3 | 1.3 | 1.9 |
| Compensation per hour | 5.9 | 1.0 | 4.3 | 4.4 | 4.3 | 4.5 | 4.5 | 4.4 | 4.3 | 4.2 | 4.1 | 4.0 | 3.9 | 4.4 | 4.1 |
| Previous | 5.9 | 1.0 | 4.2 | 3.6 | 4.1 | 4.6 | 4.6 | 4.6 | 4.4 | 4.3 | 4.2 | 4.1 | 3.7 | 4.5 | 4.2 |
| Unit labor costs | $5.2$ | -1.1 | -1.8 | 2.5 | 3.9 | 3.1 | 2.5 | 1.8 | 2.9 | 2.3 | 1.9 | 1.7 | 1.2 | 2.8 | 2.2 |
| Previous | 5.2 | -1.1 | -2.0 | 3.4 | 3.6 | 3.1 | 2.9 | 2.7 | 2.3 | 2.3 | 2.3 | 2.1 | 1.3 | 3.1 | 2.3 |

[^5]Class II FOMC
Restricted（FR）

|  | $\begin{aligned} & \overline{2} \\ & \stackrel{\rightharpoonup}{8} \end{aligned}$ | $\bigcirc \underset{i n}{N} O_{i} \infty_{i} t_{i}$ | nnorno ヘヘヘヘスペ | $09$ | $\underset{\sim}{\mathrm{N}} \underset{\sim}{\infty} \underset{\sim}{\circ}$ | $\stackrel{\rightharpoonup}{\mathrm{N}} \underset{-}{+}$ | $\underset{\sim}{n}$ | $\stackrel{n}{\mathrm{i}} \mathrm{r}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\stackrel{\bar{\infty}}{\substack{8 \\ \hline}}$ | $\overrightarrow{i n} \underset{i}{o} \hat{i}_{i}$ | $\begin{aligned} & \infty \text { No Nơ } \\ & \rightarrow \text { Nion } \end{aligned}$ | $\xrightarrow[-\infty]{\infty}$ | $\stackrel{\wedge}{\mathrm{r}} \underset{\mathrm{~N}}{+\infty}$ | Nin | $\begin{array}{ll} \infty \\ \underset{1}{\infty} \\ \hline \end{array}$ | $\stackrel{\infty}{=} \underset{i}{i}$ |
|  | $\stackrel{\rightharpoonup}{\mathrm{S}}$ | $\underset{\sim}{\infty} \underset{+}{\infty}-n$ | $\stackrel{\infty}{\infty} \underset{\sim}{\circ} \underset{\sim}{\circ} \underset{\infty}{\infty}$ | $\cdots$ |  | $\underset{\forall}{=}$ | ${\stackrel{\infty}{\underset{1}{n}}}^{1}$ | $\underset{\mathrm{N}}{\mathrm{~N}}$ |
| $\stackrel{\substack{8 \\ 8 \\ 8 \\ \text { N }}}{ }$ | $\pm$ |  |  | $=\underset{-}{0}$ | $\stackrel{n}{\sim} \underset{\sim}{n} \bigcirc \cdots$ | mo | $\underset{\sim}{\sim}$ | ${\underset{\sim}{n}}^{\sim}$ |
|  | $\vartheta$ | $\begin{aligned} & n \\ & \cdots \cdots i \\ & \text { nin } \end{aligned}$ | NnONMー． ヘヘウヘポか | $0$ | $\underset{\sim}{*} 00 \cdots$ | $n \underset{\sim}{n}$ | $\underset{\sim}{\underset{\sim}{N}} \stackrel{\infty}{1}$ | $\stackrel{n}{\mathrm{~N}}^{-}$ |
|  | $\underset{O}{ }$ |  | NNナナ No ヘヘヘヘポース | $0$ | $\underset{\dot{F} N M}{\square}$ | no | $\stackrel{N}{n}$ | ${\underset{\mathrm{N}}{ }}_{+0}$ |
|  | $\bar{o}$ | $\stackrel{N}{n} \underset{i}{\infty} \infty_{i}$ | $\cdots \infty \rightarrow O$ N <br>  | $\bigcirc$ | $\underset{\sim}{r} \not \underset{\sim}{n} \underset{\sim}{n}$ |  | స్ స্ | － |
| $\left\lvert\, \begin{gathered} \infty \\ \underset{N}{\infty} \\ \hline \end{gathered}\right.$ | $\bigcirc$ | $\underset{i n}{ } \rightarrow \overbrace{i} \overbrace{i}$ | $\infty$ no o N N Nウへigio | O- | $\underset{\sim}{\infty} \underset{i}{n} \underset{i}{\infty}$ | $\cdots \cdots$ | $\underset{\sim}{n}$ | $\stackrel{\infty}{=}$ |
|  | $\%$ | $\overrightarrow{i n} \underset{i}{\circ} \overbrace{i}$ | ナ NMーーい ウヘMヘঞ゚ | $\bigcirc 0$ | $\dot{m} \underset{\sim}{\dot{j}} \stackrel{0}{\mathrm{~N}} \stackrel{0}{0}$ | No | $\underset{\substack{\lambda}}{\substack{1 \\ \hline}}$ | $\mathrm{O}_{\mathrm{I}}{ }^{-}$ |
|  | $\underset{O}{\sim}$ | $0 \underset{i n}{\sim} \underset{i}{\infty} \underset{i}{0}$ | $\bigcirc \cdots \infty \cdots \underset{\sim}{\infty} \underset{\sim}{\infty}$ | $\begin{aligned} & 0 \text { n } \\ & -i n \end{aligned}$ | $\underset{\sim}{n} \bigcirc \underset{\sim}{n} O+$ | $\begin{aligned} & 0 \\ & \forall i o \\ & \hline 1 \end{aligned}$ | ${\underset{i}{\infty}}_{\infty}^{\infty}$ | $\underset{\sim}{N}:$ |
|  | $\cdots$ | $\stackrel{\odot}{\bullet \rightarrow} \stackrel{\infty}{\dot{+}}$ | NT NO No | $0 . n$ | $\stackrel{m}{m} \underset{\sim}{n} \bigcirc$ | $\stackrel{0}{i}=$ | $\underset{\sim}{\star}$ | $\underset{\mathrm{N}}{\mathrm{~N}} \mathrm{i}^{-}$ |
| $\stackrel{N}{\hat{e}}$ | $\pm$ | $\cdots \underset{\underset{\sim}{\infty} \underset{\forall}{+}-n}{ }$ | $0 \rightarrow 00 \infty 0$ | $\underset{-}{\square}$ |  | $\stackrel{?}{0}=$ | $\frac{n}{N}$ | $\underset{\mathrm{N}}{\mathrm{~N}}$ |
|  | $\stackrel{m}{0}$ | $\because \underset{\sim}{\sim} \underset{\sim}{r} 0$ |  | $\cdots$ |  | $\stackrel{9}{i}$ | $\stackrel{m}{1} \stackrel{m}{1}$ | $\cdots \cdots$ |
|  | $\underset{O}{\sim}$ | $\stackrel{n}{\sim} \underset{\sim}{\infty} 0 .$ | nnmmmm लウナナナ $\dot{\infty} \dot{\infty}$ | $\because \underset{-}{0}$ | $\underbrace{0}_{0} \infty_{i} \infty_{i} \text { n } n$ | $\stackrel{\infty}{\infty} \underset{\sim}{0} \underset{\sim}{=}$ | $\underset{1}{\stackrel{\rightharpoonup}{\mathrm{~N}}}$ | $\infty$ |
|  | $\cdots$ | $n \underset{\sim}{n} \underset{\sim}{n} \underset{r}{n}$ | $\rightrightarrows \exists{ }_{\sim}^{\infty} \underset{\sim}{\infty} \underset{\sim}{\infty} \underset{\sim}{\infty}$ | $\because \underset{\sim}{\bullet}$ | O $\forall \quad \forall \bigcirc O$ <br> $\dot{\operatorname{cin}} \boldsymbol{- 1}-$ | $\stackrel{\forall}{\forall} \underset{=}{\square}$ | $\frac{a}{\lambda}{ }_{1}^{i}$ | $\infty$ |
|  | $\underset{\Xi}{\Xi}$ |  |  |  |  |  |  |  |

[^6]3．Percent，millions．
4．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． 5．Percent change，annual rate．
7．Percent change，annual rate，with inventory valuation and capital consumption adjustments． 8．Billions of dollars，annual values are annual averages．

| 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 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Unified budget |  |  |  |  | Not seasonally adjusted |  |  |  |  |  |  |  |  |  |  |  |
| Receipts ${ }^{1}$ | 2407 | 2568 | 2545 | 2730 | 547 | 824 | 622 | 606 | 553 | 822 | 564 | 617 | 567 | 860 | 686 | 652 |
| Outlays ${ }^{1}$ | 2655 | 2730 | 2884 | 3024 | 725 | 687 | 664 | 712 | 741 | 722 | 708 | 740 | 784 | 759 | 741 | 796 |
| Surplus/deficit ${ }^{1}$ | -248 | -163 | -339 | -293 | -178 | 137 | -42 | -106 | -189 | 100 | -144 | -123 | -217 | 102 | -55 | -144 |
| Previous | -248 | -163 | -261 | -284 | -178 | 137 | -42 | -131 | -178 | 114 | -65 | -129 | -197 | 107 | -65 | -145 |
| On-budget | -435 | -344 | -524 | -490 | -212 | 53 | -49 | -165 | -212 | 9 | -156 | -193 | -238 | 6 | -65 | -216 |
| Off-budget | 186 | 181 | 185 | 197 | 34 | 85 | 7 | 59 | 24 | 91 | 12 | 70 | 21 | 95 | 10 | 72 |
| Means of financing Borrowing | 237 | 206 | 300 | 311 | 152 | -110 | 106 | 89 | 139 | -88 | 159 | 113 | 206 | -77 | 70 | 133 |
| Borrowing Cash decrease | -16 | 206 -23 | 300 25 | 311 0 | 152 25 | -110 -19 | -50 | 18 | 139 32 | -88 -15 | 159 -10 | 113 15 | 206 15 | -7 | 70 -10 | 133 15 |
| Other ${ }^{2}$ | 28 | -20 | 14 | -18 | 1 | -8 | -14 | -2 | 18 | 3 | -5 | -5 | -5 | -5 | -5 | -5 |
| Cash operating balance, end of period | 52 | 75 | 50 | 50 | 6 | 25 | 75 | 57 | 25 | 40 | 50 | 35 | 20 | 40 | 50 | 35 |
| NIPA federal sector |  |  |  |  | Seasonally adjusted annual rates |  |  |  |  |  |  |  |  |  |  |  |
| Receipts | 2437 | 2635 | 2620 | 2808 | 2620 | 2670 | 2687 | 2706 | 2674 | 2688 | 2412 | 2736 | 2804 | 2831 | 2863 | 2896 |
| Expenditures | 2685 | 2845 | 2988 | 3132 | 2838 | 2877 | 2920 | 2921 | 2998 | 2996 | 3035 | 3070 | 3124 | 3148 | 3184 | 3220 |
| Consumption expenditures | 798 | 843 | 903 | 942 | 830 | 850 | 868 | 882 | 901 | 910 | 918 | 926 | 941 | 948 | 955 | 962 |
| Defense | 533 | 570 | 617 | 646 | 556 | 574 | 590 | 602 | 615 | 623 | 629 | 635 | 645 | 650 | 654 | 659 |
| Nondefense | 266 | 273 | 285 | 296 | 274 | 276 | 278 | 280 | 286 | 287 | 289 | 291 | 296 | 298 | 301 | 303 |
| Other spending | 1887 | 2001 | 2085 | 2189 | 2008 | 2027 | 2052 | 2039 | 2097 | 2086 | 2117 | 2145 | 2183 | 2200 | 2228 | 2258 |
| Current account surplus | -248 | -210 | -368 | -323 | -219 | -207 | -233 | -215 | -324 | -308 | -624 | -335 | -320 | -317 | -320 | -324 |
| Gross investment | 117 | 121 | 127 | 131 | 117 | 120 | 123 | 126 | 126 | 128 | 129 | 130 | 131 | 132 | 132 | 133 |
| Gross saving less gross investment ${ }^{3}$ | -262 | -221 | -381 | -335 | -227 | -216 | -244 | -228 | -337 | -321 | -636 | -347 | -332 | -329 | -332 | -335 |
| Fiscal indicators ${ }^{4}$ High-employment (HEB) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| surplus/deficit | -279 | -235 | -368 | -287 | -231 | $-223$ | -267 | -237 | -328 | -301 | -605 | -308 | -284 | -276 | -280 | -284 |
| Change in HEB, percent of potential GDP | -0.5 | -0.4 | 0.9 | -0.6 | 0.1 | -0.1 | 0.3 | -0.2 | 0.6 | -0.2 | 2.1 | -2.1 | -0.2 | -0.1 | 0.0 | 0.0 |
| Fiscal impetus (FI), percent of GDP | 0.3 | 0.2 | 0.5 | -0.1 | -0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.4 | 0.4 | -0.3 | -0.3 | 0.0 | 0.0 |
| Previous | 0.3 | 0.2 | 0.2 | 0.1 | -0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

3. Gross saving is the current account surplus plus consumption of fixed capital of the general government as well as government enterprises.
4. HEB is gross saving less gross investment (NIPA) of the federal government in current dollars, with cyclically sensitive receipts and outlays adjusted to the staff's measure of potential output and the
 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 aggregate demand stimulus.

| Class II FOMC Restricted (FR) |  | Change in Debt of the Domestic Nonfinancial Sectors <br> (Percent) |  |  |  |  | January 23, 2008 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Households |  |  |  |  |  |
| Period ${ }^{1}$ | Total | Total | Home mortgages | Consumer credit | Business | State and local governments | Federal government | Nominal GDP |
| Year |  |  |  |  |  |  |  |  |
| 2002 | 7.3 | 10.9 | 13.3 | 5.7 | 2.4 | 11.0 | 7.6 | 3.6 |
| 2003 | 8.1 | 11.5 | 14.2 | 5.2 | 2.6 | 8.3 | 10.9 | 5.9 |
| 2004 | 8.9 | 11.3 | 13.9 | 5.5 | 5.8 | 7.4 | 9.0 | 6.5 |
| 2005 | 9.1 | 10.7 | 12.6 | 4.3 | 7.8 | 10.2 | 7.0 | 6.3 |
| 2006 | 8.8 | 10.3 | 11.3 | 4.5 | 9.6 | 8.2 | 3.9 | 5.4 |
| 2007 | 8.2 | 6.8 | 7.0 | 5.5 | 11.2 | 11.0 | 4.9 | 5.0 |
| 2008 | 4.9 | 3.4 | 3.1 | 3.8 | 5.8 | 7.0 | 6.3 | 3.7 |
| 2009 | 4.7 | 3.2 | 3.0 | 3.3 | 5.6 | 6.4 | 6.1 | 4.2 |
| Quarter |  |  |  |  |  |  |  |  |
| 2007:1 | 8.1 | 7.1 | 7.8 | 4.7 | 9.5 | 11.2 | 6.7 | 4.9 |
| 2 | 7.3 | 7.6 | 8.0 | 5.3 | 10.8 | 10.3 | -1.4 | 6.6 |
| 3 | 9.0 | 7.0 | 6.8 | 6.4 | 12.1 | 8.4 | 8.8 | 6.0 |
| 4 | 7.3 | 5.0 | 4.6 | 5.3 | 10.6 | 12.4 | 5.1 | 2.8 |
| 2008:1 | 5.2 | 3.9 | 3.5 | 4.4 | 6.6 | 7.0 | 5.4 | 3.3 |
| 2 | 3.9 | 3.4 | 3.1 | 3.9 | 5.7 | 6.9 | . 4 | 3.2 |
| 3 | 5.7 | 3.2 | 2.9 | 3.6 | 5.3 | 6.8 | 12.5 | 3.9 |
| 4 | 4.6 | 3.1 | 2.8 | 3.3 | 5.2 | 6.7 | 6.5 | 4.5 |
| 2009:1 | 5.2 | 3.0 | 2.7 | 3.2 | 5.4 | 6.4 | 10.0 | 3.7 |
| 2 | 3.8 | 3.0 | 2.8 | 3.2 | 5.6 | 6.3 | 1.1 | 4.1 |
| 3 | 4.5 | 3.2 | 3.0 | 3.2 | 5.5 | 6.2 | 5.2 | 4.4 |
| 4 | 5.0 | 3.4 | 3.3 | 3.3 | 5.5 | 6.2 | 7.6 | 4.5 |

Note. Quarterly data are at seasonally adjusted annual rates.

[^7]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 | 1715.8 | 1518.3 | 1107.8 | 1268.0 | 1849.7 | 1086.8 | 984.3 | 756.8 | 1495.9 | 1194.2 | 1426.1 | 982.1 | 1239.0 | 1425.1 |
| Net equity issuance | -614.1 | -836.6 | -431.3 | -272.0 | -846.0 | -1157.6 | -645.0 | -476.0 | -312.0 | -292.0 | -272.0 | -272.0 | -272.0 | -272.0 |
| Net debt issuance | 2329.9 | 2354.9 | 1539.0 | 1540.0 | 2695.7 | 2244.4 | 1629.3 | 1232.8 | 1807.9 | 1486.2 | 1698.1 | 1254.1 | 1511.0 | 1697.1 |
| Borrowing indicators |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Debt (percent of GDP) ${ }^{1}$ | 209.9 | 217.0 | 222.5 | 224.1 | 217.0 | 219.9 | 221.5 | 222.3 | 222.8 | 223.2 | 223.9 | 224.1 | 224.0 | 224.2 |
| Borrowing (percent of GDP) | 17.7 | 17.0 | 10.7 | 10.3 | 19.3 | 16.0 | 11.5 | 8.6 | 12.5 | 10.2 | 11.5 | 8.4 | 10.0 | 11.2 |
| Households |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net borrowing ${ }^{2}$ | 1203.1 | 883.9 | 473.8 | 458.0 | 933.8 | 676.1 | 533.6 | 479.8 | 449.0 | 432.7 | 427.6 | 438.5 | 463.0 | 503.1 |
| Home mortgages | 997.7 | 685.3 | 326.9 | 321.0 | 691.0 | 481.5 | 372.9 | 330.4 | 306.8 | 297.4 | 292.7 | 302.1 | 325.7 | 363.5 |
| Consumer credit | 104.4 | 133.8 | 98.1 | 86.7 | 159.5 | 133.5 | 111.6 | 100.8 | 93.6 | 86.2 | 85.3 | 86.3 | 86.7 | 88.5 |
| Debt/DPI (percent) ${ }^{3}$ | 128.0 | 131.4 | 131.4 | 130.7 | 131.9 | 132.7 | 132.6 | 132.8 | 128.8 | 132.0 | 131.1 | 130.8 | 130.4 | 130.2 |
| Business |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Financing gap ${ }^{4}$ | 186.6 | 244.6 | 240.4 | 336.2 | 271.2 | 266.6 | 251.5 | 254.2 | 226.9 | 228.9 | 326.8 | 332.4 | 328.2 | 357.2 |
| Net equity issuance | -614.1 | -836.6 | -431.3 | -272.0 | -846.0 | -1157.6 | -645.0 | -476.0 | -312.0 | -292.0 | -272.0 | -272.0 | -272.0 | -272.0 |
| Credit market borrowing | 792.2 | 1013.1 | 585.4 | 596.1 | 1148.8 | 1042.0 | 666.0 | 577.7 | 552.5 | 545.4 | 573.8 | 599.6 | 604.1 | 607.0 |
| State and local governments |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net borrowing | 151.1 | 220.8 | 156.7 | 153.7 | 178.1 | 268.6 | 155.7 | 155.7 | 157.7 | 157.7 | 153.7 | 153.7 | 153.7 | 153.7 |
| Current surplus 5 | 243.8 | 215.4 | 163.8 | 181.7 | 229.1 | 167.8 | 157.6 | 158.7 | 166.9 | 172.1 | 172.0 | 175.0 | 186.9 | 193.1 |
| Federal government |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Net borrowing | 183.4 | 237.1 | 323.2 | 332.2 | 435.0 | 257.8 | 274.1 | 19.5 | 648.7 | 350.4 | 543.1 | 62.3 | 290.1 | 433.3 |
| Net borrowing (n.s.a.) | 183.4 | 237.1 | 323.2 | 332.2 | 105.7 | 89.4 | 139.2 | -87.7 | 159.2 | 112.6 | 206.4 | -77.0 | 69.5 | 133.3 |
| Unified deficit (n.s.a.) | 209.2 | 187.9 | 356.7 | 314.2 | 41.8 | 105.5 | 188.6 | -99.5 | 144.5 | 123.1 | 216.9 | -101.5 | 55.0 | 143.8 |
| Depository institutions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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## Class II FOMC—Restricted (FR)

## International Developments

Global equity prices have fallen sharply on net since the time of the December Greenbook amid increasing concerns about further financial distress and, more importantly in recent weeks, concerns about spillovers from slower U.S. growth. Although foreign equity markets rebounded initially in response to the January 22 easing of U.S. monetary policy, they remain jittery today. By contrast, conditions in foreign money markets have improved substantially since mid-December.

## Summary of Staff Projections

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

| Indicator | 2007 |  | Projection |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H1 | Q3 | $\begin{gathered} \text { 2007: } \\ \text { Q4 } \end{gathered}$ | 2008 |  |  | 2009 |
|  |  |  |  | Q1 | Q2 | H2 |  |
| Foreign output | 4.5 | 4.5 | 2.7 | 2.7 | 2.8 | 3.0 | 3.4 |
| December GB ${ }^{1}$ | 4.4 | 4.5 | 2.9 | 3.0 | 3.0 | 3.3 | 3.3 |
| Foreign CPI <br> December GB ${ }^{1}$ | 3.0 | 4.2 | 4.4 | 2.7 | 2.5 | 2.5 | 2.5 |
|  | 3.0 | 4.2 | 3.8 | 2.5 | 2.5 | 2.4 | 2.4 |
|  | Contribution to U.S. real GDP growth (percentage points) |  |  |  |  |  |  |
| U.S. net exports | 0.4 | 1.4 | 0.2 | 0.1 | 1.3 | 0.4 | 0.3 |
| December GB | 0.4 | 1.4 | 0.1 | 0.3 | 1.2 | 0.3 | 0.1 |

Note. Changes for years are measured as Q4/Q4; for half-years, Q2/Q4 or Q4/Q2.
${ }^{1}$ December Greenbook values reflect new trade weights used in calculating foreign aggregates for the January Greenbook.

Indicators of foreign activity have softened, most notably in Japan, the euro area, and several emerging market economies. We now estimate that foreign real GDP growth slowed to a $23 / 4$ percent annual rate in the fourth quarter, and we expect growth to continue at that pace in the current quarter. Thereafter we expect growth to strengthen slowly, through the end of next year, in line with the pickup in U.S. growth and improvements in financial conditions. This forecast is weaker this year than in the December Greenbook, but the risk remains of a more substantial slowing of foreign activity should turmoil in financial markets intensify or exact larger effects on credit and spending than we currently anticipate.

Foreign consumer prices are estimated to have risen at an annual rate of about $41 / 2$ percent in the fourth quarter, the highest quarterly reading in almost a decade. We expect that inflation will moderate as food and fuel prices stabilize, consistent with futures market quotes, and as the slowing of global activity reduces pressures on resources.
Nevertheless, given the sharp and unanticipated run-ups in commodity prices that we have seen in the recent past, higher global inflation, with the challenges that would pose for monetary policy, remains an important risk.

Oil prices moved up in late December before falling back on concerns about the global economy; prices are little changed on balance. We project prices to fall slightly over the forecast period, tracing about the same path as in the December Greenbook. The starting point for the nominal trade-weighted exchange value of the dollar is unchanged from the December Greenbook, but our forecast now incorporates a somewhat steeper path of dollar depreciation, in line with the lower path of U.S. interest rates.

We estimate that real net exports made a positive contribution of $1 / 4$ percentage point in the fourth quarter, as export growth slowed from its unusually strong third-quarter pace. In the current quarter, we expect a similar-sized contribution. For the remainder of the forecast period, the contribution is expected to be positive on average as export growth outpaces import growth by a sizable margin. This projection is slightly more positive than in the December Greenbook, owing primarily to the weaker path of the dollar.

The U.S. current account deficit was reported at $\$ 714$ billion ( 5.1 percent of GDP) in the third quarter. We estimate that the deficit widened in the fourth quarter and will continue to do so in the current quarter, reflecting the recent run-ups in oil prices. However, by the end of 2009 , we expect the deficit to decline to $\$ 700$ billion, or about $41 / 2$ percent of GDP, largely because of strong export growth.

## Oil Prices

The spot price of West Texas intermediate (WTI) crude oil surged past the $\$ 100$ per barrel mark (in intraday trading) earlier this month, only to fall rapidly in recent weeks. Spot WTI closed on January 22 at $\$ 89.86$ per barrel, about $\$ 1.50$ higher than at the time of the December Greenbook. In contrast to the volatility in near-term prices, the price of far-dated futures remained fairly stable around $\$ 88$ per barrel. Given the path of futures prices, we project that the price of WTI crude oil will average $\$ 90$ per barrel in the current quarter and then fall to about $\$ 85$ by the end of next year. On average over the
forecast period, this projection is less than $\$ 1$ per barrel higher than in the December Greenbook.

The surge in oil prices in late-December appeared to reflect increased concerns about supply in light of escalating violence in Nigeria and news of a Turkish incursion into northern Iraq. Continued reports of large draws on U.S. crude oil inventories-which are at the lowest level in the past three years-also lent support to prices. The upward pressure on prices, however, has been offset in recent weeks by increasing concern about the softening outlook for the global economy and its implications for oil demand.

## International Financial Markets

Conditions in money markets improved substantially since the passing of the year-end. In addition, coordinated central bank measures to supply term funding, including the Federal Reserve’s Term Auction Facility and swap lines with the European Central Bank and the Swiss National Bank, appeared to contribute to improving conditions. Interbank spreads over overnight index swap rates declined substantially in dollar, euro, and sterling. In the foreign exchange swap market, bid-ask spreads have fallen and trading volumes have increased. The amount of outstanding European asset-backed commercial paper declined in December but then rose sharply in January.

Even as conditions in money markets improved, global equity markets fell substantially since the December meeting. Major stock indexes in Europe, Japan, and North America plunged 10 to 20 percent, with banking sector share prices leading the declines. Equity prices in most emerging market economies fell sharply as well. Long-term sovereign bond yields declined 23 to 38 basis points in the larger advanced foreign economies as prospects for monetary easing increased and investors scaled back their riskier positions. Emerging market sovereign bond yields were mixed.

The broad trade-weighted index of the dollar is about unchanged since the December FOMC meeting, and it moved little following the Fed’s easing on January 22. Accordingly, the starting point for the projected path of the broad real value of the dollar is the same as that in the December Greenbook. We are calling for somewhat faster depreciation than in the previous forecast. This reflects the lower path of U.S. interest rates in our current forecast, as well as our assumption that the Chinese authorities and others in emerging Asia will allow their currencies to appreciate a bit more rapidly.

## Advanced Foreign Economies

We estimate that real GDP growth in the advanced foreign economies slowed markedly in the fourth quarter to an annual rate of $13 / 4$ percent, down from a 3 percent pace in the previous quarter. In the first half of this year, the slowdown in U.S. growth, the effects of the recent financial disruptions, and the recent slide in equity prices should push growth in the advanced foreign economies down further, to about $11 / 2$ percent. Thereafter, past and expected actions by central banks, as well as improving U.S. GDP growth, will bring overall growth back to $21 / 4$ percent in 2009.

Compared with the previous Greenbook, our estimate for the fourth quarter is unchanged on average. In Japan, a sharp downward revision to third-quarter GDP growth, weak incoming data on employment and investment, and deteriorating business sentiment led us to adjust our fourth-quarter estimate down significantly. In contrast, Canadian data on recent retail sales and investment were more positive than expected, and U.K. GDP rose a surprisingly strong 2.5 percent according to the preliminary estimate. The outlook for GDP growth in 2008 is $1 / 4$ percentage point lower than in the December Greenbook. Weaker data in Japan, tighter credit conditions in Europe, and the negative wealth and confidence effects of the recent equity market declines have led us to take a more pessimistic view of the outlook.

The four-quarter rate of inflation in the advanced foreign economies rose to about 214 percent in the fourth quarter, but we expect inflation will move down slightly over the forecast period, as food and energy prices stabilize and capacity pressures diminish. This outlook is above that in the December Greenbook, owing to incoming data on consumer prices for food and energy, which surprised on the upside. Japanese inflation rose to around $1 / 2$ percent in the fourth quarter and should remain around that rate over the rest of the forecast.

Our outlook is predicated on easier monetary policy than in our previous forecast. We now assume that the European Central Bank will lower its policy rate 50 basis points to 3.5 percent by the middle of this year, despite recent hawkish rhetoric by some members of the ECB Governing Council. We also assume that the Bank of England will lower its official interest rate 75 basis points to 4.75 percent by mid-year. The Bank of Canada, after having cut its policy rate 25 basis points yesterday, eases an additional 50 basis points to 3.5 percent by the end of the first quarter. For the Bank of Japan, we have pushed off tightening of monetary policy until the end of 2009.

## Emerging Market Economies

We estimate that real GDP growth in emerging market economies slowed sharply from the very rapid growth of the previous two quarters to an annual rate of 4 percent in the fourth quarter of last year. The slowdown was widespread and partly reflects weaker exports to the United States and Europe, particularly from Asia. Going forward, growth should move up gradually before leveling off at around 5 percent by the end of this year, as activity in the United States and advanced foreign economies picks up. This forecast is down a little this year because of weaker-than-expected data for several economies, recent declines in equity prices, and lower projected growth in the advanced foreign economies.

For emerging Asia, we estimate that real GDP growth slowed to $51 / 2$ percent in the fourth quarter, the slowest quarterly growth in almost three years, as incoming data, particularly exports, point to marked slowdowns in a number of economies. We estimate that real GDP growth in China was $81 / 2$ percent in the fourth quarter, about the same as in the previous quarter, but still well below the blistering pace of earlier last year. Chinese exports declined in the fourth quarter, and government measures to dampen investment appear to be having an effect. We expect growth in emerging Asia to rebound from the relatively weak fourth-quarter pace, with growth in China picking up some, as exports return to positive growth, and economic conditions in the region benefit from strengthening growth in China and in the world's advanced economies.

For Latin America, we estimate that real GDP expanded at an annual rate of $2 \frac{1}{4}$ percent in the fourth quarter, down from an average of 6 percent in the previous two quarters. This slowing largely reflects a steep drop in the pace of Mexican growth to an estimated $11 / 2$ percent, which in turn stems from weaker U.S. manufacturing output and payback for unusually rapid third-quarter growth in Mexico. We project growth in Latin America to move back up in the coming quarters, as growth in Mexico gradually recovers, in line with the rebound in the United States. Growth in the rest of Latin America is expected to moderate, owing to the projected stabilization of commodity prices.

Four-quarter inflation in the emerging market economies is estimated to have jumped to 5 percent in the fourth quarter, owing largely to higher food and fuel prices. The increase has been particularly pronounced in China, where twelve-month inflation was nearly 7 percent in November. The People's Bank of China has continued to tighten monetary policy in response. Average four-quarter inflation in the emerging market economies is
projected to slow to about $31 / 4$ percent next year as the effect of the recent run-up in commodity prices wanes.

## Prices of Internationally Traded Goods

After November's large price increases, core import price inflation slowed a touch in December as prices for metals declined. For the fourth quarter, we estimate that core import prices rose at an annual rate of 3 percent, the same pace as in the third quarter. Prices for material-intensive goods continued to rise robustly, whereas prices for finished goods again increased moderately. Overall, core import price inflation for the fourth quarter is up $1 / 2$ percentage point from the December Greenbook in response to higher-than-expected readings for November and December.

## Staff Projections of Selected Trade Prices

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

| Indicator | 2007 |  | Projection |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H1 | Q3 | $\begin{gathered} \text { 2007: } \\ \text { Q4 } \end{gathered}$ | 2008 |  |  | 2009 |
|  |  |  |  | Q1 | Q2 | H2 |  |
| Imports |  |  |  |  |  |  |  |
| Core goods | 3.1 | 3.1 | 3.1 | 3.0 | 1.2 | 1.3 | 1.2 |
| December GB | 3.1 | 2.8 | 2.5 | 2.3 | 0.6 | 0.8 | 0.9 |
| Oil (dollars per barrel) | 63.84 | 70.31 | 79.75 | 83.30 | 83.29 | 82.20 | 80.36 |
| December GB | 63.84 | 70.33 | 82.40 | 84.51 | 83.56 | 82.04 | 80.32 |
| Exports |  |  |  |  |  |  |  |
| Core goods | 6.7 | 4.5 | 7.5 | 3.7 | 0.6 | 0.8 | 0.8 |
| December GB | 6.7 | 4.4 | 5.5 | 2.0 | 1.1 | 0.7 | 0.8 |

Note. Prices for core exports and nonfuel core imports, which exclude computers and semiconductors, 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.

The depreciation of the dollar in the fourth quarter should keep core import price inflation at 3 percent (a.r.) in the current quarter. This forecast was marked up $3 / 4$ percentage point, in part reflecting the higher December level of core import prices. We project that core import price inflation will fall to $1 \frac{1}{4}$ percent in the second quarter and stabilize at that rate, as commodity prices are projected to level off, consistent with quotes from futures markets, and as the dollar depreciates at a more modest pace than in previous quarters. Beyond the current quarter, this forecast has been revised up a little less than
$1 / 2$ percentage point on average, given the somewhat greater dollar depreciation than in the previous forecast.

We estimate that core export prices accelerated sharply to a rate of $71 / 2$ percent in the fourth quarter of 2007. The pickup reflected sharply higher agricultural prices, especially for corn, wheat, and soybeans. Prices for nonagricultural industrial supplies also rose sharply as chemical and petroleum prices increased. We expect core export price inflation to slow to $33 / 4$ percent in the current quarter, reflecting lower rates of inflation for metals and agricultural products. In subsequent quarters, a flattening out of commodity prices should push core export price inflation down to less than 1 percent. Compared with the December Greenbook, the forecast for core export price inflation is higher in the near term, largely reflecting the recent jump in agricultural prices.

## Trade in Goods and Services

Based on incoming data for October and November, we estimate that real net exports contributed 0.2 percentage point to real GDP growth in the fourth quarter, about 0.1 percentage point more than estimated in the December Greenbook. Imports were weaker than anticipated, more than offsetting a downward revision to our estimate of real export growth. In 2008, we expect net exports to add about $1 / 2$ percentage point to GDP growth, as exports expand steadily, despite somewhat softer foreign growth, and import growth remains weak. In 2009, we project the contribution to fall to $1 / 4$ percentage point, as import growth picks up and export growth remains firm. Our projections for 2008 and 2009 are roughly 0.1 percentage point stronger on average than in the previous Greenbook, reflecting a faster projected rate of dollar depreciation that is only partially offset by a slightly stronger path for U.S. growth.

Real exports of goods and services are estimated to have decelerated to a still-solid $41 / 2$ percent pace in the fourth quarter, as the growth of exports of core goods slowed significantly after surging in the third quarter. This estimate is about $23 / 4$ percentage points weaker than in the December Greenbook; slightly lower-than-expected nominal exports in the October and November trade data, as well as an upward revision to export price inflation, led us to cut our estimate of real exports in the fourth quarter. In the current quarter, we project that real export growth will increase to $63 / 4$ percent, as exports of core goods pick up to a pace more consistent with projected foreign GDP growth and relative prices.

## Staff Projections for Trade in Goods and Services

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

| Measure | 2007 |  | Projection |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H1 | Q3 | $2007:$ <br> Q4 | 2008 |  |  |  |  |
|  |  |  | Q1 | Q2 | H2 |  |  |  |
| Real exports | 4.3 | 19.1 | 4.6 | 6.7 | 7.2 | 7.4 | 7.3 |  |
| December GB | 4.3 | 18.9 | 7.4 | 7.0 | 7.1 | 6.9 | 6.7 |  |
| Real imports | 0.5 | 4.4 | 2.1 | 3.9 | -2.4 | 3.3 | 3.8 |  |
| December GB | 0.5 | 4.3 | 4.3 | 3.3 | -1.8 | 3.5 | 4.1 |  |

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

For the remainder of 2008 and 2009, we expect export growth to continue near $71 / 4$ percent, supported by the lagged effects of past declines in the dollar and our projection of some further dollar depreciation as well as relatively steady foreign growth. This projection is about $1 / 2$ percentage point higher than in the December Greenbook, as the faster projected rate of dollar depreciation in this forecast more than offsets the effects of the weaker foreign outlook this year.

We estimate that real imports of goods and services increased only 2 percent in the fourth quarter, as a seasonal jump in oil imports was partially offset by a decline in imports of core goods and services. This estimate is $21 / 4$ percentage points lower than reported in the December Greenbook, largely as a result of weaker-than-expected imports of core goods, particularly non-oil industrial supplies, in the October and November trade data. In the current quarter, we expect imports to increase a little below 4 percent, supported by growing imports of oil and natural gas, even as weak U.S. economic activity translates into flat imports of core goods and a decline in imported services. This projection is slightly higher than in the previous Greenbook, because of higher projected imports of oil stemming from a downward revision to our projection for domestic oil production in the quarter.

We project that real imports will fall $21 / 2$ percent in the second quarter, owing to a seasonal drop in oil imports, before growing $31 / 4$ percent in the second half of 2008 and strengthening further in 2009. Imports of core goods and services are expected to pick up in line with improving U.S. GDP growth and a projected deceleration in core import
prices. Compared with the December Greenbook, a higher projected path of core import prices is partially offset by the effects of stronger average U.S. growth; on net we have revised down our forecast for import growth just $11 / 4$ percentage point over the forecast period.

## Alternative Simulations

Foreign activity may turn out to be considerably weaker than projected in our baseline forecast, particularly if financial market turmoil intensifies. To assess this risk, we use the SIGMA model to examine the effects of a weakening in demand abroad that is evenly distributed across major U.S. trading partners. The shock begins in the first quarter of 2008 and is calibrated so that foreign GDP growth declines 1 percentage point relative to baseline in 2008 and 2009, after which the shock gradually dies away.

Alternative Scenarios:
Weaker Foreign Demand
(Percent change from previous period, annual rate, except as noted)

| Indicator and simulation | 2008 |  | 2009 |  | 2010 | $2011-$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H 1 | H 2 | H 1 | H 2 |  | 12 |
| U.S. real GDP | 0.9 | 2.2 | 1.8 | 2.6 | 2.7 | 2.6 |
| Baseline |  |  |  |  |  |  |
| Weaker foreign demand | 0.6 | 1.9 | 1.6 | 2.5 | 3.1 | 2.8 |
|  |  |  |  |  |  |  |
| U.S. PCE prices <br> excluding food and energy |  |  |  |  |  |  |
| Baseline |  |  |  |  |  |  |
| Weaker foreign demand | 2.3 | 2.0 | 2.0 | 1.9 | 1.9 | 1.8 |
|  | 2.3 | 1.9 | 1.8 | 1.7 | 1.8 | 1.8 |
| U.S federal funds rate <br> (percent) |  |  |  |  |  |  |
| Baseline |  |  |  |  |  |  |
| Weaker foreign demand | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.8 |
| U.S. trade balance <br> (percent share of GDP) | 3.0 | 2.9 | 2.7 | 2.5 | 2.5 | 3.6 |
| Baseline |  |  |  |  |  |  |
| Weaker foreign demand |  |  |  |  |  |  |

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

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 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 the second half of 2009. Core PCE inflation moves little initially, but declines 0.2 percentage point below baseline in 2009. The fall in core PCE inflation reflects both lower import prices, owing to 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 balance to GDP that peaks at $3 / 4$ percentage point of GDP by late 2009.

In the longer term, U.S. GDP growth rises above baseline due to the monetary policy response and the recovery of foreign economies. In level terms, U.S. GDP actually rises above baseline by the latter part of the simulation period, because lower U.S. interest rates crowd in investment spending and contribute to a sustained expansion of the capital stock.

## Evolution of the Staff Forecast

Current Account Balance


Foreign Real GDP


Core Import Prices*

*Prices for merchandise imports excluding computers, semiconductors, oil, and natural gas.
Class II FOMC
Restricted (FR) January 23, 2008
OUTLOOK FOR FOREIGN REAL GDP AND CONSUMER PRICES: SELECTED COUNTRIES (Percent, 24 to 24 )

| Measure and country | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| REAL GDP (1) |  |  |  |  |  |  |  |  |  |
| Total foreign | 0.4 | 3.1 | 3.0 | 3.8 | 3.9 | 4.0 | 4.0 | 2.9 | 3.4 |
| Advanced Foreign Economies of which: | 0.9 | 2.5 | 1.8 | 2.6 | 2.8 | 2.5 | 2.6 | 1.5 | 2.2 |
| Canada | 1.3 | 3.5 | 1. 5 | 3.5 | 3.2 | 1. 9 | 2. 9 | 1.4 | 2.2 |
| Japan | $-1.7$ | 2.0 | 2.4 | 1.1 | 2.9 | 2.5 | 1.0 | 1.1 | 1.4 |
| United Kingdom | 2.1 | 2.3 | 3.4 | 2.6 | 1.8 | 3.3 | 2.9 | 1.8 | 2.6 |
| Euro Area (2) | 1.0 | 1.1 | 1.2 | 1.6 | 1.9 | 3.2 | 2.3 | 1.4 | 2.2 |
| Germany | 1.1 | 0.0 | 0.1 | 0.1 | 1.6 | 3.9 | 1.9 | 1.4 | 2.4 |
| Emerging Market Economies | $-0.4$ | 4.0 | 4.8 | 5.6 | 5. 4 | 5.9 | 5.9 | 4.7 | 5.0 |
| Asia | 1.1 | 6. 4 | 6.9 | 5.9 | 7.5 | 6.9 | 7.7 | 6.0 | 6.3 |
| Korea | 4.7 | 7.7 | 4.2 | 2.9 | 5.7 | 4.0 | 5.2 | 4.2 | 4.4 |
| China | 7.1 | 8.5 | 10.1 | 9.6 | 10.0 | 10.4 | 11.2 | 9.3 | 9.4 |
| Latin America | $-1.3$ | 1.6 | 2.4 | 5.2 | 3.1 | 5.0 | 4.1 | 3.2 | 3.6 |
| Mexico | $-1.3$ | 2.0 | 2.1 | 4.8 | 2.5 | 4.3 | 3.6 | 2.8 | 3.3 |
| Brazil | $-0.6$ | 4.9 | 1.0 | 4.5 | 3.4 | 5.0 | 5.2 | 3.9 | 4.0 |
| CONSUMER PRICES (3) |  |  |  |  |  |  |  |  |  |
| Advanced Foreign Economies | 0.9 | 2.1 | 1.3 | 1.8 | 1.5 | 1.3 | 2.2 | 1.7 | 1.7 |
| Canada | 1.1 | 3.8 | 1.7 | 2.3 | 2.2 | 1.3 | 2.7 | 2.2 | 2.0 |
| Japan | $-1.1$ | -0.5 | $-0.3$ | 0.5 | $-1.0$ | 0.3 | 0.4 | 0.4 | 0.4 |
| United Kingdom (4) | 1.0 | 1.5 | 1.3 | 1.4 | 2.1 | 2.7 | 2.1 | 2.4 | 2.1 |
| Euro Area (2) | 2.1 | 2.3 | 2.0 | 2.3 | 2.3 | 1.8 | 2. 9 | 1.8 | 1.9 |
| Germany | 1.5 | 1.2 | 1.1 | 2.1 | 2.2 | 1.3 | 3.1 | 1.6 | 1.9 |
| Emerging Market Economies | 2.8 | 2.9 | 3.1 | 3.9 | 3.0 | 2.9 | 5.1 | 3.3 | 3. 2 |
| Asia | 1. 2 | 0.8 | 2.2 | 3.2 | 2.6 | 2.3 | 5. 4 | 3.0 | 3.0 |
| Korea | 3.3 | 3.3 | 3.5 | 3.4 | 2.5 | 2.1 | 3.4 | 3.2 | 2.6 |
| China | -0.1 | $-0.6$ | 2.7 | 3.3 | 1.4 | 2.1 | 6.7 | 3.0 | 3.0 |
| Latin America | 5.3 | 6.4 | 4.9 | 5.7 | 3.8 | 4.1 | 4.3 | 3.9 | 3.6 |
| Mexico | 5.1 | 5.2 | 3.9 | 5.3 | 3.1 | 4.1 | 3.8 | 3.5 | 3.3 |
| Brazil | 7.5 | 10.7 | 11.5 | 7.2 | 6.1 | 3.2 | 4.3 | 4.5 | 3.8 |

[^9]|  | 2007 |  |  |  | 2008 Project |  |  |  | 2009 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 | 4.2 | 4.7 | 4.5 | 2.7 | 2.7 | 2.8 | 3.0 | 3.1 | 3.3 | 3.4 | 3.4 | 3.4 |
| Advanced Foreign Economies of which: | 3.6 | 2.2 | 3.0 | 1.7 | 1.4 | 1.4 | 1.6 | 1.7 | 2.0 | 2.1 | 2.2 | 2.2 |
| Canada | 3.5 | 3.8 | 2.9 | 1.7 | 1.2 | 1.3 | 1.5 | 1.6 | 2.0 | 2.1 | 2.2 | 2.3 |
| Japan | 3. 3 | $-\frac{1}{3} .8$ | 1.5 | 1.1 | 0.9 | 1.0 | 1.2 | 1.3 | 1.3 | 1.4 | 1.5 | 1.5 |
| United Kingdom | 3.1 3.3 | 3.4 | 2.7 3.1 | 2.5 1.5 1.5 | 1.5 | 1.6 | 1.9 | 2.2 | 2.4 2.0 | 2.5 | 2.6 2.3 | 2.7 2.4 |
| Gurmany | 2. 2 | 1.0 | 2.8 | 1.6 | 1.2 | 1.2 | 1.5 | 1.8 | 2.1 | 2.3 | 2.5 | 2.6 |
| Emerging Market Economies | 5.0 | 8.1 | 6.4 | 4.0 | 4.3 | 4.6 | 4.8 | 4.9 | 5.0 | 5.0 | 5.0 | 5.0 |
| Asia | 7.6 | 10.7 | 7.3 | 5.5 | 5.8 | 5.9 | 6.1 | 6.1 | 6.3 | 6.3 | 6.3 | 6.4 |
| Korea | 3.6 | 7.4 | 5.4 | 4.5 | 4.2 | 4.2 | 4.2 | 4.3 | 4.4 | 4.4 | 4.4 | 4.4 |
| China | 14.2 | 14.1 | 8.2 | 8.5 | 9.1 | 9.3 | 9.6 | 9.3 | 9.4 | 9.4 | 9.4 | 9.4 |
| Latin America | 2.3 | 5.8 | 6.2 | 2.3 | 2.7 | 3.1 | 3.4 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| Mexico | 1.2 | 5.7 | 5.9 | 1.5 | 2.1 | 2.6 | 3.1 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |
| Brazil | 4.5 | 5.4 | 6.9 | 4.0 | 3.9 | 3.9 | 3.9 | 3.9 | 4.0 | 4.0 | 4.0 | 4.0 |
| CONSUMER PRICES (3) |  |  |  |  |  |  |  |  |  |  |  |  |
| Advanced Foreign Economies | 1.5 | 1.6 | 1.5 | 2.2 | 2.1 | 1.9 | 2.1 | 1.7 | 1.7 | 1.7 | 1.6 | 1.7 |
| of which: <br> Canada | 1.9 | 2.0 | 2.1 | 2.7 | 2.2 | 1.9 | 2.3 | 2.2 | 2.1 | 2.1 | 2.0 |  |
| Japan | -0.1 | 0.0 | -0.1 | 0.4 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| United Kingdom (4) | 2.9 | 2.6 | 1.8 | 2.1 | 2.3 | 2.4 | 2.8 | 2.4 | 2.1 | 2.1 | 2.1 | 2.1 |
| $\underset{\substack{\text { Euro Area } \\ \text { Germany }}}{ }$ | 1.9 1.9 | 1.9 2.0 | $\frac{1}{2} \cdot 9$ | 2.9 3.1 | 2.9 2.7 | 2.6 2.5 | 2.6 2.4 | 1.8 1.6 | 1.8 1.7 | 1.9 1.8 | 1.9 | 1.9 |
| Emerging Market Economies |  | 3.3 | 4.5 | 5.1 | 5.2 | 5.0 | 4.0 | 3.3 | 3.2 | 3.2 | 3.2 |  |
| Asia | 2.7 | 3.0 | 4.6 | 5.4 | 5.5 | 5.2 | 3.8 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Korea | 2.0 | 2.5 | 2.3 | 3.4 | 4.1 | 3.7 | 3.8 | 3.2 | 3.0 | 2.8 | 2.7 | 2.6 |
| China | 2.8 | 3.6 | 6.1 | 6.7 | 6.6 | 6.0 | 3.8 | 3.0 | 2.9 | 2.8 | 2.9 | 3.0 |
| Latin America | 4.2 | 4.1 | 4.3 | 4.3 | 4.2 | 4.5 | 4.2 | 3.9 | 3.8 | 3.7 | 3.7 | 3.6 |
| Mexico | 4.1 | 4.0 | 4.0 | 3.8 4 | 3.7 4 | 4.0 | 3.7 | 3.5 | 3.5 | 3.4 | 3.4 | 3.3 |
| Brazil | 3.1 | 3.4 | 4.2 | 4.3 | 4.4 | 4.6 | 4.6 | 4.5 | 4.1 | 4.0 | 3.9 | 3.8 |

[^10]Class II FOMC
Restricted (FR)
OUTLOOK FOR U.S. INTERNATIONAL TRANSACTIONS


| Billions of dollars |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| US CURRENT ACCOUNT BALANCE | -384.7 | -459.6 | -522.1 | -640.2 | -754.8 | -811.5 | -758.1 | -777.0 | -707.6 |
| Current Acct as Percent of GDP | -3.8 | -4.4 | -4.8 | -5.5 | -6.1 | -6.2 | -5.5 | -5.4 | -4.7 |
| Net Goods \& Services (BOP) | -365.1 | -423.7 | -496.9 | -612.1 | -714.4 | -758.5 | -712.7 | -699.8 | -631.3 |
| Investment Income, Net |  |  |  |  |  |  |  |  |  |
| Direct, Net | $115.9$ | $102.4$ | $\begin{aligned} & 112.7 \\ & -61.5 \end{aligned}$ | $139.4$ | $152.5$ | $\begin{array}{r} 174.2 \\ -131.0 \end{array}$ | $210.2$ | $\begin{array}{r} 241.6 \\ -209.5 \end{array}$ | $\begin{array}{r} 257.2 \\ -226.1 \end{array}$ |
| Other Income \& Transfers, Net | -56.5 | -69.2 | -76.3 | -90.6 | -94.9 | -96.1 | -107.0 | -109.2 | -107.3 |

[^11]NIPA REAL EXPORTS and IMPORTS
OUTLOOK FOR U.S. INTERNATIONAL TRANSACTIONS

|  | 2004 |  |  |  | 2005 |  |  |  | 2006 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| NIPA REAL EXPORTS and IMPORTS |  |  |  |  |  |  |  |  |  |  |  |  |
| Percentage point contribution to GDP growth |  |  |  |  |  |  |  |  |  |  |  |  |
| Net Goods \& Services | -0.8 | -1.5 | -0.4 | -1.1 | 0.3 | 0.8 | -0.1 | -1.4 | 0.1 | 0.5 | -0.2 | 1.2 |
| Exports of G\&S | 0.9 | 0.6 | 0.3 | 1.0 | 0.6 | 0.9 | 0.2 | 1.1 | 1.2 | 0.6 | 0.6 | 1.5 |
| Imports of G\&S | -1.7 | -2.1 | -0.7 | -2.0 | -0.3 | -0.1 | -0.3 | -2.5 | -1.1 | -0.1 | -0.9 | -0.3 |
| Percentage change from previous period, s.a.a.r. |  |  |  |  |  |  |  |  |  |  |  |  |
| Exports of G\&S | 10.0 | 6.5 | 3.1 | 10.0 | 6.0 | 9.5 | 2.1 | 10.6 | 11.5 | 5.7 | 5.7 | 14.3 |
| Services | 16.2 | 5.1 | -3.4 | 16.8 | 6.5 | 0.9 | 2.6 | 6.3 | 2.9 | 3.9 | 2.0 | 26.0 |
| Computers | -7.0 | 1.7 | 16.7 | 13.4 | 17.4 | 24.9 | 12.8 | 2.0 | 14.6 | 13.0 | -3.9 | 9.9 |
| Semiconductors | 16.7 | -13.4 | -20.9 | -2. 4 | -1.7 | 9.3 | 23.2 | 43.8 | 25.3 | 14.5 | -11.5 | -13.5 |
| Core Goods 1/ | 7.8 | 9.2 | 7.7 | 7.4 | 5.6 | 13.1 | 0.2 | 11.6 | 14.9 | 5.7 | 9.2 | 11.0 |
| Imports of G\&S | 12.3 | 15.2 | 4.8 | 13.8 | 2.1 | 0.8 | 2.1 | 16.2 | 6.9 | 0.9 | 5.4 | 1.6 |
| Services | 16.5 | 8.9 | 1.8 | 10.5 | -3.5 | -0.5 | 0.0 | 10.3 | 9.5 | -0.1 | 1.3 | 14.2 |
| Oil | 39.2 | -26.3 | -7.1 | 58.3 | 5.4 | -26.2 | -14.2 | 57.1 | -3.6 | -26.1 | 3.3 | -6.9 |
| Natural Gas | 33.4 | 43.1 | 48.5 | -57.3 | 53.9 | -4.0 | 108.6 | -50.2 | -49.4 | 123.0 | 24.1 | -59.8 |
| Computers | 20.7 | 30.1 | 25.6 | 17.0 | 5.7 | 9.8 | 17.0 | 16.6 | 27.0 | 16.9 | 16.0 | -3.2 |
| Semiconductors | 43.0 | 18.5 | 3.9 | -17.4 | -9.5 | 7.7 | 15.7 | 18.8 | 0.1 | -1.5 | 20.9 | -17.9 |
| Core Goods $2 /$ | 6.5 | 23.0 | 5.4 | 11.6 | 2.3 | 6.1 | 2.9 | 13.2 | 9.7 | 5.4 | 5.5 | 3.1 |
| Billions of Chained 2000 Dollars, s.a.a.r. |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Exports of G\&S | $1101.8$ | $1119.4$ | $1128.0$ | $1155.3$ | $1172.4$ | $1199.3$ | $1205.6$ | $1236.4$ | $1270.6$ | $1288.4$ | $1306.6$ | $1350.9$ |
| Imports of $G \& S$ | 1650.9 | 1710.5 | 1730.8 | 1787.7 | 1796.8 | 1800.3 | 1809.7 | 1879.0 | 1910.7 | 1915.0 | 1940.4 | 1948.2 |
| Billions of dollars, s.a.a.r. |  |  |  |  |  |  |  |  |  |  |  |  |
| US CURRENT ACCOUNT BALANCE | -559.8 | -634.7 | -632.3 | -733.8 | -729.6 | -732.9 | -693.6 | -863.2 | -802.4 | -822.4 | -869.3 | -751.8 |
| Current Account as \% of GDP | -4.9 | -5.5 | -5.4 | -6.1 | -6.0 | -6.0 | -5.5 | -6.8 | -6.2 | -6.3 | -6.6 | -5.6 |
| Net Goods \& Services (BOP) | $-544.1$ | -602.4 | -626.4 | -675.4 | -666.6 | -682.7 | -723.8 | -784.4 | -758.8 | -770.3 | -797.2 | -707.7 |
| Investment Income, Net | 82.2 | 59.4 | 69.2 | 39.2 | 56.2 | 53.5 | 72.8 | 35.3 | 48.3 | 49.2 | 30.0 | 45.3 |
| Direct, Net | 146.2 | 129.6 | 143.4 | 138.4 | 140.4 | 147.3 | 176.1 | 146.2 | 168.0 | 178.6 | 161.9 | 188.3 |
| Portfolio, Net | -63.9 | -70.3 | -74.2 | -99.2 | -84.3 | -93.8 | -103.3 | -110.9 | -119.8 | -129.4 | -132.0 | -143.0 |
| Other Inc. \& Transfers, Net | -97.8 | -91.7 | -75.1 | -97.6 | -119.2 | -103.8 | -42.6 | -114.1 | -91.8 | -101.2 | -102.1 | -89.4 |

[^12]Last Page
NIPA REAL EXPORTS and IMPORTS
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[^13]
[^0]:    ${ }^{1}$ Starting with this round, a long-run extension of the economic outlook will be a regular feature of the Greenbook.

[^1]:    ${ }^{2}$ Financial assumptions in this Greenbook are set as of the close of market trading on Tuesday, January 22.

[^2]:    ${ }^{3}$ Under the assumption that asset values already price in the faster trend growth, this change to our supply-side assumptions is expected to show through roughly one-for-one to actual real GDP growth, as we recognize the faster growth of permanent income and take on board its implications for household and business spending.

[^3]:    ${ }^{4}$ For the purpose of this simulation, we have held the federal funds rate unchanged from baseline through 2009, reflecting the fact that the simulation has essentially no long-run effect on economic slack and inflation. After 2009, policy follows the estimated Taylor rule.

[^4]:    1．Change from fourth quarter of previous year to fourth quarter of year indicated．
    2．Billions of chained（2000）dollars．

[^5]:    1. Change from fourth quarter of previous year to fourth quarter of year indicated.
    2. Private-industry workers.
[^6]:    1．Change from fourth quarter of previous year to fourth quarter of year indicated，unless otherwise indicated．

[^7]:    GDP growth, which is calculated from Q4 to Q4.
    2.6.3 FOF

[^8]:    Note. Data after 2007:Q3 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
[^9]:    . Foreign GDP aggregates calculated using shares of U.S. exports. -oil 3. Foreign CPI aggregates calculated using shares of U.S. non-oil imports.

[^10]:    1. Foreign GDP aggregates calculated using shares of U.S. exports.
    2. Foreign GDP aggregates calculated using shares of U.S. exports.
    3. Foreign CPI aggregates calculated using shares of U.S. non-oil imports.
    4. CPI excluding mortgage interest payments, which is the targeted inflation rate.
[^11]:    2. Merchandise imports excluding oil, natural gas, computers, and semiconductors.
[^12]:    1. Merchandise exports excluding computers and semiconductors.
    2. Merchandise imports excluding oil, natural gas, computers, and semiconductors.
[^13]:    1. Merchandise exports excluding computers and semiconductors.
    2. Merchandise exports excluding computers and semiconductors. and semiconductors.
