## **Prefatory Note**

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# Part 1

October 22, 2008

# CURRENT ECONOMIC AND FINANCIAL CONDITIONS

## Summary and Outlook

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

Class II FOMC - Restricted (FR)

October 22, 2008

# Summary and Outlook

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# Domestic Developments

Recent economic and financial news has been dismal. The widespread loss of confidence in major financial institutions and a heightened aversion to risk have dealt a further blow to global financial markets. Of course, the extent of the adverse effects of the financial crisis on real activity is difficult to gauge with any precision. But we expect that it will impose appreciable restraint on economic activity. Moreover, the incoming data on consumer and business spending, industrial production, and employment suggest that aggregate output had already decelerated sharply during the summer—before the recent intensification of financial turmoil—and by more than we had earlier anticipated. As a result, rather than the small increases we had written down in the September Greenbook, we now estimate that real gross domestic product (GDP) fell at an annual rate of about 1 percent in the third quarter, and we expect a 1¼ percent decline in the current quarter.

Given the substantial deterioration in the economic outlook, we have conditioned this forecast on further easing of monetary policy. In particular, we have assumed that the Federal Open Market Committee (FOMC) will lower the federal funds rate to ½ percent by early next year and will then hold it there through the middle of 2010. Still, in our projection, this assumed easing in monetary policy—in conjunction with the other financial policy actions taken recently by the Federal Reserve, the Treasury, and foreign authorities—only tempers the negative impact of the many factors that have led us to mark down our forecast for real activity. Indeed, this forecast incorporates a massive loss of equity wealth, the recent sharp increases in private interest rates and risk spreads, a higher exchange value of the dollar, and a more pessimistic outlook for global demand. Furthermore, the latest survey of bank lending conditions points to more serious nonprice credit restrictions on households and businesses, which in turn are likely to depress spending and activity by more than assumed in our September projection. All told, we now expect real GDP to fall further over the first half of 2009 and to be about unchanged for the year as a whole; we had projected an increase of about 2 percent in the September Greenbook. Accordingly, the unemployment rate is projected to rise to 7¼ percent by the end of next year. In 2010, when the adverse effects of the financial turmoil are assumed to begin to abate, the accommodative stance of monetary policy should begin to promote a modest recovery in real activity.

The financial crisis and its likely influence on economic activity have also had material implications for our inflation projection. The sharp deterioration in the outlook for global economic growth has put additional downward pressure on spot and futures prices of oil and other commodities; prices of core imports also turned down in September. In

## The Federal Funds Rate in the Staff Projection

The recent extraordinary financial developments, weak incoming data on economic activity, and falling commodity prices imply substantial downward revisions to the outlook for both real activity and inflation. On our assessment, if the federal funds rate were held at its current level over the next two years, real gross domestic product (GDP) would probably continue to fall next year and then rise only 2 percent in 2010 (see the table below). In response to such weak demand, the unemployment rate would rise to 7.3 percent by late 2010 and core PCE inflation would decline to 1.1 percent. Moreover, inflation would be poised to move lower in subsequent years.

As discussed in the Bluebook, optimal policy simulations currently call for a substantial easing in monetary policy. These simulations seek a path for the federal funds rate that minimizes deviations of the unemployment rate from the NAIRU and inflation from a specified goal, conditional on the FRB/US model and the assumptions built into the staff projection.

When such simulations are run without imposing the zero lower bound on nominal interest rates, they show the optimal federal funds rate falling as low as -3 percent next year and rising back above zero only in late 2010. Alternatively, when the zero lower bound is imposed (as is done in the Bluebook), the simulations show the optimal federal funds rate falling to zero early next year and remaining there into 2012.

In setting the monetary policy assumption in the staff projection, we elected not to follow the optimal policy simulations all the way to zero but instead stopped at ½ percent. As discussed in the Bluebook, reducing the federal funds rate to zero could generate additional strains in the functioning of various financial markets and institutions, at least for a time. However, as can be seen in the table, if we had lowered the federal funds rate to zero, real GDP growth would have been somewhat stronger, causing the unemployment rate to peak a little earlier and to start edging down in 2010.

**Implications of Alternative Policy Paths for the Outlook**

| Data source | 2008 | 2009 | 2010 |
|---|---|---|---|
| *Real GDP* | | | |
| Baseline | .3 | -.1 | 2.3 |
| Federal funds rate held at 1½ percent | .3 | -.4 | 1.9 |
| Federal funds rate cut to 0 percent | .3 | 0 | 2.5 |
| *Unemployment rate* | | | |
| Baseline | 6.3 | 7.2 | 7.2 |
| Federal funds rate held at 1½ percent | 6.3 | 7.3 | 7.4 |
| Federal funds rate cut to 0 percent | 6.3 | 7.2 | 7.1 |
| *Core PCE inflation* | | | |
| Baseline | 2.4 | 1.5 | 1.3 |
| Federal funds rate held at 1½ percent | 2.4 | 1.4 | 1.1 |
| Federal funds rate cut to 0 percent | 2.4 | 1.6 | 1.4 |

Note: Real gross domestic product (GDP) and core inflation measured on a Q4/Q4 basis; unemployment rate reported as the Q4 level.

addition, measures of inflation expectations have reversed some of the upward movement seen earlier this year. This news, in combination with the widening margin of slack in this forecast and the higher exchange value of the dollar, has led us to reduce our core personal consumption expenditures (PCE) inflation forecast about ½ percentage point in both 2009 and 2010: We now anticipate that core PCE prices will rise 1½ percent in 2009 and 1¼ percent in 2010 after a 2½ percent rise this year. Headline PCE inflation, which was boosted by sizable increases in energy and food prices earlier this year, is expected to slow from 2¾ percent this year to about 1½ percent in each of the next two years.

**Key Background Factors**

As noted above, our forecast incorporates a path for the federal funds rate that is appreciably lower than we had incorporated in the September Greenbook. More specifically, we assume that, in addition to the 50 basis point reduction in the target federal funds rate earlier this month, the FOMC will cut the target rate by 50 basis points at this meeting and by 25 basis points at each of the subsequent two meetings, bringing it down to ½ percent. (The box entitled “The Federal Funds Rate in the Staff Projection” provides a more detailed discussion.) We assume that the federal funds rate will remain at this level until mid-2010 and then begin a gradual ascent. This path is nearly 200 basis points lower, on average, than the path we assumed in the September Greenbook and appears to be noticeably below what financial market participants are currently expecting.

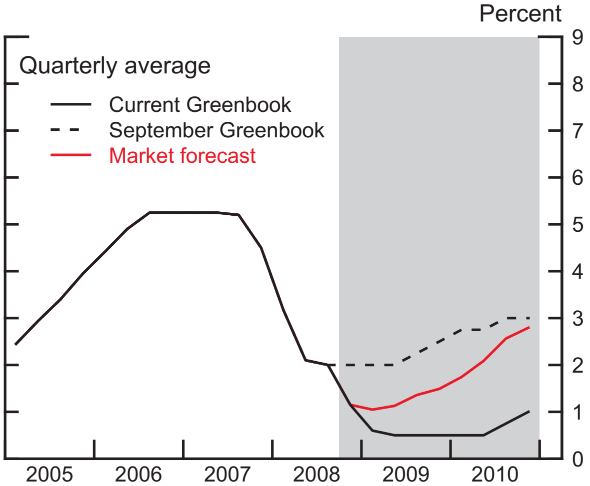
Despite the rate cut in early October and a decline in short-term Treasury yields, long-term Treasury yields have risen, apparently in anticipation of heavy bond issuance to fund the federal initiatives that have been put in place to address the financial crisis and perhaps from a rise in term premiums spurred by increased uncertainty about the future course of interest rates.[1] We are assuming that the 10-year Treasury rate will hold at its current level over the forecast period. Although the rate would tend to rise as the 10-year window moves through the period of low short-term rates prevailing over the next few years, we assume that this effect will be offset as market participants revise down their policy expectations toward the path incorporated in our baseline forecast.

[1] The 10-year Treasury yield shown in the staff financial assumptions is the on-the-run constant maturity yield published by the Treasury Department. This yield has increased about 15 basis points since the September Greenbook. In contrast, the off-the-run 10-year Treasury yield cited in part 2 of the Greenbook and the Bluebook has risen about 50 basis points over the same period. This difference reflects the sharply increased preference for liquidity by market participants since mid-September.

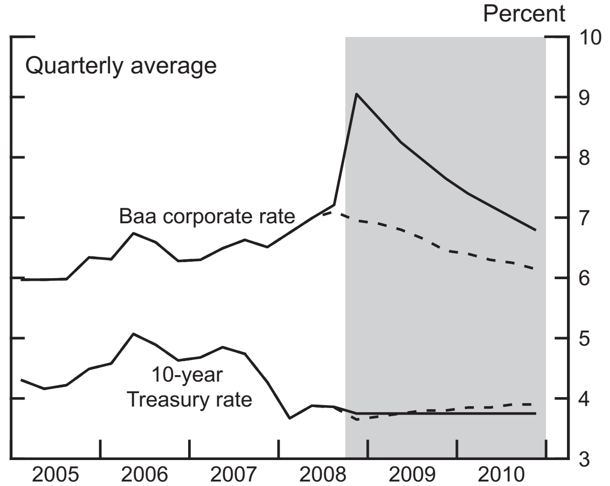
Class II FOMC - Restricted (FR)

# Key Background Factors Underlying the Baseline Staff Projection

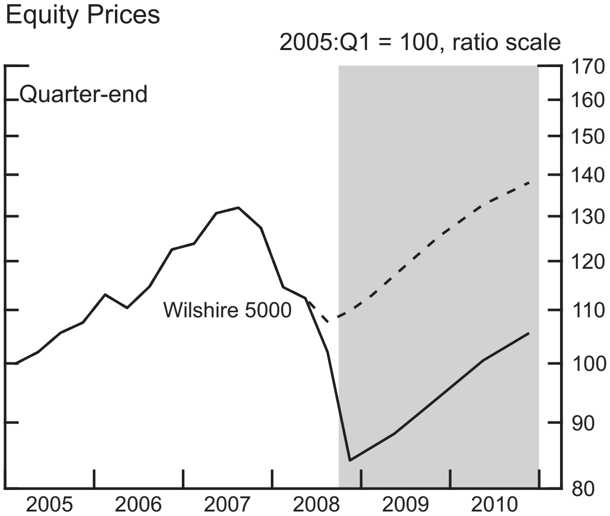
## Federal Funds Rate



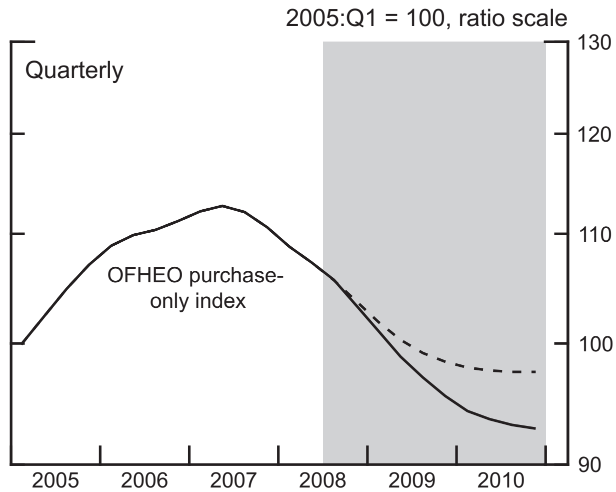

## Long-Term Interest Rates




## Equity Prices

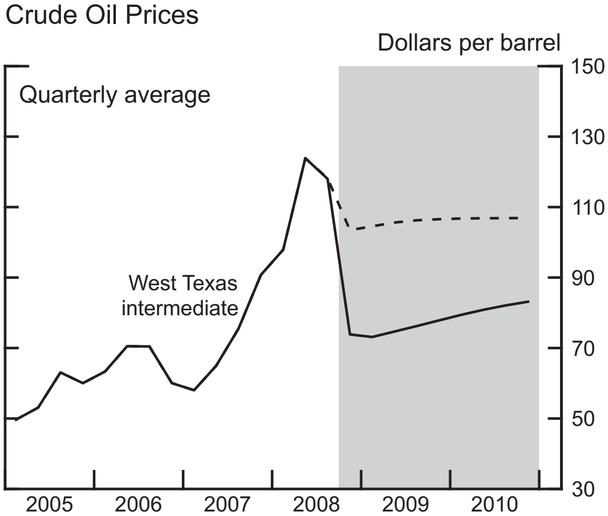



## House Prices

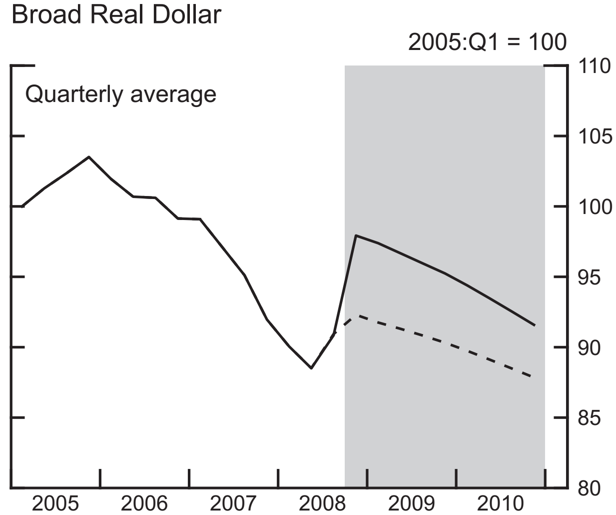



Note: The projection period begins in 2008:Q3.

## Crude Oil Prices




## Broad Real Dollar




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

The stresses in the financial system are now much more pronounced than they were at the time of the September Greenbook. The bankruptcy of Lehman Brothers and the rapid deterioration at AIG (American International Group, Inc.) spawned a widespread loss of confidence in major financial institutions. Investors fled for the safety of short-term Treasury securities, causing a dramatic rise in risk spreads and a substantial worsening of liquidity in many credit markets. In the corporate sector, the commercial paper market experienced severe disruptions, and yields soared on corporate bonds, boosting their spreads over Treasury securities to remarkably high levels. For households, the interest rate on fixed-rate conforming mortgages rose about ¼ percentage point, reflecting the rise in long-term Treasury yields and a slight widening of the already elevated spread over Treasury securities. We anticipate that the corporate bond rate and the fixed mortgage rate will decline over the next two years as the extreme aversion to risk-taking recedes and economic conditions gradually improve. Even so, we expect the corporate bond rate to remain well above the levels we had built into the September Greenbook over the entire projection period, and we expect the mortgage rate to be a bit above the September Greenbook path through 2009. More broadly, while we expect the extraordinary actions of the U.S. authorities and their counterparts abroad to ameliorate the financial crisis that emerged in recent weeks, we anticipate a prolonged period of strained credit markets and cautious lending amid substantial deleveraging.

Equity prices have been extremely volatile and have fallen sharply, on net. The Wilshire 5000 index currently stands 23 percent below the level we had assumed in the last Greenbook, and our estimate of the equity risk premium has risen to an extraordinarily high level. We continue to assume that the equity premium will decline over the forecast period so that, by the end of 2010, it will have retraced slightly more than half of its run-up since mid-2007. Consistent with this path for the risk premium, we have equity prices rising at an annual rate of about 8 percent over the remainder of this year and 12 percent in both 2009 and 2010.

Although the latest readings on house prices came in close to our expectations, we lowered our projection because of the significantly weaker outlook for housing markets in this forecast. We now expect the purchase-only price index published by the Office of Federal Housing Enterprise Oversight to drop at an average annual rate of 7½ percent through the end of next year and to decline another 2¾ percent in 2010. In total, this index of house prices is projected to fall roughly 13 percent from the second quarter of this year (the latest quarterly reading) to the end of 2010, leaving the level of prices at the end of the forecast period nearly 5 percent below that in the September Greenbook.

Our assumption about the direct effect of fiscal policy on real GDP growth is little changed from the September Greenbook. Federal fiscal policy is expected to provide an impetus to real GDP growth on an average annual basis of about ¾ percentage point in 2008, mostly reflecting robust increases in defense purchases, the stimulus rebates, and the temporary emergency unemployment compensation program. At this point, we continue to assume that fiscal policy will be an approximately neutral factor for real GDP growth in 2009 and 2010. Of course, the Congress is currently considering various proposals for a second fiscal stimulus package, and we consider the effects of two illustrative packages in the Alternative Scenarios section.

We are now expecting substantially larger unified budget deficits than in the September Greenbook because of weaker economic activity and new legislation. In fiscal 2008, the deficit was $455 billion (3¼ percent of GDP), about $50 billion wider than we had projected in the September Greenbook, in large part because revenues were weaker than anticipated and because defense spending surged at the end of the fiscal year. In fiscal 2009, we expect the deficit to jump to $853 billion (6 percent of GDP). The step-up reflects the economic downturn, government-sponsored enterprise (GSE) support, and the Treasury's expected purchase of $250 billion in banks' equity under the Troubled Assets Relief Program (TARP) included in the Emergency Economic Stabilization Act passed earlier this month.[2] The deficit is projected to narrow in fiscal 2010 to $587 billion (4 percent of GDP), primarily because we expect that the high level of outlays associated with GSE support and the TARP will not persist into 2010.

The foreign exchange value of the dollar has moved up nearly 9 percent since the September Greenbook, partly as a flight to safety apparently drove up demand for short-term U.S. Treasury securities. We assume that the real trade-weighted value of the dollar will decline at an average annual rate of about 3¼ percent over the forecast period. This assumed rate of depreciation is about ¾ percentage point faster than in our previous projection because we see market participants as likely to be surprised by the low level of the federal funds rate in our forecast. Foreign GDP growth is expected to slow from a 1¾

[2] We are assuming that the $250 billion used to inject capital into the banking system will be scored by the Office of Management and Budget (OMB) as an equity purchase and booked as an outlay in the unified budget. However, we assume that the remaining $450 billion used to purchase troubled assets will be scored by the OMB according to credit reform procedures that count only the net present value of the transaction in the budget. With the uncertainty about the prices that will be paid for these troubled assets, we currently assume that the net present value will be about zero, but recognize that there are risks on both sides of this assumption. Accounting conventions aside, we expect that Treasury borrowing will be boosted by $700 billion over the fourth quarter of 2008 and the first quarter of 2009 to fund the TARP.

percent annual rate in the first half of this year to a ½ percent pace in the second half, then to gradually recover to a 3¼ percent pace by the end of 2010. This projection is much weaker than in the September Greenbook, reflecting softer-than-expected incoming readings on foreign economic activity, the markdown in U.S. growth, and our expectation that the crisis in global financial markets will crimp activity abroad.

The spot price of West Texas intermediate (WTI) crude oil currently stands at about $70 per barrel, more than $30 per barrel lower than at the time of the previous Greenbook. Although the global supply of oil was curtailed by last month's hurricanes in the Gulf of Mexico and by further disruptions to a pipeline in the Caucasus, the effects of these developments on prices have been swamped by weaker demand for oil amid slowing economic activity. In addition, recent financial market developments have led to a substantial markdown of expectations for global activity and, hence, for world oil consumption. Consequently, the path of futures prices has also shifted down sharply since mid-September. Based on these futures quotes, we are assuming that the spot price of WTI will edge up to $83 per barrel by the end of 2010. On average, the path of oil prices in this projection is about $28 per barrel lower than in the September Greenbook.

**Recent Developments and the Near-Term Outlook**

Even prior to the recent intensification of financial turmoil, the economy was weakening more than we had anticipated in the September Greenbook. After folding in softer data on consumption, capital spending, industrial production, and employment, we now estimate that real GDP fell at an annual rate of about 1 percent in the third quarter, compared with the increase of ½ percent that we had forecast previously. These data, along with the downbeat tone of the handful of indicators that reflect conditions after the rout in financial markets that began in mid-September, led us to lop about 2½ percentage points off of our current-quarter projection; we now project that real GDP will fall at a 1¼ percent pace in the fourth quarter.[3]

Private payroll employment fell 168,000 in September, a sharper deterioration than earlier in the year and a larger decrease than we had anticipated. In addition, given the decline in output that we now expect for the fourth quarter and the high level of

[3] The pattern of our near-term projections for real GDP is influenced to some extent by the effects of Hurricanes Gustav and Ike and by the strike at Boeing. We estimate that these influences reduced the annual rate of change in GDP by 0.9 percentage point in the third quarter, then will boost the change in GDP by 0.6 percentage point in the fourth quarter and by 0.3 percentage point in the first quarter of 2009.

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

| Measure | 2008:Q3 | | 2008:Q4 | |
|---|---|---|---|---|
| | Sept. GB | Oct. GB | Sept. GB | Oct. GB |
| **Real GDP** | **.6** | **-1.0** | **1.1** | **-1.3** |
| Private domestic final purchases | -1.2 | -3.5 | -2.1 | -4.4 |
| Personal consumption expenditures | -.5 | -3.3 | -1.6 | -2.4 |
| Residential investment | -17.6 | -19.7 | -20.0 | -24.4 |
| Business fixed investment | .1 | .8 | .7 | -9.9 |
| Government outlays for consumption and investment | 1.9 | 4.8 | 1.7 | -1.0 |
| | Contribution to growth (percentage points) | | | |
| Inventory investment | .6 | -.2 | 1.5 | 2.2 |
| Net exports | .7 | 1.2 | 1.0 | .4 |

unemployment insurance claims so far in October, we have lowered our employment projection for the remainder of the year; we now expect private payrolls to decline about 200,000 per month in the fourth quarter. Reflecting this further downshift in labor demand, we anticipate that the unemployment rate will move up from 6.1 percent in September to 6.4 percent by December.

Output in the industrial sector has continued to contract. Smoothing through the quarterly swings, which mainly reflect the effects of the recent hurricanes and the strike at Boeing, we project that industrial production (IP) will fall at an average annual rate of about 3 percent in the second half, the same pace of decline as in the second quarter. Some of the fourth-quarter weakness reflects our view that automakers are likely to cut production further this quarter in response to bloated inventories and slumping sales. However, we are anticipating production declines across a wide range of other industries as well. In our projection, capacity utilization in manufacturing is expected to move down to 75 percent this quarter, a good bit below its long-run average of about 80 percent.

We estimate that real consumer spending fell at an annual rate of 3¼ percent in the third quarter, despite the lift to disposable income from the tax rebates and extended unemployment benefits. The incoming spending data for each of the three months of the third quarter came in substantially below our expectations in the September Greenbook, and with the fundamental determinants of personal consumption also abysmal, we have reacted by steepening the decline in the fourth quarter. In particular, we expect stagnant real labor income, huge declines in the stock market, historically low levels of sentiment, and further reductions in credit availability to contribute to a decline in spending of 2½ percent at an annual rate this quarter.

In the housing sector, single-family starts fell again in the third quarter and reached an annual rate below 550,000 units in September. Sales of existing homes have held fairly steady so far this year, but new home sales have continued to move lower. At the current pace of sales and starts, homebuilders have been able to make progress in reducing the number of unsold homes. Nonetheless, the overhang of unsold new homes remains elevated, and we expect single-family starts to continue to decline appreciably in coming months. All told, real residential investment is estimated to have fallen at an annual rate of 20 percent in the third quarter, and we look for a further drop of 25 percent at an annual rate in the current quarter.

In the business sector, we estimate that real spending on equipment and software (E&S) fell at an annual rate of 2 percent last quarter, the third consecutive quarterly decrease. In contrast to earlier in the year, when the declines were concentrated in the volatile transportation categories, the third-quarter weakness was widespread. We expect expenditures on E&S to weaken further in the fourth quarter, falling at an annual rate of 11 percent. In addition to the poor outlook for sales, some businesses are reportedly finding new credit difficult to obtain.

The rise in outlays for nonresidential construction is estimated to have slowed to an annual rate of 6 percent in the third quarter, and we expect business spending on structures to drop at a 7¾ percent pace in the fourth quarter. This sudden retreat reflects the worsening fundamentals of the economy and increasing reports that financing constraints have become considerably more binding in this sector. In addition, the drop-back in oil and gas prices over the past few months is likely to damp spending on drilling and mining structures.

In the federal government sector, information from the Monthly Treasury Statement suggests that real federal purchases rose at an annual rate of more than 10 percent in the third quarter, the result of another large increase in defense outlays. Given the appropriations now in place, we expect federal spending to decline at an annual rate of 3 percent in the current quarter as the level of defense spending drops back somewhat. In the state and local sector, incoming information on hiring and construction points to an increase in the sector's real purchases at an annual rate of about 1¾ percent in the third quarter. However, given the marked deterioration in the fiscal positions of many states and localities in recent months, we are expecting spending in this category to eke out only a small gain in the current quarter, as many state and local governments freeze hiring and pay and take other steps to balance their budgets.

Net exports are estimated to have added 1¼ percentage points to the change in real GDP in the third quarter, as real exports rose at a brisk annual rate of 8 percent and imports fell 1 percent. The sluggish pace of activity abroad and the appreciation of the dollar, along with the effects of the Boeing strike, are anticipated to slow export growth appreciably in the fourth quarter. Meanwhile, imports are projected to remain soft as domestic demand recedes further. All told, the external sector's contribution to the change in real GDP is expected to fall back to about ½ percentage point this quarter.

We estimate that real nonfarm inventories were drawn down considerably in the third quarter despite the decline in final sales. Although some of the inventory liquidation appears to reflect the reduction of oil imports and declines in refinery production in the wake of September's hurricanes, the data on manufacturing and trade inventories that we have in hand for August point to declining real inventory stocks in other industries as well. In the fourth quarter, we are expecting the level of real inventories to be about unchanged. In the current environment of decreasing demand and reduced credit availability, businesses are likely to be wary about adding to their inventory stocks.

The core PCE price index is estimated to have increased at an annual rate of about 3 percent in the third quarter, up from the 2¼ percent pace recorded, on average, in the first half of the year. In part, the pickup reflected a large increase in the prices of nonmarket services, which we do not expect to persist. More generally, core inflation has been pushed up by the acceleration in import prices in the first half of this year and by the pass-through into consumer prices of earlier large increases in the cost of energy and other materials. Because we think that the bulk of these upward pressures are now behind us, we look for the rise in core PCE prices to step down to an annual rate of about 2¼ percent in the current quarter. Overall PCE prices surged at an annual rate of 5½ percent in the third quarter, but with the plunge in crude oil prices since July now feeding through to lower consumer energy prices, headline prices are projected to post outright declines in the fourth quarter.

**The Medium-Term Outlook**

Although the path for the federal funds rate that underlies this projection is considerably lower than the path we had assumed in the September Greenbook, this policy adjustment is expected to only partially alleviate the drag from the other factors that have led us to revise down our forecast. In particular, the lower projected paths for the prices of equities and homes have greatly reduced our forecast of household wealth; the jump in corporate bond yields has raised the cost of capital for many enterprises; and the deterioration of the outlook for the global economy, combined with the recent appreciation of the dollar, has worsened the prospects for exports. In addition, we have layered considerably more judgmental restraint on household and business spending than in our previous projection in response to the sharp deterioration in financial conditions. (See the box entitled “Judgmental Effects of Financial Market Turmoil in the Staff Projection” for more details.) Although lower oil prices provide some offset to these factors, on balance, we now forecast that real GDP will be about unchanged next year, rather than rising 2 percent as we anticipated in the September Greenbook. In 2010, with the drag from the strains in financial markets beginning to let up and with an accommodative monetary policy in place, we project that real GDP growth will improve to 2¼ percent. Given the subpar pace of activity in this projection, we expect the unemployment rate to move up to 7¼ percent by early 2010, 1 percentage point higher than the peak unemployment rate in our previous projection, and to recede only a little by year-end.

**Household sector.** Real consumer spending is projected to increase 1 percent in 2009, a percentage point below our forecast in the September Greenbook. We anticipate that real income growth will be held down by continued job losses and sluggish wage gains. The further declines we are projecting in house prices, together with the lagged effects of this year’s drop in equity wealth, also seem likely to exert a significant drag on consumer outlays. In addition, we anticipate that many consumers will continue to struggle to obtain credit to finance big-ticket purchases next year. For 2010, we look for consumer spending to rise about 2½ percent as borrowing conditions begin to normalize and income growth picks up. The increase in consumption is projected to be smaller than the gain in disposable personal income next year, as households make efforts to repair their balance sheets. As a result, the saving rate is projected to rise from about 1½ percent in the third quarter of this year to about 2¾ percent by the end of 2009, and then hold near that level in 2010.

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

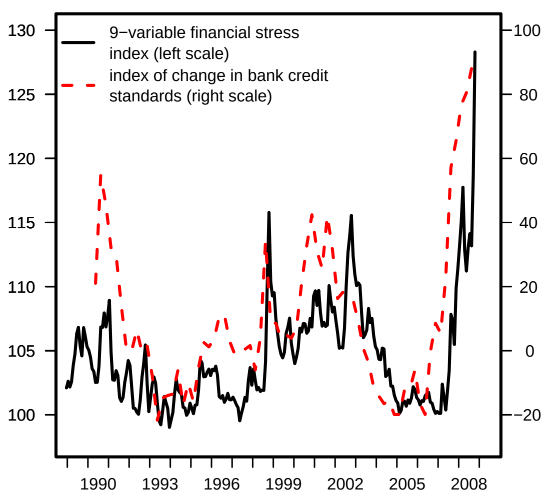
As discussed in the September Greenbook, our standard models probably do not capture all the effects of financial turmoil on real activity, such as those associated with tighter lending standards and other factors that influence spending outside of conventional cost-of-capital and wealth channels. For this reason, we continue to use supplementary analyses to account for these additional effects in our judgmental projection.

As before, we use two types of financial data to quantify the extent of financial turmoil: indicators of capital market stress derived from risk spreads and volatility measures, and indicators of bank lending conditions from the Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS). We then gauge the implications of this stress for the economic outlook using two empirical methods: one that exploits the historical correlation between stress and errors in FRB/US spending equations to project the path of these errors forward, and another that incorporates indicators of stress within small-scale VAR models.

As shown in the chart and table below, measures of stress have continued to deteriorate since mid-September. Accordingly, our various econometric estimates of the fallout from financial turmoil—shown in the table on the facing page—are now even more pronounced.

In updating the staff projection in response to the increase in financial stress, we have had to wrestle with several issues. First, each estimate reported in the table has its own merits and drawbacks, and all are subject to considerable coefficient and model uncertainty. Second, each of the approaches poses significant identification challenges. Third, the estimates are sensitive to both the projected speed at which financial stress fades away over time and the degree to which monetary policy eases in response to weaker real activity. Finally, none of the econometric estimates fully accounts for the likely ameliorative effects of the unprecedented actions taken in recent weeks by the Treasury, the Federal Reserve, and other central banks to mitigate the liquidity, solvency, and confidence problems that are afflicting the financial system.

**Measures of Financial Turmoil**




**Recent Movements in Measures of Financial Turmoil**

| | |
|---|---|
| *SLOOS index* | |
| April survey | 76.7 |
| July survey | 80.5 |
| October survey | 88.0 |
| *Financial stress index* | |
| August average | 113.2 |
| September average | 118.8 |
| October average | 128.3 |

*(continued on next page)*

*(continued)*

After weighing these considerations, we have marked down the forecast by a considerable amount to account for the greater financial stress. As shown in the bottom portion of the table, we now believe that the cumulative effect of the financial turmoil that began in the summer of 2007 will reduce the level of real GDP 2¾ percent by the end of this year and 3¾ percent by the end of 2009, beyond the restraint imposed by traditional cost-of-capital and wealth effects. After 2009, we expect the unusual restraint from financial turmoil to abate appreciably in response to accommodative monetary policy, continued actions to improve market functioning and lessen solvency concerns, and the stabilization of housing market conditions.

### Selected Estimates of the Effects of Financial Turmoil on Real GDP:

| Date of Estimate and Data source | Methodology | Percent deviation from Q4 baseline level 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|
| ***October Greenbook*** | | | | | |
| *Senior Loan Officer Opinion Survey* | | | | | |
| Index of survey responses | FRB/US[1] | -.3 | -2.9 | -3.6 | -2.2 |
| Commercial loan credit standards | VAR[2] | -.2 | -1.3 | -3.1 | -4.0 |
| Change in bank credit standards[3] | VAR[2] | -.1 | -2.0 | -4.3 | -6.2 |
| *Capital markets data* | | | | | |
| 9-variable stress index | FRB/US[2] | -.1 | -1.4 | -3.2 | -3.1 |
| 9-variable stress index | FRB/US[1] | -.4 | -2.3 | -3.6 | -3.1 |
| 9-variable stress index | VAR[2] | 0 | -.8 | -3.0 | -5.4 |
| ***September Greenbook*** | | | | | |
| *Senior Loan Officer Opinion Survey* | | | | | |
| Index of survey responses | FRB/US[1] | -.3 | -2.8 | -3.3 | -2.1 |
| Commercial loan credit standards | VAR[2] | -.1 | -.6 | -.9 | -.9 |
| Change in bank credit standards[3] | VAR[2] | 0 | -1.2 | -2.2 | -3.1 |
| *Capital markets data* | | | | | |
| 9-variable stress index | FRB/US[2] | -.1 | -1.4 | -2.1 | -1.7 |
| 9-variable stress index | FRB/US[1] | -.4 | -2.0 | -2.4 | -2.0 |
| 9-variable stress index | VAR[2] | 0 | -.4 | -1.3 | -3.0 |
| ***Memo item: Staff judgmental projection adjustments*** | | | | | |
| October Greenbook | | **-.3** | **-2.8** | **-3.8** | **-2.5** |
| September Greenbook | | **-.3** | **-1.8** | **-2.0** | **-1.3** |

Note: Because of methodological changes, some of the September estimates shown in the table differ from those reported in the last Greenbook.
1. Stress treated as exogenous and phased out over four quarters.
2. Stress treated as endogenous and simulated as part of a system of equations.
3. Series shown as the dashed line in the chart; includes standards on both business and consumer loans.

The trough in residential construction activity is now projected to be deeper next year than we had built into the September Greenbook. With employment projected to decline through next year and household balance sheets under considerable stress, we anticipate that a recovery in housing demand will be slower to take hold despite the increasing affordability of homes. Accordingly, we have marked down our forecast for single-family housing starts next year by about 110,000 units to 460,000 units, a pace sufficient to sharply reduce—but not eliminate—the overhang of unsold new homes by year-end. In 2010, we expect the lower house prices, the faster projected pace of income growth,

**Business investment.** Business spending on capital goods and structures is projected to contract 11 percent next year, a sharp change from the flattening out of business spending that we showed in the September Greenbook. In addition to the weaker outlook for business output, the astonishing jump in corporate bond spreads over the past several weeks, and heightened uncertainty about the economy, we also expect an unusual amount of nonprice credit rationing. In 2010, we are projecting that business investment will post a modest gain as credit conditions improve and a broader recovery in the economy begins to take hold. Although real expenditures on equipment and software are projected to bounce back in 2010, nonresidential construction activity, which tends to lag the recovery in the overall economy, is expected to drop further.

Despite the sharp decline in final demand now under way, we are not anticipating a pronounced inventory cycle. Rather, we expect businesses to continue to curb production enough during the next year to prevent the ratio of inventories to sales from rising appreciably. In 2010, as firms see that the economy is on the mend, we expect the pace of inventory accumulation to step up, but not enough to contribute importantly to real GDP growth that year.

**Government spending.** We continue to expect federal government spending to decelerate over the forecast period. Growth in real federal expenditures on consumption and investment is projected to step down to about 3 percent in 2009 and 2 percent in 2010, with the deceleration coming from defense purchases. At the state and local level, the revenue shortfall that has emerged this year is expected to worsen in the quarters ahead, putting severe budgetary pressures on many governments. Accordingly, we project that state and local purchases will edge down over the next two years, as these jurisdictions trim operating budgets and adjust capital spending plans.

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

| Measure | 2008: H2 | 2009: H1 | 2009 | 2010 |
|---|---|---|---|---|
| **Real GDP** | **-1.2** | **-.9** | **-.1** | **2.3** |
| Previous | .8 | 1.9 | 2.1 | 2.7 |
| Final sales | -2.1 | -.9 | -.5 | 2.3 |
| Previous | -.2 | 1.5 | 1.6 | 2.8 |
| PCE | -2.9 | .4 | 1.0 | 2.4 |
| Previous | -1.1 | 1.7 | 1.9 | 2.6 |
| Residential investment | -22.1 | -21.0 | -15.8 | 13.4 |
| Previous | -18.8 | -10.6 | -6.2 | 17.1 |
| BFI | -4.7 | -12.2 | -10.9 | 4.1 |
| Previous | .4 | -1.6 | -.3 | 4.9 |
| Government purchases | 1.9 | 1.2 | .9 | .5 |
| Previous | 1.8 | 1.5 | 1.3 | .8 |
| Exports | 5.3 | 3.1 | 2.8 | 3.9 |
| Previous | 5.6 | 5.6 | 5.6 | 5.1 |
| Imports | -.7 | -.7 | .9 | 4.3 |
| Previous | -.5 | 1.4 | 2.8 | 4.9 |
| | Contribution to growth (percentage points) | | | |
| Inventory change | 1.0 | .0 | .4 | .0 |
| Previous | 1.0 | .4 | .4 | -.1 |
| Net exports | .8 | .5 | .2 | -.2 |
| Previous | .8 | .5 | .3 | -.1 |

**Net exports.** After advancing an estimated 7 percent in 2008, real exports are expected to rise only 2¾ percent next year, reflecting the waning of the stimulus from past dollar depreciation, the higher assumed path of the dollar over the projection period, and the projected subpar economic growth abroad. In 2010, when a recovery in the global economy takes hold, we expect export growth to pick up slightly to 4 percent. Real imports, which appear likely to decline this year, are expected to post only an anemic increase next year, held down by the weakness in the domestic economy. As the U.S.

economy turns up in 2010, import growth is expected to bounce back to 4¼ percent. All told, after adding about 1¼ percentage points to real GDP growth this year, the external sector is projected to contribute about ¼ percentage point to the change in real GDP in 2009 and to subtract about as much in 2010. *(The International Developments section provides more detail on the outlook for the external sector.)*

**Aggregate Supply, the Labor Market, and Inflation**

In this projection, we have slightly reduced our estimates of potential output growth over the forecast period to reflect the effects of the anticipated decline in business investment on capital deepening. Still, the level of potential has not been revised down by nearly as much as the actual level of GDP, implying a dramatic widening of the output gap. By early 2010, we expect the level of actual output to fall short of potential by about 5 percent, a gap that is expected to diminish only modestly by the end of the year.

**Productivity and the labor market.** We expect job losses to continue at a substantial pace in coming quarters and then to taper off gradually in the second half of next year as real output begins to edge back up. The net destruction of nearly 1.6 million jobs in 2009 is projected to push the unemployment rate up to 7¼ percent by the beginning of 2010, well above the level reached during the previous recession. In 2010 we expect private payroll gains to resume, reaching a pace of about 140,000 per month by the end of that year. However, the average rate of job creation over the year is not much faster than our estimate of the underlying trend in the labor force, and thus we expect the unemployment rate to remain elevated through the end of the year. We expect productivity growth to fall below the growth rate of structural productivity in coming quarters, as businesses shed workers a little more slowly than the decline in economic activity. Productivity growth then picks back up again in 2010 as the economy recovers.

**Prices and labor costs.** We project core PCE price inflation to slow from 2½ percent this year to 1½ percent next year and to 1¼ percent in 2010. As in past Greenbooks, the step-down reflects receding cost pressures from energy and materials prices, a deceleration of core import prices, and increasing downward pressure from underemployed resources. However, each of these disinflationary pressures is greater in the current projection, and our forecast for core inflation is about ½ percentage point lower in both 2009 and 2010 than in the last Greenbook. Our forecast for overall

### Decomposition of Structural Labor Productivity
**Nonfarm Business Sector**
(Percent change, Q4 to Q4, except as noted)

| Measure | 1974-95 | 1996-2000 | 2001-06 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|
| **Structural labor productivity** | **1.5** | **2.5** | **2.6** | **2.1** | **2.0** | **1.9** | **1.8** |
| Previous | 1.5 | 2.5 | 2.6 | 2.1 | 2.0 | 2.0 | 2.0 |
| *Contributions*[1] | | | | | | | |
| Capital deepening | .7 | 1.4 | .7 | .6 | .5 | .2 | .3 |
| Previous | .7 | 1.4 | .7 | .7 | .5 | .5 | .7 |
| Multifactor productivity | .5 | .7 | 1.6 | 1.2 | 1.3 | 1.5 | 1.4 |
| Previous | .5 | .7 | 1.6 | 1.2 | 1.3 | 1.3 | 1.2 |
| Labor composition | .3 | .3 | .3 | .2 | .2 | .2 | .1 |
| MEMO | | | | | | | |
| Potential GDP | 3.0 | 3.4 | 2.6 | 2.5 | 2.5 | 2.4 | 2.3 |
| Previous | 3.0 | 3.4 | 2.6 | 2.5 | 2.5 | 2.5 | 2.4 |

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

1. Percentage points.

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

| Measure | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|
| Output per hour, nonfarm business | 2.7 | 1.7 | 1.7 | 2.2 |
| Previous | 2.7 | 2.4 | 1.8 | 2.1 |
| Nonfarm private payroll employment | .9 | -1.2 | -1.4 | .7 |
| Previous | .9 | -.9 | .7 | .9 |
| Household survey employment | .4 | -.8 | -.5 | .8 |
| Previous | .4 | -.6 | .6 | 1.0 |
| Labor force participation rate[1] | 66.0 | 66.0 | 65.6 | 65.4 |
| Previous | 66.0 | 66.0 | 65.7 | 65.5 |
| Civilian unemployment rate[1] | 4.8 | 6.3 | 7.2 | 7.2 |
| Previous | 4.8 | 6.2 | 6.2 | 5.9 |
| MEMO | | | | |
| GDP gap[2] | -.2 | -2.3 | -4.7 | -4.7 |
| Previous | -.2 | -1.2 | -1.6 | -1.4 |

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

consumer price inflation has been revised down for the same reasons, with the change in the total PCE price index now expected to slow from about 2¾ percent this year to 1½ percent in 2009 and 2010 as food and energy prices decelerate, on net.

The increase in projected slack in labor markets and lower rates of consumer price inflation have led us to reduce our forecast for the rise in labor compensation. In addition to these influences, a much weaker outlook for financial sector profits suggests that nonproduction bonuses will drop back dramatically from their levels of the past few

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

| Measure | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|
| PCE chain-weighted price index | 3.5 | 2.8 | 1.4 | 1.4 |
| Previous | 3.5 | 3.5 | 2.2 | 1.9 |
| Food and beverages | 4.5 | 6.2 | 2.2 | 1.4 |
| Previous | 4.5 | 6.1 | 3.2 | 2.1 |
| Energy | 19.1 | -1.0 | -2.3 | 3.3 |
| Previous | 19.1 | 10.8 | 1.2 | .8 |
| Excluding food and energy | 2.2 | 2.4 | 1.5 | 1.3 |
| Previous | 2.2 | 2.4 | 2.1 | 1.9 |
| Consumer price index | 4.0 | 2.8 | 1.5 | 1.7 |
| Previous | 4.0 | 4.0 | 2.3 | 2.0 |
| Excluding food and energy | 2.3 | 2.4 | 1.7 | 1.5 |
| Previous | 2.3 | 2.6 | 2.3 | 2.1 |
| GDP chain-weighted price index | 2.6 | 3.0 | 1.6 | 1.3 |
| Previous | 2.6 | 2.9 | 2.2 | 1.9 |
| ECI for compensation of private industry workers[1] | 3.0 | 2.9 | 2.3 | 1.5 |
| Previous | 3.0 | 2.9 | 3.1 | 3.0 |
| Compensation per hour, nonfarm business sector | 3.6 | 4.0 | 3.1 | 2.1 |
| Previous | 3.6 | 4.1 | 3.9 | 3.6 |
| Prices of core goods imports[2] | 3.4 | 5.5 | -.5 | 1.5 |
| Previous | 3.4 | 7.1 | 1.0 | 1.3 |

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

years. After rising 4 percent this year, compensation per hour, as measured by the productivity and cost release, is expected to decelerate to 3 percent in 2009 and to 2 percent in 2010, down about ¾ percentage point next year and about 1½ percentage points the following year from our previous projection. The employment cost index is projected to rise 2¼ percent in 2009 and 1½ percent in 2010, also a much slower rate of increase than in the previous Greenbook.

### The Long-Term Outlook

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

- Monetary policy aims to stabilize PCE inflation at 1¾ percent in the long run, consistent with the discussion of longer-term inflation forecasts provided by FOMC participants in June.
- Risk premiums on corporate bonds and equity continue to fall back to historically more normal levels beyond 2010 as financial market strains abate further.
- Fiscal policy is an essentially neutral factor at all levels of government.
- Beyond 2010, foreign real GDP expands 4¼ percent per year while the dollar depreciates 2 percent per year in real terms; nominal WTI crude oil prices rise gradually from recent levels to about $88 per barrel by the end of 2013, consistent with futures prices. Under these assumptions, movements in prices of energy and imports have only minor implications for domestic inflation.
- The NAIRU remains flat at 4¾ percent, and potential GDP expands a bit more than 2½ percent per year, on average, from 2011 to 2013.

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

| Measure | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|
| Real GDP | 0.3 | -0.1 | 2.3 | 4.4 | 4.9 | 4.8 |
| Civilian unemployment rate[1] | 6.3 | 7.2 | 7.2 | 6.4 | 5.4 | 4.5 |
| PCE prices, total | 2.8 | 1.4 | 1.4 | 1.1 | 1.0 | 1.0 |
| Core PCE prices | 2.4 | 1.5 | 1.3 | 1.1 | 1.0 | 1.0 |
| Federal funds rate[1] | 1.2 | 0.5 | 1.0 | 1.8 | 2.6 | 3.4 |

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

The unemployment rate enters 2011 considerably above the staff's estimate of the NAIRU. Moreover, inflation is below the assumed long-run target. In these circumstances, monetary policy remains accommodative for some time. The lingering effects of financial turmoil continue to fade, and residential construction extends its recovery; coupled with stimulative monetary policy, these factors propel real GDP to gains of 4¾ percent per year, on average, from 2011 to 2013. With actual output growth outpacing its potential by a wide margin, the unemployment rate drops steadily over this period and falls below the NAIRU in 2013. Nevertheless, reflecting the considerable margin of slack on average over this period, inflation moves down to 1 percent.

**Financial Flows and Conditions**

We expect that the growth of domestic nonfinancial debt will increase from an annual rate of 4½ percent in the first half of this year to 10 percent in the second half as government programs aimed at addressing financial market strains temporarily boost federal borrowing. Excluding the federal sector, we forecast that debt growth will slow from an annual rate of 4 percent in the first half to 2¼ percent in the second half. Total domestic nonfinancial debt is projected to increase 2¾ percent in 2009 and 4½ percent in 2010—relatively modest by historical standards.

We project that household debt will be about flat, on net, over the second half of this year and will contract slightly next year. Mortgage borrowing and nonmortgage consumer credit have both been curtailed by falling house prices, a weakening labor market, and by a reduced supply of credit in the form of tighter terms and standards from lenders. We expect that household debt will expand slowly in 2010 as spending on durable goods begins to recover, house prices begin to stabilize, and credit conditions loosen up somewhat.

The growth of nonfinancial business debt is expected to slow to an annual rate of about 4¾ percent in the second half of this year, down from 6½ percent in the first half and 13 percent in 2007. The slowdown reflects weaker demand for credit, dramatically higher borrowing costs in the corporate bond market, and tighter terms and standards for bank loans. Commercial and industrial lending jumped in the third quarter as firms drew on existing bank lines of credit in the face of difficult conditions for other sources of funding. But we anticipate that bank lending will slow in response to tightening loan terms and standards and that total business borrowing will remain sluggish over the forecast period as economic activity weakens and capital expenditures fall.

Federal borrowing surged in September and October to fund the Treasury's Supplementary Financing Program, and it is expected to rise substantially further in coming months to finance the TARP. We anticipate these special programs will cause federal debt to grow at an average annual rate of nearly 50 percent in the second half, up from 7 percent in the first half of the year. We anticipate federal debt growth will remain robust even after these programs have been funded—rising about 6½ percent next year and 8¾ percent in 2010—as the projected slowdown in economic activity restrains revenue growth and increases spending.

We anticipate that state and local government debt growth will slow to about 2½ percent at an annual rate in the fourth quarter, down from 7 percent in the third quarter, reflecting the recent worsening in market conditions. Several issuers have delayed or canceled deals as yields have risen sharply, and liquidity conditions have deteriorated. We expect market conditions to recover next year and municipal debt growth to move back up to about 6 percent over the forecast period.

After increasing at an annual rate of 7½ percent in the first half, M2 surged in September and early October, reflecting household demand for safe and liquid assets as well as depository institutions' aggressive bidding for small time deposits. We expect M2 growth to slow over the forecast period as nominal GDP growth steps down notably in 2009 and as the opportunity cost of M2 increases a bit.

**Alternative Scenarios**

In this section, we illustrate risks to the staff forecast using simulations of the FRB/US model. In the first scenario, the economic fallout from financial market turmoil is much greater than in the baseline, both because aggregate spending turns out to be more sensitive to the financial stresses than we have assumed and because the strains on the financial system intensify, rather than gradually fade as in the baseline. In contrast, the next scenario considers the more optimistic possibility that financial conditions will improve more quickly and restrain spending by less than we anticipate. The third scenario considers the implications of two possible fiscal stimulus packages. The final scenario assumes that inflation does not respond noticeably to economic slack and that a low funds rate will have adverse effects on inflation expectations.

Because the baseline path for the federal funds rate is effectively constrained at ½ percent for part of the projection period, we deviate from our usual assumption that monetary policy follows an estimated Taylor rule. Instead, we assume in most cases that monetary

**Alternative Scenarios**

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

| Measure and scenario | 2008 | | 2009 | 2010 | 2011 | 2012-13 |
|---|---|---|---|---|---|---|
| | H1 | H2 | | | | |
| *Real GDP* | | | | | | |
| Greenbook extension | 1.8 | -1.2 | -0.1 | 2.3 | 4.4 | 4.9 |
| More financial fallout | 1.8 | -1.6 | -2.0 | 1.0 | 4.1 | 5.4 |
| More rapid financial recovery | 1.8 | -0.9 | 1.8 | 4.5 | 3.5 | 3.1 |
| Fiscal stimulus | 1.8 | -1.2 | 0.2 | 2.3 | 4.2 | 4.9 |
| Bigger fiscal stimulus | 1.8 | -1.2 | 0.6 | 2.6 | 3.6 | 5.0 |
| Higher inflation | 1.8 | -1.2 | -0.2 | 2.2 | 4.3 | 4.2 |
| *Unemployment rate*[1] | | | | | | |
| Greenbook extension | 5.3 | 6.3 | 7.2 | 7.2 | 6.4 | 4.5 |
| More financial fallout | 5.3 | 6.3 | 7.8 | 8.4 | 7.7 | 5.2 |
| More rapid financial recovery | 5.3 | 6.3 | 6.6 | 5.8 | 5.1 | 4.6 |
| Fiscal stimulus | 5.3 | 6.3 | 7.0 | 7.1 | 6.4 | 4.5 |
| Bigger fiscal stimulus | 5.3 | 6.3 | 7.0 | 6.8 | 6.3 | 4.4 |
| Higher inflation | 5.3 | 6.3 | 7.2 | 7.3 | 6.5 | 5.0 |
| *Core PCE inflation* | | | | | | |
| Greenbook extension | 2.2 | 2.7 | 1.5 | 1.3 | 1.1 | 1.0 |
| More financial fallout | 2.2 | 2.7 | 1.4 | 0.8 | 0.5 | 0.4 |
| More rapid financial recovery | 2.2 | 2.6 | 1.9 | 1.8 | 1.6 | 1.5 |
| Fiscal stimulus | 2.2 | 2.7 | 1.6 | 1.4 | 1.2 | 1.1 |
| Bigger fiscal stimulus | 2.2 | 2.7 | 1.6 | 1.5 | 1.3 | 1.2 |
| Higher inflation | 2.2 | 2.8 | 2.0 | 2.3 | 2.4 | 2.3 |
| *Federal funds rate*[1] | | | | | | |
| Greenbook extension | 2.1 | 1.2 | 0.5 | 1.0 | 1.8 | 3.4 |
| More financial fallout | 2.1 | 1.1 | 0.5 | 0.5 | 0.5 | 1.4 |
| More rapid financial recovery | 2.1 | 1.4 | 1.4 | 3.2 | 4.6 | 4.8 |
| Fiscal stimulus | 2.1 | 1.3 | 0.5 | 1.1 | 1.9 | 3.4 |
| Bigger fiscal stimulus | 2.1 | 1.2 | 0.4 | 0.9 | 1.8 | 3.3 |
| Higher inflation | 2.1 | 1.1 | 0.6 | 1.0 | 3.1 | 5.8 |

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

policy is set using a version of the optimal control policy that we routinely report in the Bluebook. This setting of policy takes into account the effective lower bound on the federal funds rate.[4]

[4] Under the optimal control policy setting, policymakers place equal weight on keeping core PCE inflation close to an assumed goal of 1¾ percent, on keeping unemployment close to the NAIRU, and on avoiding changes in the federal funds rate.

**More financial fallout.** Our baseline forecast assumes a gradual waning in market strains over the next several years. In this alternative scenario, credit losses and solvency concerns instead are assumed to intensify into next year and to remain elevated through 2010, with adverse consequences for asset prices, the cost of borrowing, and credit availability. Risk premiums on conventional mortgages, investment-grade private securities, and corporate equity move up about 50 basis points from their current levels, and then come down more slowly over the next two years than we assume in the staff forecast. In this environment, problems in the housing market deepen by more than in the staff projection, causing home prices to decline an additional 10 percent relative to baseline by the end of next year. These more adverse financial conditions are also assumed to spill over to activity abroad, causing foreign output to expand 1 percentage point per year more slowly than in the baseline; weaker global growth, in turn, drives the price of WTI crude oil about $7 per barrel below baseline, on average, over the next two years. As discussed earlier, although the staff forecast incorporates large judgmental adjustments to take account of the nonstandard effects of financial stress on spending, we have not gone as far as some empirical estimates might suggest. This scenario incorporates spending effects more in line with some of the larger estimates reported in the box.

The additional financial market stress, combined with the increased sensitivity of real activity to that stress, causes household and business spending to weaken more appreciably than in the baseline. Real GDP contracts at an annual rate of about 1½ percent in the second half of this year and 2 percent next year; growth resumes in 2010, but the recovery is anemic. The unemployment rate continues to rise through the end of 2010 and peaks at 8½ percent. The federal funds rate remains pinned at ½ percent through 2012 and then begins to drift up modestly. Despite the continued low level of nominal short-term interest rates, the unemployment rate is still above the NAIRU at the end of 2013. In the face of so much persistent slack, inflation falls markedly, to less than ½ percent by 2013.

**More rapid financial recovery.** Our baseline outlook is predicated on only a gradual narrowing of risk spreads on loans, bonds, and corporate equity and on a slow improvement in the willingness of financial institutions to supply credit. However, investor fears may well dissipate rapidly, particularly if recent actions by the Treasury, the Federal Reserve, and other government agencies here and abroad prove to be more efficacious than assumed in the baseline. In this scenario, risk spreads recede over the next few quarters to the levels projected in the September Greenbook; as a result, equity values reverse most of their recent losses by the middle of next year. Also, the additional judgmental adjustments for financial turmoil that we made this round fail to materialize. Finally, more favorable financial conditions add 1¼ percentage points to the average rate of real GDP growth abroad over the next two years and cause the price of WTI crude oil to rebound to $105 per barrel by the middle of 2009.

Under these assumptions, real GDP increases about 1¾ percent in 2009 and 4½ percent in 2010. As a result, the unemployment rate peaks at only 6¾ percent in the middle of next year and then falls back more quickly than in the baseline. Stronger real activity in turn leads to a less pronounced drop in inflation. In response to these less adverse conditions, the federal funds rate falls only briefly to ½ percent next year but then embarks on an extended period of tightening as it becomes clear that the restraint from financial stress is lifting rapidly.

**Fiscal stimulus.** A second round of fiscal stimulus is under active discussion, although at this point the size and composition of any such package are highly uncertain. In this scenario, we consider two alternative possibilities, each of which we assumed will be enacted near the beginning of 2009. The first is a $150 billion package that provides a sizable short-run boost to aggregate spending (similar to the 2008 package), and the second is a larger $300 billion program that delivers stimulus over a somewhat longer period.

The $150 billion package has three components: $75 billion for another round of stimulus rebates for households, $25 billion to boost spending for low-income transfer payments such as unemployment insurance and food stamps, and $50 billion in aid to state governments. We assume the rebates are disbursed in the first and second quarters of next year, and that the increase in transfer payments is distributed evenly across the four quarters of 2009. With regard to aid for state governments, we assume that the funds are disbursed in 2009.

This stimulus package affects aggregate spending in several different ways. Households spend about one-half of their rebate checks in the quarter they are received and save the remainder. In contrast, all the additional transfer income is spent by households soon after it is received. These two effects—which conform to the standard prediction of these effects in the FRB/US model—together imply that the temporary boost to personal income provided by the stimulus package causes the *level* of household spending to be significantly higher in the first half of 2009, but the level returns to baseline in 2010. As for state governments, we assume that one-third of the federal aid is spent in 2009 and the remainder in 2010; this pattern reflects the typical lag between project funding and infrastructure spending. In response to the tax rebates and higher outlays, real GDP expands ¼ percent in 2009 compared with the baseline of no growth. In 2010, real GDP *growth* is unaffected, although the *level* of real GDP is about ¼ percent higher, and the unemployment rate is slightly below baseline.

The $300 billion package includes the following: a $160 billion reduction in individual income taxes for 2009 through 2010, a $50 billion increase in transfer payments spread over two years, and a $90 billion increase in federal aid to state and local governments. We assume that the tax cut is implemented by lowering income tax withholding rates by enough to reduce personal taxes $80 billion in both 2009 and 2010; such a tax cut should boost household spending for a longer period than a one-time rebate. Because this package is both larger in overall magnitude and provides an impetus to growth over a longer period, its effect on real activity is more noticeable. Real GDP growth increases ¾ percentage point more in 2009, and ¼ percentage point more in 2010, relative to the baseline projection, and the unemployment rate in late 2010 stands at 6¾ percent, about ½ percentage point below baseline.

Note that in both cases, monetary policy follows the baseline path, because neither package provides enough sustained stimulus to change the basic economic picture.

**Higher inflation.** The staff forecast anticipates that increased slack in labor and product markets will hold down core inflation by about ½ percentage point per year, on average, over the next two years, and that inflation will continue to moderate for several years thereafter as households and businesses gradually revise down their expectations for long-run inflation. In this scenario, however, both actual and expected inflation turn out to be much less sensitive to economic slack. Moreover, what might be viewed by households and firms as an overly aggressive monetary policy easing causes long-run inflation expectations to drift up and only begin to stabilize once policy has embarked on an extended course of tightening.

Under these assumptions, inflation moderates to only 2 percent next year and then moves up to 2¼ percent in 2010. Monetary policy tightens in response, pushing the federal funds rate above 3 percent in 2011 and to 5¾ percent by 2013. These actions help cap inflation at a bit below 2½ percent in 2011 and put it on a slow downward trend thereafter. Real activity is little changed from baseline over most of the extended projection period.

**Assessment of Forecast Uncertainty**

Although the risks associated with the staff forecast are always considerable, we view the current outlook as much more uncertain than normal. The disruptions to credit market functioning and to the stability of financial institutions have been extraordinary, as has been the response of the Federal Reserve, the Treasury, and foreign central banks and governments. As a result, the evolution of past credit crises and their effects on real activity are an uncertain guide to judging how the current situation will play out. For these reasons, we view the probability distribution of possible outcomes for growth and unemployment as much flatter than normal. In addition, we still see the risks to the forecast as somewhat skewed to the downside.

The outlook for inflation is also probably more uncertain than normal, although likely not to the same degree as the projection for real activity. We judge the risks to our price projection as roughly balanced.

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

| Measure | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|
| *Real GDP* | | | | | | |
| *(percent change, Q4 to Q4)* | | | | | | |
| Projection | 0.3 | -0.1 | 2.3 | 4.4 | 4.9 | 4.8 |
| Confidence interval | | | | | | |
| Greenbook forecast errors | -.1-.8 | -1.6-1.4 | .9–3.6 | . . . | . . . | . . . |
| FRB/US stochastic simulations | -.2-.8 | -1.3-1.0 | .9–3.5 | 3.0–5.9 | 3.4–6.6 | 3.3–6.6 |
| *Civilian unemployment rate* | | | | | | |
| *(percent, Q4)* | | | | | | |
| Projection | 6.3 | 7.2 | 7.2 | 6.4 | 5.4 | 4.5 |
| Confidence interval | | | | | | |
| Greenbook forecast errors | 6.2–6.4 | 6.6–7.8 | 6.2–8.2 | . . . | . . . | . . . |
| FRB/US stochastic simulations | 6.1–6.5 | 6.8–7.7 | 6.7–7.8 | 5.8–7.1 | 4.8–6.1 | 3.8–5.2 |
| *PCE prices, total* | | | | | | |
| *(percent change, Q4 to Q4)* | | | | | | |
| Projection | 2.8 | 1.4 | 1.4 | 1.1 | 1.0 | 1.0 |
| Confidence interval | | | | | | |
| Greenbook forecast errors | 2.5–3.0 | .6–2.2 | .4–2.5 | . . . | . . . | . . . |
| FRB/US stochastic simulations | 2.5–3.0 | .7–2.1 | .6–2.2 | .3–2.0 | .1–1.9 | .1–2.0 |
| *PCE prices excluding* | | | | | | |
| *food and energy* | | | | | | |
| *(percent change, Q4 to Q4)* | | | | | | |
| Projection | 2.4 | 1.5 | 1.3 | 1.1 | 1.0 | 1.0 |
| Confidence interval | | | | | | |
| Greenbook forecast errors | 2.2–2.7 | .9–2.1 | .4–2.3 | . . . | . . . | . . . |
| FRB/US stochastic simulations | 2.3–2.6 | 1.1–1.9 | .7–1.9 | .4–1.8 | .2–1.7 | .3–1.8 |
| *Federal funds rate* | | | | | | |
| *(percent, Q4)* | | | | | | |
| Projection | 1.2 | 0.5 | 1.0 | 1.8 | 2.6 | 3.4 |
| Confidence interval | | | | | | |
| FRB/US stochastic simulations | .9–1.4 | .0–1.7 | .0–2.5 | .4–3.4 | 1.0–4.2 | 1.9–5.1 |

Notes: Intervals derived from Greenbook forecast errors are based on projections made from 1987-2007. Shocks underlying FRB/US stochastic simulations are randomly drawn from the 1987-2007 set of model equation residuals.

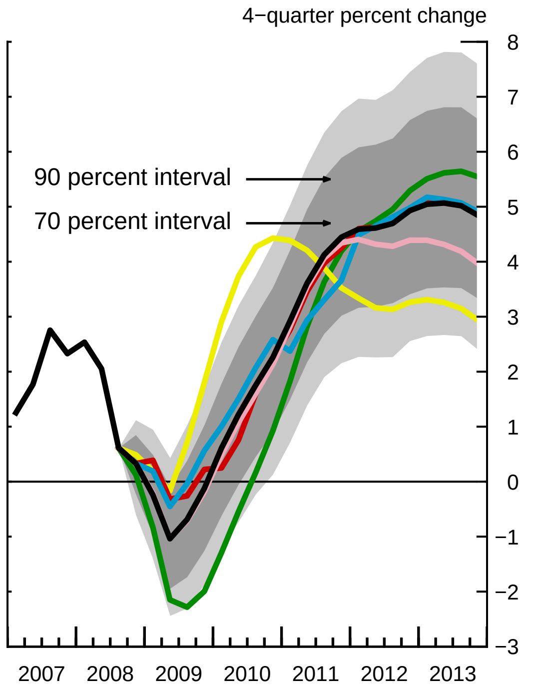
. . . Not applicable. The Greenbook forecast horizon has typically extended about two years.

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

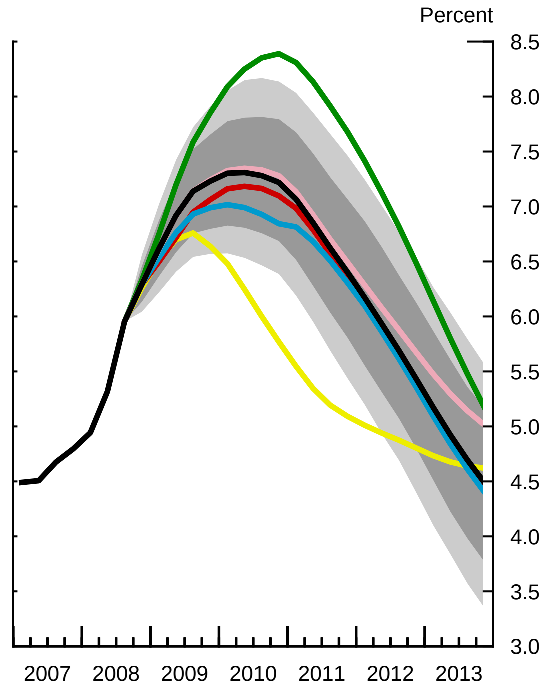
Confidence Intervals based on FRB/US Stochastic Simulations

Greenbook extension
More financial fallout
More rapid financial recovery
Fiscal stimulus
Bigger fiscal stimulus
Higher inflation

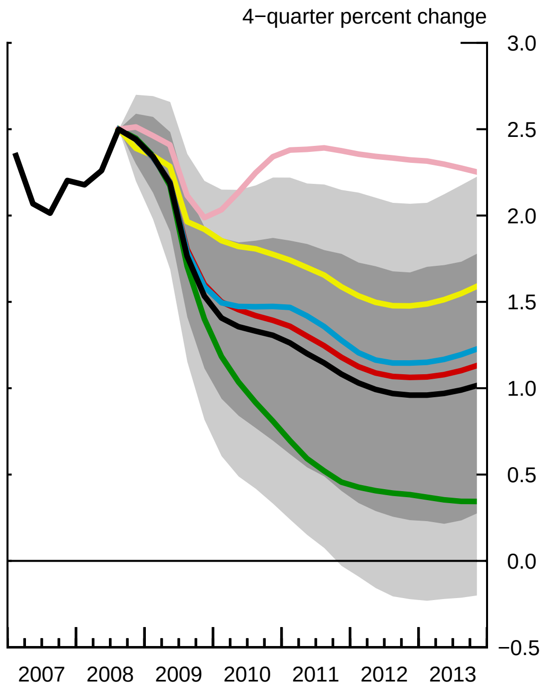
Real GDP



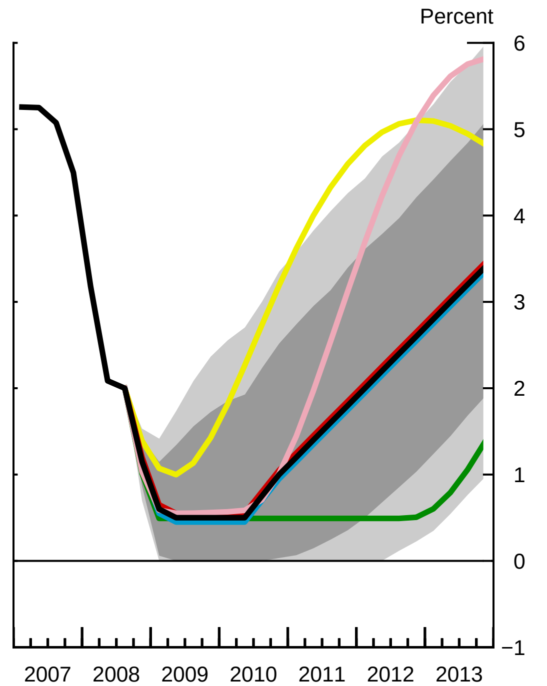

Unemployment Rate




PCE Prices excluding Food and Energy



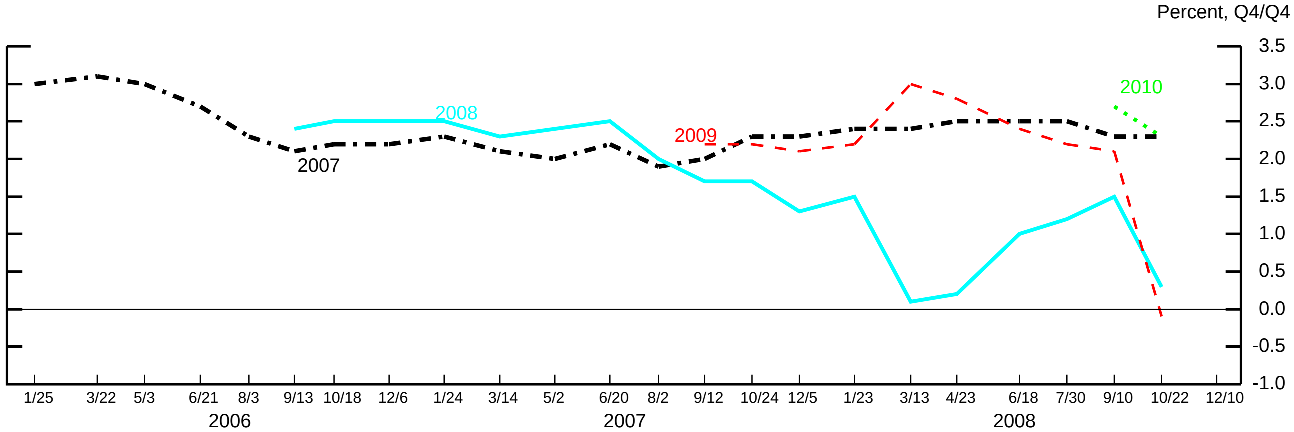

Federal Funds Rate



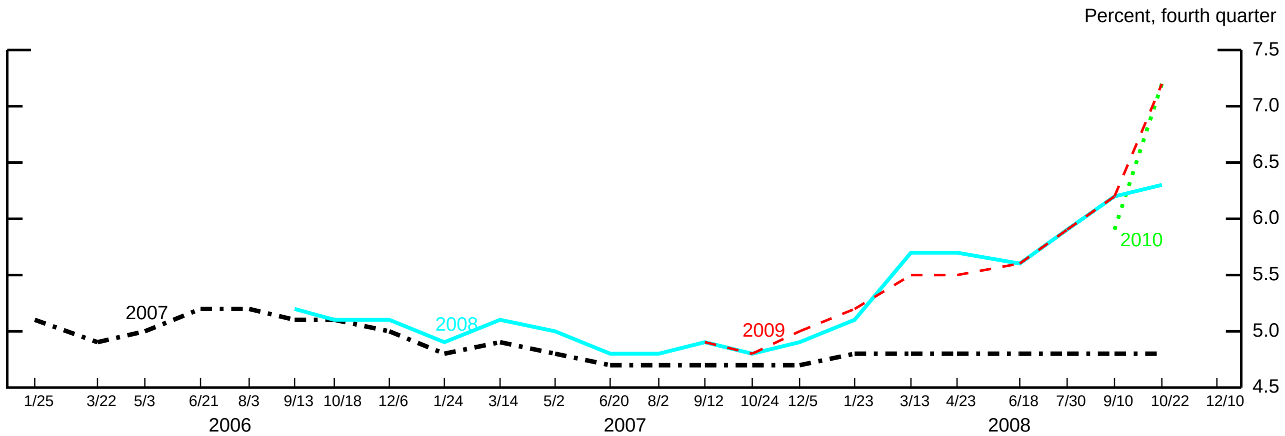
Class II FOMC - Restricted (FR)

# Evolution of the Staff Forecast

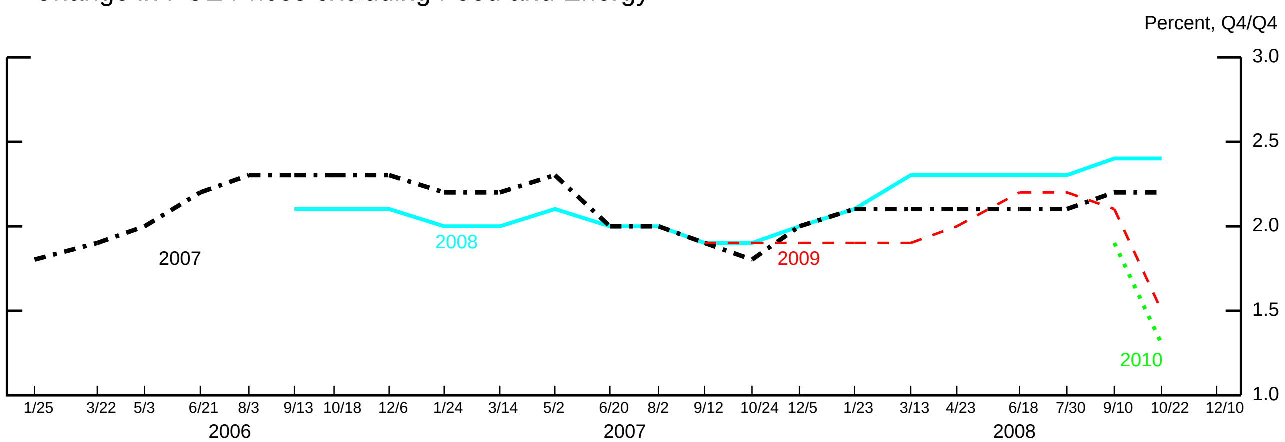
## Change in Real GDP




## Unemployment Rate




## Change in PCE Prices excluding Food and Energy



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

| | Nominal GDP | | Real GDP | | PCE price index | | Core PCE price index | | Unemployment rate[1] | |
|---|---|---|---|---|---|---|---|---|---|---|
| Interval | 09/10/08 | 10/22/08 | 09/10/08 | 10/22/08 | 09/10/08 | 10/22/08 | 09/10/08 | 10/22/08 | 09/10/08 | 10/22/08 |
| *Quarterly* | | | | | | | | | | |
| 2008:Q1 | 3.5 | 3.5 | .9 | .9 | 3.6 | 3.6 | 2.3 | 2.3 | 4.9 | 4.9 |
| Q2 | 4.7 | 4.1 | 3.5 | 2.8 | 4.2 | 4.3 | 2.1 | 2.2 | 5.3 | 5.3 |
| Q3 | 5.5 | 3.0 | .6 | -1.0 | 5.5 | 5.6 | 2.9 | 3.1 | 6.0 | 6.0 |
| Q4 | 3.8 | 2.9 | 1.1 | -1.3 | .6 | -2.2 | 2.6 | 2.3 | 6.2 | 6.3 |
| 2009:Q1 | 4.0 | .6 | 1.6 | -1.4 | 2.3 | .7 | 2.4 | 1.9 | 6.2 | 6.6 |
| Q2 | 4.6 | 1.2 | 2.2 | -.4 | 2.4 | 1.7 | 2.2 | 1.6 | 6.2 | 6.9 |
| Q3 | 4.4 | 1.8 | 2.2 | .4 | 2.2 | 1.6 | 2.1 | 1.4 | 6.2 | 7.1 |
| Q4 | 4.3 | 2.3 | 2.3 | 1.0 | 2.0 | 1.6 | 2.0 | 1.4 | 6.2 | 7.2 |
| 2010:Q1 | 4.3 | 2.7 | 2.4 | 1.5 | 1.9 | 1.5 | 2.0 | 1.4 | 6.1 | 7.3 |
| Q2 | 4.6 | 3.4 | 2.6 | 2.0 | 1.9 | 1.5 | 1.9 | 1.4 | 6.0 | 7.3 |
| Q3 | 4.7 | 3.8 | 2.8 | 2.5 | 1.8 | 1.4 | 1.9 | 1.3 | 5.9 | 7.3 |
| Q4 | 4.8 | 4.3 | 2.9 | 3.0 | 1.8 | 1.4 | 1.9 | 1.3 | 5.9 | 7.2 |
| *Two-quarter*[2] | | | | | | | | | | |
| 2008:Q2 | 4.1 | 3.8 | 2.2 | 1.8 | 3.9 | 3.9 | 2.2 | 2.2 | .5 | .5 |
| Q4 | 4.7 | 3.0 | .8 | -1.2 | 3.0 | 1.6 | 2.7 | 2.7 | .9 | 1.0 |
| 2009:Q2 | 4.3 | .9 | 1.9 | -.9 | 2.4 | 1.2 | 2.3 | 1.7 | .0 | .6 |
| Q4 | 4.3 | 2.1 | 2.3 | .7 | 2.1 | 1.6 | 2.0 | 1.4 | .0 | .3 |
| 2010:Q2 | 4.5 | 3.1 | 2.5 | 1.8 | 1.9 | 1.5 | 1.9 | 1.4 | -.2 | .1 |
| Q4 | 4.8 | 4.0 | 2.8 | 2.8 | 1.8 | 1.4 | 1.9 | 1.3 | -.1 | -.1 |
| *Four-quarter*[3] | | | | | | | | | | |
| 2007:Q4 | 4.9 | 4.9 | 2.3 | 2.3 | 3.5 | 3.5 | 2.2 | 2.2 | .4 | .4 |
| 2008:Q4 | 4.4 | 3.4 | 1.5 | .3 | 3.5 | 2.8 | 2.4 | 2.4 | 1.4 | 1.5 |
| 2009:Q4 | 4.3 | 1.5 | 2.1 | -.1 | 2.2 | 1.4 | 2.1 | 1.5 | .0 | .9 |
| 2010:Q4 | 4.6 | 3.5 | 2.7 | 2.3 | 1.9 | 1.4 | 1.9 | 1.3 | -.3 | .0 |
| *Annual* | | | | | | | | | | |
| 2007 | 4.8 | 4.8 | 2.0 | 2.0 | 2.6 | 2.6 | 2.2 | 2.2 | 4.6 | 4.6 |
| 2008 | 4.3 | 3.8 | 1.9 | 1.4 | 3.8 | 3.6 | 2.3 | 2.3 | 5.6 | 5.6 |
| 2009 | 4.4 | 1.9 | 1.7 | -.5 | 2.5 | 1.3 | 2.3 | 2.0 | 6.2 | 7.0 |
| 2010 | 4.5 | 2.8 | 2.5 | 1.5 | 2.0 | 1.5 | 2.0 | 1.3 | 5.9 | 7.3 |

1. Level, except for two-quarter and four-quarter intervals.
2. Percent change from two quarters earlier; for unemployment rate, change is in percentage points.
3. Percent change from four quarters earlier; for unemployment rate, change is in percentage points.

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

| Item | 2008 Q1 | 2008 Q2 | 2008 Q3 | 2008 Q4 | 2009 Q1 | 2009 Q2 | 2009 Q3 | 2009 Q4 | 2010 Q1 | 2010 Q2 | 2010 Q3 | 2010 Q4 | 2008[1] | 2009[1] | 2010[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Real GDP | .9 | 2.8 | -1.0 | -1.3 | -1.4 | -.4 | .4 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | .3 | -.1 | 2.3 |
| *Previous* | .9 | 3.5 | .6 | 1.1 | 1.6 | 2.2 | 2.2 | 2.3 | 2.4 | 2.6 | 2.8 | 2.9 | 1.5 | 2.1 | 2.7 |
| Final sales | .9 | 4.4 | -.8 | -3.5 | -1.4 | -.4 | -.2 | .1 | 1.0 | 2.8 | 2.7 | 2.7 | .2 | -.5 | 2.3 |
| *Previous* | .9 | 5.0 | .0 | -.4 | .8 | 2.2 | 2.1 | 1.6 | 1.8 | 3.6 | 3.4 | 2.4 | 1.4 | 1.6 | 2.8 |
| Priv. dom. final purch. | -.3 | .7 | -3.5 | -4.4 | -2.8 | -1.3 | -.6 | .3 | 1.8 | 2.7 | 3.3 | 3.9 | -1.9 | -1.1 | 2.9 |
| *Previous* | -.3 | 1.3 | -1.2 | -2.1 | .5 | 1.1 | 1.6 | 2.1 | 2.9 | 3.3 | 3.6 | 3.5 | -.6 | 1.3 | 3.3 |
| Personal cons. expend. | .9 | 1.2 | -3.3 | -2.4 | -.1 | 1.0 | 1.5 | 1.7 | 2.0 | 2.2 | 2.5 | 2.8 | -.9 | 1.0 | 2.4 |
| *Previous* | .9 | 1.7 | -.5 | -1.6 | 1.5 | 1.8 | 2.1 | 2.2 | 2.4 | 2.5 | 2.6 | 2.6 | .1 | 1.9 | 2.6 |
| Durables | -4.3 | -2.8 | -16.2 | -3.9 | -.2 | 1.7 | 3.1 | 3.3 | 5.2 | 5.7 | 4.7 | 5.4 | -7.0 | 2.0 | 5.3 |
| Nondurables | -.4 | 3.9 | -6.2 | -6.8 | -1.3 | .4 | 1.5 | 1.8 | 2.1 | 2.5 | 2.8 | 3.2 | -2.5 | .6 | 2.6 |
| Services | 2.4 | .7 | .7 | .0 | .5 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 2.0 | 2.2 | .9 | 1.1 | 1.8 |
| Residential investment | -25.1 | -13.3 | -19.7 | -24.4 | -24.8 | -17.0 | -17.1 | -2.8 | 4.6 | 14.9 | 15.1 | 19.5 | -20.8 | -15.8 | 13.4 |
| *Previous* | -25.1 | -13.4 | -17.6 | -20.0 | -15.9 | -4.9 | -6.7 | 4.0 | 10.0 | 19.0 | 21.6 | 18.2 | -19.1 | -6.2 | 17.1 |
| Business fixed invest. | 2.4 | 2.5 | .8 | -9.9 | -12.6 | -11.9 | -10.6 | -8.3 | -.5 | 2.7 | 6.3 | 8.2 | -1.2 | -10.9 | 4.1 |
| *Previous* | 2.4 | 3.5 | .1 | .7 | -1.3 | -2.0 | .7 | 1.4 | 4.2 | 4.3 | 5.6 | 5.6 | 1.7 | -.3 | 4.9 |
| Equipment & software | -.6 | -5.0 | -2.0 | -11.1 | -11.4 | -8.4 | -6.8 | -4.0 | 6.0 | 9.0 | 12.1 | 14.0 | -4.7 | -7.7 | 10.2 |
| *Previous* | -.6 | -3.5 | -2.9 | 4.1 | 1.9 | 1.2 | 4.2 | 4.4 | 8.3 | 7.7 | 8.8 | 8.4 | -.8 | 2.9 | 8.3 |
| Nonres. structures | 8.6 | 18.5 | 6.0 | -7.7 | -14.6 | -17.8 | -17.3 | -16.0 | -12.0 | -9.1 | -5.1 | -3.5 | 5.9 | -16.4 | -7.5 |
| *Previous* | 8.6 | 18.5 | 5.8 | -5.4 | -7.2 | -7.6 | -5.7 | -4.4 | -3.3 | -2.2 | -.7 | .1 | 6.5 | -6.2 | -1.6 |
| Net exports[2] | -462 | -381 | -346 | -335 | -317 | -303 | -299 | -307 | -326 | -313 | -312 | -326 | -381 | -307 | -319 |
| *Previous*[2] | -462 | -377 | -358 | -329 | -326 | -298 | -284 | -292 | -312 | -291 | -284 | -303 | -381 | -300 | -298 |
| Exports | 5.1 | 12.3 | 8.0 | 2.6 | 4.5 | 1.8 | 2.3 | 2.7 | 3.2 | 3.7 | 4.1 | 4.7 | 6.9 | 2.8 | 3.9 |
| Imports | -.8 | -7.3 | -1.0 | -.3 | .0 | -1.3 | .9 | 4.1 | 6.7 | .4 | 3.3 | 6.9 | -2.4 | .9 | 4.3 |
| Govt. cons. & invest. | 1.9 | 3.9 | 4.8 | -1.0 | 1.4 | 1.0 | .7 | .6 | .9 | .9 | .1 | .1 | 2.4 | .9 | .5 |
| *Previous* | 1.9 | 4.1 | 1.9 | 1.7 | 1.5 | 1.4 | 1.1 | 1.1 | .8 | .8 | .8 | .8 | 2.4 | 1.3 | .8 |
| Federal | 5.8 | 6.6 | 10.2 | -3.1 | 3.9 | 3.4 | 2.6 | 2.3 | 3.0 | 3.1 | .9 | .9 | 4.8 | 3.0 | 2.0 |
| Defense | 7.3 | 7.3 | 15.9 | -4.0 | 5.0 | 4.1 | 3.0 | 2.4 | 2.0 | 2.0 | 1.9 | 2.0 | 6.4 | 3.6 | 2.0 |
| Nondefense | 2.9 | 5.0 | -1.4 | -1.1 | 1.5 | 1.7 | 1.8 | 2.1 | 5.5 | 5.5 | -1.5 | -1.5 | 1.3 | 1.8 | 2.0 |
| State & local | -.3 | 2.5 | 1.8 | .3 | .0 | -.3 | -.4 | -.4 | -.4 | -.4 | -.4 | -.5 | 1.1 | -.3 | -.4 |
| Change in bus. inventories[2] | -10 | -51 | -57 | 1 | 2 | 2 | 18 | 43 | 56 | 35 | 30 | 38 | -29 | 16 | 40 |
| *Previous*[2] | -10 | -52 | -37 | 2 | 22 | 24 | 28 | 47 | 61 | 35 | 20 | 33 | -24 | 30 | 37 |
| Nonfarm[2] | -18 | -55 | -60 | 0 | 1 | 1 | 17 | 42 | 55 | 34 | 29 | 37 | -33 | 15 | 39 |
| Farm[2] | 6 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |

1. Change from fourth quarter of previous year to fourth quarter of year indicated.
2. Billions of chained (2000) dollars.

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

| Item | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|
| Real GDP | 1.9 | 3.7 | 3.1 | 2.7 | 2.4 | 2.3 | .3 | -.1 | 2.3 |
| *Previous* | 1.9 | 3.7 | 3.1 | 2.7 | 2.4 | 2.3 | 1.5 | 2.1 | 2.7 |
| Final sales | .8 | 3.7 | 2.8 | 2.7 | 2.8 | 2.5 | .2 | -.5 | 2.3 |
| *Previous* | .8 | 3.7 | 2.8 | 2.7 | 2.8 | 2.5 | 1.4 | 1.6 | 2.8 |
| Priv. dom. final purch. | 1.1 | 4.1 | 4.3 | 3.1 | 2.3 | 1.4 | -1.9 | -1.1 | 2.9 |
| *Previous* | 1.1 | 4.1 | 4.3 | 3.1 | 2.3 | 1.4 | -.6 | 1.3 | 3.3 |
| Personal cons. expend. | 1.9 | 3.4 | 3.7 | 2.6 | 3.2 | 2.2 | -.9 | 1.0 | 2.4 |
| *Previous* | 1.9 | 3.4 | 3.7 | 2.6 | 3.2 | 2.2 | .1 | 1.9 | 2.6 |
| Durables | 1.2 | 8.3 | 5.6 | 1.2 | 6.9 | 4.2 | -7.0 | 2.0 | 5.3 |
| Nondurables | 2.1 | 3.9 | 3.5 | 3.6 | 3.2 | 1.7 | -2.5 | .6 | 2.6 |
| Services | 1.9 | 2.2 | 3.3 | 2.4 | 2.6 | 2.1 | .9 | 1.1 | 1.8 |
| Residential investment | 7.0 | 11.7 | 6.7 | 5.4 | -15.5 | -19.0 | -20.8 | -15.8 | 13.4 |
| *Previous* | 7.0 | 11.7 | 6.7 | 5.4 | -15.5 | -19.0 | -19.1 | -6.2 | 17.1 |
| Business fixed invest. | -6.5 | 4.9 | 7.5 | 4.9 | 6.5 | 6.4 | -1.2 | -10.9 | 4.1 |
| *Previous* | -6.5 | 4.9 | 7.5 | 4.9 | 6.5 | 6.4 | 1.7 | -.3 | 4.9 |
| Equipment & software | -3.4 | 6.6 | 9.4 | 7.0 | 4.2 | 2.8 | -4.7 | -7.7 | 10.2 |
| *Previous* | -3.4 | 6.6 | 9.4 | 7.0 | 4.2 | 2.8 | -.8 | 2.9 | 8.3 |
| Nonres. structures | -14.9 | .2 | 2.3 | -.5 | 12.8 | 14.5 | 5.9 | -16.4 | -7.5 |
| *Previous* | -14.9 | .2 | 2.3 | -.5 | 12.8 | 14.5 | 6.5 | -6.2 | -1.6 |
| Net exports[1] | -471 | -519 | -594 | -617 | -616 | -547 | -381 | -307 | -319 |
| *Previous*[1] | -471 | -519 | -594 | -617 | -616 | -547 | -381 | -300 | -298 |
| Exports | 3.8 | 5.8 | 7.4 | 7.0 | 10.1 | 8.9 | 6.9 | 2.8 | 3.9 |
| Imports | 9.7 | 4.8 | 11.5 | 4.8 | 3.8 | 1.1 | -2.4 | .9 | 4.3 |
| Govt. cons. & invest. | 4.0 | 1.7 | .7 | .6 | 2.1 | 2.4 | 2.4 | .9 | .5 |
| *Previous* | 4.0 | 1.7 | .7 | .6 | 2.1 | 2.4 | 2.4 | 1.3 | .8 |
| Federal | 7.8 | 5.5 | 2.4 | 1.0 | 2.9 | 2.3 | 4.8 | 3.0 | 2.0 |
| Defense | 8.4 | 7.5 | 2.5 | .8 | 4.1 | 2.7 | 6.4 | 3.6 | 2.0 |
| Nondefense | 6.8 | 1.9 | 2.3 | 1.4 | .5 | 1.5 | 1.3 | 1.8 | 2.0 |
| State & local | 2.1 | -.4 | -.4 | .3 | 1.6 | 2.4 | 1.1 | -.3 | -.4 |
| Change in bus. inventories[1] | 12 | 14 | 54 | 39 | 42 | -2 | -29 | 16 | 40 |
| *Previous*[1] | 12 | 14 | 54 | 39 | 42 | -2 | -24 | 30 | 37 |
| Nonfarm[1] | 15 | 14 | 48 | 39 | 46 | -4 | -33 | 15 | 39 |
| Farm[1] | -2 | 0 | 6 | 0 | -3 | 1 | 2 | 1 | 1 |

1. Billions of chained (2000) dollars.

Class II FOMC
Restricted (FR)

October 22, 2008

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

| Item | 2008 Q1 | 2008 Q2 | 2008 Q3 | 2008 Q4 | 2009 Q1 | 2009 Q2 | 2009 Q3 | 2009 Q4 | 2010 Q1 | 2010 Q2 | 2010 Q3 | 2010 Q4 | 2008[1] | 2009[1] | 2010[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Real GDP | .9 | 2.8 | -1.0 | -1.3 | -1.4 | -.4 | .4 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | .3 | -.1 | 2.3 |
| *Previous* | .9 | 3.5 | .6 | 1.1 | 1.6 | 2.2 | 2.2 | 2.3 | 2.4 | 2.6 | 2.8 | 2.9 | 1.5 | 2.1 | 2.7 |
| Final sales | .9 | 4.3 | -.8 | -3.5 | -1.4 | -.4 | -.2 | .1 | 1.0 | 2.8 | 2.7 | 2.7 | .2 | -.5 | 2.3 |
| *Previous* | .9 | 5.0 | .0 | -.4 | .8 | 2.2 | 2.1 | 1.6 | 1.8 | 3.6 | 3.3 | 2.4 | 1.4 | 1.6 | 2.8 |
| Priv. dom. final purch. | -.3 | .6 | -3.0 | -3.8 | -2.3 | -1.1 | -.5 | .3 | 1.5 | 2.2 | 2.7 | 3.2 | -1.6 | -.9 | 2.4 |
| *Previous* | -.3 | 1.1 | -1.0 | -1.8 | .4 | .9 | 1.4 | 1.8 | 2.4 | 2.7 | 3.0 | 2.9 | -.5 | 1.1 | 2.8 |
| Personal cons. expend. | .6 | .9 | -2.3 | -1.7 | -.1 | .7 | 1.1 | 1.2 | 1.4 | 1.6 | 1.7 | 2.0 | -.7 | .7 | 1.7 |
| *Previous* | .6 | 1.3 | -.4 | -1.1 | 1.1 | 1.3 | 1.5 | 1.5 | 1.7 | 1.8 | 1.8 | 1.8 | .1 | 1.3 | 1.8 |
| Durables | -.3 | -.2 | -1.3 | -.3 | .0 | .1 | .2 | .2 | .3 | .4 | .3 | .4 | -.5 | .1 | .3 |
| Nondurables | -.1 | .8 | -1.3 | -1.5 | -.3 | .1 | .3 | .4 | .4 | .5 | .6 | .6 | -.5 | .1 | .5 |
| Services | 1.0 | .3 | .3 | .0 | .2 | .5 | .6 | .6 | .6 | .7 | .9 | 1.0 | .4 | .5 | .8 |
| Residential investment | -1.1 | -.5 | -.8 | -.9 | -.8 | -.5 | -.5 | -.1 | .1 | .4 | .4 | .5 | -.8 | -.5 | .3 |
| *Previous* | -1.1 | -.5 | -.7 | -.7 | -.5 | -.1 | -.2 | .1 | .3 | .5 | .6 | .5 | -.8 | -.2 | .5 |
| Business fixed invest. | .3 | .3 | .1 | -1.1 | -1.4 | -1.3 | -1.1 | -.8 | .0 | .3 | .6 | .8 | -.1 | -1.2 | .4 |
| *Previous* | .3 | .4 | .0 | .1 | -.1 | -.2 | .1 | .1 | .4 | .4 | .6 | .6 | .2 | .0 | .5 |
| Equipment & software | .0 | -.4 | -.1 | -.8 | -.8 | -.6 | -.4 | -.3 | .4 | .5 | .7 | .9 | -.3 | -.5 | .6 |
| *Previous* | .0 | -.3 | -.2 | .3 | .1 | .1 | .3 | .3 | .6 | .5 | .6 | .6 | -.1 | .2 | .6 |
| Nonres. structures | .3 | .6 | .2 | -.3 | -.6 | -.7 | -.7 | -.6 | -.4 | -.3 | -.2 | -.1 | .2 | -.6 | -.2 |
| *Previous* | .3 | .6 | .2 | -.2 | -.3 | -.3 | -.2 | -.2 | -.1 | -.1 | .0 | .0 | .2 | -.2 | -.1 |
| Net exports | .8 | 2.9 | 1.2 | .4 | .6 | .5 | .2 | -.3 | -.7 | .4 | .0 | -.5 | 1.3 | .2 | -.2 |
| *Previous* | .8 | 3.1 | .7 | 1.0 | .1 | 1.0 | .5 | -.4 | -.7 | .7 | .2 | -.7 | 1.4 | .3 | -.1 |
| Exports | .6 | 1.5 | 1.0 | .4 | .6 | .3 | .3 | .4 | .4 | .5 | .6 | .7 | .9 | .4 | .5 |
| Imports | .1 | 1.4 | .2 | .1 | .0 | .2 | -.2 | -.7 | -1.1 | -.1 | -.6 | -1.1 | .4 | -.1 | -.7 |
| Govt. cons. & invest. | .4 | .8 | 1.0 | -.2 | .3 | .2 | .1 | .1 | .2 | .2 | .0 | .0 | .5 | .2 | .1 |
| *Previous* | .4 | .8 | .4 | .3 | .3 | .3 | .2 | .2 | .2 | .2 | .2 | .2 | .5 | .3 | .2 |
| Federal | .4 | .5 | .7 | -.2 | .3 | .3 | .2 | .2 | .2 | .2 | .1 | .1 | .3 | .2 | .2 |
| Defense | .3 | .4 | .8 | -.2 | .3 | .2 | .2 | .1 | .1 | .1 | .1 | .1 | .3 | .2 | .1 |
| Nondefense | .1 | .1 | .0 | .0 | .0 | .0 | .0 | .1 | .1 | .1 | .0 | .0 | .0 | .0 | .0 |
| State & local | .0 | .3 | .2 | .0 | .0 | .0 | -.1 | -.1 | -.1 | -.1 | -.1 | -.1 | .1 | .0 | -.1 |
| Change in bus. inventories | .0 | -1.5 | -.2 | 2.2 | .0 | .0 | .6 | .9 | .5 | -.8 | -.2 | .3 | .1 | .4 | .0 |
| *Previous* | .0 | -1.5 | .6 | 1.5 | .8 | .1 | .2 | .7 | .6 | -1.0 | -.6 | .5 | .1 | .4 | -.1 |
| Nonfarm | .2 | -1.4 | -.2 | 2.3 | .0 | .0 | .6 | .9 | .5 | -.8 | -.2 | .3 | .2 | .4 | .0 |
| Farm | -.2 | -.1 | -.1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | -.1 | .0 | .0 |

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

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

| Item | 2008 Q1 | 2008 Q2 | 2008 Q3 | 2008 Q4 | 2009 Q1 | 2009 Q2 | 2009 Q3 | 2009 Q4 | 2010 Q1 | 2010 Q2 | 2010 Q3 | 2010 Q4 | 2008[1] | 2009[1] | 2010[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP chain-wt. price index | 2.6 | 1.1 | 4.1 | 4.3 | 2.0 | 1.6 | 1.5 | 1.3 | 1.2 | 1.4 | 1.3 | 1.2 | 3.0 | 1.6 | 1.3 |
| *Previous* | 2.6 | 1.2 | 4.9 | 2.7 | 2.3 | 2.3 | 2.1 | 2.0 | 1.9 | 2.0 | 1.9 | 1.9 | 2.9 | 2.2 | 1.9 |
| PCE chain-wt. price index | 3.6 | 4.3 | 5.6 | -2.2 | .7 | 1.7 | 1.6 | 1.6 | 1.5 | 1.5 | 1.4 | 1.4 | 2.8 | 1.4 | 1.4 |
| *Previous* | 3.6 | 4.2 | 5.5 | .6 | 2.3 | 2.4 | 2.2 | 2.0 | 1.9 | 1.9 | 1.8 | 1.8 | 3.5 | 2.2 | 1.9 |
| Energy | 19.0 | 27.4 | 31.7 | -51.9 | -17.6 | 3.4 | 3.5 | 3.5 | 3.8 | 3.6 | 3.2 | 2.9 | -1.0 | -2.3 | 3.3 |
| *Previous* | 19.0 | 27.6 | 34.7 | -26.4 | -1.4 | 3.0 | 2.1 | 1.2 | 1.0 | .7 | .7 | .8 | 10.8 | 1.2 | .8 |
| Food | 4.9 | 6.4 | 8.5 | 5.2 | 2.5 | 1.9 | 2.3 | 2.1 | 1.5 | 1.5 | 1.4 | 1.4 | 6.2 | 2.2 | 1.4 |
| *Previous* | 4.9 | 6.4 | 8.0 | 5.0 | 4.1 | 3.5 | 2.8 | 2.4 | 2.2 | 2.1 | 2.0 | 2.0 | 6.1 | 3.2 | 2.1 |
| Ex. food & energy | 2.3 | 2.2 | 3.1 | 2.3 | 1.9 | 1.6 | 1.4 | 1.4 | 1.4 | 1.4 | 1.3 | 1.3 | 2.4 | 1.5 | 1.3 |
| *Previous* | 2.3 | 2.1 | 2.9 | 2.6 | 2.4 | 2.2 | 2.1 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 | 2.4 | 2.1 | 1.9 |
| CPI | 4.3 | 5.0 | 6.7 | -4.5 | .3 | 1.9 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.6 | 2.8 | 1.5 | 1.7 |
| *Previous* | 4.3 | 5.0 | 7.2 | -.4 | 2.3 | 2.6 | 2.3 | 2.2 | 2.1 | 2.0 | 2.0 | 2.0 | 4.0 | 2.3 | 2.0 |
| Ex. food & energy | 2.5 | 1.9 | 3.2 | 2.2 | 2.1 | 1.8 | 1.6 | 1.6 | 1.6 | 1.6 | 1.5 | 1.5 | 2.4 | 1.7 | 1.5 |
| *Previous* | 2.5 | 1.9 | 3.4 | 2.7 | 2.5 | 2.3 | 2.2 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.6 | 2.3 | 2.1 |
| ECI, hourly compensation[2] | 3.0 | 2.3 | 3.1 | 3.2 | 2.6 | 2.4 | 2.2 | 1.9 | 1.6 | 1.6 | 1.5 | 1.5 | 2.9 | 2.3 | 1.5 |
| *Previous*[2] | 3.0 | 2.3 | 3.2 | 3.2 | 3.1 | 3.1 | 3.1 | 3.1 | 3.0 | 3.0 | 3.0 | 3.0 | 2.9 | 3.1 | 3.0 |
| Nonfarm business sector | | | | | | | | | | | | | | | |
| Output per hour | 2.6 | 3.6 | -.3 | .8 | 1.4 | 1.2 | 2.3 | 2.0 | 2.5 | 2.0 | 2.0 | 2.4 | 1.7 | 1.7 | 2.2 |
| *Previous* | 2.6 | 4.5 | 1.0 | 1.7 | 1.7 | 1.8 | 1.8 | 1.8 | 2.0 | 2.0 | 2.1 | 2.1 | 2.4 | 1.8 | 2.1 |
| Compensation per hour | 3.8 | 3.7 | 4.5 | 3.9 | 3.4 | 3.2 | 3.0 | 2.9 | 2.4 | 2.2 | 2.0 | 1.9 | 4.0 | 3.1 | 2.1 |
| *Previous* | 3.8 | 3.7 | 4.7 | 4.0 | 4.0 | 3.9 | 3.8 | 3.8 | 3.7 | 3.6 | 3.6 | 3.6 | 4.1 | 3.9 | 3.6 |
| Unit labor costs | 1.2 | .1 | 4.8 | 3.0 | 1.9 | 2.0 | .7 | .9 | -.1 | .2 | .0 | -.5 | 2.2 | 1.4 | -.1 |
| *Previous* | 1.2 | -.7 | 3.7 | 2.3 | 2.3 | 2.0 | 2.0 | 2.0 | 1.7 | 1.5 | 1.4 | 1.4 | 1.6 | 2.1 | 1.5 |
| Core goods imports chain-wt price index[3] | 8.5 | 10.6 | 6.5 | -2.9 | -4.5 | .2 | .7 | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 5.5 | -.5 | 1.5 |
| *Previous*[3] | 8.5 | 10.6 | 7.5 | 2.1 | .5 | 1.0 | 1.1 | 1.2 | 1.2 | 1.3 | 1.3 | 1.2 | 7.1 | 1.0 | 1.3 |

1. Change from fourth quarter of previous year to fourth quarter of year indicated.
2. Private-industry workers.
3. Core goods imports exclude computers, semiconductors, oil, and natural gas.

**Changes in Prices and Costs**
(Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise noted)

| Item | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|
| GDP chain-wt price index | 1.7 | 2.2 | 3.2 | 3.5 | 2.8 | 2.6 | 3.0 | 1.6 | 1.3 |
| *Previous* | 1.7 | 2.2 | 3.2 | 3.5 | 2.8 | 2.6 | 2.9 | 2.2 | 1.9 |
| PCE chain-wt price index | 1.8 | 1.9 | 3.1 | 3.3 | 1.9 | 3.5 | 2.8 | 1.4 | 1.4 |
| *Previous* | 1.8 | 1.9 | 3.1 | 3.3 | 1.9 | 3.5 | 3.5 | 2.2 | 1.9 |
| Energy | 7.7 | 7.6 | 18.3 | 23.1 | -4.0 | 19.1 | -1.0 | -2.3 | 3.3 |
| *Previous* | 7.7 | 7.6 | 18.3 | 23.1 | -4.0 | 19.1 | 10.8 | 1.2 | .8 |
| Food | 1.3 | 2.6 | 2.9 | 2.1 | 2.3 | 4.5 | 6.2 | 2.2 | 1.4 |
| *Previous* | 1.3 | 2.6 | 2.9 | 2.1 | 2.3 | 4.5 | 6.1 | 3.2 | 2.1 |
| Ex. food & energy | 1.6 | 1.4 | 2.2 | 2.2 | 2.3 | 2.2 | 2.4 | 1.5 | 1.3 |
| *Previous* | 1.6 | 1.4 | 2.2 | 2.2 | 2.3 | 2.2 | 2.4 | 2.1 | 1.9 |
| CPI | 2.3 | 2.0 | 3.4 | 3.8 | 1.9 | 4.0 | 2.8 | 1.5 | 1.7 |
| *Previous* | 2.3 | 2.0 | 3.4 | 3.8 | 1.9 | 4.0 | 4.0 | 2.3 | 2.0 |
| Ex. food & energy | 2.1 | 1.2 | 2.1 | 2.1 | 2.7 | 2.3 | 2.4 | 1.7 | 1.5 |
| *Previous* | 2.1 | 1.2 | 2.1 | 2.1 | 2.7 | 2.3 | 2.6 | 2.3 | 2.1 |
| ECI, hourly compensation[1] | 3.1 | 4.0 | 3.8 | 2.9 | 3.2 | 3.0 | 2.9 | 2.3 | 1.5 |
| *Previous*[1] | 3.1 | 4.0 | 3.8 | 2.9 | 3.2 | 3.0 | 2.9 | 3.1 | 3.0 |
| Nonfarm business sector | | | | | | | | | |
| Output per hour | 2.9 | 4.7 | 1.8 | 1.5 | .6 | 2.7 | 1.7 | 1.7 | 2.2 |
| *Previous* | 2.9 | 4.7 | 1.8 | 1.5 | .6 | 2.7 | 2.4 | 1.8 | 2.1 |
| Compensation per hour | 3.2 | 5.3 | 3.9 | 3.6 | 4.3 | 3.6 | 4.0 | 3.1 | 2.1 |
| *Previous* | 3.2 | 5.3 | 3.9 | 3.6 | 4.3 | 3.6 | 4.1 | 3.9 | 3.6 |
| Unit labor costs | .2 | .5 | 2.1 | 2.1 | 3.6 | .9 | 2.2 | 1.4 | -.1 |
| *Previous* | .2 | .5 | 2.1 | 2.1 | 3.6 | .9 | 1.6 | 2.1 | 1.5 |
| Core goods imports chain-wt. price index[2] | .1 | 1.6 | 3.6 | 2.2 | 2.4 | 3.4 | 5.5 | -.5 | 1.5 |
| *Previous*[2] | .1 | 1.6 | 3.6 | 2.2 | 2.4 | 3.4 | 7.1 | 1.0 | 1.3 |

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

**Other Macroeconomic Indicators**

| Item | 2008 Q1 | 2008 Q2 | 2008 Q3 | 2008 Q4 | 2009 Q1 | 2009 Q2 | 2009 Q3 | 2009 Q4 | 2010 Q1 | 2010 Q2 | 2010 Q3 | 2010 Q4 | 2008[1] | 2009[1] | 2010[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Employment and production* | | | | | | | | | | | | | | | |
| Nonfarm payroll employment[2] | -.1 | -.2 | -.3 | -.5 | -.6 | -.5 | -.3 | -.1 | .0 | .3 | .1 | .3 | -1.1 | -1.6 | .8 |
| Unemployment rate[3] | 4.9 | 5.3 | 6.0 | 6.3 | 6.6 | 6.9 | 7.1 | 7.2 | 7.3 | 7.3 | 7.3 | 7.2 | 6.3 | 7.2 | 7.2 |
| *Previous*[3] | 4.9 | 5.3 | 6.0 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.1 | 6.0 | 5.9 | 5.9 | 6.2 | 6.2 | 5.9 |
| GDP gap[4] | -.6 | -.5 | -1.4 | -2.3 | -3.2 | -3.9 | -4.3 | -4.7 | -4.9 | -4.9 | -4.9 | -4.7 | -2.3 | -4.7 | -4.7 |
| *Previous*[4] | -.6 | -.4 | -.9 | -1.2 | -1.4 | -1.5 | -1.6 | -1.6 | -1.6 | -1.6 | -1.5 | -1.4 | -1.2 | -1.6 | -1.4 |
| Industrial production[5] | .4 | -3.1 | -6.0 | -.6 | -.1 | -.1 | 1.4 | 2.5 | 1.7 | 2.7 | 3.1 | 3.3 | -2.4 | .9 | 2.7 |
| *Previous*[5] | .4 | -3.2 | -2.6 | 4.1 | 3.2 | 2.2 | 3.1 | 3.5 | 3.8 | 4.1 | 3.8 | 3.7 | -.4 | 3.0 | 3.8 |
| Manufacturing industr. prod.[5] | -1.0 | -3.8 | -5.8 | -4.8 | -2.6 | -.4 | .9 | 1.9 | 2.2 | 3.2 | 3.5 | 3.9 | -3.8 | -.1 | 3.2 |
| *Previous*[5] | -1.0 | -3.9 | -2.1 | 1.3 | 2.3 | 2.3 | 3.0 | 3.5 | 4.4 | 4.8 | 4.3 | 4.2 | -1.5 | 2.8 | 4.5 |
| Capacity utilization rate - mfg.[3] | 78.7 | 77.6 | 76.1 | 74.9 | 74.3 | 74.1 | 74.1 | 74.4 | 74.7 | 75.1 | 75.7 | 76.3 | 74.9 | 74.4 | 76.3 |
| *Previous*[3] | 78.7 | 77.6 | 76.8 | 76.8 | 77.0 | 77.1 | 77.4 | 77.8 | 78.4 | 79.0 | 79.5 | 80.1 | 76.8 | 77.8 | 80.1 |
| Housing starts[6] | 1.1 | 1.0 | .9 | .8 | .7 | .7 | .7 | .7 | .8 | .9 | 1.0 | 1.1 | .9 | .7 | .9 |
| Light motor vehicle sales[6] | 15.2 | 14.1 | 12.9 | 12.2 | 12.4 | 12.6 | 12.7 | 12.8 | 13.2 | 13.6 | 13.8 | 14.1 | 13.6 | 12.6 | 13.7 |
| *Income and saving* | | | | | | | | | | | | | | | |
| Nominal GDP[5] | 3.5 | 4.1 | 3.0 | 2.9 | .6 | 1.2 | 1.8 | 2.3 | 2.7 | 3.4 | 3.8 | 4.3 | 3.4 | 1.5 | 3.5 |
| Real disposable pers. income[5] | -.7 | 11.9 | -8.4 | -.2 | 3.7 | .3 | .1 | 1.2 | 1.7 | .9 | 2.7 | 2.4 | .4 | 1.3 | 1.9 |
| *Previous*[5] | -.7 | 11.4 | -8.3 | -1.5 | 4.3 | 1.5 | 1.5 | 2.6 | 3.6 | 1.9 | 3.4 | 2.8 | .0 | 2.5 | 2.9 |
| Personal saving rate[3] | .2 | 2.7 | 1.5 | 2.1 | 3.1 | 3.0 | 2.8 | 2.8 | 2.8 | 2.5 | 2.6 | 2.6 | 2.1 | 2.8 | 2.6 |
| *Previous*[3] | .2 | 2.6 | .7 | .7 | 1.4 | 1.4 | 1.3 | 1.4 | 1.7 | 1.6 | 1.8 | 1.8 | .7 | 1.4 | 1.8 |
| Corporate profits[7] | -4.3 | -14.3 | -6.3 | -10.2 | -4.6 | -4.8 | -.1 | -.2 | 9.7 | 7.0 | 9.0 | 10.7 | -8.9 | -2.5 | 9.1 |
| Profit share of GNP[3] | 11.2 | 10.6 | 10.4 | 10.1 | 10.0 | 9.8 | 9.7 | 9.7 | 9.8 | 9.9 | 10.0 | 10.2 | 10.1 | 9.7 | 10.2 |
| Net federal saving[8] | -331 | -640 | -496 | -456 | -539 | -566 | -576 | -603 | -635 | -629 | -650 | -656 | -481 | -571 | -642 |
| Net state & local saving[8] | -52 | -67 | -94 | -95 | -99 | -106 | -105 | -99 | -92 | -91 | -83 | -77 | -77 | -102 | -86 |
| Gross national saving rate[3] | 12.4 | 11.6 | 11.3 | 11.9 | 11.6 | 11.3 | 11.1 | 10.9 | 10.9 | 10.8 | 10.9 | 11.0 | 11.9 | 10.9 | 11.0 |
| Net national saving rate[3] | .0 | -1.0 | -1.4 | -.7 | -1.2 | -1.6 | -1.9 | -2.1 | -2.1 | -2.2 | -2.0 | -1.9 | -.7 | -2.1 | -1.9 |

1. Change from fourth quarter of previous year to fourth quarter of year indicated, unless otherwise indicated.
2. Change, millions.
3. Percent, annual values are for the fourth quarter of the year indicated.
4. Percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential. Annual values are for the fourth quarter of the year indicated.
5. Percent change, annual rate.
6. Level, millions, annual values are annual averages.
7. Percent change, annual rate, with inventory valuation and capital consumption adjustments.
8. Billions of dollars, annual values are annual averages.

**Other Macroeconomic Indicators**

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

| Item | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|
| *Employment and production* | | | | | | | | | |
| Nonfarm payroll employment[1] | -.7 | -.1 | 2.1 | 2.4 | 2.1 | 1.2 | -1.1 | -1.6 | .8 |
| Unemployment rate[2] | 5.8 | 5.8 | 5.4 | 4.9 | 4.4 | 4.8 | 6.3 | 7.2 | 7.2 |
| *Previous*[2] | 5.8 | 5.8 | 5.4 | 4.9 | 4.4 | 4.8 | 6.2 | 6.2 | 5.9 |
| GDP gap[3] | -2.4 | -1.6 | -.6 | -.1 | .0 | -.2 | -2.3 | -4.7 | -4.7 |
| *Previous*[3] | -2.4 | -1.6 | -.6 | -.1 | .0 | -.2 | -1.2 | -1.6 | -1.4 |
| Industrial production[4] | 2.6 | 1.5 | 3.1 | 2.6 | 1.7 | 2.1 | -2.4 | .9 | 2.7 |
| *Previous*[4] | 2.6 | 1.5 | 3.1 | 2.6 | 1.7 | 2.1 | -.4 | 3.0 | 3.8 |
| Manufacturing industr. prod.[4] | 2.6 | 1.7 | 3.7 | 3.7 | 1.1 | 2.3 | -3.8 | -.1 | 3.2 |
| *Previous*[4] | 2.6 | 1.7 | 3.7 | 3.7 | 1.1 | 2.3 | -1.5 | 2.8 | 4.5 |
| Capacity utilization rate - mfg.[2] | 73.2 | 74.8 | 77.5 | 79.2 | 79.0 | 79.3 | 74.9 | 74.4 | 76.3 |
| *Previous*[2] | 73.2 | 74.8 | 77.5 | 79.2 | 79.0 | 79.3 | 76.8 | 77.8 | 80.1 |
| Housing starts[5] | 1.7 | 1.8 | 2.0 | 2.1 | 1.8 | 1.4 | .9 | .7 | .9 |
| Light motor vehicle sales[5] | 16.7 | 16.6 | 16.8 | 16.9 | 16.5 | 16.1 | 13.6 | 12.6 | 13.7 |
| *Income and saving* | | | | | | | | | |
| Nominal GDP[4] | 3.6 | 5.9 | 6.5 | 6.3 | 5.3 | 4.9 | 3.4 | 1.5 | 3.5 |
| Real disposable pers. income[4] | 2.9 | 3.7 | 4.1 | .9 | 3.6 | 1.8 | .4 | 1.3 | 1.9 |
| *Previous*[4] | 2.9 | 3.7 | 4.1 | .9 | 3.6 | 1.8 | .0 | 2.5 | 2.9 |
| Personal saving rate[2] | 1.8 | 2.2 | 2.5 | .8 | .9 | .4 | 2.1 | 2.8 | 2.6 |
| *Previous*[2] | 1.8 | 2.2 | 2.5 | .8 | .9 | .4 | .7 | 1.4 | 1.8 |
| Corporate profits[6] | 20.6 | 12.6 | 20.3 | 18.8 | 6.9 | -2.0 | -8.9 | -2.5 | 9.1 |
| Profit share of GNP[2] | 9.0 | 9.5 | 10.8 | 12.0 | 12.2 | 11.3 | 10.1 | 9.7 | 10.2 |
| Net federal saving[7] | -248 | -372 | -371 | -292 | -201 | -229 | -481 | -571 | -642 |
| Net state & local saving[7] | -34 | -20 | 2 | 29 | 46 | 10 | -77 | -102 | -86 |
| Gross national saving rate[2] | 13.6 | 13.7 | 13.8 | 15.0 | 15.5 | 13.4 | 11.9 | 10.9 | 11.0 |
| Net national saving rate[2] | 1.5 | 1.9 | 2.1 | 2.8 | 3.4 | 1.2 | -.7 | -2.1 | -1.9 |

1. Change, millions.
2. Percent, values are for the fourth quarter of the year indicated.
3. Percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential. Values are for the fourth quarter of the year indicated.
4. Percent change.
5. Level, millions, values are annual averages.
6. Percent change, with inventory valuation and capital consumption adjustments.
7. Billions of dollars,values are annual averages.

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

| Item | Fiscal year | | | | 2008 | | | | 2009 | | | | 2010 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2007[a] | 2008 | 2009 | 2010 | Q1[a] | Q2[a] | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| | | | | | Not seasonally adjusted | | | | | | | | | | | |
| **Unified budget** | | | | | | | | | | | | | | | | |
| Receipts[1] | 2568 | 2524 | 2533 | 2636 | 540 | 788 | 590 | 580 | 518 | 795 | 640 | 611 | 554 | 814 | 657 | 636 |
| Outlays[1] | 2729 | 2979 | 3386 | 3224 | 746 | 761 | 759 | 1036 | 795 | 786 | 768 | 823 | 812 | 804 | 785 | 853 |
| Surplus/deficit[1] | -162 | -455 | -853 | -587 | -206 | 27 | -169 | -456 | -277 | 9 | -128 | -212 | -258 | 11 | -128 | -218 |
| *Previous* | *-162* | *-403* | *-455* | *-430* | *-206* | *44* | *-134* | *-144* | *-262* | *43* | *-92* | *-178* | *-230* | *64* | *-85* | *-175* |
| On-budget | -343 | -638 | -1016 | -742 | -237 | -64 | -171 | -522 | -290 | -78 | -127 | -272 | -268 | -77 | -126 | -278 |
| Off-budget | 181 | 183 | 163 | 155 | 31 | 91 | 2 | 66 | 12 | 86 | -1 | 60 | 10 | 88 | -3 | 60 |
| Means of financing | | | | | | | | | | | | | | | | |
| Borrowing | 206 | 768 | 1030 | 605 | 200 | -48 | 526 | 796 | 65 | 19 | 150 | 201 | 247 | 14 | 143 | 207 |
| Cash decrease | -23 | -296 | 322 | 0 | 11 | -7 | -318 | -228 | 575 | -15 | -10 | 15 | 15 | -20 | -10 | 15 |
| Other[2] | -22 | -17 | -498 | -18 | -5 | 29 | -39 | -112 | -362 | -12 | -12 | -5 | -5 | -5 | -5 | -5 |
| Cash operating balance, end of period | 75 | 372 | 50 | 50 | 46 | 53 | 372 | 599 | 25 | 40 | 50 | 35 | 20 | 40 | 50 | 35 |
| **NIPA federal sector** | | | | | Seasonally adjusted annual rates | | | | | | | | | | | |
| Receipts | 2624 | 2616 | 2666 | 2746 | 2673 | 2488 | 2624 | 2645 | 2656 | 2661 | 2701 | 2716 | 2732 | 2753 | 2784 | 2817 |
| Expenditures | 2832 | 3042 | 3200 | 3375 | 3003 | 3128 | 3120 | 3101 | 3194 | 3226 | 3277 | 3319 | 3367 | 3381 | 3434 | 3473 |
| Consumption expenditures | 842 | 908 | 964 | 1011 | 898 | 918 | 945 | 941 | 960 | 972 | 984 | 994 | 1005 | 1018 | 1025 | 1032 |
| Defense | 569 | 623 | 667 | 697 | 614 | 629 | 656 | 651 | 664 | 673 | 681 | 688 | 693 | 700 | 706 | 713 |
| Nondefense | 273 | 285 | 297 | 314 | 284 | 289 | 289 | 290 | 296 | 299 | 303 | 306 | 312 | 319 | 319 | 319 |
| Other spending | 1990 | 2134 | 2236 | 2365 | 2105 | 2210 | 2175 | 2160 | 2234 | 2254 | 2294 | 2325 | 2362 | 2363 | 2409 | 2441 |
| Current account surplus | -209 | -426 | -534 | -629 | -331 | -640 | -496 | -456 | -539 | -566 | -576 | -603 | -635 | -629 | -650 | -656 |
| Gross investment | 123 | 135 | 148 | 155 | 129 | 138 | 147 | 145 | 147 | 150 | 152 | 153 | 154 | 156 | 157 | 159 |
| Gross saving less gross investment[3] | -221 | -445 | -560 | -655 | -344 | -661 | -525 | -481 | -564 | -592 | -603 | -630 | -661 | -654 | -675 | -681 |
| **Fiscal indicators**[4] | | | | | | | | | | | | | | | | |
| High-employment (HEB) surplus/deficit | -229 | -419 | -398 | -396 | -329 | -639 | -462 | -378 | -423 | -409 | -383 | -384 | -405 | -389 | -406 | -414 |
| Change in HEB, percent of potential GDP | -0.3 | 1.2 | -0.3 | -0.1 | 0.6 | 2.1 | -1.3 | -0.6 | 0.3 | -0.1 | -0.2 | -0.0 | 0.1 | -0.1 | 0.1 | 0.0 |
| Fiscal impetus (FI), percent of GDP | 0.2 | 0.7 | -0.0 | 0.1 | 0.1 | 0.5 | 0.6 | -0.5 | -0.1 | 0.1 | -0.1 | -0.0 | 0.1 | 0.1 | 0.0 | 0.0 |
| *Previous* | *0.2* | *0.7* | *-0.0* | *0.0* | *0.1* | *0.5* | *0.5* | *-0.3* | *-0.2* | *0.1* | *-0.1* | *-0.0* | *-0.0* | *0.0* | *0.0* | *0.0* |

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

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



| Period [1] | Total | Households | | | Business | State and local governments | Federal government | Memo: Nominal GDP |
|---|---|---|---|---|---|---|---|---|
| | | Total | Home mortgages | Consumer credit | | | | |
| *Year* | | | | | | | | |
| 2003 | 8.1 | 11.5 | 14.2 | 5.2 | 2.5 | 8.3 | 10.9 | 5.9 |
| 2004 | 8.9 | 11.2 | 13.7 | 5.5 | 6.2 | 7.4 | 9.0 | 6.5 |
| 2005 | 9.5 | 11.2 | 13.1 | 4.3 | 8.5 | 10.2 | 7.0 | 6.3 |
| 2006 | 9.1 | 10.2 | 11.2 | 4.5 | 10.5 | 8.1 | 3.9 | 5.3 |
| 2007 | 8.6 | 6.8 | 6.8 | 5.6 | 13.0 | 9.3 | 4.9 | 4.9 |
| 2008 | 7.3 | 1.2 | .8 | 2.0 | 5.7 | 3.5 | 28.8 | 3.4 |
| 2009 | 2.8 | -.4 | -.8 | -.5 | 3.9 | 5.9 | 6.6 | 1.5 |
| 2010 | 4.3 | 1.9 | 1.3 | 3.1 | 4.2 | 6.1 | 8.7 | 3.5 |
| *Quarter* | | | | | | | | |
| 2008:1 | 5.4 | 3.3 | 2.6 | 5.1 | 7.4 | 3.4 | 8.1 | 3.5 |
| 2 | 3.5 | 1.4 | .9 | 4.0 | 5.7 | .9 | 5.9 | 4.1 |
| 3 | 8.9 | .5 | .2 | -.0 | 5.3 | 6.9 | 39.2 | 3.0 |
| 4 | 10.8 | -.3 | -.4 | -1.1 | 4.1 | 2.6 | 53.2 | 2.9 |
| 2009:1 | .9 | -.7 | -.9 | -1.6 | 3.6 | 5.5 | -2.0 | .6 |
| 2 | 3.0 | -.7 | -1.1 | -.7 | 3.5 | 5.5 | 8.8 | 1.2 |
| 3 | 3.3 | -.4 | -.8 | -.1 | 4.1 | 6.1 | 8.5 | 1.8 |
| 4 | 3.8 | .0 | -.4 | .4 | 4.0 | 6.0 | 10.5 | 2.3 |
| 2010:1 | 3.8 | .7 | .0 | 1.9 | 4.2 | 6.1 | 8.5 | 2.7 |
| 2 | 4.0 | 1.5 | .9 | 2.8 | 4.2 | 6.0 | 7.8 | 3.4 |
| 3 | 4.2 | 2.3 | 1.8 | 3.4 | 3.9 | 5.9 | 7.4 | 3.8 |
| 4 | 5.0 | 3.1 | 2.7 | 4.1 | 4.1 | 5.8 | 9.9 | 4.3 |

Note. Quarterly data are at seasonally adjusted annual rates.
1. Data after 2008:Q2 are staff projections. Changes are measured from end of the preceding period to end of period indicated except for annual nominal GDP growth, which is calculated from Q4 to Q4.

2.6.3 FOF

**Flow of Funds Projections: Highlights**

(Billions of dollars at seasonally adjusted annual rates except as noted)



| Category | 2007 | 2008 | 2009 | 2010 | 2008 | | 2009 | | | | 2010 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| *Domestic nonfinancial sectors* | | | | | | | | | | | | | | |
| Net funds raised | | | | | | | | | | | | | | |
| Total | 1682.6 | 1916.0 | 654.6 | 1247.7 | 2480.2 | 3189.2 | -24.4 | 707.6 | 870.8 | 1064.5 | 1065.5 | 1151.1 | 1221.3 | 1553.1 |
| Net equity issuance | -833.0 | -410.4 | -285.0 | -260.0 | -393.6 | -380.0 | -320.0 | -300.0 | -260.0 | -260.0 | -260.0 | -260.0 | -260.0 | -260.0 |
| Net debt issuance | 2515.5 | 2326.4 | 939.6 | 1507.7 | 2873.8 | 3569.2 | 295.6 | 1007.6 | 1130.8 | 1324.5 | 1325.5 | 1411.1 | 1481.3 | 1813.1 |
| Borrowing indicators | | | | | | | | | | | | | | |
| Debt (percent of GDP) [1] | 220.6 | 229.4 | 236.2 | 237.9 | 227.7 | 231.7 | 234.7 | 235.1 | 235.8 | 236.6 | 237.2 | 237.5 | 237.7 | 238.0 |
| Borrowing (percent of GDP) | 18.2 | 16.2 | 6.4 | 10.0 | 20.0 | 24.6 | 2.0 | 6.9 | 7.7 | 9.0 | 8.9 | 9.4 | 9.8 | 11.9 |
| Households | | | | | | | | | | | | | | |
| Net borrowing [2] | 881.0 | 169.5 | -60.2 | 269.9 | 63.5 | -38.3 | -98.6 | -95.6 | -50.3 | 3.6 | 95.9 | 214.2 | 327.0 | 442.3 |
| Home mortgages | 669.8 | 85.8 | -85.1 | 141.8 | 23.6 | -47.3 | -94.5 | -113.4 | -85.1 | -47.3 | 0.0 | 94.5 | 189.1 | 283.6 |
| Consumer credit | 136.0 | 51.2 | -13.2 | 79.9 | -0.0 | -29.6 | -41.1 | -19.2 | -3.8 | 11.5 | 48.7 | 72.3 | 89.7 | 109.0 |
| Debt/DPI (percent) [3] | 131.8 | 130.6 | 128.6 | 125.9 | 130.5 | 131.3 | 129.7 | 128.8 | 128.1 | 127.2 | 126.3 | 125.9 | 125.2 | 124.9 |
| Business | | | | | | | | | | | | | | |
| Financing gap [4] | 185.6 | 237.6 | 233.5 | 199.9 | 225.2 | 238.5 | 249.4 | 225.5 | 223.4 | 235.6 | 232.7 | 195.4 | 184.7 | 186.8 |
| Net equity issuance | -833.0 | -410.4 | -285.0 | -260.0 | -393.6 | -380.0 | -320.0 | -300.0 | -260.0 | -260.0 | -260.0 | -260.0 | -260.0 | -260.0 |
| Credit market borrowing | 1211.6 | 606.4 | 431.3 | 481.4 | 579.6 | 453.4 | 398.4 | 398.3 | 466.5 | 462.2 | 482.9 | 492.3 | 464.7 | 485.5 |
| State and local governments | | | | | | | | | | | | | | |
| Net borrowing | 185.9 | 76.3 | 133.5 | 145.5 | 152.2 | 58.9 | 125.5 | 125.5 | 141.5 | 141.5 | 145.5 | 145.5 | 145.5 | 145.5 |
| Current surplus [5] | 246.6 | 149.2 | 111.6 | 135.4 | 112.8 | 113.9 | 112.3 | 107.0 | 109.9 | 117.2 | 126.7 | 129.2 | 138.5 | 147.2 |
| Federal government | | | | | | | | | | | | | | |
| Net borrowing | 237.1 | 1474.2 | 435.0 | 611.0 | 2078.5 | 3095.2 | -129.7 | 579.5 | 573.1 | 717.2 | 601.2 | 559.0 | 544.1 | 739.8 |
| Net borrowing (n.s.a.) | 237.1 | 1474.2 | 435.0 | 611.0 | 526.5 | 795.9 | 64.6 | 18.9 | 150.1 | 201.4 | 247.4 | 13.7 | 142.9 | 207.0 |
| Unified deficit (n.s.a.) | 187.9 | 804.0 | 608.7 | 593.0 | 169.0 | 456.1 | 277.2 | -8.5 | 128.1 | 211.9 | 257.9 | -10.8 | 128.4 | 217.5 |
| *Depository institutions* | | | | | | | | | | | | | | |
| Funds supplied | 851.7 | 996.1 | 465.2 | 716.3 | 1930.2 | 1082.0 | 426.1 | 288.3 | 560.2 | 586.4 | 726.6 | 914.2 | 698.5 | 525.8 |

Note. Data after 2008:Q2 are staff projections.
1. Average debt levels in the period (computed as the average of period-end debt positions) divided by nominal GDP.
2. Includes change in liabilities not shown in home mortgages and consumer credit.
3. Average debt levels in the period (computed as the average of period-end debt positions) divided by disposable personal income.
4. For corporations, excess of capital expenditures over U.S. internal funds.
5. 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

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# International Developments

Financial conditions around the world have deteriorated significantly since the September Greenbook. Mounting concerns about asset valuations and the strength of balance sheets led to a collapse of interbank lending, with associated dollar-funding spreads reaching towering heights. These developments threatened many financial institutions abroad, especially in Europe. Funding pressures and declines in confidence have materialized in many emerging market economies as well, prompting a pronounced widening of risk spreads, downward pressures on domestic currencies, and, in some cases, official intervention in foreign exchange markets to provide support.

In reaction to the worsening crisis, central banks and governments intensified their efforts to alleviate conditions. In the past couple of weeks, officials have expanded deposit insurance coverage, announced plans to inject capital into their banking systems and to guarantee bank debts, and increased measures to enhance liquidity. Even though these steps appear to have had some initial positive effects, financial markets abroad remain volatile reflecting uncertainty about the ultimate efficacy of the announced plans, the safety of financial institutions, and the darkening global economic outlook.

**Summary of Staff Projections**
(Percent change from end of previous period, annual rate, except as noted)

| Indicator | 2007 | 2008: H1 | Projection | | | |
|---|---|---|---|---|---|---|
| | | | 2008 | | 2009 | 2010 |
| | | | Q3 | Q4 | | |
| Foreign output | 4.2 | 1.7 | .5 | .5 | 1.3 | 2.9 |
| September Greenbook | 4.2 | 1.7 | 1.8 | 2.0 | 3.0 | 3.5 |
| Foreign CPI | 3.6 | 5.1 | 4.4 | 1.3 | 2.1 | 2.1 |
| September Greenbook | 3.6 | 5.1 | 4.4 | 2.7 | 2.6 | 2.4 |
| | Contribution to growth (percentage points) | | | | | |
| U.S. net exports | .8 | 1.8 | 1.2 | .4 | .2 | -.2 |
| September Greenbook | .8 | 1.9 | .7 | 1.0 | .3 | -.1 |

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

We now judge that the global economy has entered a prolonged period of anemic growth and have lowered our forecast appreciably. The advanced foreign economies are likely already in recession, and the effects of even tighter credit market conditions, lower wealth, the souring mood of consumers and businesses, and weakness in the United States will weigh on activity over the forecast period. Amid heightened financial turmoil, economic activity in the emerging market economies appears to have decelerated sharply: Exports have dropped off, and domestic demand in some countries has softened. (*We explore the risk of even weaker foreign growth in our alternative simulations.*)

The prospect of subdued activity both in the United States and abroad has contributed to a sharp fall in the prices of oil and other commodities. These declines, along with increased slack, have led us to lower our forecasts for consumer price inflation abroad and for trade prices.

The foreign exchange value of the dollar rose substantially further against most currencies since the last Greenbook, in part as market participants sought the refuge of short-term U.S. Treasury securities. Starting from this higher level, we project that the broad real dollar will depreciate by about 3¼ percent per year, on average, over the forecast period. This rate of depreciation is about ¾ percentage point faster than in the last Greenbook, an outcome that is conditioned on the staff's assumption that U.S. policy rates will turn out to be lower than market participants currently expect.

We estimate that real net exports contributed 1¼ percentage points to U.S. growth in the third quarter, as exports continued to expand rapidly while imports were flat. We expect the contribution to decline to about ½ percentage point in the current quarter, remain there in 2009 as exports slow, and then turn slightly negative in 2010 as imports resume growth in response to the projected pickup in U.S. activity. These contributions are about unchanged on average from the previous Greenbook, as the negative effects on exports of weaker foreign activity and a stronger dollar largely balance the effect on imports of lower U.S. growth.

**International Financial Markets**

The banking and credit crisis shook financial markets across the globe over the intermeeting period, spreading far beyond U.S. and European markets. Notably, asset prices in the emerging market economies saw intensified downward movements and extreme volatility.

Spreads between term Libor and OIS rates in dollar, euro, and sterling surged higher from their already elevated levels following the collapse of Lehman Brothers and the rescue of AIG, with the increase most pronounced in dollars. Increased anxiety about asset valuations and the strength of balance sheets led to a further constriction in interbank lending, contributing to several high-profile bank failures in Europe and, in early October, to a widespread pullback from risk across advanced and emerging market economies. Stock prices plunged, risk spreads widened, credit markets seized up, and exchange rates swung sharply.

The deepening of the crisis led governments in many countries to announce measures of unprecedented scale and scope designed to safeguard the banking system, restore the functioning of credit markets, and inject larger amounts of liquidity across a wider range of maturities. (The box entitled “Banking System Rescue Plans in Advanced Economies” discusses these announcements in further detail.) The Federal Reserve repeatedly expanded its dollar swap lines with foreign central banks over the period, increasing both the size of the temporary liquidity swap lines and the number of central bank counterparties. Central banks in Australia, Canada, Denmark, Japan, Norway, Sweden, and the United Kingdom joined those in the euro area and Switzerland as counterparties of the Federal Reserve.

In addition, on October 8, the Federal Reserve, the Bank of Canada, the Bank of England, the European Central Bank (ECB), the Riksbank, and the Swiss National Bank cut their respective policy rates 50 basis points in a coordinated action. Central banks in a number of other countries, including Australia, China, Hong Kong, and India, also cut policy rates over the period. As the intermeeting period ended, markets were pricing in further policy rate cuts within the next few months by major foreign central banks.

In the week and a half following these policy actions, conditions in credit markets improved somewhat. For instance, Libor-OIS spreads declined some and the premium paid to borrow dollars via foreign exchange swaps dropped more substantially. Equity prices initially rose around the globe, though they subsequently retraced most of this move in volatile trading.

On balance, since the time of the last Greenbook, equity prices around the world have posted declines of 20 to 30 percent. Sovereign credit default swap (CDS) spreads rose sharply, especially for emerging market economies, leading several countries to postpone scheduled sales of debt. Interest rates on sovereign bonds in industrial countries exhibited substantial volatility, and nominal yield curves steepened as 2-year yields

## Banking System Rescue Plans in Advanced Economies

Over the intermeeting period, many countries announced rescue plans for their banking systems. Most countries' plans incorporate three broad steps: expansion of deposit insurance, issuance of guarantees on bank liabilities, and capital injections for banks. A smaller number of countries have included asset purchases from banks as part of their plans. The table on the opposite page shows the steps that are included in the plans of selected advanced economies.

When implemented, these steps should improve the financial soundness of banks, increase confidence in their safety, and ease their liquidity constraints. However, except for the expansion of deposit insurance (a fairly straightforward step), most countries have provided few details about their plans, which suggests that implementation may be some time off.[1] In addition, different plans are likely to have different effects on soundness, confidence, and liquidity. For example, the U.S. plan includes guarantees on interbank lending, but the plans of France, Germany, Sweden, and the United Kingdom do not.

The graph in the lower-left panel on the opposite page shows median credit default swap (CDS) premiums for European, U.K., and U.S. banks. The declines since the beginning of this month suggest that the announcement of rescue plans has increased confidence in bank safety. Notably, the steepest declines coincide with the announcement of plans for capital injections and liability guarantees. CDS premiums of U.K. banks declined the most on October 8, the day that British authorities announced their plan to take these steps. Similarly, the steepest drop for other European banks was on October 13, the day after euro-area leaders announced plans to do the same.

The graph in the lower-right panel shows the average three-month U.S. dollar Libor spread over OIS for European, U.K., and U.S. banks. Spreads have declined from their peaks on October 10, and the trend is promising. To date, however, Libor spreads remain at elevated levels, suggesting that the announcement of plans to guarantee bank liabilities and inject capital has helped, but has not fully allayed stresses in the interbank market. This outcome is not surprising, because none of the guarantee and capital injection plans are fully operational.[2] As a result, banks likely remain quite uncertain about their need for and access to liquidity.

[1] For most countries, the plan to expand deposit insurance involves raising the limit on the size of deposits that will be fully insured. Australia, however, will need to create a system of deposit insurance.

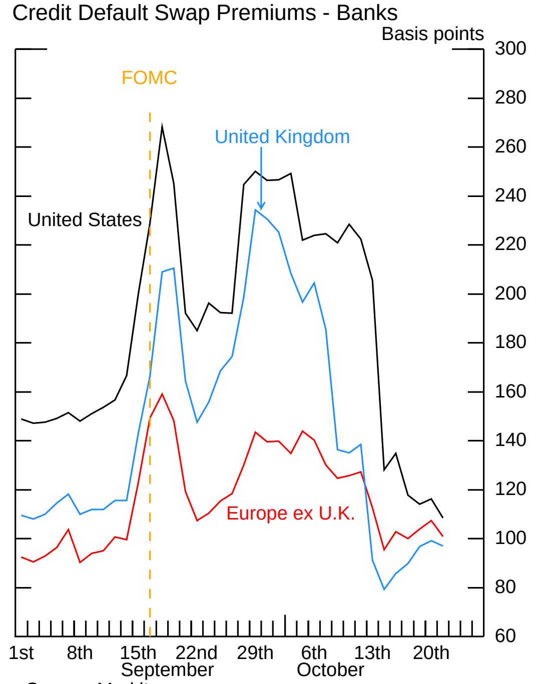
[2] Although the U.S. guarantee program covers interbank borrowing, until this program is fully implemented (at which point banks will purchase guarantees for specific liabilities), lenders cannot know which liabilities will be guaranteed beyond mid-November, which is when the current temporary guarantee expires.

**Rescue Plan Characteristics for Selected Advanced Economies**

| Country | Expansion of deposit insurance | Guarantees on bank liabilities | Capital injections | Asset purchases |
|---|---|---|---|---|
| Australia | ✓ | ✓ | | ✓ |
| Belgium | ✓ | b | b | |
| France | | ✓ | ✓ | |
| Germany | ✓ | ✓ | ✓ | |
| Italy | ✓ | ✓ | ✓ | |
| Netherlands | ✓ | ✓ | ✓ | |
| Spain | ✓ | ✓ | ✓ | ✓ |
| Sweden | ✓ | ✓ | ✓ | |
| Switzerland | ✓ | | b | b |
| United Kingdom | ✓ | ✓ | ✓ | |
| United States | ✓ | ✓ | ✓ | ✓ |

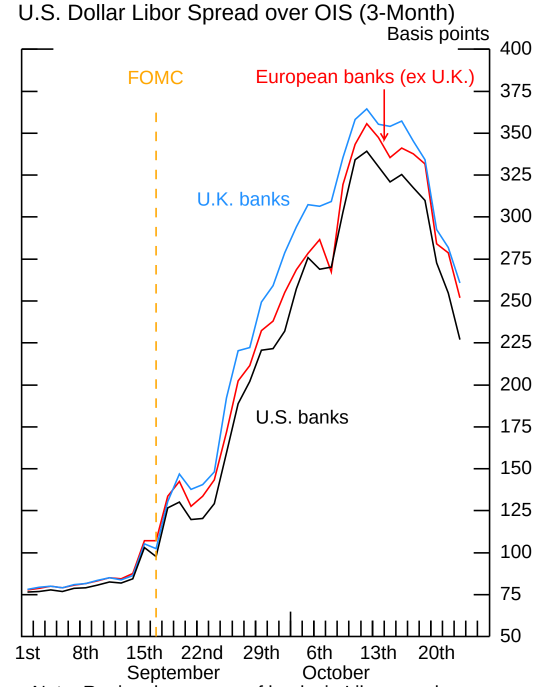
b Has announced measures that apply to specific bank(s), rather than the banking system or a defined set of banks.

Credit Default Swap Premiums - Banks




Source: Markit.

U.S. Dollar Libor Spread over OIS (3-Month)




Note: Regional averages of banks in Libor panel.
Source: Bloomberg.

declined and 10-year yields were mixed. CDS spreads for firms also soared, in particular for financial firms.

Implied volatilities in most currency pairs rose to multiyear highs. The major currencies index of the dollar rose 7¾ percent on net since the time of the last Greenbook, as the dollar appeared to benefit from the decrease in global risk appetite. The dollar appreciated 16 percent against the Canadian dollar and 8¾ percent versus the euro but depreciated 8 percent versus the yen, with the yen's strength apparently tied to a rapid unwinding of carry trade positions. The dollar appreciated nearly 10 percent overall against the currencies of our other important trading partners. Most notably, the dollar rose about 30 percent against the Brazilian *real,* the Mexican peso, and the Korean won, despite reports of heavy intervention sales of dollars by the monetary authorities of these countries.

**Advanced Foreign Economies**

Recent dismal data, poor prospects for U.S. growth, and heightened strains in global financial markets have led us to project a near-term contraction in output for the advanced foreign economies and anemic performance thereafter. Real GDP in the advanced foreign economies is expected to decline ½ percent at an annual rate through the first quarter of 2009, and then accelerate gradually to a 2 percent pace by the end of 2010. The tepid rate of recovery reflects the slow U.S. rebound and weak investment, combined with the stresses in the banking sector and consequent implications for the cost and availability of credit.

Near-term prospects appear weakest in the United Kingdom, consistent with its role as a major financial center and the ongoing deterioration in the housing market. The U.K. economy should contract 1¼ percent at an annual rate in the second half of this year and decline almost ¾ percent further in the first half of 2009. The euro-area economy is projected to shrink by almost 1 percent over the current and next quarters. We expect the recession in Canada to be shallower, despite the country's tight linkages to the United States, largely because Canada's banking system appears to be in relatively good shape and recent data have been less negative.

Our projection for growth in the advanced foreign economies is 1 percentage point lower in the second half of this year, compared with the previous forecast, and 1½ percentage points lower next year, with the markdowns broadly based across economies. The effects of intensified financial disruptions, curtailed credit availability, and the sharply lower contour for U.S. GDP account for most of the revisions. Worse-than-expected incoming data are also contributing to the weaker near-term growth outlook, including softening exports, plummeting confidence, and significant housing corrections in several key economies.

We estimate that four-quarter consumer price inflation in the advanced foreign economies peaked at roughly 3½ percent in the third quarter, and we expect it will decline to just over 1 percent in the second half of next year. This forecast is about ½ percentage point lower next year than in the last Greenbook, reflecting greater economic slack and the downward revision to the path for commodity prices.

We now assume that monetary policy will be noticeably easier in most advanced economies than in the previous Greenbook, in line with the outlook for sharply weaker growth and lower inflation. Following the coordinated 50 basis point cut earlier this month and the Bank of Canada's further 25 basis point reduction yesterday, we see the Bank of Canada, the ECB, and the Bank of England lowering rates an additional 25 basis points, 75 basis points, and 150 basis points, respectively, by the middle of next year. Given the projected recovery in growth in 2010 for these economies, we are assuming the authorities will unwind some of the monetary policy easing at that time. The Bank of Japan is assumed to keep its rate steady at ½ percent throughout the forecast period.

**Emerging Market Economies**

We estimate that real GDP growth in the emerging market economies slid further in the third quarter to an annual rate of 1½ percent, which is 2¼ percentage points lower than our estimate in the September Greenbook. Weakening industrial output and exports, as well as tepid domestic demand, weighed on activity in a number of countries. Amid heightened financial turmoil, consumer and business confidence have fallen sharply and anecdotal evidence indicates that investment plans have been scaled back. We expect that weak external demand and, in many cases, more subdued domestic demand will continue to weigh on activity in the current quarter and through much of next year. The period of weakness is expected to be more pronounced for Mexico because of its reliance on the U.S. economy. We estimate that Chinese growth slowed abruptly to 4¼ percent in the third quarter, partly due to project delays and production interruptions related to the Olympics. Going forward we expect the Chinese economy to grow at about 8 percent on average, as Chinese authorities are assumed to take measures to support domestic demand, if necessary.

## The Japanese Experience with Very Low Interest Rates

For over a decade, Japan has conducted monetary policy in a very low interest rate environment. This box provides a brief overview of this experience.

In response to a sharp deceleration in growth after the bursting of the so-called "bubble economy" of the 1980s, Japan lowered interest rates in the early 1990s. Its experience with low interest rates can be divided into three policy stances: Japan initiated its low interest rate policy (LIRP) in September 1995, when it dropped its policy rate to ½ percent or below, the light shaded regions of the charts. (This stance has also been in place in recent years.)

In response to deflation and continued economic weakness, in February 1999 Japan adopted the zero interest rate policy (ZIRP), when rates were set to zero but no additional monetary policy measures were undertaken (the dark shaded regions).

Finally, amidst a renewed slump in the Japanese economy and continued deflation, the Bank of Japan began in March 2001 its quantitative easing policy (QEP), where it committed to leaving the policy rate at zero and providing commercial banks with large amounts of reserves until solid evidence of a return to positive inflation materialized.

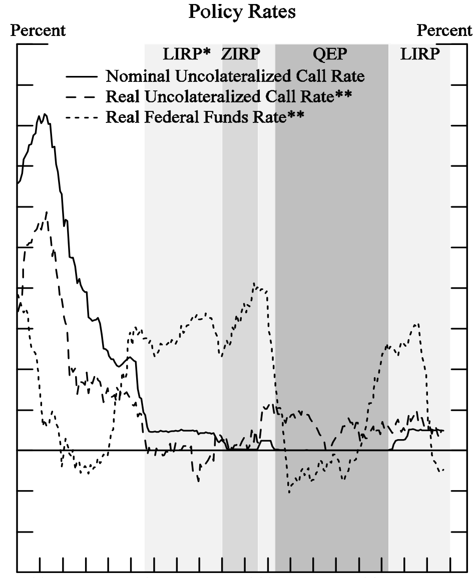
In retrospect, the adoption of ZIRP came too late to prevent sustained deflation in Japan. By the end of the 1990s, with the zero nominal bound on monetary policy binding, persistent deflation meant that Japan's real policy rate was positive, even though negative real rates may have been desirable to boost activity and raise inflation expectations.

The continuation of deflation and the weakening economy during the period of the ZIRP likely reflected the headwinds confronting the Japanese economy, including the moribund state of the banking system. Macroeconomic outcomes likely would have been even worse in the absence of the ZIRP. Keeping the policy rate near zero did severely reduce activity in money markets, but it is unclear that this had a significant adverse effect on overall economic activity.

Having failed to achieve macro stability with the ZIRP, the Bank of Japan implemented QEP in March 2001. Even though the very substantial expansion of the monetary base under the QEP extended neither to broader definitions of money nor to bank lending, the policy appeared to help keep short- and medium-term interest rates low, at least during the first few years of the policy. In addition, the policy may have exerted downward pressure on the yen, which remained substantively unchanged against the dollar at a time when the dollar depreciated sharply against most major currencies. As a consequence, net exports made consistent and substantial positive contributions to growth over these years.

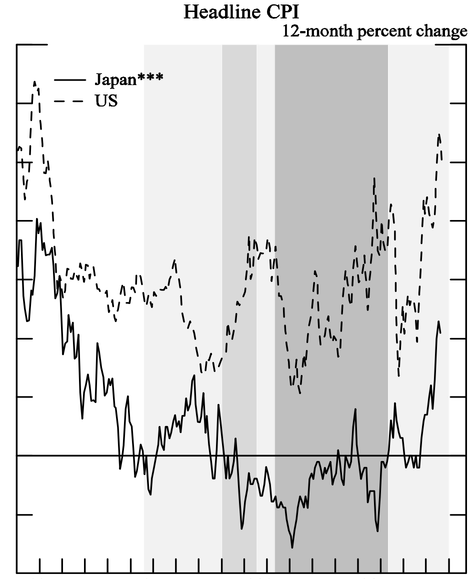
Although neither the ZIRP nor QEP succeeded in pulling Japan out of deflation, it is worth noting that economic activity since 2000 has largely emerged from the mire of the 1990s.

**Policy Rates**



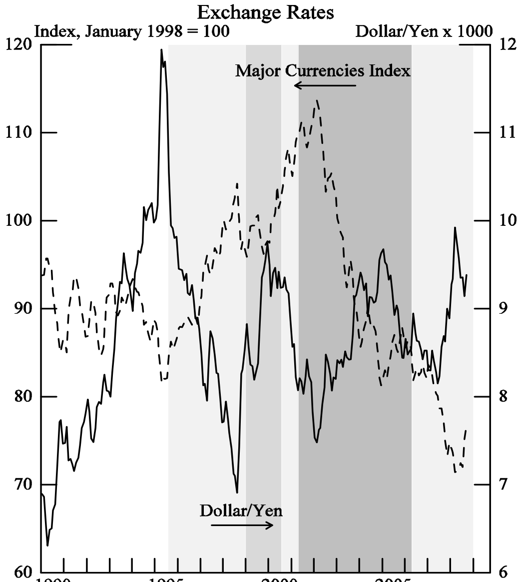

** Deflated by 12-month change in CPI ex food and energy.
Japan core adjusted for 1997 tax change.

**Headline CPI**



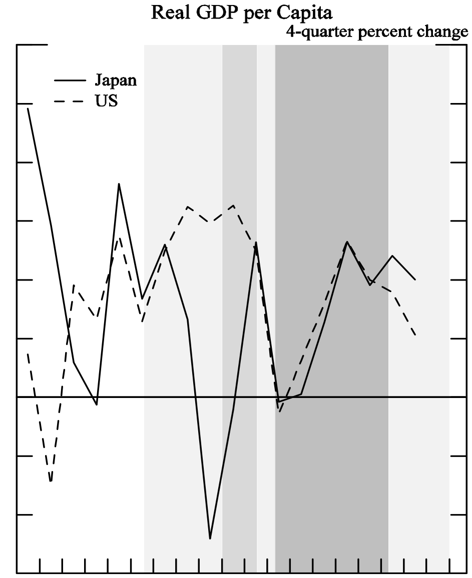

Source: Japan: Ministry of Internal Affairs and Communications.
United States: Bureau of Labor Statistics.
*** Adjusted for tax change in 1997.

**Exchange Rates**




Source: Federal Reserve Board.

**Real GDP per Capita**




Source: Japan: Cabinet Office.
United States: Bureau of Economic Analysis.

* Severity of nominal bound indicated by shading. LIRP: Low Interest Rate Policy; ZIRP: Zero Interest Rate Policy; QEP: Quantitative Easing Policy.

We revised down our outlook for the emerging market economies over the rest of this year and next by about 2 percentage points. These downward revisions are broad-based; they are largest in Mexico and include a moderately lower path for Chinese growth as well. Among the downside risks to our growth outlook are the possibilities that advanced economies may prove even weaker than we are currently projecting, that Chinese growth is less resilient than we expect, and that financial stresses in emerging market economies could intensify further.

Four-quarter inflation in the emerging market economies declined to 6 percent in the third quarter, mainly as food price pressures abated. In China, inflation peaked earlier this year and continued to decline through September. Data indicate that inflation has fallen in several other emerging market economies as well. We expect that inflation in these economies will step down to 5¼ percent in the current quarter and descend further to 3 percent in 2009. This contour reflects the declines in the price of oil and other commodities and weakening activity. We believe that the disinflationary pressures of slowing economic activity will more than offset the domestic currency depreciation in these countries. However, a higher pass-through than envisioned remains an important upside risk. Relative to the previous Greenbook, the outlook for inflation is lower due to the downward revision to the paths for commodity prices and economic activity.

**Oil and Other Commodity Prices**

Oil prices continued the steep decline that began in mid-July and were highly volatile in recent weeks. The spot price of West Texas intermediate (WTI) crude oil closed on October 21 at $70.89 per barrel, roughly $35 lower than at the time of the September Greenbook. The price of the December 2016 futures contract fell about $20 per barrel over this period to $90.08 per barrel, resulting in a more upward-sloping futures curve. Given this path of futures prices, our current projection has the price of WTI crude oil averaging about $74 in the current quarter and then rising to nearly $84 per barrel at the end of 2010. Relative to the September Greenbook, this projection is about $30 per barrel lower, on average, next year and about $25 lower in 2010.

The precipitous drop in oil prices likely reflects deteriorating prospects for global oil demand in light of the much gloomier outlook for economic activity. Indeed, the International Energy Agency recently marked down its forecast for oil demand significantly. However, the recent decline in oil prices is all the more dramatic as it has occurred amid some sizable supply disruptions. Hurricanes Gustav and Ike turned out to have a much larger impact on oil production than originally thought. With roughly

40 percent of U.S. crude output from the Gulf of Mexico still offline, the cumulative effect has been roughly equivalent to the disruption following Hurricane Katrina in 2005. A similarly sized disruption has occurred over the past two months in Azerbaijan, owing to outages to the Baku-Tbilisi-Ceyhan pipeline. The rapid drop in oil prices has prompted OPEC officials to call an emergency meeting on October 24, and some market observers indicate that informal production cuts may already be under way.

Nonfuel commodity prices, especially metals prices, have also fallen sharply since the September Greenbook. These declines appear attributable to the weakening global economic outlook and heightened financial concerns. The declines in metals prices have occurred even though the supply news has generally been negative, as several mines suffered production cutbacks. Agricultural prices also fell since the last Greenbook, reflecting concerns about demand and some reports of increased crop production. Given the path of futures prices, we project that our trade-weighted average of nonfuel commodity prices will slowly increase from its present sharply reduced level.

**Prices of Internationally Traded Goods**

Core import prices fell sharply in September—the largest monthly decline in eight years—largely reflecting lower prices for metals and foods. In addition, for the first time since early 2006, prices of imported automotive products and consumer goods decreased. As a result, we now estimate that core import prices increased at an annual rate of 6½ percent in the third quarter, almost 1 percentage point lower than in the last Greenbook.

The recent declines in commodity prices, combined with the stronger dollar, should put further downward pressure on import prices in upcoming quarters. We project that core import prices will decline at an annual rate of 3 percent in the fourth quarter and 4½ percent in the first quarter of next year. The continuing effects of lower commodity prices will keep core import prices flat until late 2009, when they accelerate to a 1½ percent pace, as commodity prices are expected to increase marginally and the effects of the dollar's projected depreciation show through. Relative to the previous Greenbook, we have revised downward our forecast by 5 percentage points this quarter and next on the stronger path for the dollar and the weaker commodity price forecast. Over the rest of the forecast, the projection is little changed.

Core export price inflation also declined last quarter, and given the recent declines in commodity prices, we expect core export prices to fall 6 percent in the fourth quarter and

2¼ percent in the first quarter of 2009. Thereafter, core export price inflation averages around 1 percent. Compared with the previous Greenbook, core export price inflation has been revised down 7 percentage points in the current quarter and 3¾ percentage points in the first quarter of 2009, reflecting the much softer path of commodity prices.

**Staff Projections of Selected Trade Prices**
(Percent change from end of previous period, annual rate, excepted as noted)

| Trade category | 2007 | 2008: H1 | Projection 2008 Q3 | Projection 2008 Q4 | Projection 2009 | Projection 2010 |
|---|---|---|---|---|---|---|
| *Imports* | | | | | | |
| Core goods | 3.4 | 9.5 | 6.5 | -2.9 | -.5 | 1.5 |
| September Greenbook | 3.4 | 9.5 | 7.5 | 2.1 | 1.0 | 1.3 |
| Oil (dollars per barrel) | 80.11 | 108.65 | 117.85 | 75.26 | 73.32 | 78.65 |
| September Greenbook | 80.11 | 108.51 | 111.71 | 98.35 | 102.07 | 102.39 |
| *Exports* | | | | | | |
| Core goods | 6.2 | 13.0 | 7.8 | -6.0 | -.2 | 1.0 |
| September Greenbook | 6.2 | 13.1 | 9.9 | 1.0 | 1.5 | 1.2 |

Note: Prices for core exports exclude computers and semiconductors. Prices for core imports exclude computers, semiconductors, oil, and natural gas. Both prices are on a National Income and Product Account chain-weighted basis.
The price of imported oil for multiquarter periods is the price for the final quarter of the period. Imported oil includes both crude oil and refined products.

**Trade in Goods and Services**

Real exports of goods and services are estimated to have increased at an annual rate of 8 percent in the third quarter, notwithstanding our expectation that the September data will show a sharp falloff on account of the strike at Boeing. This estimate is about 4 percentage points higher than projected in the September Greenbook, as the export data through August surprised us on the upside.

We expect export growth to fall to roughly 2½ percent in the fourth quarter and then to remain at about that pace in 2009, in line with slow foreign growth and the waning boost from previous dollar depreciation. Export growth is projected to pick up to 4 percent in 2010 as foreign growth recovers. Compared with the previous Greenbook, we lowered our forecast for export growth in the fourth quarter by 4½ percentage points, largely on account of the unexpected continuation of the Boeing strike into October. We have marked down our forecasts for 2009 and 2010 by 2¾ percentage points and

1¼ percentage points, respectively, because of the weaker foreign outlook and the higher projected path for the dollar.

**Staff Projections for**
**Trade in Goods and Services**
(Percent change from end of previous period, annual rate)

| Measure | 2007 | 2008: H1 | Projection 2008 Q3 | Projection 2008 Q4 | Projection 2009 | Projection 2010 |
|---|---|---|---|---|---|---|
| Real imports | 1.1 | -4.1 | -1.0 | -.3 | .9 | 4.4 |
| September Greenbook | 1.1 | -4.2 | -.8 | -.3 | 2.8 | 4.9 |
| Real exports | 8.9 | 8.6 | 8.0 | 2.6 | 2.8 | 3.9 |
| September Greenbook | 8.9 | 9.1 | 4.0 | 7.2 | 5.6 | 5.1 |

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

Real imports of goods and services declined an estimated 1 percent at an annual rate in the third quarter, dragged down by the weak U.S. economy. They are projected to grow only weakly through next year before picking up as U.S. growth recovers. Relative to the last Greenbook, our estimate of real import growth in the third quarter is about unchanged: Hurricane-related disruptions in the Gulf of Mexico lowered our estimate of September oil imports, but this revision was offset by stronger-than-expected total imports in July and August. Looking ahead, the lower projected path of U.S. economic growth has led us to revise down our forecasts for import growth in 2009 and 2010.

**Alternative Simulations**

Our baseline forecast has U.S. exports growing modestly over the forecast period, underpinned by some, albeit lackluster, expansion of foreign activity, and by lagged effects of the previous depreciation of the dollar. However, it is possible that the factors supporting our current export forecast may fail to materialize, particularly if strained financial conditions undermine economic activity abroad to a greater extent than we currently project. To investigate this possibility, our first alternative simulation uses the FRB/Global model to examine the effects of a larger-than-expected deceleration in consumption and investment demand in major U.S. trading partners. While this shock generates some endogenous appreciation of the dollar, we also consider a second scenario that amplifies the magnitude of dollar appreciation by incorporating additional risk premium shocks. These risk premium shocks may be interpreted as reflecting flight to dollar-denominated assets in the context of more severe global financial strains than embedded in our baseline forecast.

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

| Indicator and simulation | 2008 | 2009 | | 2010 | 2011-13 |
|---|---|---|---|---|---|
| | H2 | H1 | H2 | | |
| *U.S. real GDP* | | | | | |
| Baseline | -1.2 | -.9 | .7 | 2.3 | 4.7 |
| Weaker foreign demand | -1.3 | -1.2 | .4 | 1.8 | 4.7 |
| Additional dollar appreciation | -1.3 | -1.3 | -.1 | 1.2 | 4.8 |
| *U.S. PCE prices excluding food and energy* | | | | | |
| Baseline | 2.7 | 1.7 | 1.4 | 1.3 | 1.0 |
| Weaker foreign demand | 2.7 | 1.6 | 1.2 | 1.1 | .7 |
| Additional dollar appreciation | 2.7 | 1.5 | 1.1 | .9 | .4 |
| *U.S. federal funds rate (percent)* | | | | | |
| Baseline | 1.2 | .5 | .5 | 1.0 | 3.4 |
| Weaker foreign demand | 1.2 | .5 | .5 | .5 | 2.2 |
| Additional dollar appreciation | 1.1 | .5 | .5 | .5 | 1.1 |
| *U.S. trade balance (percent share of GDP)* | | | | | |
| Baseline | -3.4 | -2.9 | -3.0 | -3.2 | -4.1 |
| Weaker foreign demand | -3.3 | -2.8 | -2.9 | -3.3 | -4.8 |
| Additional dollar appreciation | -3.2 | -2.6 | -2.9 | -3.6 | -5.4 |

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

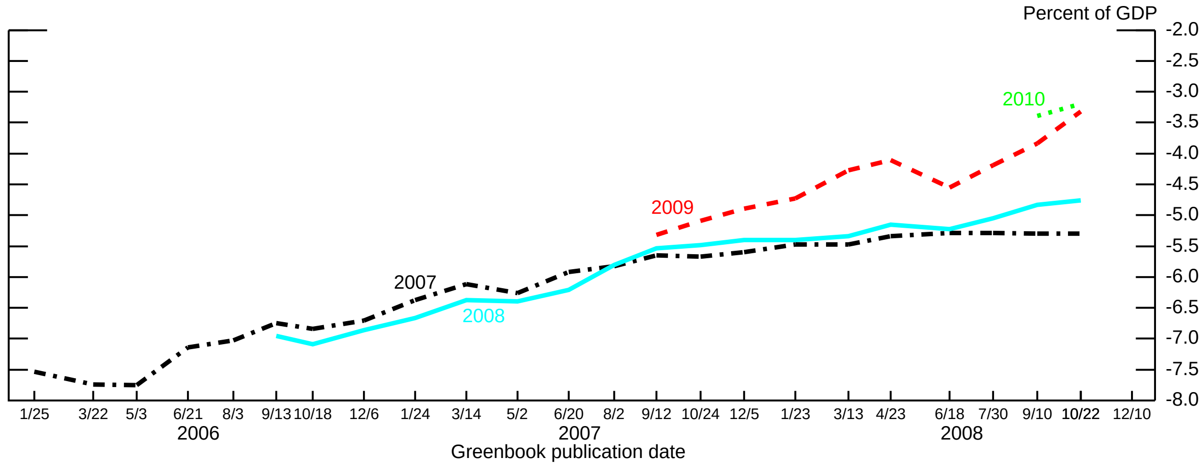
**Weaker foreign demand**. In the first scenario, the shock reduces GDP growth in all major U.S. trading partners by 1 percentage point a year relative to baseline. The shock begins in the current quarter and lasts for two years before gradually dying away. The fall in foreign activity reduces U.S. real 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 2009 and 0.5 percentage point in 2010. As in other simulations in the Greenbook, we assume that policymakers do not allow the federal funds rate to decline below 50 basis points, even though, unconstrained, the model would call for an even larger fall in the rate. This lower bound, which constrains the federal funds rate starting in 2009, exacerbates the decline in output. Core PCE inflation declines 0.1 percentage point below baseline in 2009 and 0.2 percentage point in 2010, because of lower import prices and the effect of the contraction in aggregate demand; the decline in overall PCE inflation in 2009 is somewhat larger, reflecting that global oil prices fall in response to lower world activity. U.S. GDP growth rises above baseline by 2012 in response to a recovery in foreign economies and as U.S. monetary policy keeps the federal funds rate below its baseline path for a prolonged period.

**Additional dollar appreciation.** The foreign demand shocks are accompanied by additional risk-premium shocks that intensify the dollar's appreciation, and this further restrains U.S. exports. The risk premium shocks are phased in over four quarters, and are scaled so that they would induce the broad real dollar to appreciate an additional 10 percent in the absence of endogenous adjustment of interest rates. The combined shocks induce a more-pronounced reduction in U.S. GDP growth than in the first scenario, with U.S. output growth falling about 0.6 percentage point below baseline in 2009 and 1.1 percentage points in 2010. Core PCE inflation also falls more noticeably than in the first scenario, in part because the monetary policy response is inhibited to a greater extent by the assumed lower bound on nominal interest rates. After an initial J-curve effect, the combined shocks contribute to a deterioration of the trade balance of 1.3 percentage point of GDP by 2013.

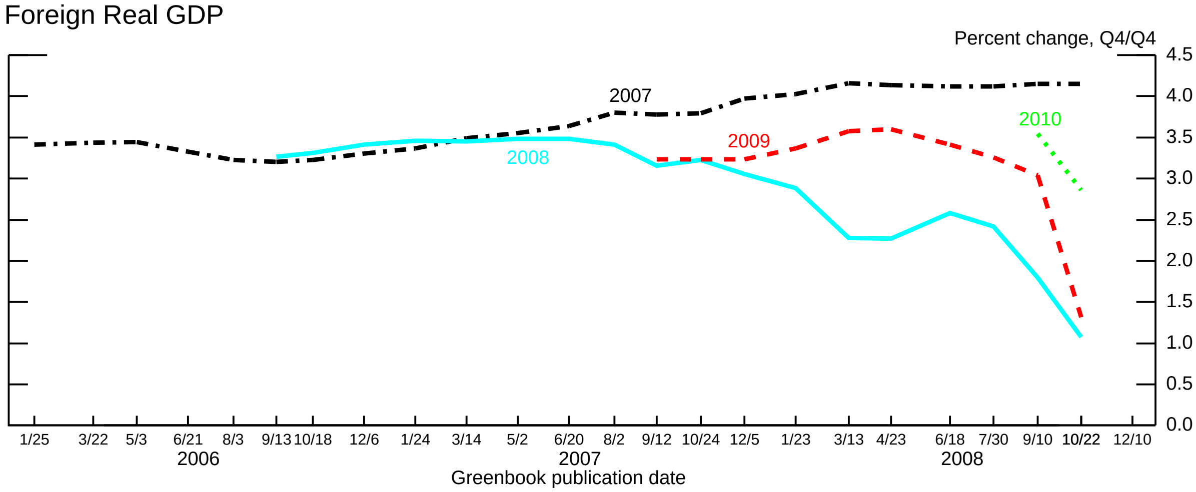
Class II FOMC -- Restricted (FR)

# Evolution of the Staff Forecast

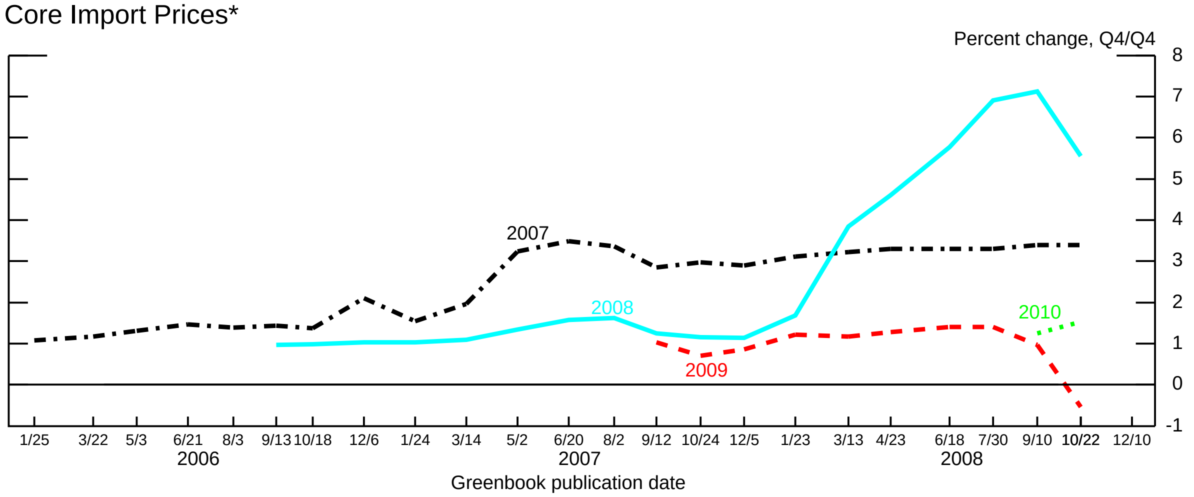
## Current Account Balance




## Foreign Real GDP




## Core Import Prices*




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

Class II FOMC
Restricted (FR)

October 22, 2008

OUTLOOK FOR FOREIGN REAL GDP AND CONSUMER PRICES: SELECTED COUNTRIES
(Percent changes)

| | | | | | Projected | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2008 | | | | 2009 | | | | 2010 | | | |
| 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 | 2.3 | 1.1 | 0.5 | 0.5 | 0.7 | 1.0 | 1.6 | 2.0 | 2.5 | 2.8 | 3.0 | 3.2 |
| Advanced Foreign Economies | 1.0 | -0.3 | -0.3 | -0.7 | -0.4 | -0.1 | 0.6 | 1.0 | 1.4 | 1.7 | 1.9 | 2.0 |
| of which: | | | | | | | | | | | | |
| Canada | -0.8 | 0.3 | -0.3 | -0.5 | -0.3 | -0.0 | 0.5 | 0.9 | 1.5 | 1.7 | 1.8 | 2.2 |
| Japan | 2.8 | -3.0 | -0.2 | -0.9 | 0.0 | 0.2 | 0.6 | 0.8 | 1.2 | 1.2 | 1.3 | 1.3 |
| United Kingdom | 1.1 | 0.0 | -0.9 | -1.5 | -1.0 | -0.3 | 0.9 | 1.5 | 1.9 | 2.2 | 2.5 | 2.6 |
| Euro Area (2) | 2.7 | -0.7 | -0.3 | -0.9 | -0.8 | -0.4 | 0.3 | 0.9 | 1.2 | 1.6 | 1.8 | 1.8 |
| Germany | 5.2 | -2.0 | -0.4 | -1.1 | -1.0 | -0.4 | 0.4 | 1.0 | 1.2 | 1.6 | 1.8 | 1.9 |
| Emerging Market Economies | 4.0 | 3.0 | 1.5 | 2.1 | 2.2 | 2.5 | 2.9 | 3.2 | 3.8 | 4.2 | 4.5 | 4.7 |
| Asia | 8.0 | 3.2 | 2.1 | 3.7 | 3.8 | 4.1 | 4.7 | 5.1 | 5.6 | 5.9 | 6.0 | 6.1 |
| Korea | 3.3 | 3.4 | 0.8 | 1.0 | 1.5 | 2.0 | 2.4 | 3.0 | 3.6 | 3.9 | 4.0 | 4.1 |
| China | 11.7 | 9.9 | 4.3 | 8.9 | 8.1 | 8.1 | 8.4 | 8.6 | 8.9 | 9.1 | 9.1 | 9.1 |
| Latin America | -0.2 | 2.4 | 0.5 | 0.1 | 0.1 | 0.6 | 0.8 | 1.1 | 1.9 | 2.4 | 2.8 | 3.3 |
| Mexico | -0.5 | 0.6 | -0.5 | -0.6 | -0.7 | -0.1 | 0.1 | 0.4 | 1.4 | 1.9 | 2.5 | 3.0 |
| Brazil | 3.4 | 6.5 | 3.5 | 2.0 | 2.5 | 2.5 | 2.5 | 2.5 | 3.1 | 3.4 | 3.6 | 3.9 |
| CONSUMER PRICES (3) | Four-quarter changes | | | | | | | | | | | |
| Total Foreign | 4.1 | 4.7 | 4.8 | 4.0 | 3.3 | 2.5 | 1.9 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| Advanced Foreign Economies | 2.2 | 2.7 | 3.4 | 2.7 | 2.3 | 1.6 | 1.0 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |
| of which: | | | | | | | | | | | | |
| Canada | 1.8 | 2.3 | 3.3 | 2.7 | 2.6 | 1.5 | 0.7 | 1.1 | 1.2 | 1.4 | 1.4 | 1.5 |
| Japan | 1.0 | 1.4 | 2.1 | 1.7 | 1.3 | 0.8 | -0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 |
| United Kingdom (4) | 2.4 | 3.4 | 4.8 | 4.7 | 4.3 | 3.4 | 2.3 | 2.1 | 1.9 | 1.9 | 1.9 | 1.8 |
| Euro Area (2) | 3.4 | 3.6 | 3.8 | 2.8 | 2.2 | 1.8 | 1.6 | 1.9 | 1.9 | 1.9 | 1.8 | 1.7 |
| Germany | 3.1 | 3.0 | 3.3 | 2.2 | 1.8 | 1.6 | 1.3 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| Emerging Market Economies | 5.9 | 6.7 | 6.1 | 5.3 | 4.3 | 3.3 | 2.8 | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 |
| Asia | 6.5 | 7.1 | 6.0 | 4.8 | 3.5 | 2.5 | 2.3 | 2.6 | 2.6 | 2.6 | 2.7 | 2.7 |
| Korea | 3.8 | 4.8 | 5.5 | 5.0 | 4.7 | 3.2 | 2.5 | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 |
| China | 8.0 | 7.8 | 5.2 | 3.8 | 2.1 | 1.6 | 2.0 | 2.5 | 2.6 | 2.7 | 2.7 | 2.8 |
| Latin America | 4.5 | 5.5 | 6.1 | 6.0 | 5.6 | 4.7 | 3.8 | 3.6 | 3.5 | 3.5 | 3.4 | 3.4 |
| Mexico | 3.9 | 4.9 | 5.5 | 5.4 | 5.1 | 4.2 | 3.3 | 3.1 | 3.0 | 3.0 | 2.9 | 2.9 |
| Brazil | 4.6 | 5.5 | 6.3 | 6.2 | 5.8 | 5.2 | 4.7 | 4.9 | 4.8 | 4.8 | 4.7 | 4.6 |

1. Foreign GDP aggregates calculated using shares of U.S. exports.
2. Harmonized data for euro area from Eurostat.
3. Foreign CPI aggregates calculated using shares of U.S. non-oil imports.
4. CPI excluding mortgage interest payments, which is the targeted inflation rate.

OUTLOOK FOR FOREIGN REAL GDP AND CONSUMER PRICES: SELECTED COUNTRIES
(Percent, Q4 to Q4)

| Measure and country | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 (Projected) | 2009 (Projected) | 2010 (Projected) |
|---|---|---|---|---|---|---|---|---|---|
| REAL GDP (1) | | | | | | | | | |
| Total Foreign | 3.0 | 2.9 | 3.8 | 4.0 | 4.0 | 4.2 | 1.1 | 1.3 | 2.9 |
| Advanced Foreign Economies | 2.5 | 1.8 | 2.6 | 2.7 | 2.7 | 2.5 | -0.1 | 0.3 | 1.8 |
| of which: | | | | | | | | | |
| Canada | 3.5 | 1.5 | 3.7 | 3.0 | 2.2 | 2.8 | -0.3 | 0.3 | 1.8 |
| Japan | 2.0 | 2.4 | 1.1 | 2.9 | 2.5 | 1.4 | -0.3 | 0.4 | 1.3 |
| United Kingdom | 2.4 | 3.2 | 2.3 | 2.0 | 3.2 | 2.9 | -0.3 | 0.3 | 2.3 |
| Euro Area (2) | 1.1 | 1.2 | 1.7 | 2.1 | 3.3 | 2.1 | 0.2 | -0.0 | 1.6 |
| Germany | 0.0 | 0.2 | 0.2 | 1.6 | 4.1 | 1.7 | 0.4 | -0.0 | 1.6 |
| Emerging Market Economies | 3.9 | 4.5 | 5.5 | 5.8 | 5.7 | 6.4 | 2.6 | 2.7 | 4.3 |
| Asia | 6.4 | 6.9 | 6.0 | 7.6 | 7.0 | 7.8 | 4.2 | 4.4 | 5.9 |
| Korea | 7.7 | 4.1 | 2.9 | 5.6 | 4.2 | 5.9 | 2.1 | 2.2 | 3.9 |
| China | 8.6 | 10.3 | 9.8 | 10.2 | 10.6 | 11.3 | 8.7 | 8.3 | 9.0 |
| Latin America | 1.6 | 1.8 | 4.9 | 3.9 | 4.5 | 4.9 | 0.7 | 0.7 | 2.6 |
| Mexico | 2.0 | 1.3 | 4.4 | 3.4 | 3.7 | 4.2 | -0.2 | -0.1 | 2.2 |
| Brazil | 4.9 | 1.0 | 4.5 | 3.4 | 5.0 | 6.1 | 3.8 | 2.5 | 3.5 |
| CONSUMER PRICES (3) | | | | | | | | | |
| Total Foreign | 2.5 | 2.1 | 2.8 | 2.3 | 2.1 | 3.6 | 4.0 | 2.1 | 2.1 |
| Advanced Foreign Economies | 2.1 | 1.3 | 1.8 | 1.6 | 1.4 | 2.2 | 2.7 | 1.3 | 1.3 |
| of which: | | | | | | | | | |
| Canada | 3.8 | 1.7 | 2.3 | 2.3 | 1.3 | 2.4 | 2.7 | 1.1 | 1.5 |
| Japan | -0.5 | -0.3 | 0.5 | -1.0 | 0.3 | 0.5 | 1.7 | 0.0 | 0.1 |
| United Kingdom (4) | 1.5 | 1.3 | 1.4 | 2.1 | 2.7 | 2.1 | 4.7 | 2.1 | 1.8 |
| Euro Area (2) | 2.3 | 2.0 | 2.3 | 2.3 | 1.8 | 2.9 | 2.8 | 1.9 | 1.7 |
| Germany | 1.2 | 1.1 | 2.1 | 2.2 | 1.3 | 3.1 | 2.2 | 1.4 | 1.4 |
| Emerging Market Economies | 2.9 | 3.1 | 3.9 | 3.0 | 2.9 | 5.1 | 5.3 | 2.9 | 2.9 |
| Asia | 0.8 | 2.3 | 3.1 | 2.6 | 2.3 | 5.4 | 4.8 | 2.6 | 2.7 |
| Korea | 3.4 | 3.5 | 3.4 | 2.5 | 2.1 | 3.4 | 5.0 | 2.2 | 2.1 |
| China | -0.6 | 2.7 | 3.2 | 1.4 | 2.1 | 6.6 | 3.8 | 2.5 | 2.8 |
| Latin America | 6.4 | 4.9 | 5.7 | 3.8 | 4.1 | 4.3 | 6.0 | 3.6 | 3.4 |
| Mexico | 5.2 | 3.9 | 5.3 | 3.1 | 4.1 | 3.8 | 5.4 | 3.1 | 2.9 |
| Brazil | 10.7 | 11.5 | 7.2 | 6.1 | 3.2 | 4.3 | 6.2 | 4.9 | 4.6 |

1. Foreign GDP aggregates calculated using shares of U.S. exports.
2. Harmonized data for euro area from Eurostat.
3. Foreign CPI aggregates calculated using shares of U.S. non-oil imports.
4. CPI excluding mortgage interest payments, which is the targeted inflation rate.

OUTLOOK FOR U.S. INTERNATIONAL TRANSACTIONS

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 (Projected) | 2009 (Projected) | 2010 (Projected) |
|---|---|---|---|---|---|---|---|---|---|
| NIPA REAL EXPORTS and IMPORTS | | | | | | | | | |
| Percentage point contribution to GDP growth, Q4/Q4 | | | | | | | | | |
| Net Goods & Services | -0.9 | -0.1 | -0.9 | -0.1 | 0.4 | 0.8 | 1.3 | 0.2 | -0.2 |
| Exports of G&S | 0.4 | 0.6 | 0.7 | 0.7 | 1.1 | 1.0 | 0.9 | 0.4 | 0.5 |
| Imports of G&S | -1.3 | -0.7 | -1.7 | -0.8 | -0.6 | -0.2 | 0.4 | -0.1 | -0.7 |
| Percentage change, Q4/Q4 | | | | | | | | | |
| Exports of G&S | 3.8 | 5.8 | 7.4 | 7.0 | 10.1 | 8.9 | 6.9 | 2.8 | 3.9 |
| Services | 10.2 | 3.0 | 8.3 | 4.0 | 11.5 | 9.3 | 3.6 | -0.7 | 3.9 |
| Computers | -1.1 | 11.3 | 5.8 | 14.2 | 8.1 | 0.9 | 21.0 | 9.5 | 9.5 |
| Semiconductors | 10.1 | 38.3 | -6.0 | 17.6 | 2.9 | 29.3 | 6.1 | 11.0 | 11.0 |
| Core Goods 1/ | 0.6 | 4.9 | 8.0 | 7.4 | 10.0 | 8.2 | 8.1 | 3.8 | 3.5 |
| Imports of G&S | 9.7 | 4.8 | 11.5 | 4.8 | 3.8 | 1.1 | -2.4 | 0.9 | 4.3 |
| Services | 8.8 | 2.2 | 9.3 | -0.1 | 8.0 | 1.8 | 0.9 | 1.8 | 2.6 |
| Oil | 3.8 | 1.2 | 10.8 | 1.0 | -9.2 | 0.6 | -6.7 | -5.5 | 3.2 |
| Natural Gas | 19.5 | 1.3 | 4.9 | 13.7 | -12.6 | 12.1 | -20.1 | 7.3 | 0.8 |
| Computers | 13.2 | 17.0 | 23.2 | 12.5 | 13.8 | 8.4 | 10.4 | 15.5 | 15.5 |
| Semiconductors | 11.0 | -0.1 | 9.8 | 7.5 | -0.3 | 3.8 | 4.1 | 5.0 | 5.0 |
| Core Goods 2/ | 10.0 | 5.2 | 11.4 | 5.9 | 5.7 | 0.1 | -2.2 | 0.8 | 4.2 |
| Billions of Chained 2000 Dollars | | | | | | | | | |
| Net Goods & Services | -471.3 | -518.9 | -593.8 | -616.6 | -615.7 | -546.5 | -381.1 | -306.6 | -319.4 |
| Exports of G&S | 1013.3 | 1026.1 | 1126.1 | 1205.3 | 1314.8 | 1425.9 | 1551.3 | 1614.9 | 1666.7 |
| Imports of G&S | 1484.6 | 1545.0 | 1719.9 | 1821.9 | 1930.5 | 1972.4 | 1932.3 | 1921.6 | 1986.1 |
| Billions of dollars | | | | | | | | | |
| US CURRENT ACCOUNT BALANCE | -461.3 | -523.4 | -625.0 | -729.0 | -788.1 | -731.2 | -682.5 | -485.1 | -479.9 |
| Current Acct as Percent of GDP | -4.4 | -4.8 | -5.3 | -5.9 | -6.0 | -5.3 | -4.8 | -3.3 | -3.2 |
| Net Goods & Services (BOP) | -423.7 | -496.9 | -607.7 | -711.6 | -753.3 | -700.3 | -660.4 | -434.2 | -476.2 |
| Investment Income, Net | 33.0 | 51.0 | 73.4 | 78.8 | 63.8 | 88.8 | 106.5 | 74.3 | 119.6 |
| Direct, Net | 102.4 | 112.7 | 150.9 | 173.2 | 184.1 | 233.9 | 249.9 | 204.4 | 230.5 |
| Portfolio, Net | -69.4 | -61.7 | -77.5 | -94.4 | -120.3 | -145.1 | -143.4 | -130.0 | -110.9 |
| Other Income & Transfers,Net | -70.5 | -77.5 | -90.6 | -96.2 | -98.6 | -119.7 | -128.6 | -125.3 | -123.3 |

1. Merchandise exports excluding computers and semiconductors.
2. Merchandise imports excluding oil, natural gas, computers, and semiconductors.

Class II FOMC
Restricted (FR)

October 22, 2008

OUTLOOK FOR U.S. INTERNATIONAL TRANSACTIONS

| | 2005 | | | | 2006 | | | | 2007 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| NIPA REAL EXPORTS and IMPORTS | | | | | | | | | | | | |
| Percentage point contribution to GDP growth | | | | | | | | | | | | |
| Net Goods & Services | 0.3 | 0.8 | -0.1 | -1.3 | 0.1 | 0.6 | -0.1 | 1.3 | -1.2 | 1.7 | 2.0 | 0.9 |
| Exports of G&S | 0.8 | 0.9 | 0.0 | 1.1 | 1.7 | 0.6 | 0.4 | 1.7 | 0.1 | 1.0 | 2.5 | 0.5 |
| Imports of G&S | -0.5 | -0.1 | -0.1 | -2.4 | -1.6 | 0.0 | -0.5 | -0.3 | -1.2 | 0.7 | -0.5 | 0.4 |
| Percentage change from previous period, s.a.a.r. | | | | | | | | | | | | |
| Exports of G&S | 8.1 | 8.8 | 0.4 | 10.9 | 16.7 | 5.5 | 3.5 | 15.6 | 0.6 | 8.8 | 23.0 | 4.4 |
| Services | 10.2 | -2.8 | 3.2 | 5.7 | 13.4 | 2.7 | 3.2 | 28.6 | -2.7 | 13.3 | 25.9 | 2.7 |
| Computers | 16.8 | 27.9 | 8.3 | 5.2 | 12.0 | 17.5 | -7.9 | 12.7 | 3.9 | -4.0 | 14.4 | -9.2 |
| Semiconductors | -5.2 | 11.7 | 30.7 | 38.0 | 20.3 | 16.1 | -5.6 | -15.0 | 15.9 | 23.7 | 20.5 | 61.7 |
| Core Goods 1/ | 7.3 | 13.8 | -2.9 | 12.4 | 18.3 | 5.6 | 4.8 | 11.8 | 1.3 | 6.6 | 22.1 | 3.7 |
| Imports of G&S | 3.2 | 0.6 | 0.8 | 15.3 | 10.3 | 0.1 | 3.1 | 2.0 | 7.7 | -3.7 | 3.0 | -2.3 |
| Services | -5.7 | -0.0 | -1.0 | 6.8 | 17.7 | -2.0 | -0.3 | 18.4 | 4.2 | -2.0 | 6.3 | -0.9 |
| Oil | 5.1 | -27.1 | -11.6 | 53.6 | -2.8 | -27.1 | 7.5 | -10.6 | 30.9 | -22.3 | -13.5 | 16.5 |
| Natural Gas | 58.6 | -14.1 | 111.1 | -41.9 | -50.7 | 91.9 | 26.6 | -51.2 | 70.8 | 74.2 | 28.2 | -58.6 |
| Computers | 3.2 | 11.6 | 20.4 | 15.4 | 20.7 | 21.1 | 19.7 | -4.3 | 34.9 | -6.5 | -0.2 | 9.7 |
| Semiconductors | -9.2 | 7.7 | 14.0 | 20.0 | 0.2 | -0.5 | 17.7 | -15.8 | 1.2 | 6.7 | 1.0 | 6.4 |
| Core Goods 2/ | 4.8 | 6.1 | 0.3 | 12.7 | 13.7 | 4.9 | 1.2 | 3.2 | 2.2 | -1.1 | 5.8 | -6.0 |
| Billions of Chained 2000 Dollars, s.a.a.r. | | | | | | | | | | | | |
| Net Goods & Services | -623.7 | -601.3 | -603.6 | -637.8 | -636.0 | -619.4 | -623.0 | -584.2 | -618.6 | -571.2 | -511.8 | -484.5 |
| Exports of G&S | 1177.9 | 1203.1 | 1204.3 | 1235.7 | 1284.3 | 1301.4 | 1312.6 | 1361.1 | 1363.2 | 1392.2 | 1466.2 | 1482.1 |
| Imports of G&S | 1801.7 | 1804.4 | 1807.9 | 1873.6 | 1920.2 | 1920.9 | 1935.7 | 1945.3 | 1981.8 | 1963.4 | 1978.0 | 1966.5 |
| Billions of dollars, s.a.a.r. | | | | | | | | | | | | |
| US CURRENT ACCOUNT BALANCE | -696.2 | -711.3 | -675.6 | -832.9 | -783.8 | -799.6 | -843.6 | -725.4 | -787.7 | -776.4 | -691.8 | -669.0 |
| Current Account as % of GDP | -5.7 | -5.8 | -5.4 | -6.6 | -6.0 | -6.1 | -6.4 | -5.4 | -5.8 | -5.7 | -5.0 | -4.8 |
| Net Goods & Services (BOP) | -664.0 | -682.9 | -721.4 | -778.0 | -756.4 | -767.4 | -789.9 | -699.5 | -718.2 | -715.3 | -672.5 | -695.1 |
| Investment Income, Net | 88.6 | 77.8 | 88.7 | 59.9 | 65.2 | 70.7 | 51.7 | 67.7 | 57.8 | 45.8 | 98.9 | 152.6 |
| Direct, Net | 170.2 | 168.5 | 187.8 | 166.3 | 177.2 | 189.2 | 171.9 | 198.2 | 201.1 | 196.2 | 238.8 | 299.3 |
| Portfolio, Net | -81.6 | -90.7 | -99.0 | -106.5 | -112.0 | -118.5 | -120.3 | -130.5 | -143.2 | -150.4 | -139.9 | -146.7 |
| Other Inc. & Transfers, Net | -120.9 | -106.2 | -42.9 | -114.8 | -92.6 | -103.0 | -105.4 | -93.6 | -127.4 | -106.9 | -118.3 | -126.4 |

1. Merchandise exports excluding computers and semiconductors.
2. Merchandise imports excluding oil, natural gas, computers, and semiconductors.

Class II FOMC
Restricted (FR)

October 22, 2008

OUTLOOK FOR U.S. INTERNATIONAL TRANSACTIONS

| | 2008 | | | | 2009 (Projected) | | | | 2010 (Projected) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 | 2.9 | 1.2 | 0.4 | 0.6 | 0.5 | 0.2 | -0.3 | -0.7 | 0.4 | 0.0 | -0.5 |
| Exports of G&S | 0.6 | 1.5 | 1.0 | 0.4 | 0.6 | 0.3 | 0.3 | 0.4 | 0.4 | 0.5 | 0.6 | 0.7 |
| Imports of G&S | 0.1 | 1.4 | 0.2 | 0.1 | 0.0 | 0.2 | -0.2 | -0.7 | -1.1 | -0.1 | -0.6 | -1.1 |
| *Percentage change from previous period, s.a.a.r.* | | | | | | | | | | | | |
| Exports of G&S | 5.1 | 12.3 | 8.0 | 2.6 | 4.5 | 1.8 | 2.3 | 2.7 | 3.2 | 3.7 | 4.1 | 4.7 |
| Services | 6.4 | 3.8 | 7.3 | -2.7 | -2.3 | -1.5 | -0.1 | 1.0 | 2.3 | 3.4 | 4.5 | 5.3 |
| Computers | 0.4 | 57.4 | 23.7 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 |
| Semiconductors | 4.6 | -6.8 | 17.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| Core Goods 1/ | 4.7 | 16.1 | 7.5 | 4.5 | 7.2 | 2.7 | 2.7 | 2.8 | 3.1 | 3.3 | 3.4 | 4.0 |
| Imports of G&S | -0.8 | -7.3 | -1.0 | -0.3 | -0.0 | -1.3 | 0.9 | 4.1 | 6.7 | 0.4 | 3.3 | 6.9 |
| Services | 5.5 | -8.0 | 9.3 | -2.4 | 2.2 | 2.6 | 1.6 | 0.8 | 5.5 | -1.7 | 3.0 | 3.7 |
| Oil | 17.6 | -38.1 | -3.0 | 7.3 | -2.8 | -19.9 | -12.1 | 16.6 | 23.0 | -18.3 | -8.5 | 23.4 |
| Natural Gas | -40.5 | 3.7 | -46.4 | 23.3 | 16.0 | 27.5 | 41.6 | -36.7 | 2.5 | 18.1 | 38.5 | -38.3 |
| Computers | 6.3 | 26.0 | -3.9 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| Semiconductors | -3.3 | 14.4 | 1.2 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Core Goods 2/ | -6.4 | 2.4 | -1.5 | -3.3 | -1.3 | 0.1 | 1.8 | 2.7 | 3.4 | 4.0 | 4.5 | 5.0 |
| *Billions of Chained 2000 Dollars, s.a.a.r.* | | | | | | | | | | | | |
| Net Goods & Services | -462.0 | -381.3 | -346.3 | -334.6 | -317.1 | -303.4 | -298.8 | -307.3 | -326.1 | -313.1 | -312.3 | -326.2 |
| Exports of G&S | 1500.6 | 1544.7 | 1574.9 | 1584.8 | 1602.3 | 1609.6 | 1618.6 | 1629.3 | 1642.3 | 1657.2 | 1674.0 | 1693.3 |
| Imports of G&S | 1962.6 | 1926.0 | 1921.1 | 1919.5 | 1919.4 | 1913.0 | 1917.4 | 1936.6 | 1968.4 | 1970.3 | 1986.3 | 2019.5 |
| *Billions of dollars, s.a.a.r.* | | | | | | | | | | | | |
| US CURRENT ACCOUNT BALANCE | -702.6 | -732.6 | -728.6 | -566.3 | -520.5 | -479.2 | -466.3 | -474.4 | -495.5 | -472.1 | -466.8 | -485.2 |
| Current Account as % of GDP | -5.0 | -5.1 | -5.1 | -3.9 | -3.6 | -3.3 | -3.2 | -3.2 | -3.3 | -3.2 | -3.1 | -3.2 |
| Net Goods & Services (BOP) | -708.4 | -722.2 | -712.0 | -498.9 | -441.4 | -425.9 | -425.1 | -444.3 | -477.3 | -464.7 | -469.2 | -493.5 |
| Investment Income, Net | 140.0 | 116.5 | 104.3 | 65.1 | 54.3 | 69.2 | 81.4 | 92.5 | 104.4 | 115.2 | 125.0 | 133.9 |
| Direct, Net | 281.0 | 255.4 | 252.9 | 210.2 | 197.1 | 201.7 | 205.9 | 212.8 | 220.3 | 228.0 | 234.4 | 239.4 |
| Portfolio, Net | -141.0 | -138.9 | -148.6 | -145.1 | -142.8 | -132.4 | -124.5 | -120.3 | -115.9 | -112.8 | -109.5 | -105.5 |
| Other Inc. & Transfers, Net | -134.2 | -126.9 | -121.0 | -132.6 | -133.4 | -122.6 | -122.6 | -122.6 | -122.6 | -122.6 | -122.6 | -125.6 |

1. Merchandise exports excluding computers and semiconductors.
2. Merchandise imports excluding oil, natural gas, computers, and semiconductors.

# BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

DIVISION OF RESEARCH AND STATISTICS

**Date:** October 24, 2008

**To:** Federal Open Market Committee

**From:** Dave Stockton

**Subject:** Corrections to Part I of the Greenbook

The text of Part I of the October Greenbook has two errors. First, the last three sentences of the paragraph that starts at the top of page 14 were inadvertently truncated. The full paragraph should read as follows:

> The trough in residential construction activity is now projected to be deeper next year than we had built into the September Greenbook. With employment projected to decline through next year and household balance sheets under considerable stress, we anticipate that a recovery in housing demand will be slower to take hold despite the increasing affordability of homes. Accordingly, we have marked down our forecast for single-family housing starts next year by about 110,000 units to 460,000 units, a pace sufficient to sharply reduce—but not eliminate—the overhang of unsold new homes by year-end. In 2010, we expect the lower house prices, the faster projected pace of income growth, and the expected decline in mortgage rates to contribute to a gradual firming in housing demand, which, with a lag, causes new construction to turn up as well. As a result, single-family housing starts are projected to rise to an annual rate of 700,000 units by the fourth quarter of 2010. Consistent with these projections, we expect residential investment to decline 16 percent next year and to rise 13 percent the following year.

Second, in the discussion of the alternative scenario, “More rapid financial recovery,” the text on page 24 incorrectly states that the scenario’s more favorable financial conditions cause the federal funds rate to fall briefly to ½ percent in 2009. In fact, the federal funds rate falls to only 1 percent in 2009 in the simulation. The table and chart summarizing the alternative scenarios on pages 22 and 28 are correct, however.