Prefatory Note

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

Please note that some material may have been redacted from this document if that material was received on a confidential basis. Redacted material is indicated by occasional gaps in the text or by gray boxes around non-text content. All redacted passages are exempt from disclosure under applicable provisions of the Freedom of Information Act.

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Class II FOMC – Restricted (FR)

Report to the FOMC on Economic Conditions and Monetary Policy

Book A

Economic and Financial Conditions: Current Situation and Outlook

August 4, 2010

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

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Domestic Economic Developments and Outlook

The information that we have received since the June Tealbook suggests that economic activity is expanding at a slower pace than we were projecting. After folding in data received subsequent to last week's GDP release, we estimate that real GDP rose at an annual rate of about 2 percent in the second quarter, an increase that is about ¼ percentage point less than the BEA reported last week and 1½ percentage points less than our forecast in June.[1] Moreover, based on the incoming indicators, the economy seems to be on track for a disappointing gain in the third quarter as well. Much of the unexpected weakness has been in the household sector, where consumer spending and housing demand now appear to be on lower trajectories than we had previously projected, and where consumer confidence has turned down recently. But conditions in the business sector seem to have softened as well: Although business investment in equipment and software posted another robust increase last quarter, private employment gains have moderated in recent months, factory output faltered at the end of the second quarter, and many forward-looking indicators for business investment and production have moved down. Overall, we have marked down our forecast for real GDP growth in the second half to an average annual rate of 2½ percent, ½ percentage point less than in the June Tealbook.

Despite the softer tone of the incoming data, we continue to think that conditions are in place for a moderate recovery over the medium term. Indeed, if anything, financial conditions appear slightly more supportive of economic growth than in June, with interest rates and the exchange value of the dollar lower, and household net worth slightly higher, than at the time of the last Tealbook. All told, we expect real GDP to step up to a 3.6 percent rate of growth in 2011, as the boost from accommodative monetary policy, a gradual easing in credit constraints, and eventual improvements in household and business confidence more than outweighs the waning effects on activity from fiscal stimulus. Given the weaker near-term trajectory in this forecast, the unemployment rate is now projected to remain at about its second-quarter average of 9¾ percent through the end of this year before declining to a little under 9 percent at the end of 2011, about ¼ percentage point higher than in the June Tealbook.

[1] The annual revision to the national income and product accounts (NIPA) included a sizable downward adjustment to real GDP from 2007 to 2009. As a result, the recession now looks deeper than previously estimated, and the level of real GDP at the end of 2009 is now reported to be 1 percent lower. Additional details on the revisions are included in the appendix at the end of this section.

Recent readings on consumer price inflation have come in a little to the high side of our expectations, which—combined with the higher path for oil prices and the modestly weaker dollar—led us to make a small upward adjustment to our projection for consumer price inflation. That said, the basic contour of our price forecast is essentially unchanged: The anticipated downward pressure on inflation created by the large amount of economic slack is projected to be tempered significantly by well-anchored inflation expectations. Thus, we now project that core PCE prices will rise a little more than 1 percent this year and a little less than 1 percent next year, compared with our previous projection for increases of ¾ percent in both years. Oil prices have begun to move back up, and with moderate increases projected for energy prices in coming quarters, we expect overall inflation to run slightly above core inflation over the forecast period.

KEY BACKGROUND FACTORS

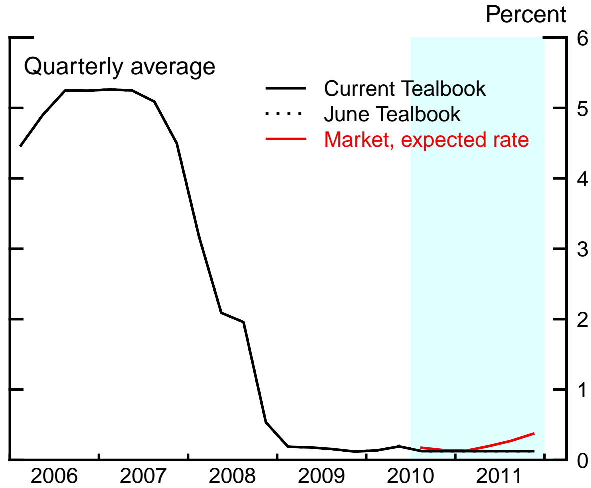
Monetary Policy

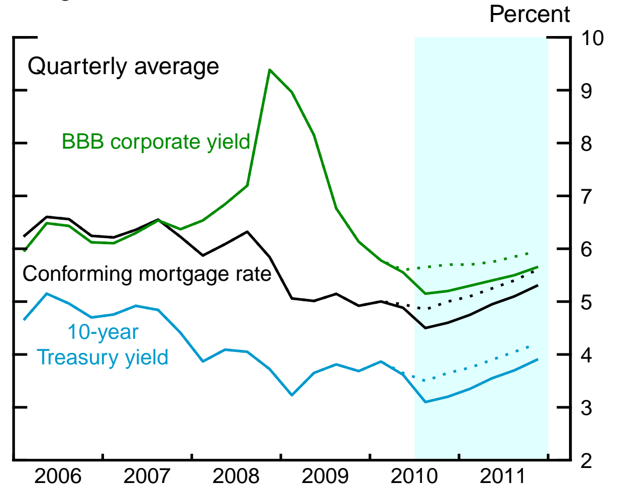
We continue to assume that the FOMC will hold the target federal funds rate in the current range of 0 to ¼ percent through the end of next year. The liftoff from this range is assumed to occur in the fall of 2012, one quarter later than in the June Tealbook. We have made no substantial changes to our assumptions for nontraditional policy actions. We continue to assume that the Federal Reserve will begin selling agency debt and MBS at a gradual pace in the first part of 2013 after having allowed these securities to run off passively until then. Nevertheless, we now project that the System's holdings of agency MBS will be about $120 billion less at the end of 2011 than assumed in the June Tealbook, because the lower level of mortgage rates in this projection accelerates the pace of prepayments.

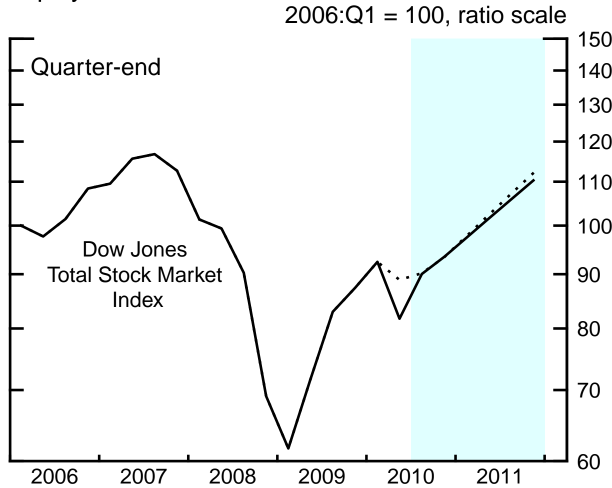
Financial Conditions

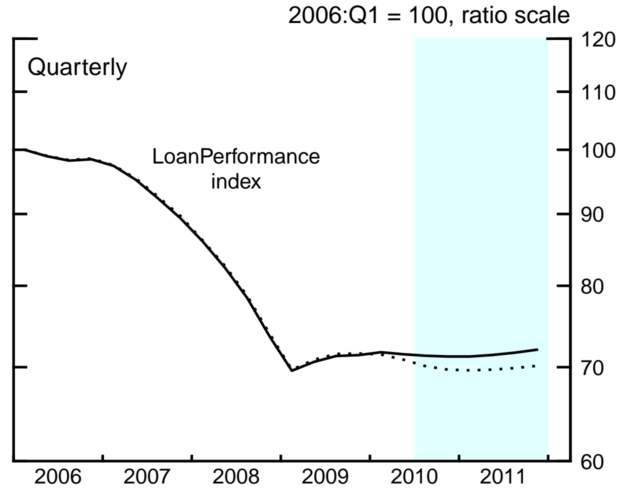
The 10-year Treasury yield has declined about 40 basis points since the time of the June Tealbook, reflecting economic data that were weaker than market participants had expected and FOMC communications that highlighted downside risks to the outlook. Going forward, we anticipate that the 10-year Treasury yield will increase about 80 basis points to a bit under 4 percent by the end of 2011. As in the previous forecast, the upward tilt reflects several factors, including the gradual movement of the 10-year valuation window through the period of near-zero short-term rates, the expectation of further substantial debt issuance by the Treasury in coming years, and the upward

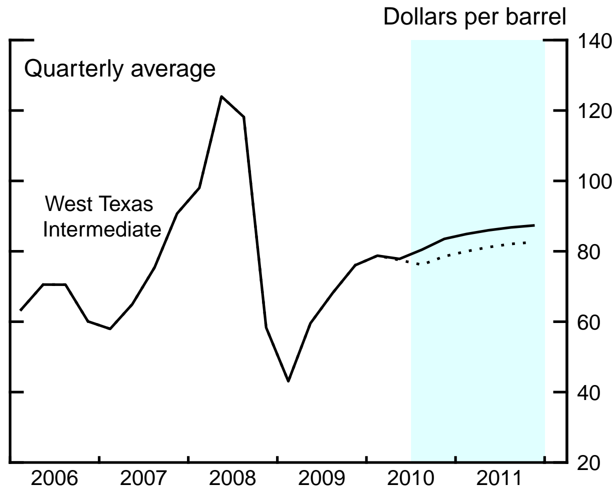
Key Background Factors Underlying the Baseline Staff Projection

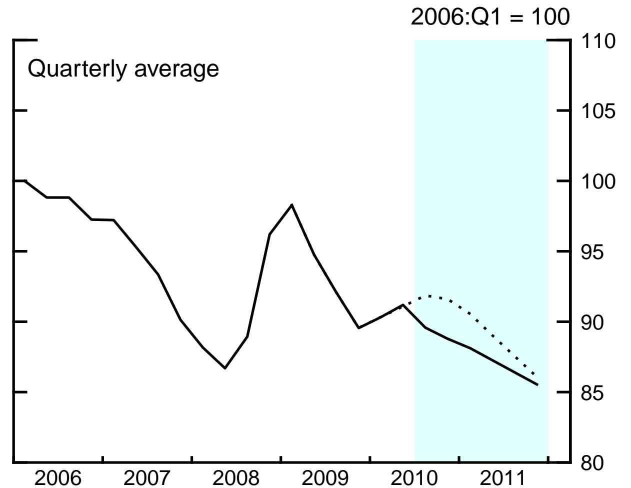












Note: Shading represents the projection period, which begins in 2010:Q3. In the upper–left panel that reports the federal funds rate, the black dotted line is not apparent because the paths of the federal funds rate in the June and the current Tealbooks are the same.

pressure on Treasury yields from the anticipated decrease in the System's holdings of longer-term securities.

Conforming fixed mortgage rates have decreased about in line with the 10-year Treasury yield and now stand at about 4½ percent. We have shifted down the projected path of mortgage rates in response, but we continue to expect them to rise with Treasury yields, reaching about 5¼ percent by the end of 2011. Yields on BBB-rated corporate bonds have fallen somewhat more than the 10-year Treasury yield and are ½ percentage point below the level we had assumed in the June Tealbook. As in previous projections, we expect the BBB bond yield to move up through 2011, though by less than Treasury yields, as corporate bond spreads are anticipated to narrow somewhat further.

The Dow Jones Total U.S. Stock Market Index is at about the level we had expected in the June Tealbook, and the path for stock prices through 2011 is essentially unchanged. With the equity premium remaining well above longer-run norms, we project that stock prices will rise at an average annual rate of 16 percent, as the implied equity premium moves toward a more typical level.

Recent readings on house prices have been firmer than we had expected, and in response, we have removed most of the price decline we had anticipated for this year. As a result, we now project house prices to be about unchanged, on net, over the projection period, leaving the price level at the end of 2011 nearly 3 percent above that assumed in the June Tealbook.

Fiscal Policy

We made a few minor changes to our assumptions about fiscal policy. As expected, the Congress extended emergency unemployment compensation (EUC) benefits through November. However, that extension did not include a stimulus provision that had been adding an extra $25 per week to all unemployment insurance benefits; as a result, our projected path of transfer payments is about $12 billion (annual rate) lower from the current quarter through the end of next year. Reflecting recent congressional developments, we also dropped our assumption that an additional $25 billion of federal grants-in-aid would be provided to state and local governments. Because of these policy changes, we now expect that federal fiscal policy will provide a touch less impetus to aggregate demand than we had anticipated in our June forecast. Our assumptions regarding other federal policies are the same as in June, including our

assumption that many provisions of the 2001–03 tax cuts for high-income households will be allowed to expire at the end of this year, and that the maximum duration of EUC benefits will be scaled back next year. All told, we continue to expect that the support to economic activity from federal fiscal policy will wane over the projection period. (See the box on fiscal policy for further discussion.)

Our forecast calls for a unified federal budget deficit that is a touch narrower than in the June Tealbook. This revision reflects both the lower outlays consistent with our revised policy assumptions and higher-than-expected corporate tax payments in recent months that are expected to persist. Nevertheless, the federal deficit is anticipated to remain at about $1.3 trillion in both fiscal year 2010 (around 9 percent of GDP) and fiscal 2011 (at 8½ percent of GDP). We expect no significant improvement in the deficit next year because the projected boost to receipts from the continuing economic recovery and the winding down of some stimulus-related spending are mostly offset by anticipated increases in other outlays.

The Foreign Outlook and the Dollar

We project that foreign GDP growth will step down from an annual rate of 4¾ percent in the first half of this year to roughly 3¼ percent over the remainder of this year and in 2011, as the recovery matures and policy stimulus is gradually removed. In Europe, indicators have shown surprising resilience and the results of the bank stress tests have helped allay investor concerns, leading us to mark up the near-term outlook there a bit. However, we continue to project that fiscal consolidation in a number of European economies and financial uncertainties, particularly in the more vulnerable of these economies, will weigh on growth in the region over the forecast period. Meanwhile, in China, GDP growth in the second quarter slowed somewhat more than we had anticipated, as the tightening measures put in place by the authorities seem to be taking hold a bit more quickly, and we have carried this more moderate trajectory into our near-term forecast. With the slightly greater near-term momentum in Europe balancing the slightly softer near-term outlook for China, our forecast for overall foreign growth is roughly unchanged from that in the June Tealbook.

Since the June forecast, the dollar has declined about 3 percent on a trade-weighted basis against a broad set of currencies. This decline reflected better-than-expected foreign economic data, particularly in Europe, as well as some weaker-than-expected U.S. economic data, and was reinforced by some reversal of flight-to-safety

The Effects of Fiscal Policy on the Economy

Fiscal policy has provided significant support to economic activity during the past two years, reflecting both discretionary fiscal policy actions, such as the American Recovery and Reinvestment Act of 2009 (ARRA), and the influence of automatic stabilizers—the changes in government revenues and outlays that occur endogenously over the business cycle. During the remainder of the projection period, however, we estimate that the support from both types of fiscal policies—summed across all levels of government—will wane. Although we are comfortable with the broad contour of the macroeconomic effects implied by our analysis, considerable uncertainty surrounds the precise magnitude and timing of the support to economic activity from fiscal policy.

Our analysis starts with the staff's measure of fiscal impetus (FI), which is an estimate of the direct effects of discretionary fiscal policy actions on aggregate demand. Changes in aggregate demand captured by FI reflect the increase in purchases of goods and services by governments as well as the direct changes in demand from households and firms resulting from policy initiatives affecting taxes and transfer payments.

In the case of taxes and transfers, FI's estimates of consumer spending effects are derived from econometric evidence suggesting that household spending responds less, and more gradually, to tax changes than to changes in transfers. With regard to the temporary boost to grants-in-aid to state and local governments from the ARRA, our estimates of impetus assume—based on survey evidence—that these governments have been phasing in their response over time in order to avoid a sharp drop-off in outlays when those grants end. Importantly, in the case of the ARRA, the lagged spending effects assumed by the staff are more drawn out than those apparently assumed in the analysis of some other public and private forecasters.

The table below shows the staff's estimates of the effect of FI on the change in real GDP from 2008 through 2011, measured on a Q4-over-Q4 basis. Federal FI includes not only the effects of the ARRA, but also the effects of other policy changes such as the stimulus package enacted in 2008, extensions of emergency unemployment compensation, and ongoing increases in real federal purchases of goods and services. Federal FI also includes the effects of changes in state and local purchases prompted by changes in federal grants-in-aid. All told, we estimate that federal FI (line 2) boosted the rate of change in real GDP about 1¼ percentage points last year and will provide a lift to GDP growth of about ½ percentage point this year; we expect federal FI to exert a drag of about ½ percentage point on

Fiscal Impetus

(Percentage point contribution to rate of change in real GDP, Q4/Q4 basis)

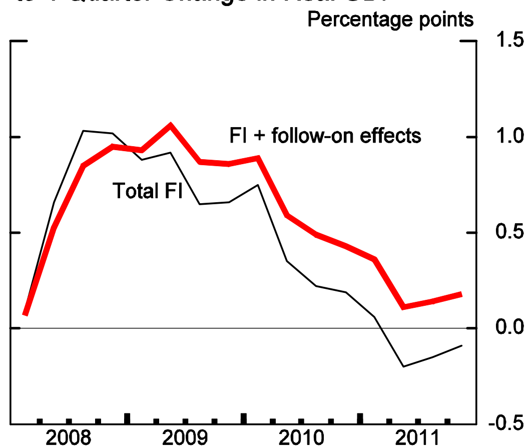
Category	2008	2009	2010	2011
1. Total	1.0	.7	.2	.0
2. Federal	1.1	1.3	.6	-.4
Of which: Grants to state and local	.0	.5	.2	-.3
3. State and local (excluding effects of grants)	-.1	-.6	-.3	.4
Memo:				
State and local (including effects of grants)	-.1	-.1	-.1	.1

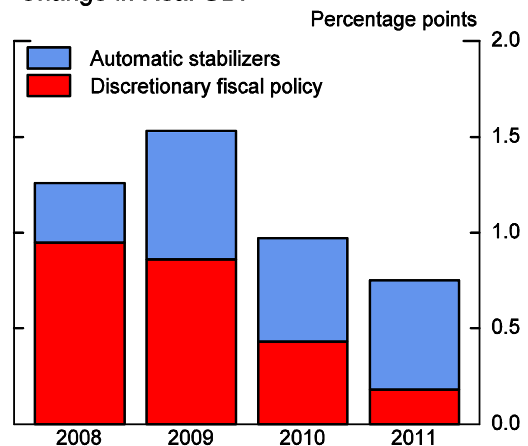
real GDP growth next year as stimulus policies wind down. State and local FI (line 3) shows the restraint on aggregate demand imposed by the policy reactions of these governments to the tight budget conditions they face; to avoid double counting, state and local FI does not include the effects of federal grants-in-aid. We estimate that changes in state and local fiscal policies reduced the rate of change in real GDP ½ percentage point last year, and they are expected to lower GDP growth by ¼ percentage point this year. However, these effects are anticipated to boost real GDP growth ½ percentage point next year as the economy continues to recover and state and local budget conditions improve.

The direct impetus to aggregate demand measured by FI is augmented by follow-on effects as spending responds further to the endogenous changes in income, wealth, and other factors. The lower-left figure shows our estimates of total government FI (the black line) and total FI including follow-on effects (the red line), with the follow-on effects estimated using the staff's FRB/US model. After including follow-on effects, all discretionary fiscal policy actions are estimated to have increased the rate of change in real GDP about 1 percentage point last year and will add about ½ percentage point this year and ¼ percentage point next year.

Automatic stabilizers—the decrease in taxes and increase in transfer payments that occur endogenously in a recession at all levels of government—have also supported economic activity. As shown by the blue portion of the bars in the lower-right figure, automatic stabilizers (including their follow-on effects) are estimated to have added ¾ percentage point to the rate of change in real GDP in 2009 and will add about ½ percentage point to real GDP growth both this year and next year.

The lower-right figure shows the combined effects of the automatic stabilizers and discretionary policy actions at all levels of government (including follow-on effects). Overall fiscal policy boosted the rate of change in real GDP about 1½ percentage points in 2009 and will add roughly 1 percentage point this year and ¾ percentage point next year.





flows as financial system strains in Europe diminished. Although the release of the European stress tests and several oversubscribed European sovereign debt auctions appear to have had a positive effect on investor sentiment, we continue to expect that financial conditions will remain unsettled through the end of this year and that the dollar will remain near current levels over this period. In 2011, as European officials make further headway in addressing fiscal problems and as banking sector uncertainties recede, the broad real dollar is projected to depreciate again, at around a 3½ percent pace, leaving the path for the dollar somewhat lower than in the June forecast. However, slowing growth in China and the tepid pace of renminbi appreciation since the announcement that the currency would be more flexible led us to scale back our assumption as to how much the renminbi will be allowed to appreciate against the dollar.

Oil and Other Commodity Prices

Oil prices have moved up since the time of the June Tealbook. The spot price of West Texas Intermediate (WTI) oil settled on August 3 at $82.55 per barrel, nearly $7.50 higher than at the time of the June forecast, boosted in part by improving economic news from Europe and the lower dollar. Prices of futures contracts dated for delivery through the end of 2011 have moved up by less than the spot price. Consistent with these futures prices, we now project that the spot price of WTI will rise to more than $87 per barrel by the end of 2011, nearly $5 higher than in our previous forecast. In contrast, the far-dated futures price for delivery in 2018 is only slightly higher than in the June forecast, settling at about $96 per barrel as of August 3.

Prices for metals have risen briskly in recent weeks, although these gains have not fully retraced the price declines in April and May that occurred amid growing market concerns about economic prospects in Europe and reduced demand from China. Food prices, which did not decline much in April and May, also have moved higher in recent weeks, with concerns about droughts overseas boosting wheat prices about 40 percent since the time of the June Tealbook. We estimate that given these higher food prices, our index of nonfuel commodity prices will increase in the third quarter, an upward revision since the previous Tealbook. Thereafter, consistent with quotes from futures markets, we project nonfuel commodity prices to edge up only slightly.

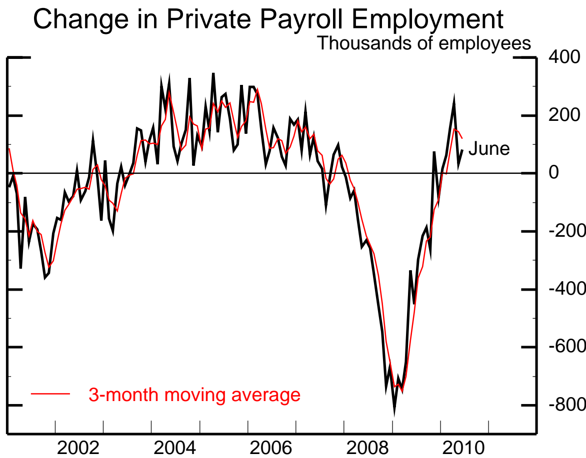
Recent Developments and the Near-Term Outlook

Economic activity appears to be on a somewhat weaker upward trajectory than we were projecting in June. We estimate that real GDP rose at an annual rate of about

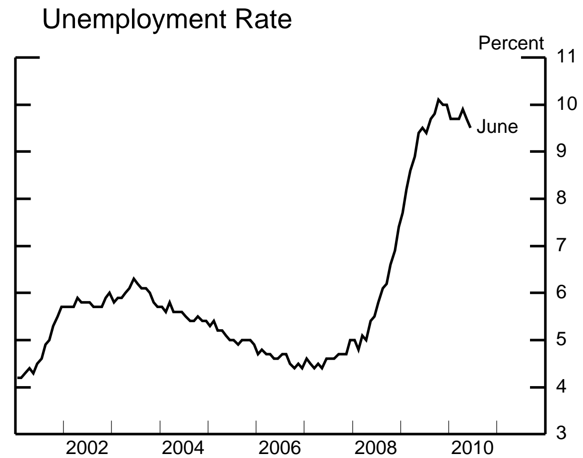
Summary of the Near-Term Outlook
(Percent change at annual rate except as noted)

Measure	2010:Q2 Previous Tealbook	2010:Q2 Current Tealbook	2010:Q3 Previous Tealbook	2010:Q3 Current Tealbook
Real GDP	**3.6**	**2.1**	**2.7**	**2.4**
Private domestic final purchases	4.5	4.3	2.5	1.5
Personal consumption expenditures	2.9	1.6	2.2	1.6
Residential investment	18.7	28.5	-5.5	-8.6
Nonres. structures	-.8	4.8	-2.2	.6
Equipment and software	20.3	26.1	10.4	3.9
Federal purchases	6.9	9.2	5.2	4.3
State and local purchases	-.6	1.4	.0	-.5
	Contribution to change in real GDP (percentage points)			
Inventory investment	-.3	.6	.6	.8
Net exports	-.2	-2.9	-.3	.1

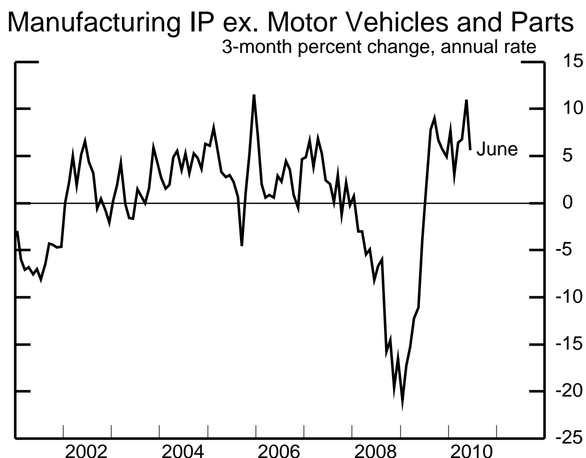
Recent Nonfinancial Developments (1)



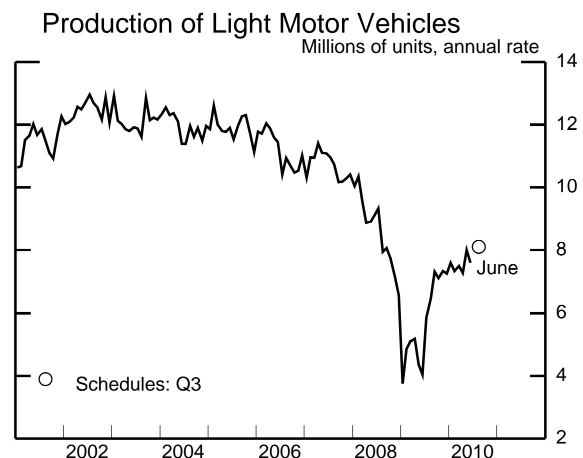
Source: U.S. Dept. of Labor, Bureau of Labor Statistics.



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



Source: Federal Reserve Board, G.17 Statistical Release, "Industrial Production and Capacity Utilization."



Note: Schedules data are from Ward's Communications.
Source: Ward's Auto Infobank.

2.1 percent in the second quarter—¼ percentage point less than the BEA reported last week—after having increased 3.7 percent in the first quarter. Businesses continued to rebuild inventories during the spring, and investment in equipment and software jumped for a third consecutive quarter. However, consumer spending rose only modestly, and, apart from a transitory boost to activity associated with the expiration of the homebuyer tax credit, housing construction continued to be lackluster. Moreover, imported goods apparently accounted for a sizable share of the increases in both household and business purchases, and despite another strong increase in exports, net exports subtracted nearly 3 percentage points from the change in real GDP last quarter. Given the more downbeat tone of the recent spending and production data and an apparent increase in concerns among businesses and households about the sustainability of the recovery, we now expect real GDP growth to continue at a 2½ percent pace over the second half of this year and the unemployment rate to remain at the second-quarter average of 9¾ percent through year-end. In this economic environment, inflation is projected to remain low.

Labor Markets

The labor market continued to improve in the second quarter, albeit at a more subdued pace than expected in the June forecast. After increasing at an average monthly pace of 100,000 jobs over the first five months of the year, private employment rose 80,000 in June, about half as large a gain as we were anticipating.[2] The average number of hours worked per week also came in below expectations in June, although it had ticked up in the second quarter overall.

Most other labor market indicators also point to a more gradual improvement in the labor market than we were projecting in June. Initial claims for unemployment insurance have remained high in recent weeks, indicators of job vacancies and hiring remain quite low, and household expectations about future labor market conditions have softened since the June Tealbook. Consequently, we now expect private payrolls to increase at an average pace of about 125,000 per month in the third quarter, roughly 75,000 less than in our June projection.

The net gains in employment have not been enough to appreciably lower the unemployment rate. Although the unemployment rate edged down in June, we view that

[2] Nonfarm payroll employment fell 125,000 in June, but this decline included the end of 225,000 temporary census jobs. We expect the winding down of the decennial census to subtract about 125,000 workers from government payrolls in July; the remaining 200,000 workers will fall off the Census payroll by the end of September.

decline as transitory and expect that it will move back up to 9¾ percent in the third quarter, the same as its second-quarter average.

The Industrial Sector

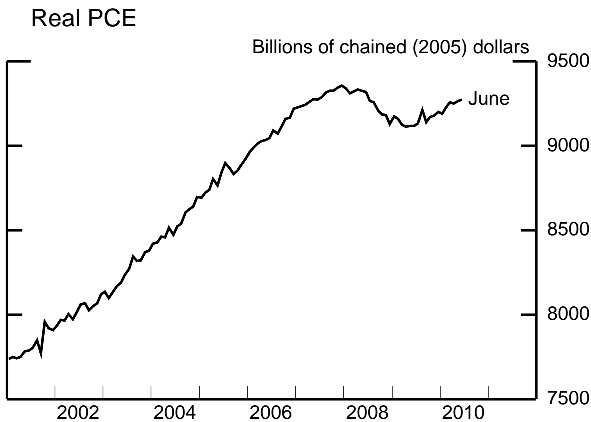
Industrial production (IP) rose an annual rate of 6½ percent in the second quarter as a whole, its fourth consecutive quarter of sizable gains. But production ended the quarter on a weak note as manufacturing output fell ½ percent in June. Although we had anticipated a deceleration in manufacturing IP as the impetus to production from inventory rebuilding diminished, most recent indicators of near-term manufacturing activity have been softer than expected. Two exceptions are the motor vehicle sector, where automakers have stepped up production in the third quarter to replenish depleted dealer stocks, and the high-tech sector, where global demand appears solid. All told, we now project that manufacturing output will increase at an annual rate of just 2½ percent in the second half of this year, roughly 3½ percentage points less than in the June Tealbook.

Household Spending

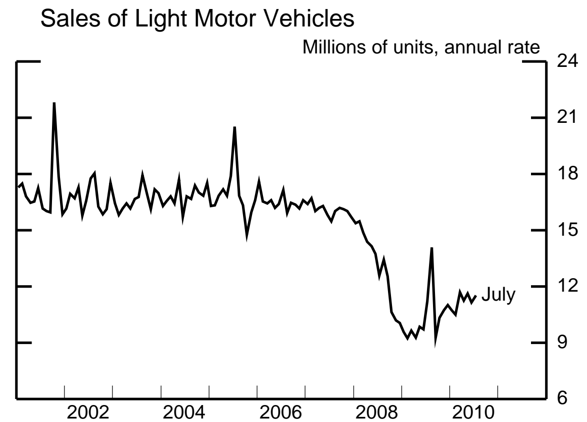
Real consumer spending increased at an annual rate of 1½ percent in the second quarter after increasing 2 percent in the first quarter, figures that were considerably weaker than expected in the June Tealbook. These tepid gains in consumer spending, coupled with the downward adjustments in the NIPA revisions to consumer spending during the 2007–09 period, led to a marked upward revision to the level of the personal saving rate in recent quarters; as a result, the saving rate stood at 6¼ percent in the second quarter of this year, about 2¼ percentage points higher than in the June Tealbook.

The latest readings on the determinants of consumption suggest that gains in consumer spending over the second half of the year are likely to remain quite modest. Real disposable income, which rose at an annual rate of 2¾ percent in the first six months of the year, is projected to increase only 1¼ percent at an annual rate in the second half, reflecting the soft near-term outlook for employment and hours. In addition, recent readings on consumer sentiment have fallen back, as households appear to have become more pessimistic about their personal financial situations and the outlook for the economy. At the same time, however, household credit conditions have improved somewhat. On balance, we now expect real PCE to increase at an annual rate of just 1¾ percent over the second half of this year, roughly the same pace as in the first half and about ½ percentage point less than in the June Tealbook.

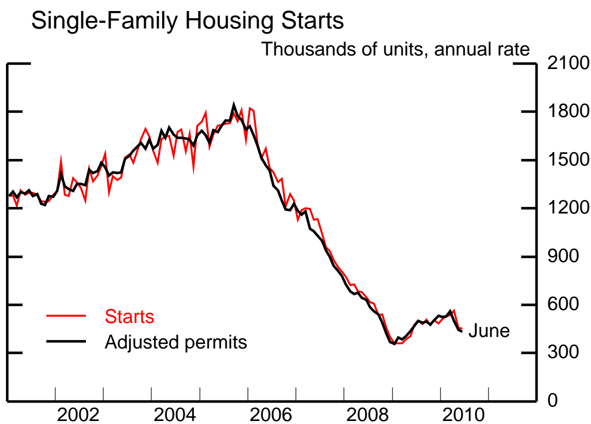
Recent Nonfinancial Developments (2)



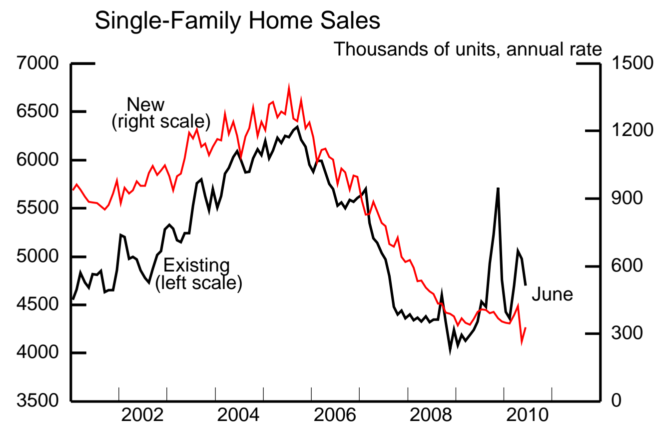
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis



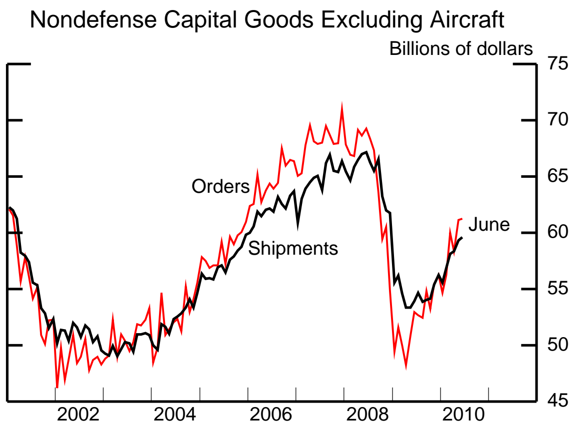
Source: Ward's Auto Infobank.



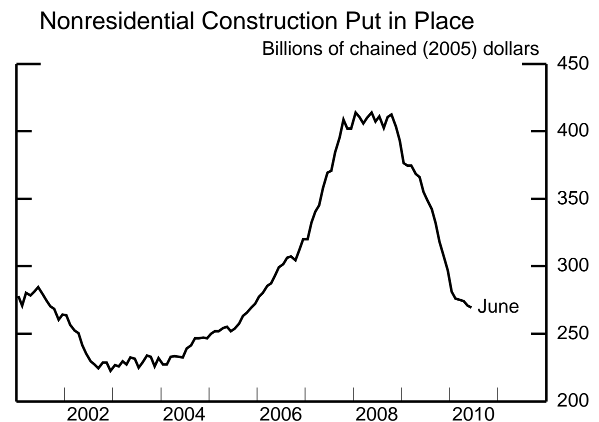
Note: Adjusted permits equal permits plus starts outside of permit-issuing areas.
Source: U.S. Census Bureau.



Source: For existing, National Association of Realtors; for new, U.S. Census Bureau.



Source: U.S. Census Bureau.



Source: U.S. Census Bureau.

Housing demand entered the third quarter on a weaker footing than we had anticipated in the June Tealbook. Home sales fell sharply, on average, in May and June following a surge in purchases over the preceding two months that had been fueled by the expiring homebuyer tax credit. These post-tax-credit sales readings were softer than we had expected and suggest both that the payback of sales pulled forward by the homebuyer tax credit has been faster than we had anticipated and that underlying demand is weaker than we had expected. As for construction activity, single-family starts moved sideways in June following May's sharp decline, and the June permits data point to little improvement in July. Going forward, low mortgage rates and improved affordability are still anticipated to provide some impetus to housing starts and residential investment over the second half of the year, but the incoming data have led us to mark down the pace of improvement relative to that in the June forecast.

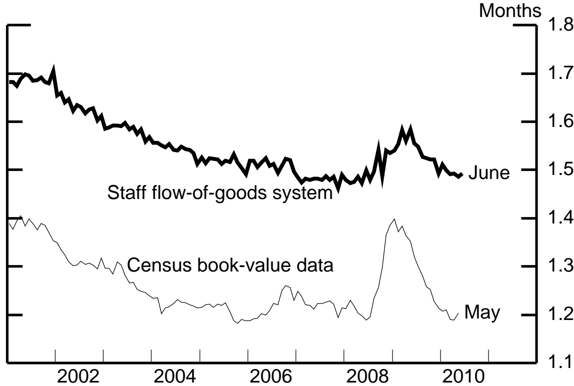
Business Investment

Real investment in equipment and software (E&S) rose at an annual rate of more than 20 percent over the first half of this year, as businesses apparently resumed spending that had been deferred during the recession.[3] We believe a portion of these outsized gains reflects a one-time step-up in the level of business outlays to bring capital spending back up to the level of replacement investment. Looking ahead, we expect that gains in capital spending in the second half of this year will step down considerably, to an annual rate of about 7¼ percent, as business output expands at a moderate pace. The recent indicators for business spending appear consistent with this deceleration. For example, the rate of increase for new orders of nondefense capital goods (excluding aircraft) was significantly lower in the three months ending in June compared with the three-month period that ended in March. And surveys of business conditions and sentiment, while still in positive territory, moved down, on balance, in June and July, likely reflecting heightened concerns about sales prospects.

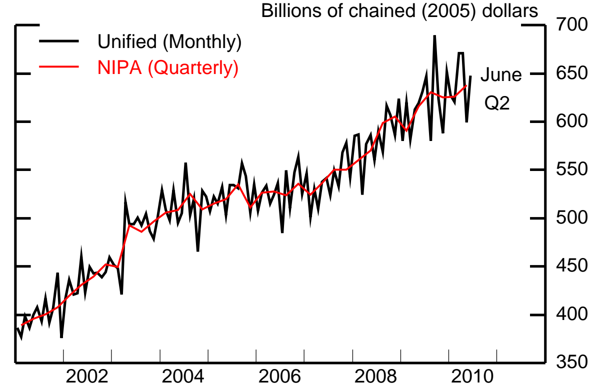
Business outlays on nonresidential structures (NRS) turned up in the second quarter, after several quarters of steep declines. However, the drilling and mining component of NRS, where activity has been boosted by relatively high energy prices, more than accounted for the increase. Meanwhile, outlays for other types of nonresidential construction projects have continued to contract, albeit at a much slower

[3] We estimate that during the recession equipment and software spending fell below the levels required to keep pace with the aging of existing capital, which resulted in an outright contraction in our estimates of the stock of equipment and software capital.

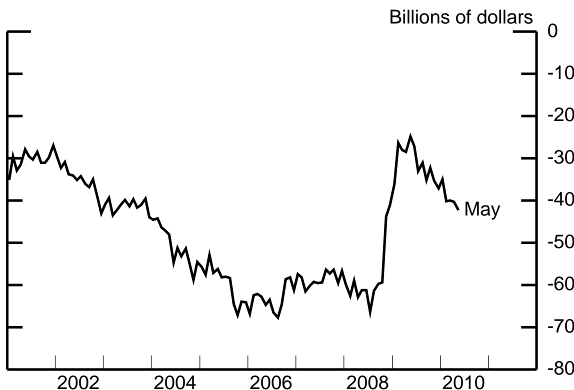
Recent Nonfinancial Developments (3)



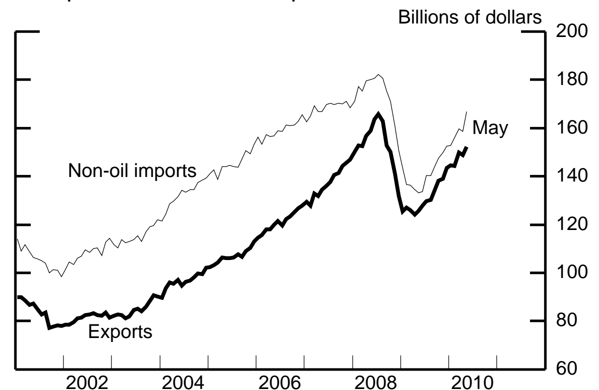
Note: Flow-of-goods system covers total industry ex. motor vehicles and parts, and inventories are relative to consumption. Census data cover manufacturing and trade ex. motor vehicles and parts, and inventories are relative to sales.
Source: U.S. Census Bureau; staff calculation.



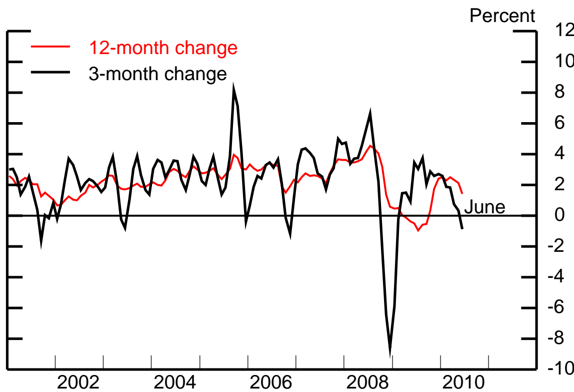
Note: The unified series is seasonally adjusted and deflated by BEA prices. The NIPA series excludes the consumption of fixed capital.
Source: Monthly Treasury Statement.



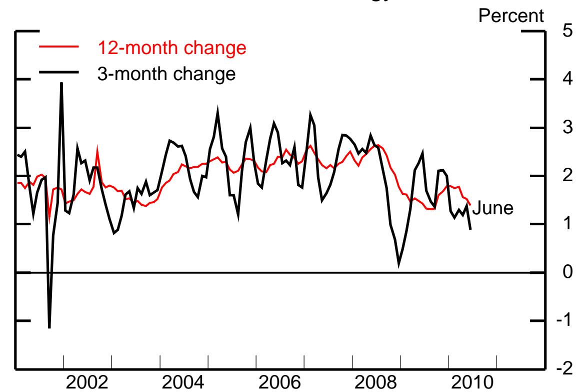
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis; U.S. Census Bureau.



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



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



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

pace than in preceding quarters. Forward-looking indicators for this category, such as the diffusion index for architectural billings, point to a further moderation in the rate of decline. That said, an overhang of unoccupied space and tight lending conditions continue to weigh on construction in this sector. In all, our projection calls for small declines in building construction over the second half of this year. Meanwhile, projected energy prices remain high enough to sustain solid increases in spending on drilling and mining structures over the second half of this year despite the federal government's temporary moratorium on deepwater drilling.

Real inventory investment rose modestly in the first quarter, and the available data suggest that stocks moved up at a somewhat more rapid pace in the second quarter. Despite the recent restocking, which contributed importantly to the increase in real GDP in the first half of this year, inventory-sales ratios are not pointing to any sizable overhangs. Moreover, survey data indicate that very few manufacturers view their customers' inventories as "too high." In the motor vehicle sector, days' supply of light vehicles in June remained quite lean by historical standards. With vehicle assemblies anticipated to rise sharply this quarter and sales expected to remain near their second-quarter pace, we look for dealer inventories to move up further through the summer. Elsewhere, we expect inventory rebuilding to continue at a moderate rate in the third and fourth quarters, as firms raise production in order to keep inventories in line with rising sales. On average, inventory investment is projected to be a relatively neutral influence on real GDP growth over the second half of this year.

Government

After only edging up over the previous two quarters, real federal purchases increased at an annual rate of 9¼ percent in the second quarter as a result of brisk increases in defense outlays and temporary hiring associated with the decennial census. We expect real federal purchases to rise at an annual rate of 2½ percent in the second half of this year, as defense spending rises at a more subdued pace and the winding down of temporary census operations keeps overall nondefense purchases roughly flat.

Real outlays by state and local governments moved up a bit in the second quarter, following declines in the previous three quarters. Employment at state and local governments continued to decrease in the second quarter, but the job losses were about half the first-quarter pace. In contrast, following sharp drop-offs in the previous two quarters, state and local investment spending—primarily for construction projects—

jumped at an annual rate of more than 10 percent last quarter. Reflecting the still-strained budgets of many jurisdictions, overall state and local spending is projected to be about flat in the second half of the year, as modest increases in construction spending roughly offset continued weakness in state and local hiring.

Foreign Trade

Real imports accelerated dramatically in the second quarter, expanding at an annual rate of 29 percent, as they continued to recover following steep declines in late 2008 and early 2009. The surge was broad based across product categories, with particular strength in capital goods, automotive products, and consumer goods; the second-quarter increase brings each of these groups most of the way back to their 2008 peaks. Growth in real imports was considerably larger than we had estimated in June. Real export growth, which came in at 10 percent in the second quarter, was also higher but by a much smaller amount. As a result, real net exports are now estimated to subtract 2¾ percentage points from the annual rate of change in GDP in the second quarter, 2½ percentage points more than in the June forecast.

In the second half of 2010, net exports are expected to add nearly ½ percentage point (annual rate) to the increase in real GDP, compared with the negligible contribution we wrote down in June. Real exports should increase at an annual rate of 10 percent in the second half of 2010, a little faster than in the previous forecast, in line with the weaker path for the dollar. We project real imports to decelerate sharply after the extremely brisk second quarter but to a still-solid 5 percent annual rate.

Prices and Wages

Since the June Tealbook, the change in PCE prices excluding food and energy has been revised up ¼ percentage point in 2009 and nearly ½ percentage point, on average, in the first half of this year, reflecting the BEA's annual revision and higher-than-expected readings on the core CPI in May and June.[4] With these revisions, core PCE prices increased at an annual rate of about 1¼ percent in both the first and second quarters of this year, after rising 1¾ percent over 2009. The index for prices of core goods fell in the first half, following increases last year, and we expect that it will post further declines in the second half of this year. The price index for non-energy services rose at about the

[4] The upward revision to core PCE inflation in 2009 primarily reflected higher estimates of nonmarket prices. The upward revision to the first quarter also reflected, in part, higher nonmarket prices, as well as the BEA's correction of what we had viewed as anomalously low readings for one particular durable goods category (luggage). Thus, we do not attach much signal to the historical revisions.

same modest pace in the first half of this year as in 2009. However, the smooth pattern of increases in core services prices masks divergent movements in key components, as an acceleration in prices of nonmarket services—to which we do not attach much signal of underlying inflation—offset a deceleration in the prices of market-based services. As a result, we expect services price inflation to move down a bit in the second half as the rate of change in nonmarket prices slows. In all, we project core prices to rise at an annual rate of just under 1 percent in the second half of the year.

After increasing at an annual rate of about 2 percent in the first quarter, the index for total PCE prices was roughly unchanged in the second quarter as consumer energy prices reversed their run-up earlier this year. More recently, oil prices have begun to turn up again, and we expect consumer energy prices to pick up over the second half of this year. Reflecting this increase in energy prices, total PCE inflation is projected to step up to nearly 1½ percent in the second half, about ½ percentage point above core inflation.

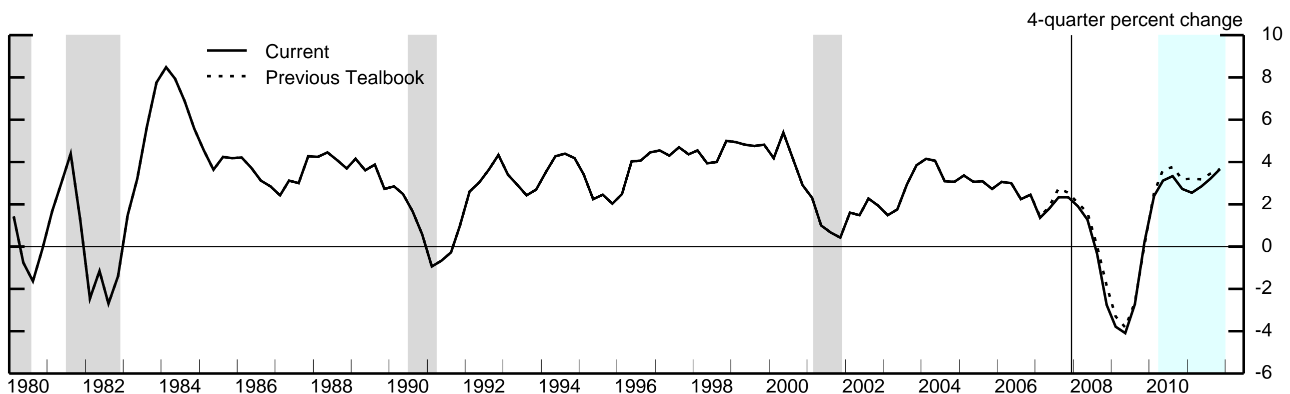
The incoming data on labor compensation continue to be weak. Based on the BEA's revised estimates of private compensation, we now estimate that compensation per hour was roughly unchanged in the first half of this year after having risen at an upwardly revised rate of 2½ percent, on average, in 2008 and 2009. Furthermore, weaker-than-expected earnings data in May and June suggest that compensation is on a lower trajectory going into the second half of this year than we had projected previously. The ECI measure of hourly compensation rose at an annual rate of 1¾ percent in the second quarter, somewhat less than the 2½ percent increase in the first quarter that had been boosted by outsized increases in health insurance costs and in employer contributions to retirement and savings plans. Both measures of hourly compensation are projected to rise at an annual rate of just under 2 percent in the second half of the year.

THE MEDIUM-TERM OUTLOOK

The transition from a recovery supported by inventory rebuilding to one led by a strengthening in final sales seems to be evolving more slowly than we had projected in previous forecasts. However, in an environment of accommodative monetary policy, more supportive financial conditions, and increasing credit availability, households and businesses are anticipated to become more confident. Taken together, these factors are expected to contribute to an increasing willingness to spend and invest. As a result, we expect real GDP growth to pick up from an annual rate of 2½ percent in the second half of this year to 3.6 percent in 2011. Of course, the gains we are projecting for next year

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

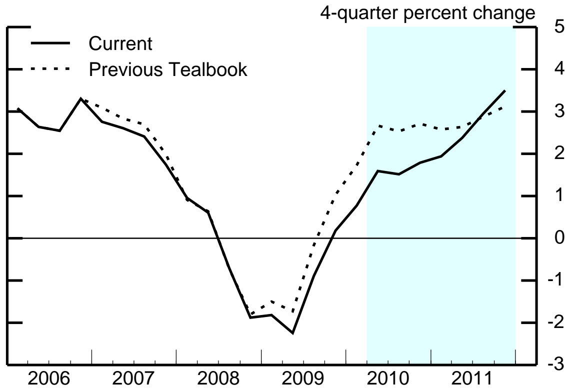
Measure	2008	2009	2010		2011
			H1	H2	
Real GDP	**-2.8**	**.2**	**2.9**	**2.5**	**3.6**
Previous Tealbook	-1.9	.1	3.4	3.0	3.7
Final sales	-1.9	-.3	1.3	2.4	3.8
Previous Tealbook	-1.4	-.1	2.6	2.6	3.4
Personal consumption expenditures	-1.9	.2	1.7	1.8	3.5
Previous Tealbook	-1.8	1.0	3.1	2.3	3.1
Residential investment	-24.6	-13.4	6.1	-.5	19.0
Previous Tealbook	-21.0	-12.5	3.0	4.9	17.1
Nonresidential structures	-1.5	-26.5	-7.2	.7	-.5
Previous Tealbook	3.2	-25.3	-8.3	-1.2	-.2
Equipment and software	-11.8	-4.9	23.2	7.2	11.6
Previous Tealbook	-10.7	-7.5	16.8	11.3	10.8
Federal purchases	9.2	3.6	5.4	2.3	1.0
Previous Tealbook	8.9	3.6	4.0	3.0	1.4
State and local purchases	-.4	-1.0	-1.2	-.4	.0
Previous Tealbook	-.3	-.1	-2.3	.2	.5
Exports	-2.9	-.1	10.8	10.3	8.2
Previous Tealbook	-3.4	-.7	9.7	7.7	7.4
Imports	-6.0	-7.2	19.7	5.1	6.5
Previous Tealbook	-6.8	-6.6	11.5	6.9	6.9
	Contributions to change in real GDP (percentage points)				
Inventory change	-.8	.5	1.6	.1	-.2
Previous Tealbook	-.5	.1	.8	.4	.3
Net exports	.7	1.2	-1.5	.5	.0
Previous Tealbook	.7	1.0	-.5	-.1	-.2



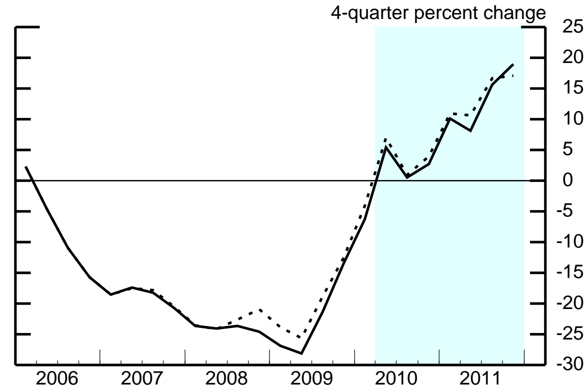
Note: The shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research (NBER). The vertical line represents the last business cycle peak as defined by the NBER.
Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Components of Final Demand

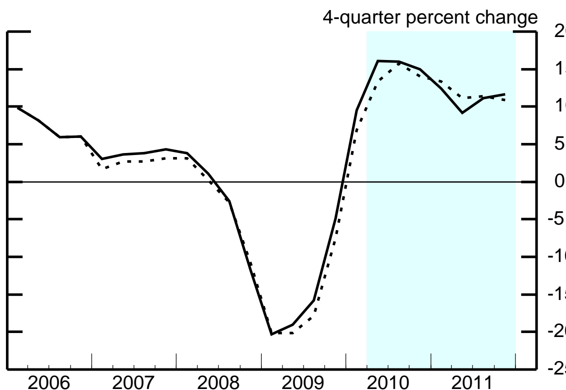
Personal Consumption Expenditures



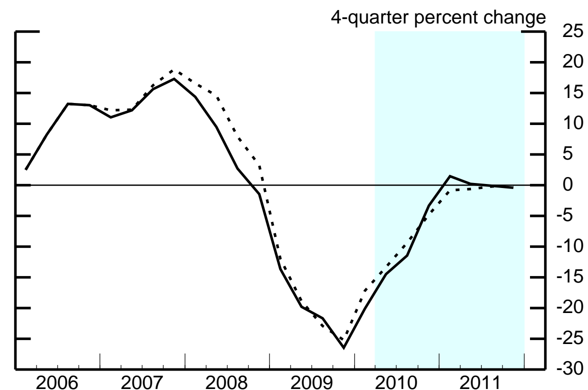
Residential Investment



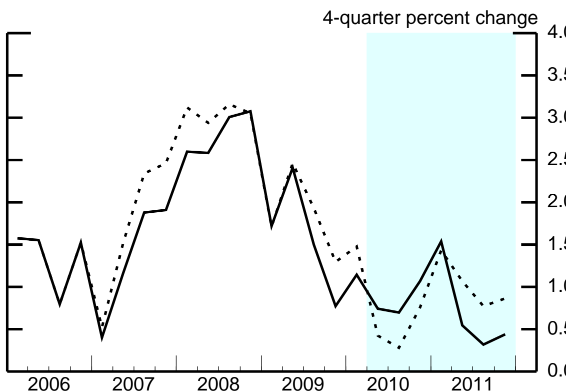
Equipment and Software



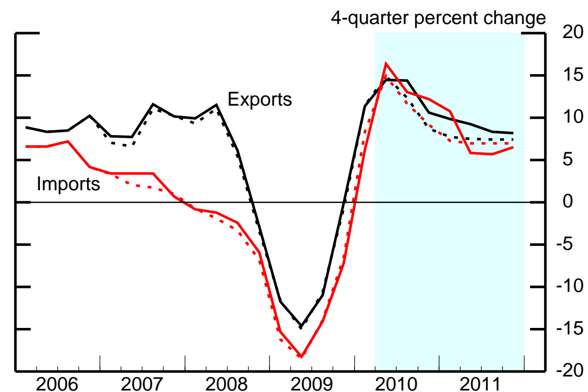
Nonresidential Structures



Government Consumption & Investment



Exports and Imports



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

are still relatively tepid for an economic recovery, and consequently, the unemployment rate declines only gradually—ending 2011 at nearly 9 percent.

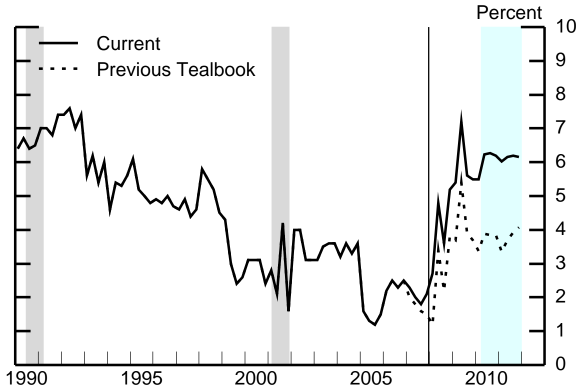
An important issue for our forecast is the medium-term implications of the revised data on consumer spending that show a larger contraction in real PCE during the recession and a smaller rebound through the spring. On the one hand, the larger "shortfall" in consumer spending suggested by the revised data could mean that households are well positioned to quickly step up the pace of spending and to pare saving, once hiring picks up more substantially and confidence about the economic outlook increases. On the other hand, the shortfall in PCE might reflect an ongoing transition to a higher saving rate that continues through 2011, as households further repair their balance sheets and rely less on credit. Our forecast takes a middle ground, in that the personal saving rate is projected to be about flat at 6¼ percent through the end of next year. Nonetheless, with real disposable income expected to accelerate, our forecast calls for the growth rate of real PCE to increase from an annual rate of 1¾ percent over the second half of this year to 3½ percent in 2011.

The basic story for the housing sector is much the same as in recent projections. We expect that housing demand will firm over the medium term, aided by the boost to affordability from low mortgage rates and low house prices, increasing confidence that house prices have bottomed out, and improvements in income and employment. However, we continue to expect that the difficulties in obtaining credit that many potential homebuyers and builders are facing will recede only gradually and that competition from the still-large overhang of existing homes will hamper the pace of recovery in new home sales and construction. Our forecast calls for single-family starts to move up from their recent annual rate of about 500,000 units to about 830,000 units by the end of next year—a bit weaker than the June Tealbook projection and a level still far below our judgment of the pace consistent with the longer-run demand for housing. (See the box on the long-run prospects for housing construction for more information.)

The outlook for business investment next year is little changed in this projection. We expect business purchases of equipment and software to expand about 11¾ percent next year as the low cost of capital, rising sales, and improving business sentiment lead businesses to continue to replace aging capital and, in some sectors, to expand capacity. By contrast, investment in structures is projected to edge down further next year. Elevated vacancy rates and low commercial property prices, as well as continued tight

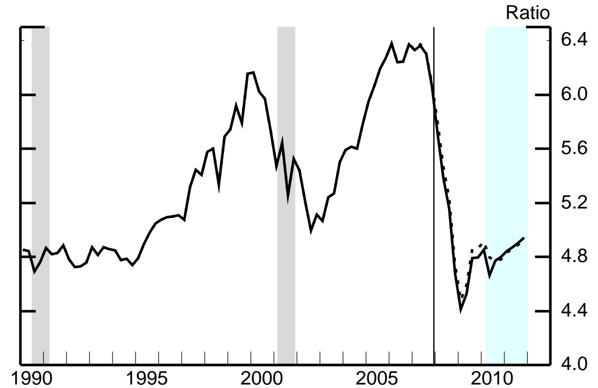
Aspects of the Medium-Term Projection

Personal Saving Rate



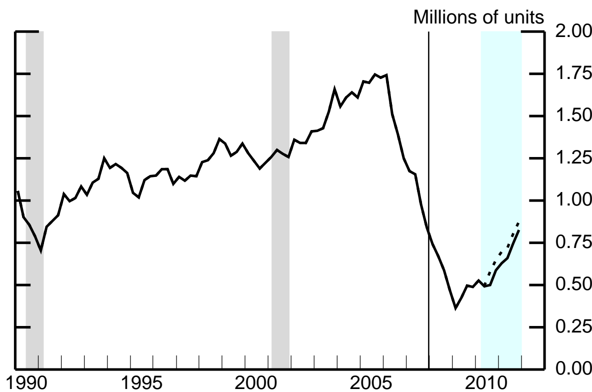
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

Wealth-to-Income Ratio



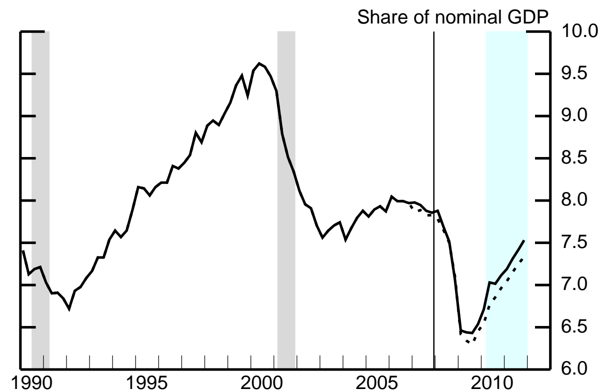
Note: Household net worth as a ratio to disposable personal income.
Source: Flow of Funds Accounts.

Single-Family Housing Starts



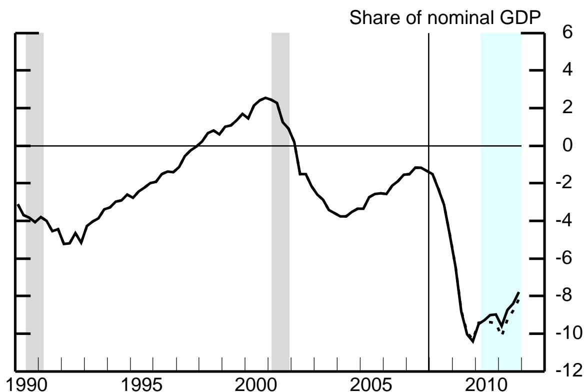
Source: U.S. Census Bureau.

Equipment and Software Spending



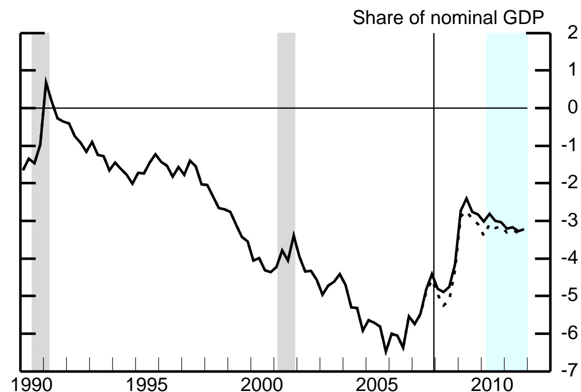
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

Federal Surplus/Deficit



Note: Share of federal government surplus/deficit is shown as a 4-quarter moving average.
Source: Monthly Treasury Statement.

Current Account Surplus/Deficit



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

Note: The shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research (NBER). The vertical lines represent the last business cycle peak as defined by the NBER.

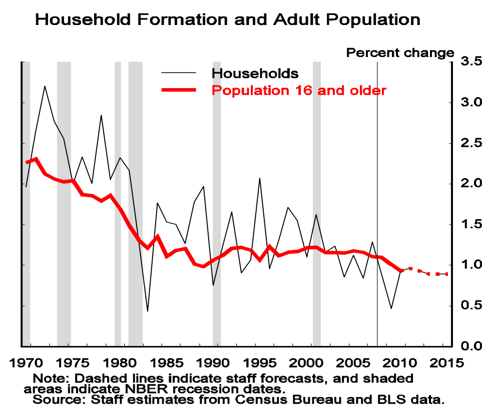
The Long-Run Prospects for Housing Construction

Estimates of the number of new housing units needed to keep pace with demographic trends, demolitions, and secondary housing offer a rough gauge of the trend in construction activity over the long run. Although these estimates are quite sensitive to assumptions, they provide a guidepost for where construction starts may settle when housing and mortgage markets recover and vacant units recede to normal levels.

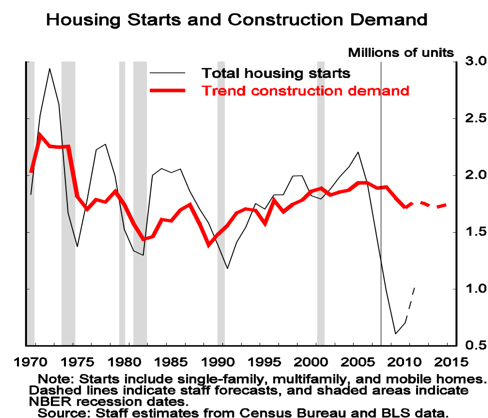
The main source of trend construction demand is net household formation. The black line in the lower left figure shows annual growth rates in the number of households, a volatile series that tends to fall noticeably around recessions. Cutting through this volatility, the growth rate in the adult population—the red line—can be regarded as a rough proxy for the underlying rate of household formation. Looking forward, the Census Bureau projects that the growth rate of the adult population will average just below 1 percent over the next five years; we estimate that this projection implies an underlying household formation rate of about 1.1 million units per year over this period.

In addition to household formation, housing units will be needed to replace demolished units and for nonprimary residences (including second and seasonal houses). Working from estimates of the demolition rate, we think that nearly 300,000 units per year will need to be replaced. Demand for new nonprimary residences is more difficult to assess, but fitted time trends for the number of units per household, along with the projected trend in household formation, imply that 350,000 units per year will need to be built. Taken together, demand from these three sources totals 1¾ million units.

The figure in the lower right compares historical and projected total housing starts (the black line) with trend construction demand (the red line). Starts have broadly tracked this benchmark over history, though substantial misalignments have persisted for some periods. For example, starts generally ran above trend demand from 1995 to 2005. In contrast, starts have dropped far below trend demand since 2006—the biggest discrepancy over the period shown. We expect only a small portion of this gap to close over the medium term, as the transition toward benchmark levels is restrained by the overhang of vacant houses and by credit conditions that ease only gradually.



Note: Dashed lines indicate staff forecasts, and shaded areas indicate NBER recession dates.
Source: Staff estimates from Census Bureau and BLS data.



Note: Starts include single-family, multifamily, and mobile homes. Dashed lines indicate staff forecasts, and shaded areas indicate NBER recession dates.
Source: Staff estimates from Census Bureau and BLS data.

lending conditions for commercial real estate, suggest that, while spending may be stabilizing, a substantial recovery in this sector remains years away.

The rise in real federal expenditures is anticipated to slow to 1 percent in 2011, following a 4 percent increase this year. Real defense spending is expected to be about flat next year, after increasing nearly 4 percent in 2010, while nondefense purchases are projected to continue to rise at a moderate pace. Meanwhile, real state and local purchases are expected to be little changed in 2011; this forecast is a bit weaker than in our previous projection because we now assume that these governments will not be receiving additional stimulus grants-in-aid. Although state and local revenues are expected to rise next year as the economy recovers, the tapering off of federal stimulus grants is anticipated to keep state and local budgets tight and to restrain spending.

In 2011, the contribution of net exports to GDP growth is expected to be roughly neutral, as imports rise slightly less than exports but from a higher base. We estimate that real exports will increase 8 percent in 2011, supported by strong foreign economic growth and a declining dollar. Real imports are projected to move up 6½ percent in 2011, in line with U.S. GDP growth. Relative to the previous forecast, the weaker dollar led us to revise export growth up about ¾ percentage point and revise import growth down ½ percentage point.

AGGREGATE SUPPLY, THE LABOR MARKET, AND INFLATION

Potential GDP and the NAIRU

As a result of the BEA's downward revisions to actual GDP in recent years, we made a modest downward adjustment to our estimate of the level of potential GDP in this projection. We calibrated this adjustment to roughly eliminate the tension between our estimates of the output gap and the unemployment rate gap—the residual in "Okun's Law"—in the first half of 2010, and implemented it by slightly reducing the growth rates of potential in 2008 and 2009. However, we did not materially change our assumption about the growth rate of potential GDP going forward, and thus we continue to assume that potential GDP will increase at an annual rate of about 2½ percent over the forecast period.

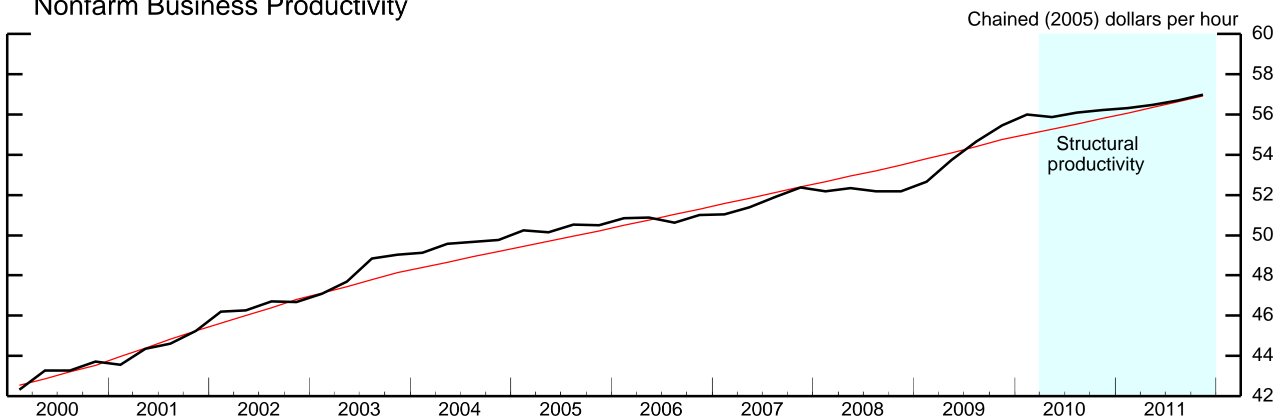
As in recent forecasts, we continue to believe that a portion of last year's sharp rise in actual labor productivity showed through to structural multifactor productivity on the interpretation that some of the increase reflected one-time efficiency gains that firms

Decomposition of Potential GDP
(Percent change, Q4 to Q4, except as noted)

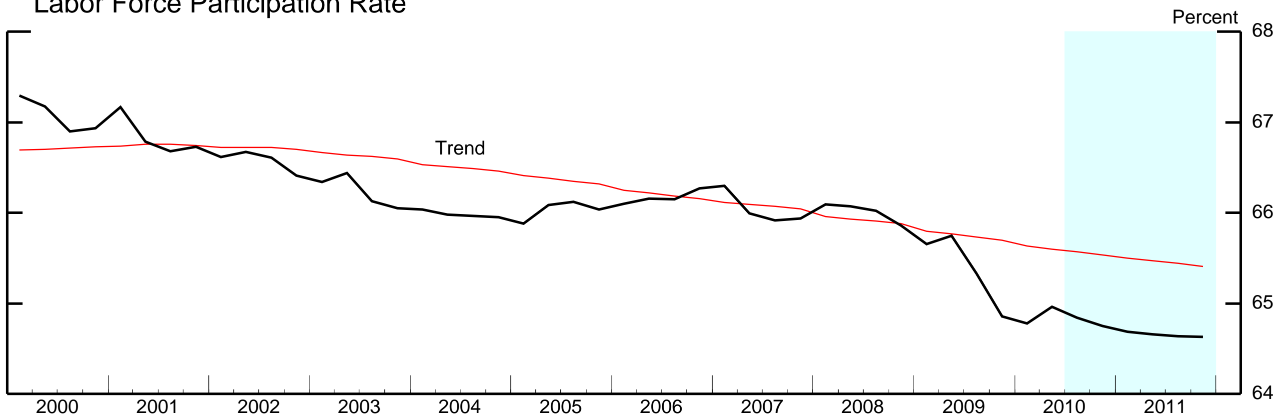
Measure	1974-1995	1996-2000	2001-2007	2008	2009	2010	2011
Potential GDP	3.0	3.5	2.8	2.5	2.6	2.4	2.5
Previous Tealbook	3.0	3.5	2.8	2.7	2.7	2.3	2.4
Selected contributions[1]							
Structural labor productivity	1.5	2.7	2.6	2.1	2.4	1.9	2.0
Previous Tealbook	1.5	2.7	2.6	2.3	2.6	1.8	2.0
Capital deepening	.7	1.5	.7	.5	.1	.3	.6
Previous Tealbook	.7	1.5	.7	.5	.0	.2	.5
Multifactor productivity	.5	.9	1.6	1.3	2.1	1.5	1.4
Previous Tealbook	.5	.9	1.6	1.6	2.4	1.5	1.4
Trend hours	1.7	1.1	.8	.7	.4	.7	.7
Previous Tealbook	1.7	1.1	.8	.8	.5	.8	.8
Labor force participation	.5	.0	-.2	-.2	-.2	-.2	-.2
Previous Tealbook	.5	.0	-.2	-.2	-.2	-.2	-.2

Note: Components may not sum to totals because of rounding. For multiyear periods, the percent change is the annual average from Q4 of the year preceding the first year shown to Q4 of the last year shown.
1. Percentage points.
Source: Staff assumptions.

Nonfarm Business Productivity



Labor Force Participation Rate



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

were able to achieve in a very difficult business environment. However, we do not believe that these gains are likely to be repeated going forward, and so we project that structural multifactor productivity growth will drop back toward a more sustainable pace over the forecast period. In terms of structural labor productivity, part of that slowing is offset by a larger assumed contribution from capital deepening this year and next as a result of the recent and projected recovery in business investment.

In addition, our assumption that the NAIRU will remain at 5¼ percent through 2011, rather than rising as we believe occurred during 2009, eliminates a drag on potential output growth.[5] This assumption, in conjunction with anticipated population growth and a small downward trend in labor force participation associated with the aging of the workforce, leads us to project increases in trend hours of ¾ percent this year and next, about ¼ percentage point more than in 2009.

Productivity and the Labor Market

We continue to view some of last year's outsized rise in labor productivity as reflecting transitory developments that moved the level of productivity well above its structural level. For example, anecdotal reports suggest that firms squeezed significant efficiency gains from their workforces in 2009; in addition, the likely tendency for firms to lay off their less productive workers during the period of rapid job loss probably raised the average level of productivity of the existing workforce. However, we do not see these productivity gains as sustainable, and, indeed, we estimate that productivity growth has already slowed to an annual rate of about 1½ percent over the first half of 2010 as employment and hours worked turned up. Going forward, we think that achieving further output gains will continue to require firms to ramp up hours worked, and that labor demand will also be supported by firms' increased confidence in the recovery. Accordingly, we anticipate that labor productivity will rise at an average annual rate of about 1¼ percent over the forecast period, which would gradually move the level of actual productivity back to its structural level.

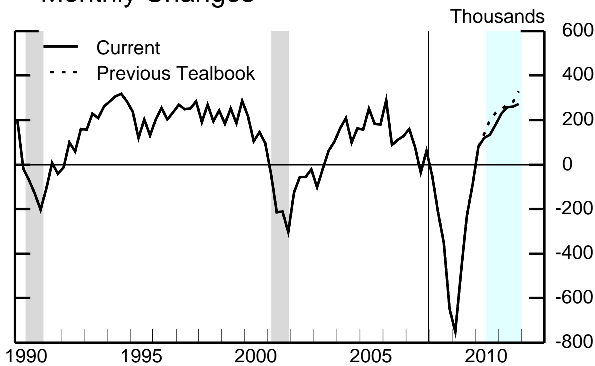
[5] The 5¼ percent figure for the NAIRU does not include the effects of extended and emergency unemployment benefits (EEB). EEB programs add to the unemployment rate by inducing individuals who would otherwise have dropped out of the labor force to report themselves as unemployed in order to receive these benefits, and by enabling jobseekers to be more deliberate in their search. We estimate that these programs are currently boosting the unemployment rate by close to 1 percentage point, and we anticipate that this effect will only diminish a bit through next year. As a result, the amount of unemployment not representative of slack in resource utilization—which could be thought of as an "effective" NAIRU—is currently around 6¼ percent and will edge down to about 5¾ percent by the end of next year.

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

Measure	2008	2009	2010	2011
Output per hour, nonfarm business	-.3	6.3	1.4	1.3
Previous Tealbook	1.4	5.6	1.2	.9
Nonfarm private employment	-2.7	-4.7	1.2	2.7
Previous Tealbook	-2.7	-4.7	1.6	3.0
Labor force participation rate[1]	65.9	64.9	64.7	64.6
Previous Tealbook	65.9	64.9	64.8	64.7
Civilian unemployment rate[1]	6.9	10.0	9.7	8.9
Previous Tealbook	6.9	10.0	9.5	8.6
MEMO				
GDP gap[2]	-5.7	-7.9	-7.6	-6.6
Previous Tealbook	-4.8	-7.3	-6.5	-5.4

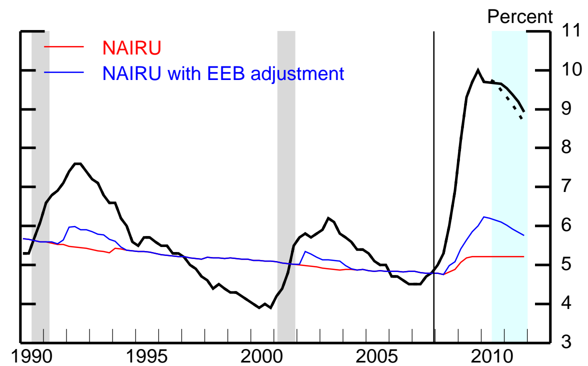
Note: A negative number indicates that the economy is operating below potential.
1. Percent, average for the fourth quarter.
2. Percent difference between actual and potential GDP in the fourth quarter of the year indicated.
Source: U.S. Department of Labor, Bureau of Labor Statistics; staff assumptions.

Private Payroll Employment, Average Monthly Changes



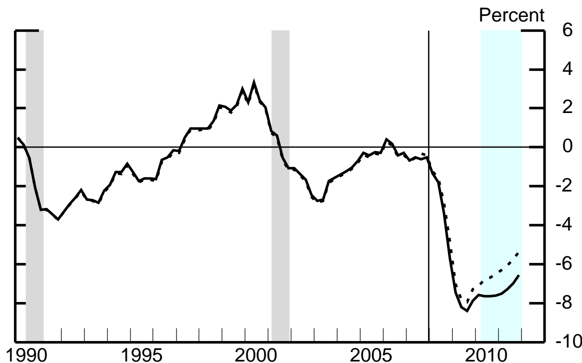
Source: U.S. Dept. of Labor, Bureau of Labor Statistics.

Unemployment Rate



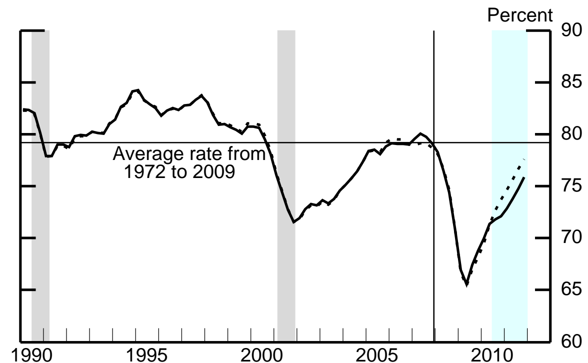
Note: The EEB adjustment is the staff estimate of the effect of extended and emergency unemployment compensation programs on the NAIRU.
Source: U.S. Dept. of Labor, Bureau of Labor Statistics; staff assumption.

GDP Gap



Note: The GDP gap is the percent difference between actual and potential GDP; a negative number indicates that the economy is operating below potential.
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis; staff assumption.

Manufacturing Capacity Utilization Rate



Source: Federal Reserve Board, G. 17 Statistical Release, "Industrial Production and Capacity Utilization."

Note: The shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research (NBER). The vertical lines represent the last business cycle peak as defined by the NBER.

Increases in private payroll employment are projected to step up from an average pace of about 150,000 per month over the remainder of this year to roughly 250,000 per month in 2011. The still-modest pace of job growth for the rest of this year results in an unemployment rate that remains essentially unchanged, at around 9¾ percent. But as job gains accelerate, the jobless rate is gradually reduced to a bit under 9 percent by the end of next year, about ¼ percentage point higher than in the June Tealbook projection.

Resource Utilization

The unemployment rate that we project for the end of 2011 remains more than 3 percentage points above the level consistent with our measure of the effective NAIRU, as adjusted for the estimated influence of extended and emergency unemployment benefits (EEB). This wide margin of slack is expected to be accompanied by a number of other conditions consistent with a labor market that remains weak, including a below-trend level of labor force participation and, in all likelihood, an unusually large concentration of workers experiencing unemployment spells of long duration.

Our projection for the GDP gap also indicates that, even as the amount of underutilized resources in the economy diminishes over the projection period, slack remains substantial. As mentioned earlier, we allowed some of the downward historical revision to GDP to show through to the GDP gap, which reduced the tension that had arisen between it and the unemployment rate gap. In addition, given the downward revision to real GDP growth over the projection period, we now project the GDP gap to close by somewhat less than in the June Tealbook. As a result, the GDP gap now shrinks from nearly 8 percent at the end of 2009 (¾ percentage point wider than in the June projection) to 6½ percent at the end of 2011 (more than 1 percentage point wider).

We continue to expect slack in the industrial sector to be taken up more quickly than in the economy as a whole, in part because manufacturing capacity is projected to be flat, on average, in 2010 and 2011 after contracting 1¼ percent in 2009. Nevertheless, the factory operating rate at the end of the projection period is appreciably below its long-run average.

Compensation and Prices

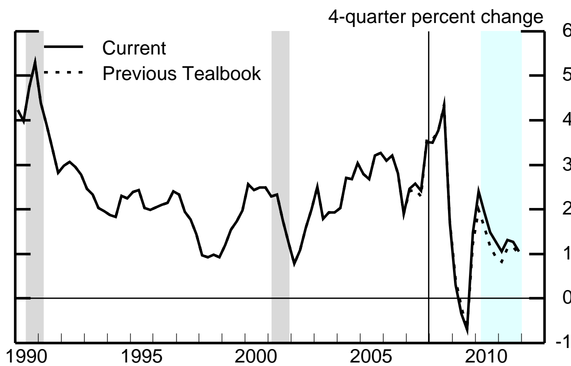
The wide margin of slack in the labor market and low rates of price inflation are expected to continue to restrain labor costs over the forecast period. The productivity and cost measure of compensation per hour in the nonfarm business sector is projected to rise

Inflation Projections
(Percent change, Q4 to Q4)

Measure	2008	2009	2010	2011
PCE chain-weighted price index	1.7	1.5	1.3	1.1
Previous Tealbook	1.7	1.2	.9	1.0
Food and beverages	6.9	-1.6	1.3	.7
Previous Tealbook	6.8	-1.7	1.5	.7
Energy	-9.0	2.7	4.5	3.8
Previous Tealbook	-9.1	1.1	2.3	3.9
Excluding food and energy	2.0	1.7	1.1	.9
Previous Tealbook	2.0	1.5	.8	.8
Prices of core goods imports[1]	3.5	-1.9	2.7	1.2
Previous Tealbook	3.8	-1.6	1.7	1.5

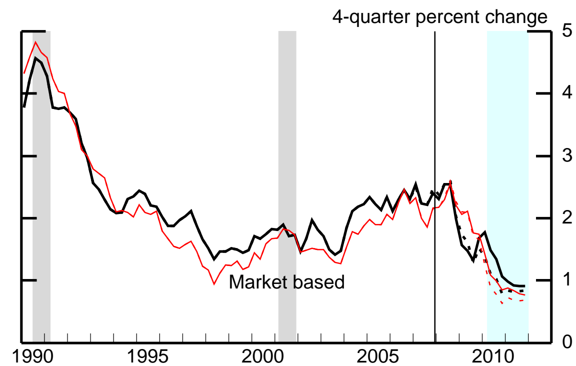
1. Core goods imports exclude computers, semiconductors, oil, and natural gas.
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis..

Total PCE Prices



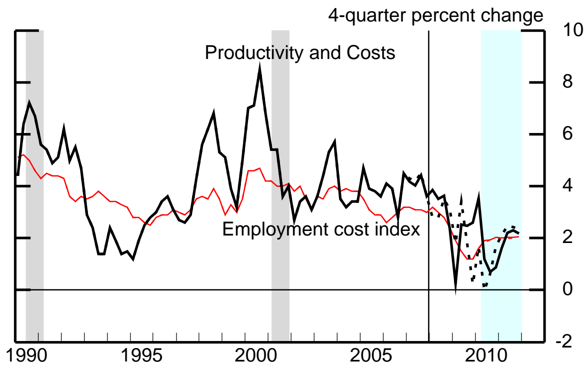
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

PCE Prices ex. Food and Energy



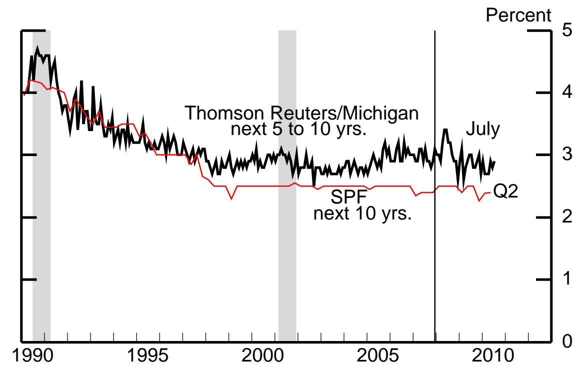
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis.

Compensation per Hour



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

Long-Term Inflation Expectations



Note: The Survey of Professional Forecasters (SPF) projection is for the CPI.
Source: Thomson Reuters/University of Michigan Surveys of Consumers; The Federal Reserve Bank of Philadelphia.

Note: The shaded bars indicate a period of business recession as defined by the National Bureau of Economic Research (NBER). The vertical lines represent the last business cycle peak as defined by the NBER.

2 percent in the second half of this year and 2¼ percent next year, both a bit slower than in the June projection. Similarly, we expect the employment cost index to rise at an annual rate of about 2 percent over the forecast period. These modest gains in hourly compensation, in conjunction with the moderate projected rise in labor productivity, imply increases in unit labor costs of less than 1 percent, on average, in the second half of this year and in 2011.

The lower path of the dollar in this projection, together with the small upward revision to the path for non-oil commodity prices, has led us to raise our projection for core goods import prices (that is, goods excluding fuels, computers, and semiconductors). We now expect core import prices to increase at an average annual rate of just over 1¼ percent through the forecast period. Thus, we expect that core import prices will exert a small amount of upward pressure on core PCE prices in the period ahead.

The incoming data on consumer prices have surprised us a little to the upside, and the paths of energy and import prices are a little higher. However, with the margin of slack wider in this projection and inflation expectations remaining well anchored, we have made only a small upward revision to our projection for core PCE inflation in the second half of this year and in 2011. In all, we project that core PCE prices will rise a bit more than 1 percent in 2010 and a bit less than 1 percent in 2011. With energy prices expected to rise modestly, we project that overall PCE inflation will run just a touch above core inflation in both 2010 and 2011.

The Long-Term Outlook

We have extended the staff forecast to 2014 using the FRB/US model and staff assessments of long-run supply-side conditions, fiscal policy, and other factors. The contour of the long-run outlook depends on the following key assumptions:

- Monetary policy aims to stabilize PCE inflation at 2 percent in the long run, consistent with the majority of longer-term inflation projections provided by FOMC participants at the June meeting.
- Redemptions, prepayments, and sales of agency debt and MBS are assumed to significantly reduce holdings of longer-term securities in the Federal Reserve's portfolio by the end of 2014. This decrease in the Fed's holdings is

assumed to contribute about 30 basis points to the rise in the 10-year Treasury yield from 2012 through 2014.

- The risk premiums on corporate bonds and equity decline gradually, and banks ease their lending standards somewhat further beyond 2011.

- Total discretionary fiscal policy actions are essentially a neutral factor for real GDP growth in 2012, as the continued waning of federal stimulus is roughly offset by ongoing improvements in state and local budget conditions. Beyond 2012, fiscal policy becomes more restrictive. In particular, the federal government budget deficit narrows to about 5 percent of GDP by 2014, reflecting not only the effects of economic recovery on tax receipts and transfer payments, but also discretionary actions aimed at restraining federal borrowing. Beyond 2012, state and local policy actions are roughly neutral with both purchases and taxes as share of GDP remaining essentially constant.

- The foreign exchange value of the dollar is assumed to depreciate 1½ percent in real terms in 2012 and 1¼ percent in both 2013 and 2014. The price of WTI crude oil rises gradually to around $90 per barrel by the end of 2014, consistent with futures prices. Under these assumptions, movements in the prices of energy and imports have only minor implications for domestic inflation in the extension. Foreign real GDP expands, on average, about 3¼ percent per year from 2012 through 2014, with foreign output gaps continuing to narrow.

- With emergency and extended unemployment benefit programs assumed to wind down over 2012, the "effective" NAIRU falls from 5¾ percent at the end of 2011 to 5¼ percent by the end of 2012, where it remains through 2014. Potential GDP is assumed to expand around 2½ percent per year, on average, from 2012 to 2014.

The unemployment rate enters 2012 at a very high level, and inflation is well below the assumed long-run target. Under the assumptions used to construct the extension, the federal funds rate remains at its effective lower bound until the fall of 2012. From that point on, the federal funds rate climbs steadily, reaching 2 percent by

the end of 2013 and 3¼ percent in 2014.[6] Real GDP rises at an annual rate of 4¾ percent on average over the 2012–14 period, well above its potential pace, as improved confidence, reduced uncertainty, and supportive financial conditions allow aggregate demand to catch up with aggregate supply. The unemployment rate falls to the NAIRU by late 2014. Core PCE inflation moves up modestly after 2011 as economic activity recovers and long-run inflation expectations are assumed to remain well anchored.

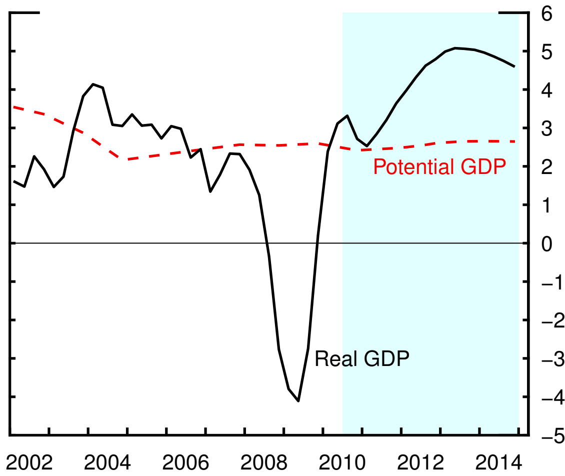
[6] In the long-run outlook, the federal funds rate (R) follows the prescriptions of a Taylor-type rule of the form $R = 2.5 + \pi - 1.1(u-u^*) + 0.5(\pi - 2)$, subject to the zero lower bound constraint. In this expression, π denotes the four-quarter rate of core PCE inflation, u is the civilian unemployment rate, and u^* is the staff estimate of the NAIRU (with an adjustment for the temporary effects on unemployment of the extended and emergency unemployment benefit programs). In essence, this formula is just the traditional Taylor rule, rewritten in terms of the unemployment gap, with the coefficient on resource utilization appropriately rescaled.

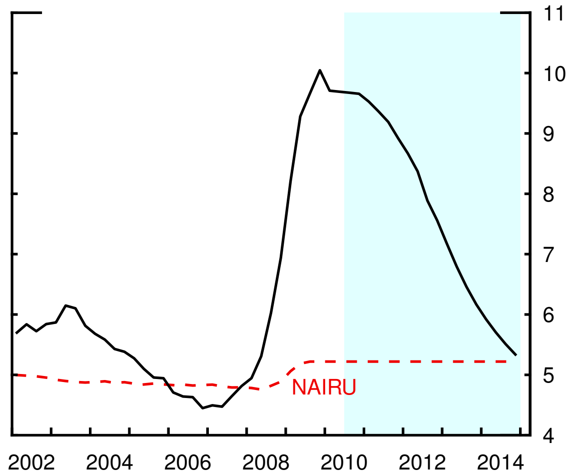
The Long-Term Outlook

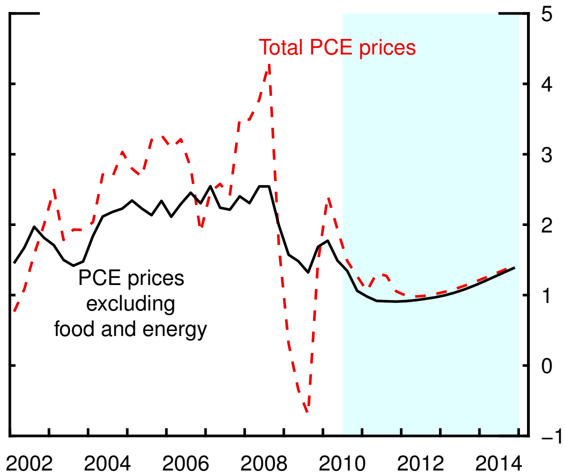
(Percent change, Q4 to Q4, except as noted)

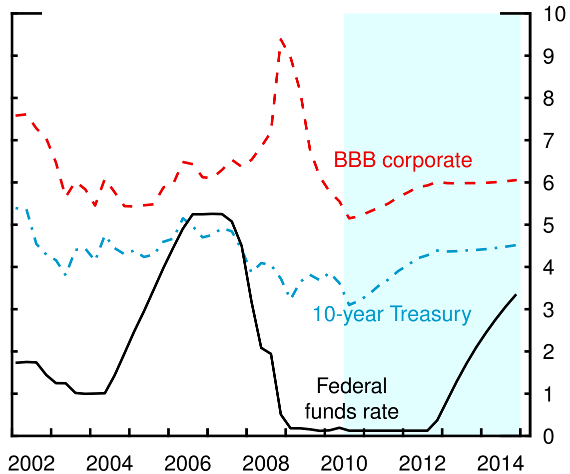
Item	2010	2011	2012	2013	2014
Real GDP	2.7	3.6	4.8	5.0	4.6
Civilian unemployment rate[1]	9.7	8.9	7.6	6.2	5.3
PCE prices, total	1.3	1.1	1.0	1.2	1.4
Core PCE prices	1.1	.9	1.0	1.1	1.4
Federal funds rate[1]	.1	.1	.4	2.1	3.3

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





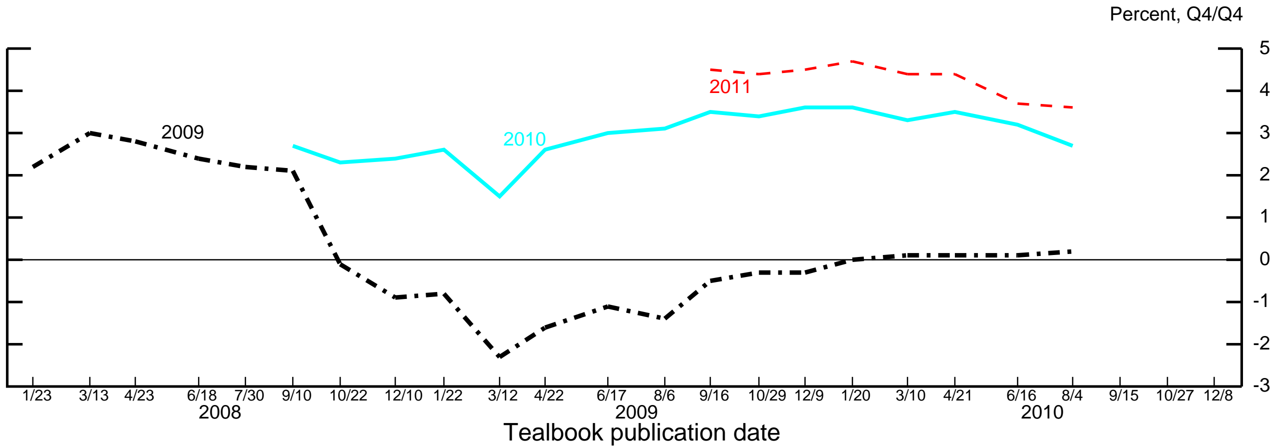




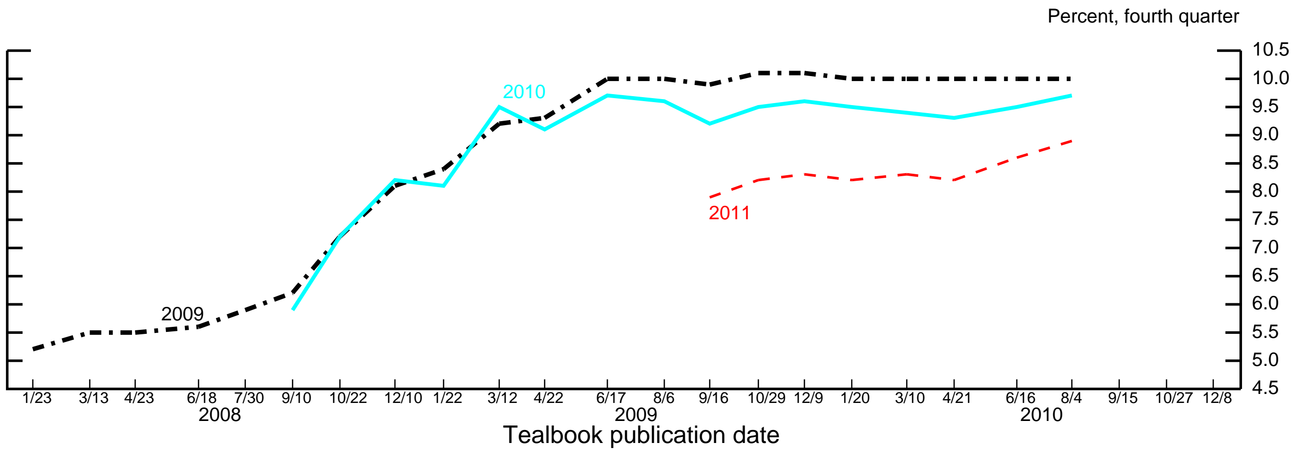
Note: In each panel, shading represents the projection period.

Evolution of the Staff Forecast

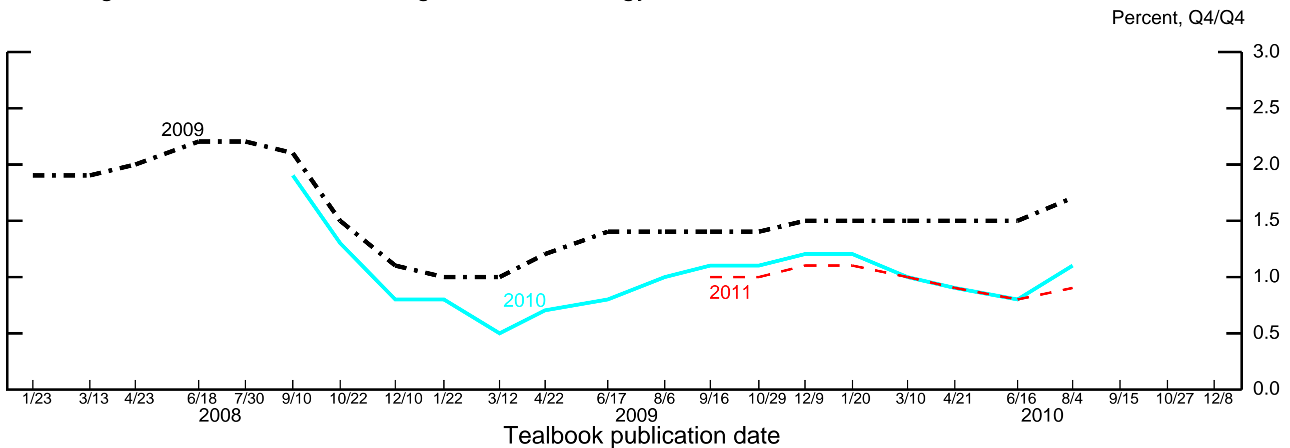
Change in Real GDP



Unemployment Rate



Change in PCE Prices excluding Food and Energy*



*Because the core PCE price index was redefined as part of the comprehensive revisions to the NIPA, projections prior to the August 2009 Tealbook are not strictly comparable with more recent projections.

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Appendix

Annual Revision of the National Income and Product Accounts

The annual revision of the national income and product accounts (NIPA), released on July 30, affected data back to the beginning of 2007. This year's revision mainly reflected the incorporation by the Bureau of Economic Analysis (BEA) of newly available and revised source data, including the Census Bureau's annual surveys and the Internal Revenue Service's (IRS) tabulation of corporate tax returns. The four-quarter change in real gross domestic product (GDP) was revised down 0.2 percentage point in 2007 and 0.9 percentage point in 2008. In 2009, the four-quarter change in real GDP was revised up 0.1 percentage point.

The revised data show a lower path for real GDP over the 2007–09 period. The downward revision was centered in real personal consumption expenditures (PCE), which are now estimated to have risen 0.4 percentage point per year more slowly on average. The revisions to real GDP also included a sizable downward adjustment to nonresidential investment in 2008. In 2009, the large downward revision to PCE was slightly more than offset by a sizable upward revision to nonresidential investment (particularly inventory investment).

Although both the peak (2007:Q4) and trough (2009:Q2) in real GDP during the recent recession remained the same, the contraction is now estimated to have been deeper than previously reported, 4.1 percent compared with 3.7 percent. Thus, the contraction is the largest on record since 1948, the earliest period for which quarterly data are available.

The revisions to the BEA's price indexes were generally small. The estimates of both total and core PCE inflation were essentially unchanged in 2007 and 2008, but were revised up about ¼ percentage point in 2009. Last year's revision mostly reflects updated estimates of nonmarket prices, although the BEA also introduced into its estimation procedures a number of new producer price indexes for market services. The increases in overall GDP prices are now estimated to have been smaller in both 2007 and 2009 primarily because of downward revisions to the price index for private fixed investment; in 2007, a part of the revision reflects the BEA's expanded use of the Federal Reserve Board's deflators for communications equipment.

On the income side of the accounts, the level of real gross domestic income (GDI) was revised down, on net, a little less than real GDP. Nevertheless, the decrease in GDI is still reported to have exceeded the decrease in GDP by an average of 1.0 percentage point per year over the 2007–09 period. Corporate profits were revised down in all three years. The revised estimates now put the share of economic profits in GNP at the end of 2009 at 9.8 percent, 0.3 percentage point lower than the previous estimate. By industry, the downward revisions were most heavily concentrated in the domestic financial sector. Nonfinancial sector profits were also revised down in 2007 and 2009 but were revised up in 2008.

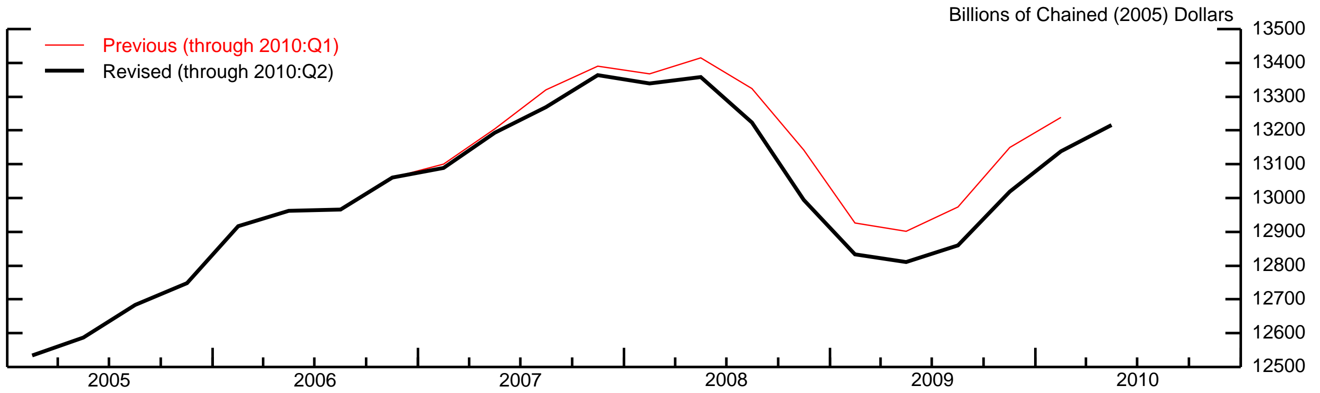
In contrast, real disposable personal income (DPI) is now estimated to have risen considerably faster, on net, than previously estimated. Most of the components of personal income revised up, but the largest contributor to the overall revision to DPI was a higher estimate of personal dividend income (derived from IRS data). The higher level of disposable income, together with the downward revisions to PCE, resulted in a sizable upward revision to the personal saving rate.

The annual NIPA revision also provided information about the likely magnitude of upcoming revisions to measures of productivity and compensation in the nonfarm business sector. We now estimate that output per hour in the nonfarm business sector rose 2.7 percent over the four quarters of 2007, before declining 0.3 percent in 2008, and then rising 6.3 percent in 2009; the estimate for 2008 is considerably weaker than reported earlier, while the productivity surge in 2009 is now even larger. In addition, we now estimate that compensation per hour in the nonfarm business sector rose 3.6 percent over the four quarters of 2007 and about 2.5 percent in both 2008 and 2009; the estimate for 2008 is somewhat weaker than reported earlier, while the increase in compensation per hour in 2009 is about 2.3 percentage points stronger. The revisions to last year's compensation figures stem primarily from larger estimates of employer contributions to pension and insurance funds.

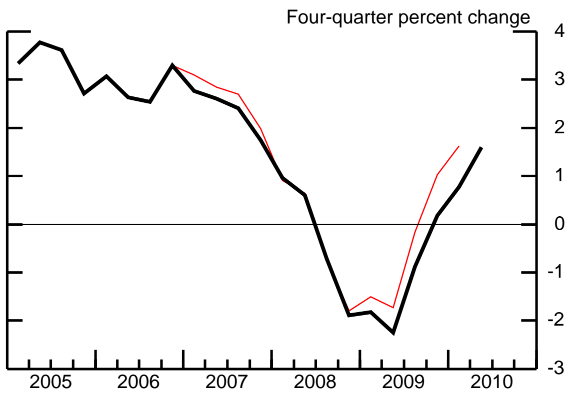
August 3, 2010

Annual Revision to the National Income and Product Accounts

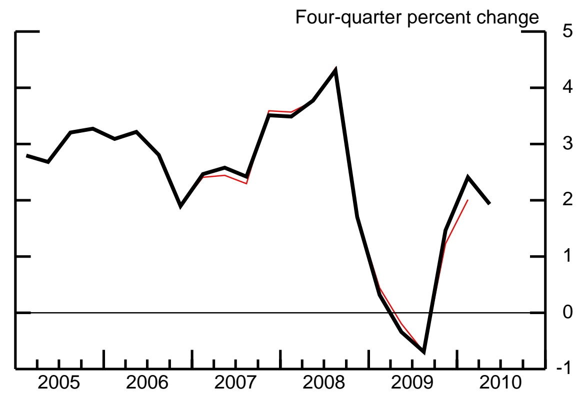
Real GDP



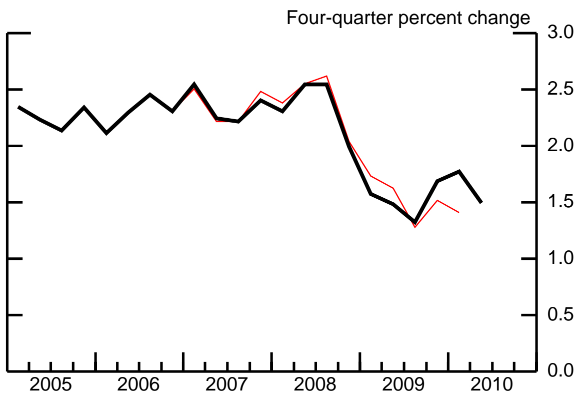
Real Personal Consumption Expenditures



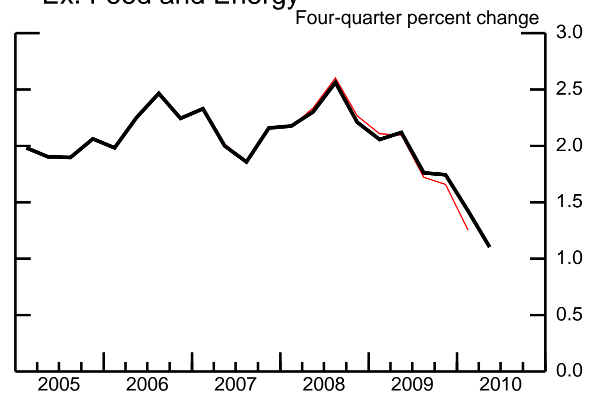
Total PCE Prices



PCE Prices Ex. Food and Energy



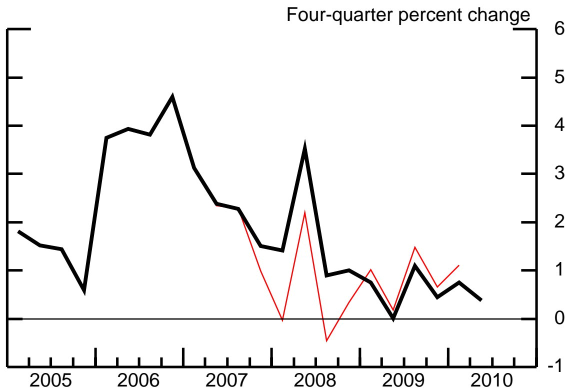
Market-Based PCE Prices Ex. Food and Energy



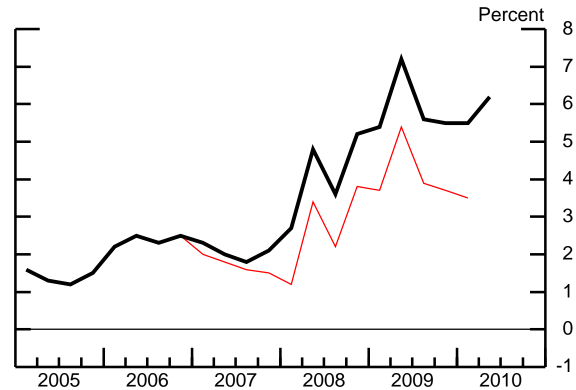
August 3, 2010

Annual Revision to the National Income and Product Accounts

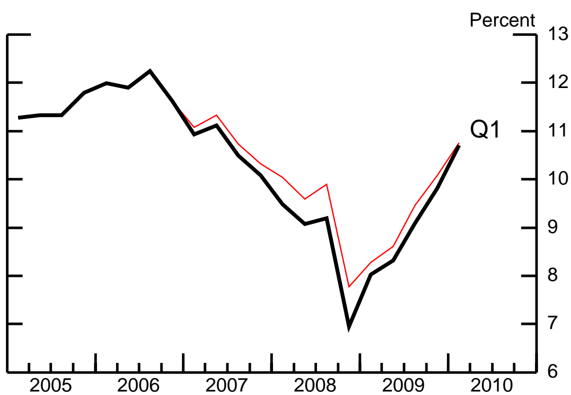
Real DPI



Personal Saving Rate

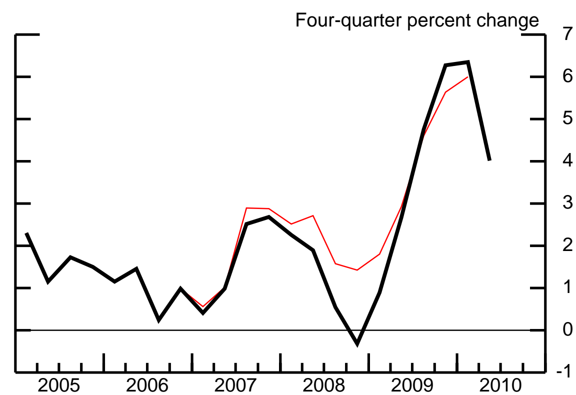


Profits as a Share of GNP



Productivity*

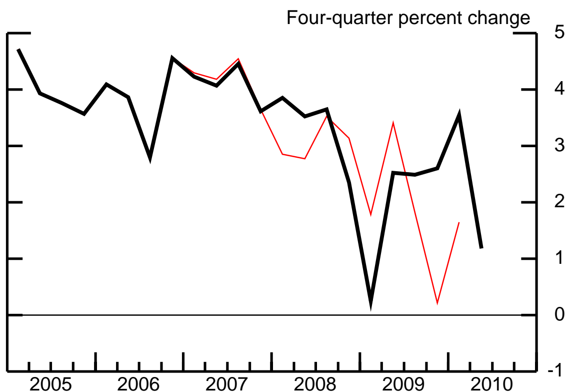
Nonfarm Business Sector



* Staff estimates.

Compensation per Hour*

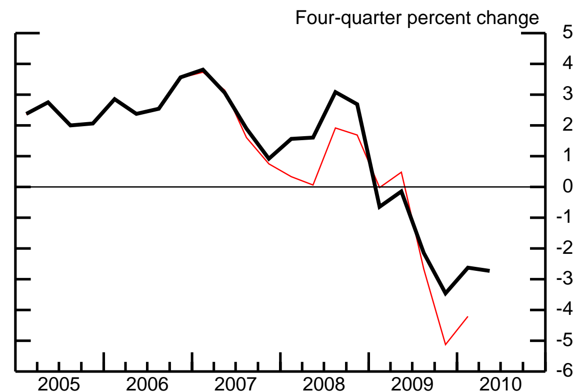
Nonfarm Business Sector



* Staff estimates.

Unit Labor Costs*

Nonfarm Business Sector



* Staff estimates.

International Economic Developments and Outlook

Economic indicators in Europe have been surprisingly resilient, leading us to edge up our projection for the region's growth. In addition, the generally positive reception of the EU bank stress tests and the modest improvements in financial indicators for Europe have reduced our assessment of the downside risks to our forecast stemming from fiscal stresses in the region. That said, we still expect European growth to face significant headwinds as fiscal policy starts to consolidate, European banks continue to repair balance sheets, and the bounceback in global trade and manufacturing plays through (see the section "Developments in Global Trade"). Lessening policy support and a maturation of the recovery in trade are also expected to contribute to some slowing in the emerging market economies. Indeed, Chinese GDP for the second quarter was somewhat weaker than we had expected, which, along with a markdown to growth in Latin America in the second half of the year, led us to forecast a slightly more pronounced near-term moderation for emerging market economies than we had projected in the June Tealbook. On balance, the contour of our projection for foreign activity is little changed from the June Tealbook. We continue to see growth abroad stepping down from above 4½ percent in the first half of this year to a more sustainable 3¼ to 3½ percent rate through the forecast period.

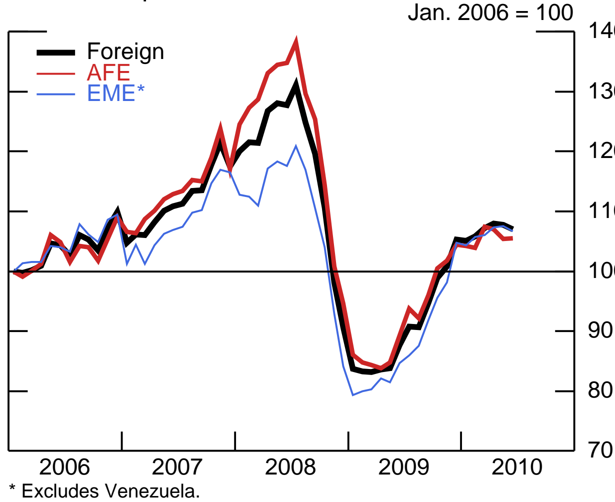
Summary of Staff Projections
(Percent change from end of previous period, annual rate)

Indicator	2009	2010	Projection		
			2010		2011
		Q1	Q2	H2	
Foreign output	.4	4.8	4.7	3.2	3.4
June TB	.4	4.9	4.3	3.3	3.3
Foreign CPI	1.2	3.4	1.3	2.0	2.2
June TB	1.2	3.4	2.0	1.9	2.2

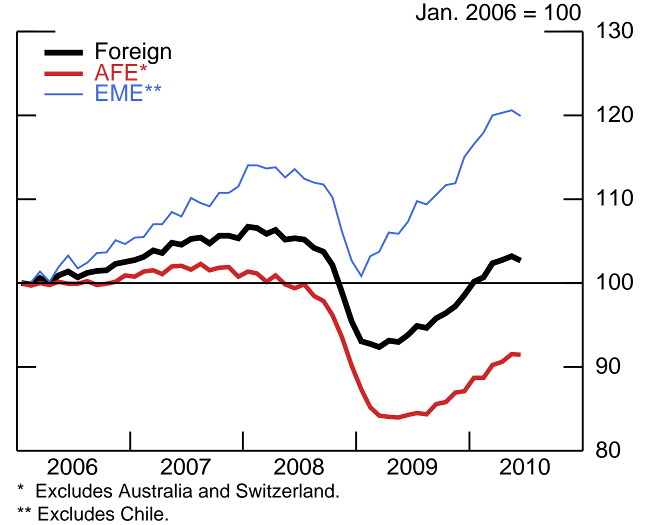
Inflation in the foreign economies came in lower than we had anticipated for the second quarter, largely reflecting faster pass-through of energy and non-oil commodity price declines than had been expected. With commodity prices flattening out, we have

Int'l Econ Devel & Outlook

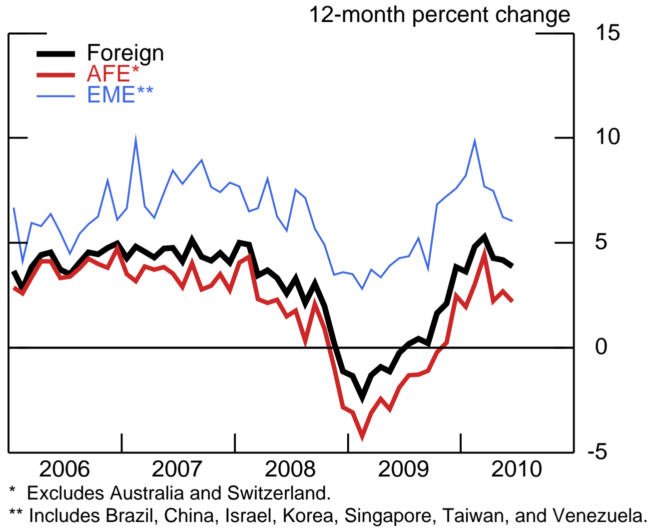
Recent Foreign Indicators



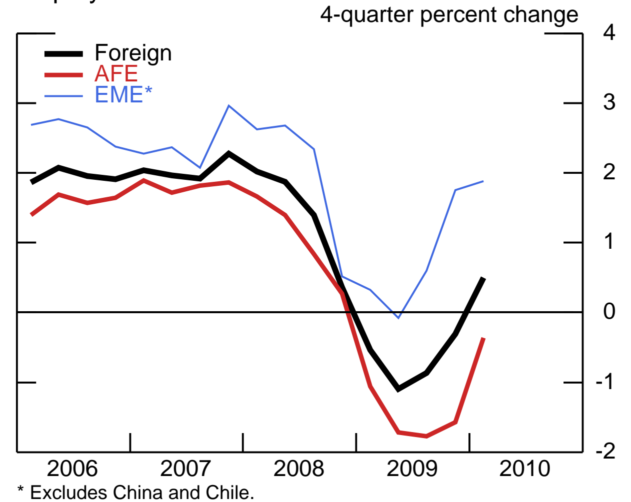
* Excludes Venezuela.



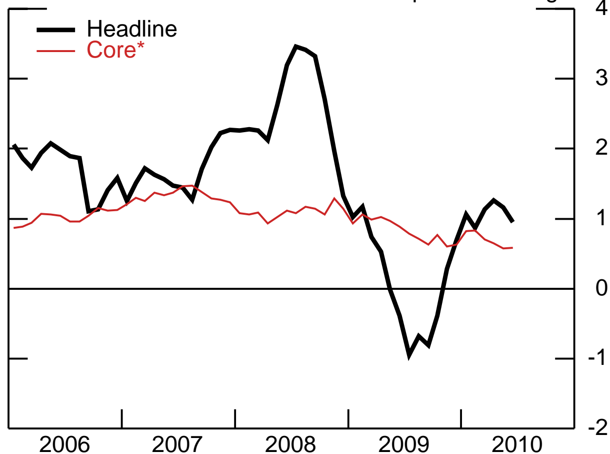
* Excludes Australia and Switzerland.
** Excludes Chile.



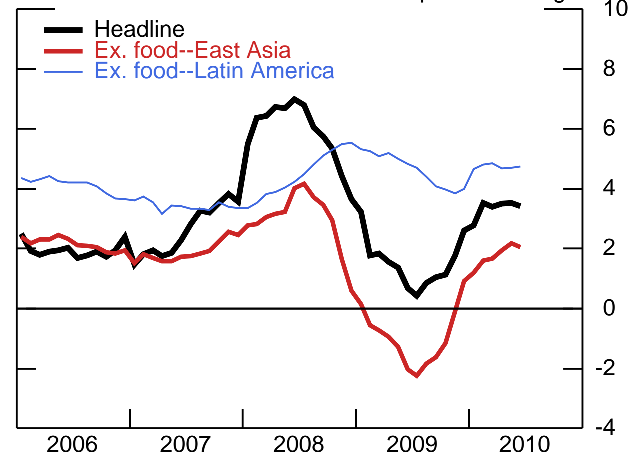
* Excludes Australia and Switzerland.
** Includes Brazil, China, Israel, Korea, Singapore, Taiwan, and Venezuela.



* Excludes China and Chile.



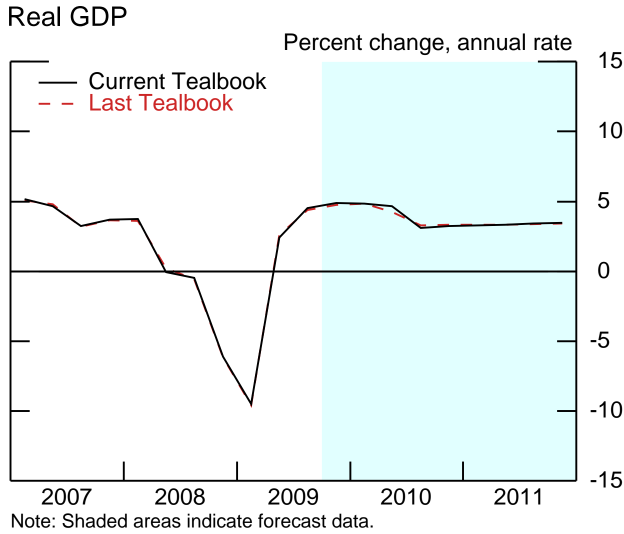
Note: Excludes Australia, Sweden, and Switzerland.
* Excludes all food and energy; staff calculation.

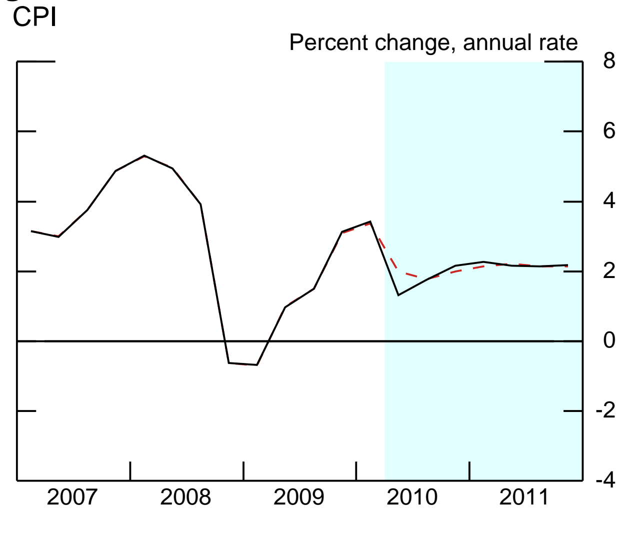


Source: Haver Analytics and CEIC.

The Foreign Outlook

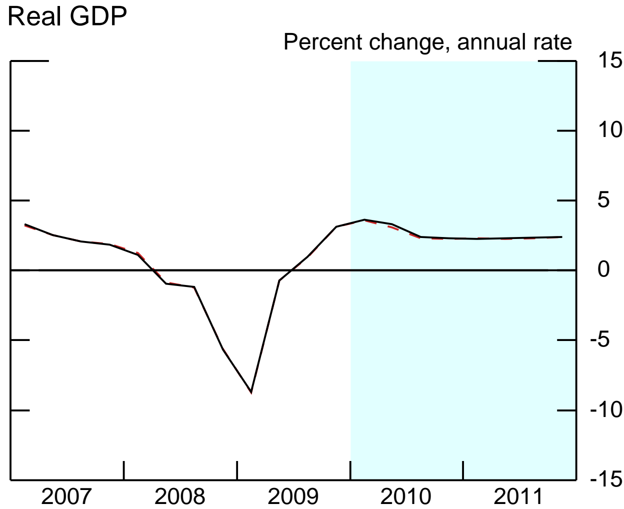
Total Foreign

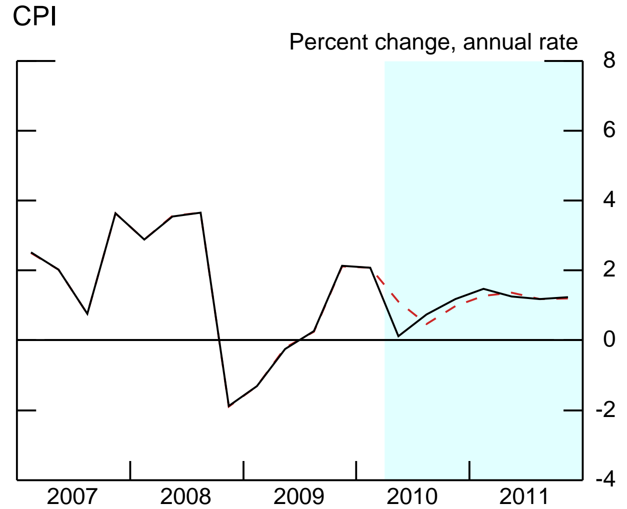




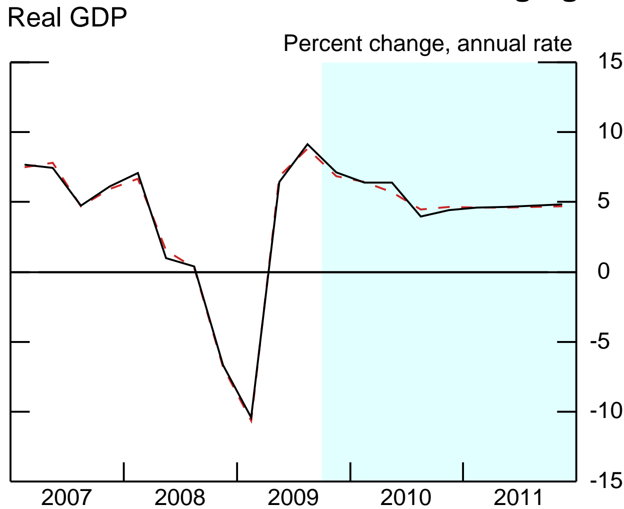
Note: Shaded areas indicate forecast data.

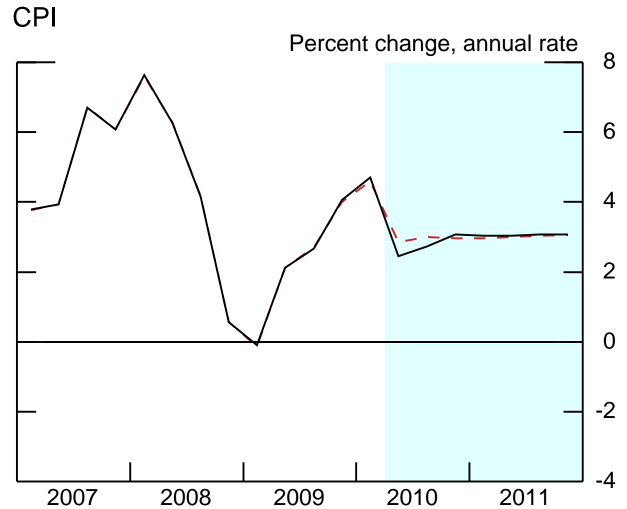
Advanced Foreign Economies





Emerging Market Economies





not read too much into this surprise and continue to expect inflation to move up later this year and then stabilize at a subdued 2¼ percent pace.

As mentioned above, policy support is expected to diminish over the course of the forecast period. Fiscal policy in the advanced economies is expected to turn from being roughly neutral for growth this year to exerting a ¾ percentage point drag in 2011. Monetary policy abroad is expected to remain generally accommodative over the forecast period. That said, a number of central banks, including those in Canada, Australia, Brazil, India, and Korea, have already initiated policy tightening. The effect of Chinese measures to rein in lending and moderate the pace of GDP growth has been manifest somewhat more quickly than expected, and we believe that the pace of tightening is likely to slow a bit going forward.

Advanced Foreign Economies

We estimate that real GDP in the advanced foreign economies (AFEs) grew at an annual rate of 3¼ percent in the second quarter, near the rapid first-quarter pace of 3.6 percent and a little faster than we wrote down in June. We project that growth will move down to below 2½ percent in the second half of this year and remain at that pace in 2011, as fiscal consolidation and the slow revival of bank lending in a number of countries restrain growth and as the boost to activity from the recovery in inventories wanes.

Staff Projections for Advanced Foreign Economies
(Percent change from end of previous period, annual rate)

Indicator	2009	2010	Projection		
			2010		2011
		Q1	Q2	H2	
Real GDP	-1.4	3.6	3.3	2.4	2.3
June TB	-1.5	3.6	3.1	2.3	2.3
CPI	.2	2.1	.1	1.0	1.3
June TB	.2	2.1	1.1	.7	1.3

Recent indicators for the euro area have shown little imprint of the fiscal stresses that erupted through the spring. Industrial production, which has risen in line with

external trade, grew at a rapid pace again in May, with particularly strong performance in Germany and France, and industrial orders point to additional gains. Notably, euro-area purchasing managers indexes turned up in July, consistent with substantial momentum in manufacturing and services, and consumer and business sentiment bounced back. Moreover, sentiment may have received a further boost from the results of the bank stress tests, which seem to have helped reduce fears that sovereign debt pressures could lead to a widespread banking crisis (see the box "Summary of the EU-Wide Stress-Test Exercise").

Given the significant financial disruptions and uncertainty associated with the fiscal turmoil in the euro area over the past few months, the buoyancy of the incoming data has been surprising. In response, we have revised up our estimate of second-quarter growth 1 percentage point to 2¾ percent. But with substantial fiscal consolidation in the pipeline, the impetus from the inventory cycle fading, and financial institutions still facing funding pressures and, in some cases, needs for recapitalization, we continue to believe that significant headwinds and risks remain. Accordingly, we expect euro-area growth to slow to an average pace of 1¼ percent over the remainder of the forecast period, only slightly stronger than in the previous Tealbook; the composition of growth is just a bit less dependent on net exports than in our June forecast, reflecting the recent appreciation of the euro.

In Japan, indicators of household spending have remained weak through May, and consumer sentiment remains well below its pre-crisis peak. Most of the solid 2¾ percent growth that we estimate for Japanese GDP in the second quarter appears attributable to continued strong exports, which have been flowing mostly to emerging Asia. However, some signs of moderation are evident in that process—Japanese machinery orders declined sharply in May, and industrial production and real exports moved down in June—consistent with our expectations for somewhat slower GDP growth in the second half of this year and next.

In contrast, Canada's recovery is being driven by robust domestic demand. We estimate that Canadian real GDP grew 3¾ percent in the second quarter, with private consumption accounting for more than half of that growth. Consumption has increased at a 4 percent pace since the third quarter of 2009, a touch above its average over the decade prior to the crisis. In Canada's housing sector, building permits have returned to the level

Summary of the EU-Wide Stress-Test Exercise

The Committee of European Banking Supervisors, EU national bank supervisory authorities, and individual financial institutions released the results of their EU-wide stress-test exercise on Friday, July 23. The objective of this exercise was to assess the resilience of EU banks to possible adverse economic developments, including increased credit, market, and sovereign risks.

The exercise covered a sample of 91 European credit institutions, representing 65 percent of the total assets of the EU banking sector and at least 50 percent of banking-sector assets in each of the 27 EU member countries. To the surprise of some market participants, the Europeans met the challenge of coordinating, with a very short deadline, among national, transnational, and private parties to achieve the joint publication of detailed results.

The stress test was performed at the bank level and focused on assessing credit risk and potential losses under three macroeconomic scenarios: a benchmark scenario, which assumed a continued moderate recovery from the severe 2008–09 downturn; an adverse scenario, which assumed a "double-dip" recession with the level of GDP falling 3 percent below EU baseline projections by 2011; and an even more adverse scenario, which combined the recession assumption with interest rate adjustments motivated by a postulated heightening of the European sovereign debt crisis. The assumptions behind the scenarios were used to calculate the corresponding losses by portfolio and by country of asset—although national supervisors allowed some bank-level differences—and to estimate country-specific haircuts for government bonds held in the trading book. The sovereign risk scenario did not incorporate default on any government bonds, as such default was perceived by EU officials to be a "highly implausible" event. As a result, the haircuts applied only to sovereign bonds held in the trading book, a restriction that has been criticized in market commentary. However, the sovereign stress was assumed to feed through to the banking book through higher losses on credit to the private sector caused by the increases in interest rates.

Results

A bank was determined to be resilient if its estimated Tier 1 capital ratio under the combined adverse scenario and sovereign risk shock was at least 6 percent as of the end of 2011. Seven of the 91 banks included in the test did not meet this benchmark. These banks, which had an aggregate capital shortfall of €3.5 billion, are located in three countries: Spain (accounting for five of the banks and €2.0 billion of the shortfall), Germany (accounting for one of the banks and €1.2 billion of the shortfall) and Greece (accounting for one of the banks and €0.2 billion of the shortfall). To address the weaknesses revealed by the test, each of these banks was asked to propose a recapitalization plan, to be implemented within a given time frame and in agreement with the national supervisory authorities.

EU officials project that, in aggregate, impairment and trading losses under the adverse scenario including the additional sovereign shock would amount to about €566 billion through the end of next year. Of those losses, the bulk (nearly 90 percent) derives from losses on loans and other assets in the banking book and the remainder from markdowns of assets held in the trading book, including sovereign debt.

In the run-up to the publication of the test results, significant concerns surfaced regarding the credibility and transparency of the test. Upon publication, the estimated recapitalizations required were well below analysts' estimates. Yet, the results appear to have been reasonably well received, in part because sufficient information was released to allow outside analysts and investors to make their own evaluations. Analysts' post-test estimates of additional capital required for the European banking sector ranged between €11 billion and €63 billion, considerably less than the funds already set aside by national authorities and the EU. These same analysts estimated that an additional 6 to 17 banks, besides the 7 selected by the official stress-test exercise, would have failed more stringent tests. Nevertheless, the post-test analyst reports were generally seen to be reassuring about the resilience of the European banking system.

Sovereign Debt Exposures

In addition to releasing the test results, the banks also disclosed their sovereign debt exposures to individual EU countries, including Greece, Ireland, Italy, Portugal, and Spain. Importantly, the banks disclosed total exposures in the banking and trading books as well as exposures net of collateral and hedges, which appear to have reduced uncertainty surrounding banks' exposures to peripheral European countries.

Comparison with the U.S. Supervisory Capital Assessment Program

The EU exercise shared many features with the U.S. Supervisory Capital Assessment Program (SCAP) conducted in early 2009, though the differences between the tests are notable. The two exercises ran benchmark (or baseline) and adverse scenarios over a similar time frame (two years) and considered adverse changes in GDP, unemployment, and property prices in the scenarios. The EU test included a common upward shift to each EU country's yield curve and a set of country-specific upward shocks to government bond yields, while the SCAP did not include explicit yield curve assumptions.

The EU test used the Tier 1 capital ratio (with a threshold of 6 percent) as its sole metric, whereas the SCAP used both the Tier 1 capital ratio (also with a threshold of 6 percent) and the Tier 1 common equity ratio (with a threshold of 4 percent). EU officials have indicated that they chose the Tier 1 capital ratio because of its harmonized and precise legal definition across EU countries. Other measures of capital, it was noted, would not allow direct comparison of results across countries. However, Tier 1 capital may include lower-quality elements, such as certain preferred shares, that are excluded from the more restrictive Tier 1 common equity. As such, EU officials may have decided to focus on the more inclusive Tier 1 ratio also because they desired to count the sizable government capital injections into banks (more than €200 billion in 2008 and 2009), much of which was in the form of preferred shares, as bank capital.

of the boom years of 2006 and 2007. Going forward, we expect growth to moderate slightly to 3¼ percent, in part reflecting tighter monetary policy.

U.K. real GDP accelerated notably in the second quarter, to a 4.5 percent pace, with the construction sector rebounding sharply. The GDP release confirmed surveys that had shown a robust recovery, even as previous data on real activity had been weak. Nonetheless, consumer confidence declined further in July, hindered, in part, by poor job prospects and impaired household balance sheets.

We continue to project that AFE inflation will remain subdued this year and will pick up only moderately on average in 2011. In response to weakening energy prices in the spring, headline inflation in the AFEs excluding Japan fell from 2½ percent in the first quarter to ½ percent in the second. This decline was faster than we had anticipated in June, although the surprise mainly reflected weaker-than-expected energy prices in Canada. With core inflation generally quiescent amid sizable output gaps, headline inflation should remain contained in these economies throughout the forecast period. In Japan, we project that deflation will attenuate only slightly, as the output gap remains substantial.

With inflation prospects still contained, the outlook for AFE monetary policy remains largely as it was in June. Amid weak output growth and subdued inflationary pressures, the ECB is likely to maintain easy monetary and liquidity conditions and to keep its benchmark policy rate unchanged at 1 percent through the end of the forecast period. We still expect that the Bank of England’s first policy rate hike will occur in the middle of 2011 and that the Bank of Japan will remain on hold well beyond the end of next year. The Bank of Canada raised its policy rate to 75 basis points at its July meeting, and we assume it will continue to tighten going forward, but at a slightly slower pace than previously anticipated.

Our assumptions for AFE fiscal policy are also little changed since the June Tealbook: Fiscal policy should have little effect on GDP growth this year and reduce growth about ¾ percentage point in 2011. To date, peripheral euro-area countries have been implementing fiscal consolidation plans in line with their commitments. In Japan, the loss of the upper house elections in July by the governing coalition has likely delayed plans for medium-term fiscal consolidation. As expected, the U.K. government adopted new fiscal targets in late June, calling for the elimination of the structural deficit by 2015. We anticipate that these fiscal consolidation efforts in the AFEs will weigh on aggregate

demand. It is possible, however, that the drag on growth may be less severe than we expect, particularly if market confidence and economic sentiment respond more positively to policy measures, a possibility discussed in the box titled "Can Fiscal Consolidation Be Stimulative?"

EMERGING MARKET ECONOMIES

Incoming data point to a moderation of economic growth in most emerging market economies (EMEs). Among the three EMEs for which we have second-quarter GDP, growth stepped down from its first-quarter pace—by somewhat more than we had expected in China but by less than expected in Korea and Singapore. In other EMEs, purchasing managers indexes generally have moved lower but still indicate expansion of manufacturing sectors, and industrial production in many countries has begun to decelerate, particularly in emerging Asia and Brazil. In contrast, Mexican indicators suggest that economic activity rebounded sharply in the second quarter, after contracting in the first quarter, contributing to the upward revision to EME growth last quarter.

We are not seeing much adverse effect of the European situation on the EMEs. Flows into emerging-market-dedicated investment funds have rebounded since their weakness in May, and EME exports to Europe do not yet show any signs of slowing.

Staff Projections for Emerging Market Economies
(Percent change from end of previous period, annual rate)

Indicator	2009	2010	Projection		
			2010		2011
		Q1	Q2	H2	
Real GDP	2.8	6.4	6.4	4.2	4.7
June TB	2.7	6.5	5.7	4.6	4.6
CPI	2.2	4.7	2.4	2.9	3.0
June TB	2.2	4.6	2.9	3.0	3.0

We expect EME growth to hover around 4½ percent over the forecast period. Relative to our June forecast, this projection is about ½ percentage point lower in the second half of this year, reflecting a combination of a bit less momentum in the Chinese economy, a downward revision to Mexico's outlook in line with weaker U.S. industrial

Can Fiscal Consolidation Be Stimulative?

Standard Keynesian analysis implies that a fiscal consolidation should induce a persistent contraction in output. However, a literature originating with Giavazzi and Pagano (1990) and Alesina and Perotti (1995, 1997) has challenged this traditional view by providing evidence that large episodes of fiscal consolidation appear to boost output under certain conditions.[1] This box provides a short overview of this literature, highlighting the conditions under which fiscal consolidations can be expansionary.

In a seminal paper, Alesina and Perotti (1997) analyzed annual data on 62 episodes of large fiscal consolidation in OECD countries that occurred between 1960 and 1994. The authors differentiated between successful and unsuccessful episodes, with the former defined as achieving a sustained reduction in the structural deficit of at least 2 percent of GDP after three years (or a reduction in government debt of 5 percent of GDP). Notably, in the 16 successful episodes identified by these criteria, GDP growth throughout the consolidation period typically was considerably higher than the OECD average at that time; by contrast, GDP growth was a bit lower than the OECD average in the 46 unsuccessful episodes.

The Alesina and Perotti findings spurred substantial interest in identifying the conditions under which fiscal consolidation might have expansionary effects. Subsequent research has found that fiscal consolidation is more likely to be expansionary in an economy that would face an imminent fiscal crisis in the absence of corrective action, with a high and rising level of government debt and relatively high sovereign borrowing costs. Against this backdrop, a fiscal consolidation that achieves a durable reduction in government expenditure can boost real activity by reducing borrowing spreads and lowering the future expected tax liabilities of households and firms. These sanguine effects are more likely to the extent that the fiscal consolidation is implemented quickly and decisively, and is large in scale. Moreover, the composition of the fiscal consolidation is crucial. Consolidations that rely mainly on tax increases rather than expenditure cuts typically reduce growth significantly, reflecting that high prevailing levels of government spending make additional tax hikes very distortionary.

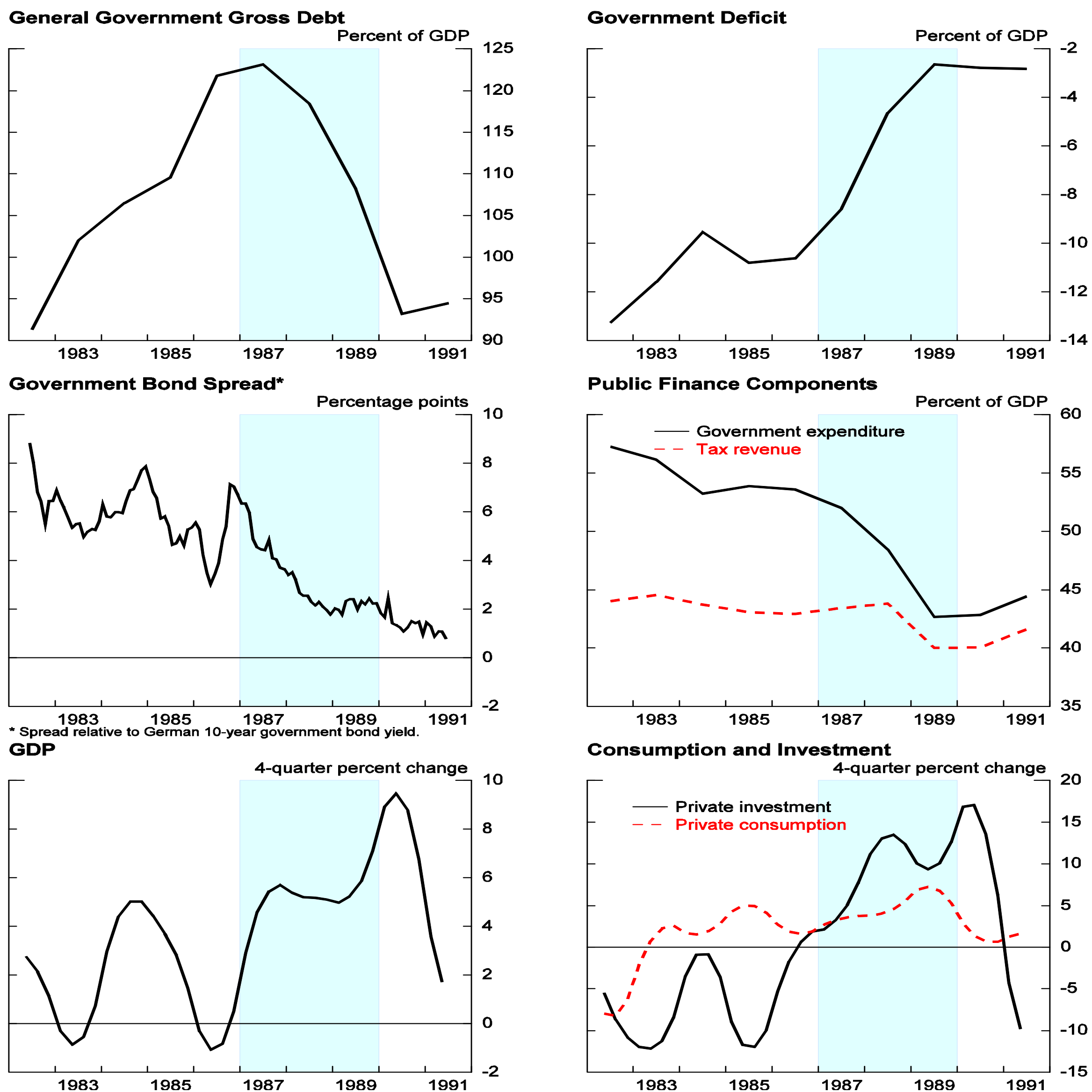
Ireland's successful fiscal consolidation that occurred between 1987 and 1989 is a prime example of stimulative fiscal consolidation. As shown in the accompanying figure, this consolidation occurred in an environment of sharply rising government debt, large and persistent budget deficits, and high sovereign borrowing costs. After several failed attempts at tax-based consolidation, Ireland's coalition government began implementing large and permanent cuts in government spending in 1987. The consolidation decreased government expenditure by more than 10 percent of GDP over three years, and sovereign spreads plummeted. GDP growth rose considerably during the consolidation, in part because of rapid growth in domestic demand.

It bears emphasizing that there is little evidence suggesting that fiscal consolidation boosts near-term output for economies that can finance government deficits on favorable terms. For example, the VAR-based evidence of Ilzetzki and others (2010) shows that fiscal consolidation

[1] Alberto Alesina and Roberto Perotti (1995), "Fiscal Expansions and Adjustments in OECD Countries," *Economic Policy,* vol. 21, pp. 207–48; Alberto Alesina and Roberto Perotti (1997), "Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects," *International Monetary Fund Staff Papers,* vol. 44 (Washington: IMF, June), pp. 210–48; Francesco Giavazzi and Marco Pagano (1990), "Can Severe Fiscal Contractions Be Expansionary? Tales of Two Small European Countries," in Olivier Jean Blanchard and Stanley Fischer, eds., *NBER Macroeconomics Annual 1990* (Cambridge, Mass.: The MIT Press), pp. 75–111.

in countries with low government debt–GDP ratios causes output to contract, even while output tends to expand in countries with high levels of government debt.[2] Thus, the evidence showing that fiscal consolidation can be stimulative under particular conditions should not be interpreted as undermining the wide body of empirical evidence—including from structural models and vector autoregressions—indicating that fiscal consolidations usually tend to reduce output in the near term.

[2] Ethan Ilzetzki, Enrique G. Mendoza, and Carlos A. Végh (2010), "How Big (Small?) Are Fiscal Multipliers?" unpublished paper, University of Maryland, May.



Source: OECD and Haver Analytics.

production, and a larger payback in Singapore from its unsustainable first-half surge. As expected, inflation in the EMEs dipped in the second quarter, to 2½ percent, on waning food and energy prices, and we project that inflation will average about 3 percent through the remainder of the forecast period.

Following the release of second-quarter GDP data for China, which included revisions to history, we now estimate that growth last quarter slowed to an annual rate of about 7 percent, suggesting that efforts by Chinese authorities to cool the sizzling pace of expansion are having their desired effects. Consumption, as measured by retail sales, and net exports were strong, but industrial production and investment moderated, likely in response to the effects of waning fiscal stimulus and some tightening of restraints on lending. Moreover, equity and property prices have recently flattened, tempering concerns about asset bubbles. Chinese authorities are unlikely to reverse the course of policy tightening in light of these developments, but they may reduce its pace. We expect that this tightening will be sufficient to engineer a soft landing for the Chinese economy, with growth averaging near 8½ percent over the remainder of the forecast period, down from more than 10 percent during the past year.

On the whole, other emerging Asian economies appear to be decelerating roughly in line with our projections in the June Tealbook. However, Singapore's GDP unexpectedly surged again in the second quarter, rising 26 percent at an annual rate. We now project a contraction of Singapore's economy over the second half of the year as its volatile manufacturing sector catches its breath. In Korea, GDP growth stepped down to 6 percent in the second quarter but still surpassed our expectations. We have the pace of Korean growth moderating to about 4¼ percent over the remainder of the forecast period.

We estimate that GDP growth in Mexico rebounded to 6 percent in the second quarter, owing to a strong expansion of motor vehicle production and a moderate rebound of agricultural output from its first-quarter contraction. In contrast, we estimate that growth stepped down to about 2¾ percent in Brazil after double-digit growth in the first quarter, partly reflecting the withdrawal of tax incentives for purchases of autos and other consumer durables. For Latin America as a whole, we project that real GDP growth will average about 3¾ percent in the second half of this year and next year as Mexico's recovery solidifies and the Brazilian economy grows at a more sustainable pace.

DEVELOPMENTS IN GLOBAL TRADE

Following a stunning collapse at the end of 2008, global trade has rebounded sharply since the middle of last year, with an index of real global trade increasing 23 percent in the 12 months ending in May. This rapid growth has returned the level of real trade to the vicinity of its pre-crisis peak, largely on account of the robust performance of trade in the emerging market economies; imports and exports in most advanced economies remain below pre-crisis peaks.

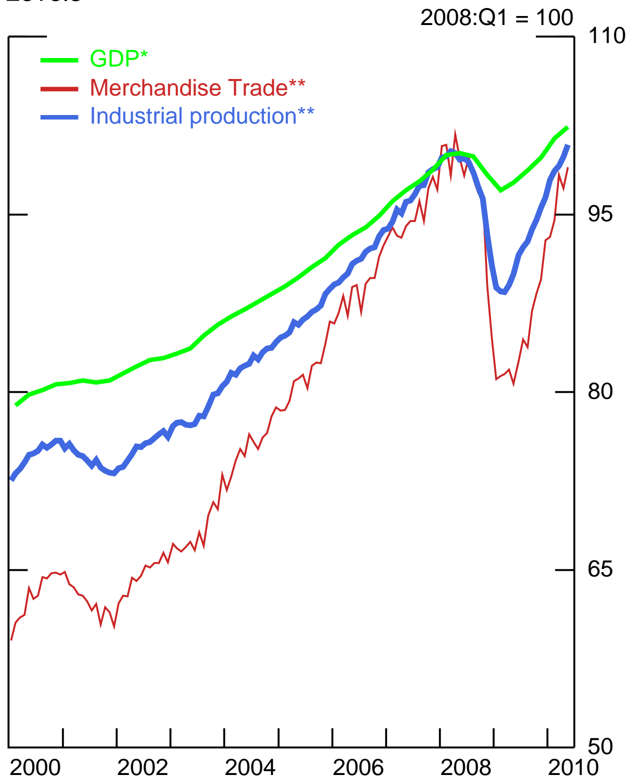
The growth of real global trade over the past year has greatly exceeded that of real global GDP, just as the decline in trade was far steeper than that of GDP during the crisis. The greater volatility of trade during the cycle likely reflects a number of factors, most importantly the preponderance of durable goods in trade relative to GDP and the interaction of trade and inventories. Recent fluctuations in trade have been more correlated with movements in global industrial production than with global GDP, as might be expected given the large proportion of manufactured goods in trade. Even so, trade has also been more volatile than industrial production, falling more in the crisis and rebounding faster in the recovery.

With global trade approaching its pre-crisis level and moving closer in line with global industrial production, there is less scope going forward for the outsized growth rates of imports and exports that we observed over the past year. Accordingly, trade growth will likely slow in the second half of 2010, consistent with our expectation that GDP growth in the foreign economies will slow as well.

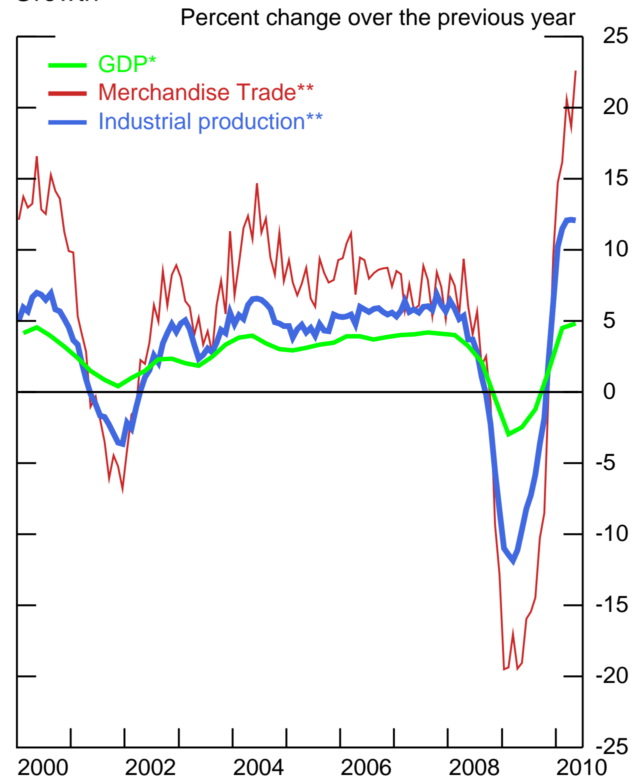
Although available data on global trade have yet to record a significant deceleration in the pace of the rebound, other more timely indicators hint that such a slowdown could be occurring. One such indicator is the Baltic Dry Index, which measures the price of chartering bulk commodity cargo ships and is driven to a certain extent by the demand for globally traded commodities. Since the end of May, the Baltic Dry Index has plummeted more than 50 percent to levels not seen since global trade bottomed out in the middle of 2009. However, the Baltic Dry Index is an imperfect proxy for global trade, as it is affected by a number of other factors, including the supply of bulk cargo carriers. A large number of ships were ordered during the commodity boom between 2003 and 2008 and are now in the process of being delivered, leading to an increase in the global fleet and weighing on shipping prices. Unlike the Baltic Dry

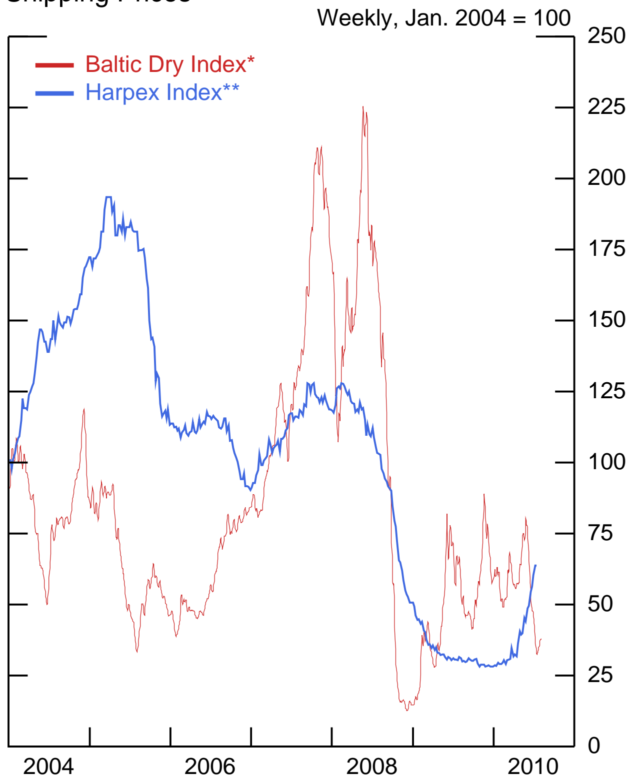
Developments in Global Trade

Real Global GDP, Trade, and Industrial Production

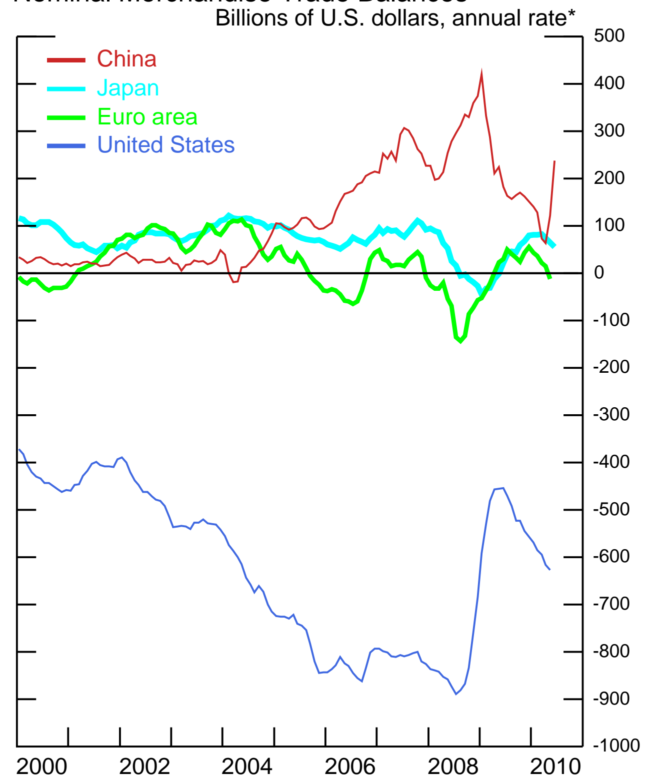


*Source: Staff estimate.
**Source: Netherlands Bureau for Economic Policy Analysis.
Trade is the average of imports and exports.





*Source: Baltic Exchange.
**Source: Harper Petersen.



Source: Haver.
*3-month moving average.

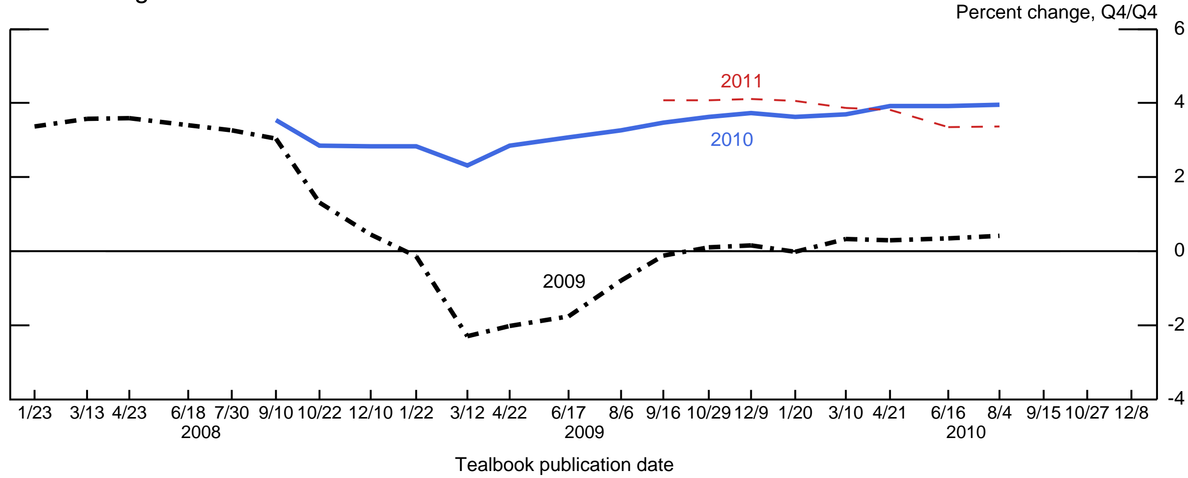
Index, price indexes for container shipping, such as the Harpex Index, have recently recorded increases, although they remain quite low by historical standards.

The resurgence of global trade over the past year has been accompanied by some notable changes in the pattern of external balances across countries. In the 12 months ending in May, the U.S. trade deficit widened by about $200 billion, although this widening has retraced only a portion of the $440 billion narrowing of the deficit recorded in late 2008 and early 2009. Of the widening of the deficit that has occurred over the past year, more than half is attributable to a higher oil import bill, primarily reflecting the rebound in oil prices.

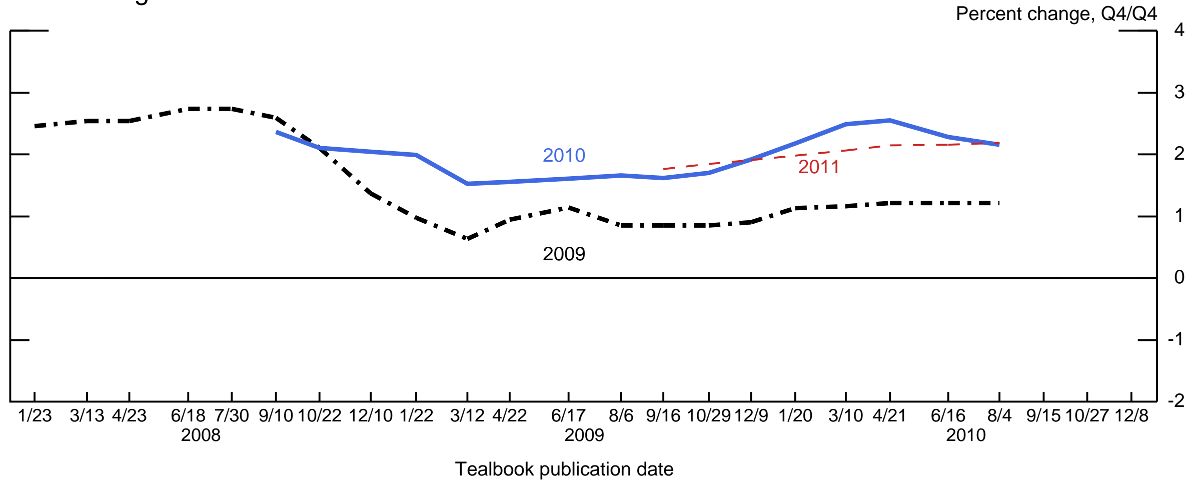
As in the United States, large improvements in the trade balances of the euro area and Japan over late 2008 and early 2009 have been partially retraced. In contrast, China's trade balance fell during the crisis as exports plunged faster than imports and then continued to decline during the initial phase of the recovery of world trade, as import growth outpaced renewed export growth. However, in the second quarter of this year, China's imports flattened out and its exports soared, causing the country's trade surplus to rebound sharply.

Evolution of Staff’s International Forecast

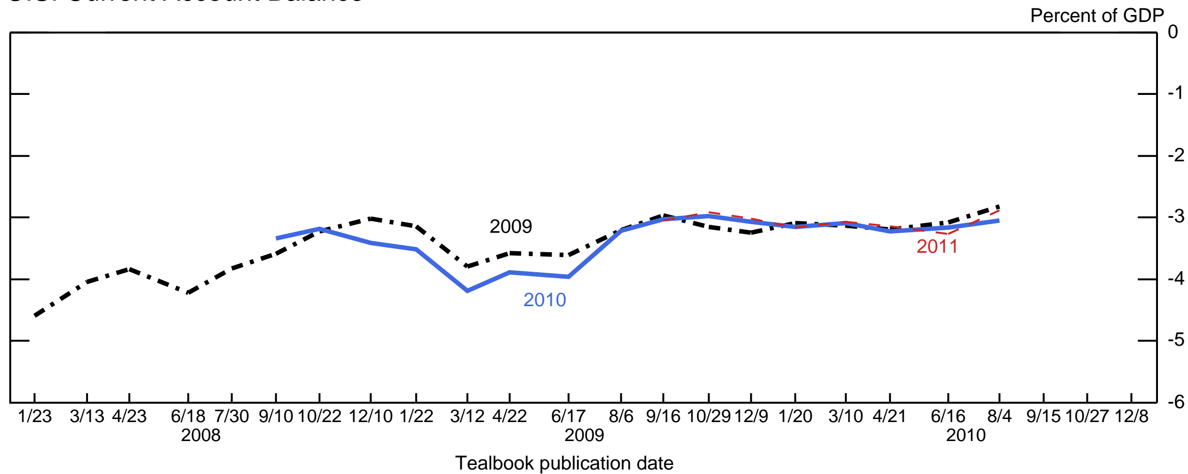
Total Foreign GDP



Total Foreign CPI



U.S. Current Account Balance



Financial Developments

Investors appeared to mark down their outlook for economic growth in response to weaker-than-expected incoming data over the intermeeting period. At the same time, market participants apparently took some comfort from the information released in association with the European stress-test exercise and seemed to trim the odds that they place on a sharp deterioration in financial market conditions. In addition, news about second-quarter corporate earnings, both in the United States and abroad, was generally upbeat. On balance, strains in short-term funding markets eased, corporate bond spreads narrowed modestly, and stock prices edged up. However, with the more subdued outlook for growth, market participants pushed back the expected timing of the commencement of policy firming and nominal Treasury yields declined about 20 to 45 basis points. Inflation compensation fell, although changes in survey measures of inflation expectations were mixed. The broad nominal value of the dollar declined more than 2½ percent, likely reflecting some reversal of flight-to-safety flows, better-than-expected foreign economic data, and the softer economic outlook for the United States.

Household debt is estimated to have contracted again in the second quarter, as mortgage debt and consumer credit both appear to have declined, although record-low mortgage rates led to a pick-up in mortgage refinancings. Delinquency rates on home mortgages and consumer loans moved lower but were still elevated. Borrowing by nonfinancial businesses was moderate over the intermeeting period, as the pace of bond issuance rebounded and the contraction in C&I loans at banks slowed. Indicators of corporate credit quality stayed solid. Financing conditions for commercial real estate remained difficult, although there were scattered signs of improvement.

Commercial banks' core loans declined in June and July, but at a slower pace than earlier in the year. The July Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS) showed a second straight quarter of modest unwinding of the widespread tightening of standards that occurred during the financial crisis. Bank earnings continued to recover in the second quarter, lifted by reductions in loan loss provisions. M2 was little changed in July, as declines in small time deposits and retail money market funds offset increases in liquid deposits and currency.

POLICY EXPECTATIONS AND TREASURY YIELDS

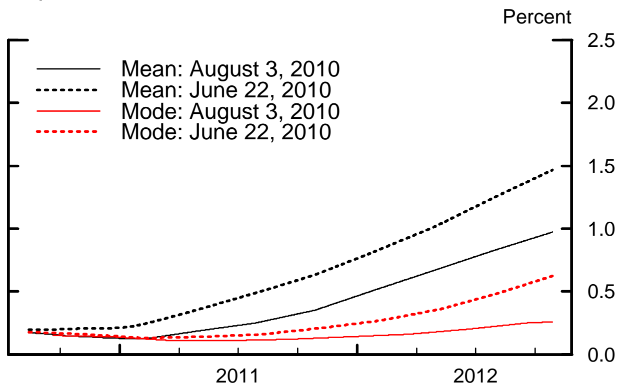
Money market futures rates decreased over the intermeeting period.[1] The FOMC's decision at its June meeting to maintain the 0 to ¼ percent target range for the federal funds rate and the language in the accompanying statement were in line with investor expectations and elicited relatively little market reaction. Upon release of the minutes of the meeting, the expected path of policy declined somewhat, as investors reportedly focused on the downward revisions to the Committee's growth and inflation forecasts and on the Committee's assessment that the risks to the economic outlook were tilted to the downside. Futures rates also moved down in response to the Chairman's remarks during the semiannual monetary policy testimony that the economic outlook is "unusually uncertain" and that policy makers are prepared "to take further policy actions as needed." Some weaker-than-expected economic data also reportedly contributed to the decline in market interest rates during the period.

Futures quotes, combined with the usual staff assumptions for term premiums, indicate that market participants' expected policy path now rises above the current 0 to ¼ percent target range in the third quarter of 2011. The expected policy path implies a federal funds rate of around 1.0 percent in the fourth quarter of 2012, about 50 basis points below the level expected at the time of the June FOMC meeting. Quotes on interest rate caps suggest that the modal path of the federal funds rate also moved down over the period; this path does not rise above the current target range until the third quarter of 2012.

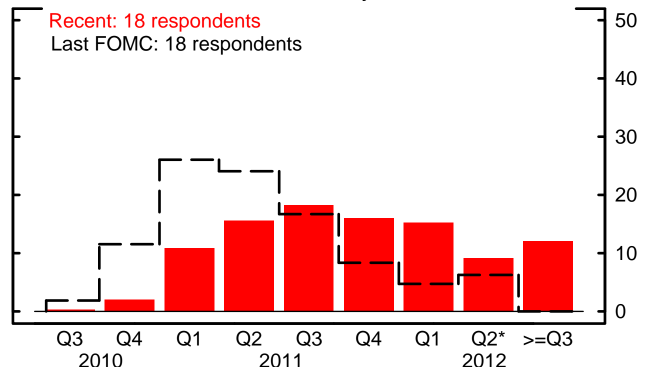
Consistent with financial market quotes, results from the August survey of primary dealers suggest that market participants lowered their expectations for the path of the federal funds rate. Respondents reported an average probability of about 70 percent that the first tightening would occur in the third quarter of 2011 or later, compared with a probability of about 35 percent in the June survey. The dealers assigned probabilities of about 25 percent to the Federal Reserve lowering the interest rate paid on excess reserves or expanding its balance sheet through additional purchases before the end of the year. They attached a probability of around 35 percent to the Committee modifying its policy language describing how it will change interest rates over time and a probability of nearly 45 percent to the Federal Reserve reinvesting proceeds of maturing agency MBS.

[1] The effective federal funds rate averaged 18 basis points over the intermeeting period, with the intraday standard deviation averaging 4 basis points. Trading volumes have moved lower since the last intermeeting period.

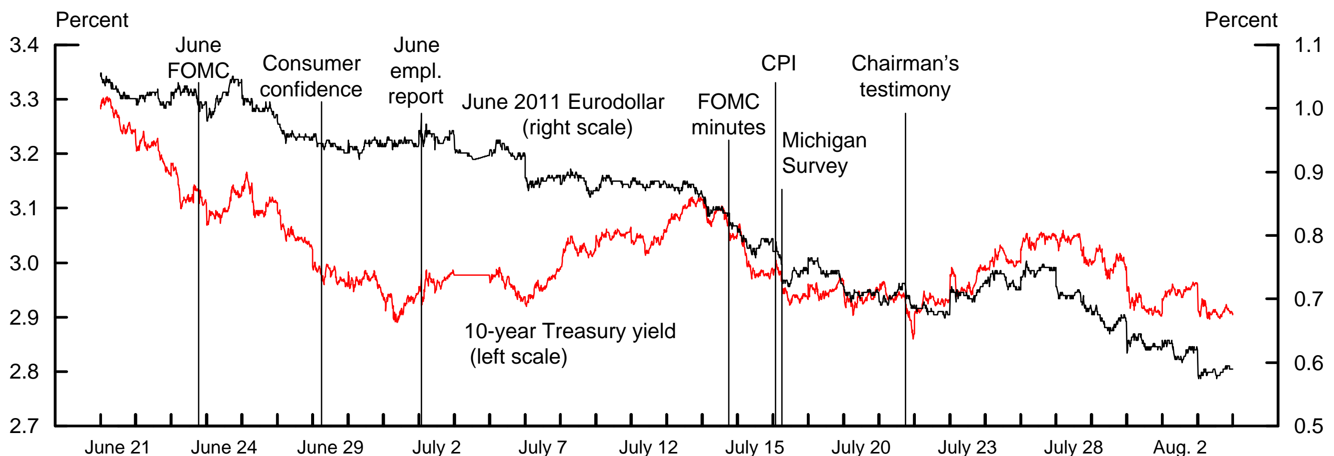
Policy Expectations and Treasury Yields



Note: Mean is estimated from federal funds and Eurodollar futures. Mode is estimated from distribution of federal funds rate implied by interest rate caps. Both include an allowance for term premiums and other adjustments.
Source: Bloomberg and CME Group.

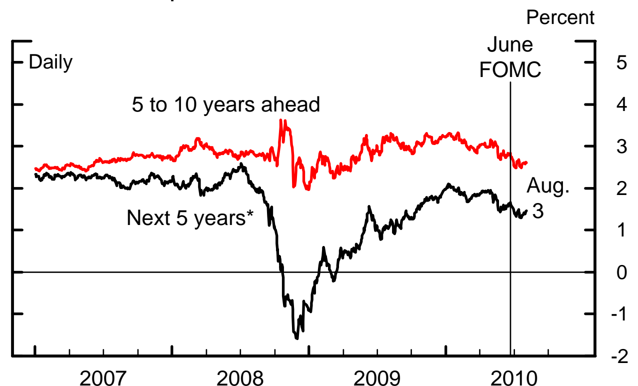


*For the last FOMC, the probability reported in the 2012:Q2 bin corresponds to the probability that the first policy rate hike will occur in 2012:Q2 or later.



Note: 5-minute intervals. 8:00 a.m. to 4:00 p.m. No adjustments for term premiums.
Source: Bloomberg.

Note: 10-year Treasury note implied volatility derived from options on futures contracts.
Source: Bloomberg.



Note: Estimates based on smoothed nominal and inflation-indexed Treasury yield curves.
*Adjusted for the indexation-lag (carry) effect.
Source: Barclays PLC and staff estimates.

Conditional on the Federal Reserve reinvesting proceeds of maturing agency MBS, dealers thought it was about equally likely that the proceeds would be reinvested in Treasury securities or agency MBS.

Yields on nominal Treasury coupon securities fell about 20 to 45 basis points on net over the intermeeting period, with declines particularly notable at intermediate maturities. As with policy expectations, these declines largely reflected Federal Reserve communications as well as weaker-than-expected economic data. Model estimates suggest that some of the decline in Treasury yields might be attributable to a lower term premium, consistent with a drop in implied volatility on 10-year Treasury yields over the period. TIPS-based inflation compensation decreased 19 basis points at the 5-year horizon, mainly driven by weaker-than-expected data on headline inflation and economic activity. Five-year inflation compensation five years ahead declined 17 basis points, on net. Declines in inflation-swap-based measures of inflation compensation were similar to those based on TIPS, while changes in survey measures of inflation expectations were mixed.

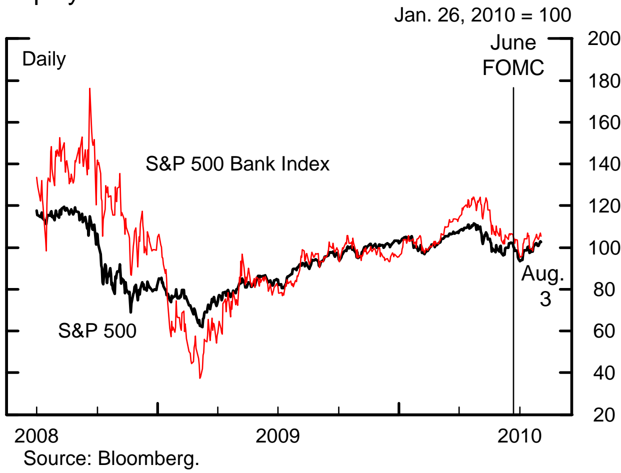
ASSET MARKET DEVELOPMENTS

Broad stock price indexes increased slightly, on net, over the intermeeting period, as generally upbeat earnings news and an easing of anxiety about the fiscal situation in Europe were partly offset by growing concerns about the strength of the U.S. economic recovery. Option-implied volatility on the S&P 500 index declined but remained somewhat elevated by historical standards. The spread between the staff's estimate of the expected real return on equity for S&P 500 firms and an estimate of the real 10-year Treasury yield—a rough measure of the equity risk premium—was little changed at an elevated level.

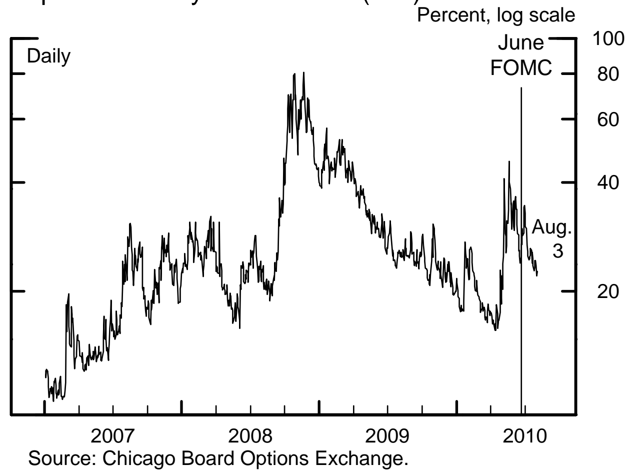
Yields on investment- and speculative-grade corporate bonds decreased, and spreads to comparable-maturity Treasury securities declined moderately over the intermeeting period. Prices in the secondary market for leveraged loans firmed a bit, and bid-asked spreads on these loans continued to edge down.

Financial stock prices moved about in line with broader indexes over the intermeeting period, and CDS spreads for large financial institutions narrowed moderately. Financial firms' second-quarter earnings generally beat analysts' expectations as improvements in loan performance led banks to reduce their loan loss

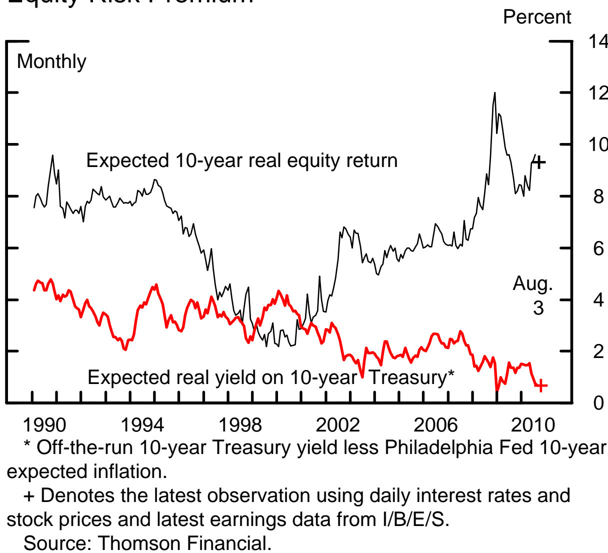
Asset Market Developments



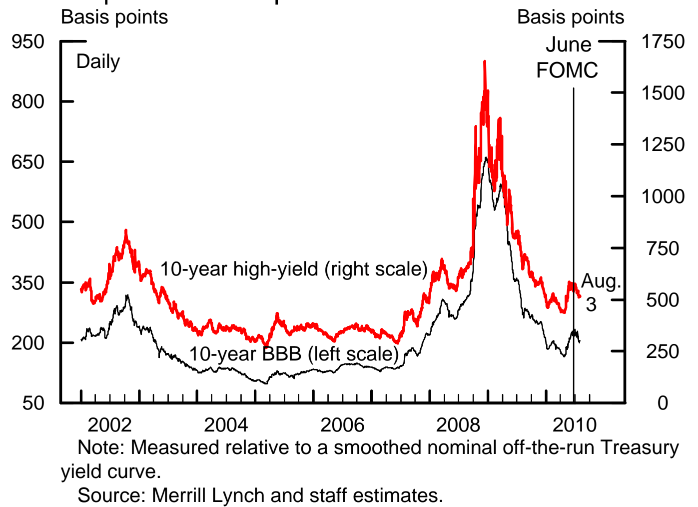
Source: Bloomberg.



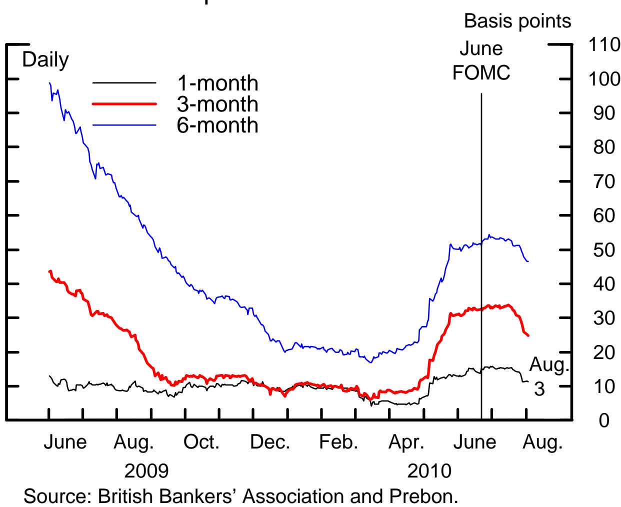
Source: Chicago Board Options Exchange.



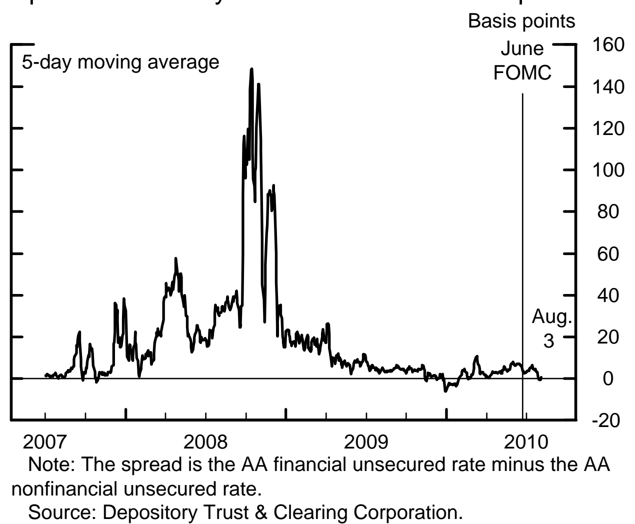
* Off-the-run 10-year Treasury yield less Philadelphia Fed 10-year expected inflation.
+ Denotes the latest observation using daily interest rates and stock prices and latest earnings data from I/B/E/S.
Source: Thomson Financial.



Note: Measured relative to a smoothed nominal off-the-run Treasury yield curve.
Source: Merrill Lynch and staff estimates.



Source: British Bankers' Association and Prebon.



Note: The spread is the AA financial unsecured rate minus the AA nonfinancial unsecured rate.
Source: Depository Trust & Clearing Corporation.

Financial Developments

provisioning. However, large banks reported declines in revenues from investment banking and capital markets activities. In light of the softer economic outlook, some analysts questioned the sustainability of profits, particularly for regional banks. Moreover, market participants indicated that regulatory changes mandated by U.S. financial reform legislation continued to be a significant source of uncertainty about future earnings for financial firms. On July 27, citing the potential effects of the new legislation on implicit government support for banks, Moody's announced that it had put senior debt and deposit ratings for several large bank holding companies on negative watch and stated that it was reviewing for possible downgrade the ratings of 10 large U.S. regional banks. The announcement elicited little market reaction.

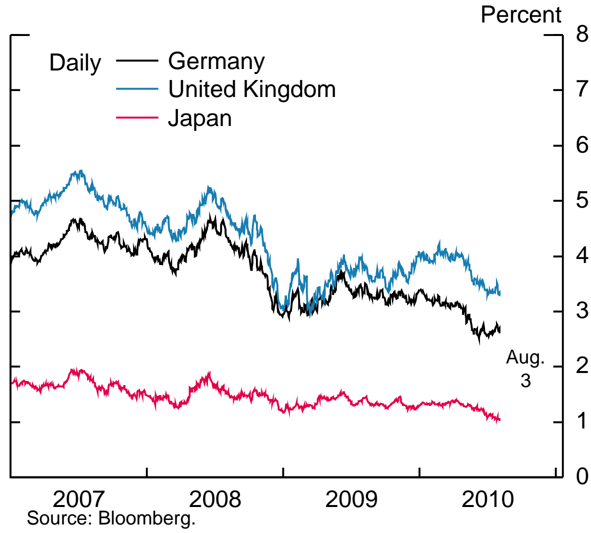
Conditions in short-term funding markets improved somewhat over the intermeeting period. Spreads of term Libor over rates on overnight index swaps (OIS) moved down at one-, three-, and six-month horizons. Liquidity in term funding markets appears to have improved, with funding reportedly available for maturities out to six months, though tiering was said to persist. Spreads on unsecured 30-day financial commercial paper were little changed at a low level. In secured funding markets, spreads on 30-day asset-backed commercial paper moved down over the intermeeting period, and rates and collateral haircuts for repurchase agreements held steady across collateral types.

FOREIGN DEVELOPMENTS

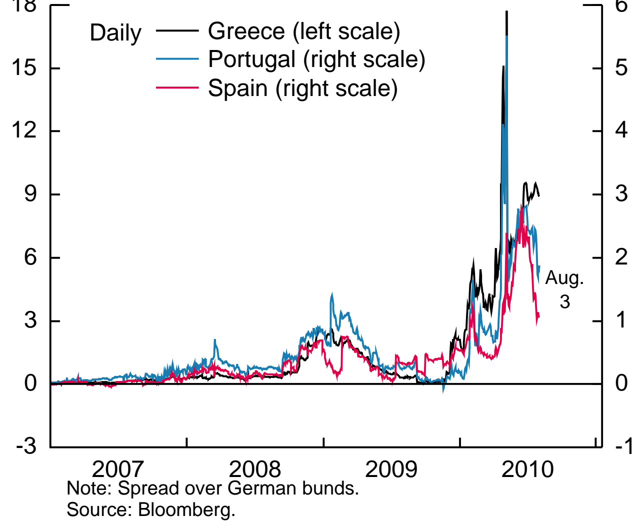
Investor concerns about the euro area appear to have eased somewhat over the intermeeting period, while at the same time market participants seemed to shift their focus toward concerns about prospects for global growth more generally.

The information released in conjunction with the EU stress-test exercise appears to have had a positive effect on investor sentiment. In the week following the release of the results, sovereign CDS premiums for periphery countries narrowed. There is less evidence that the test results had a significant effect on bank funding markets, although immediately following the release several European banks announced plans to issue medium-term debt. (For more details on the stress test, see the box, "Summary of the EU-Wide Stress Test Exercise," in the "International Economic Developments and Outlook" section.) Investors also seemed to take comfort from several oversubscribed auctions of government debt by Spain, Portugal, Ireland, and even Greece, although the extent to which moral suasion was used to encourage institutions to bid is not clear. Despite Moody's two-notch downgrade of Portugal and a sharp reduction in ECB

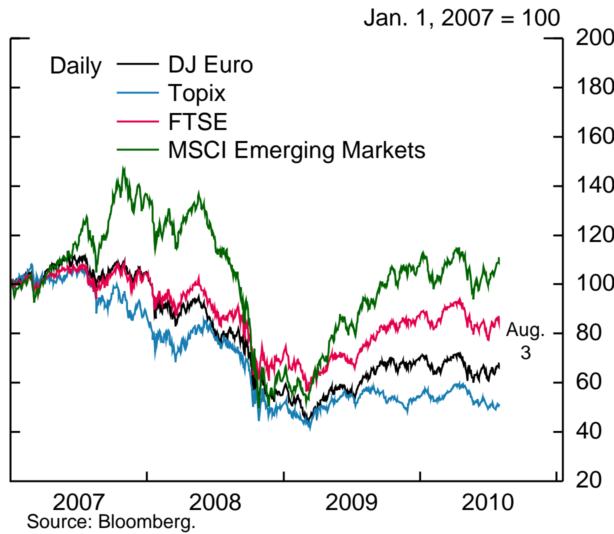
Foreign Developments



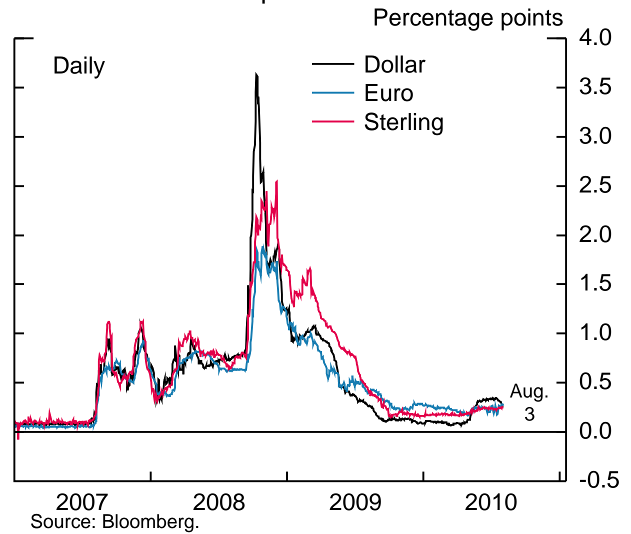
Source: Bloomberg.



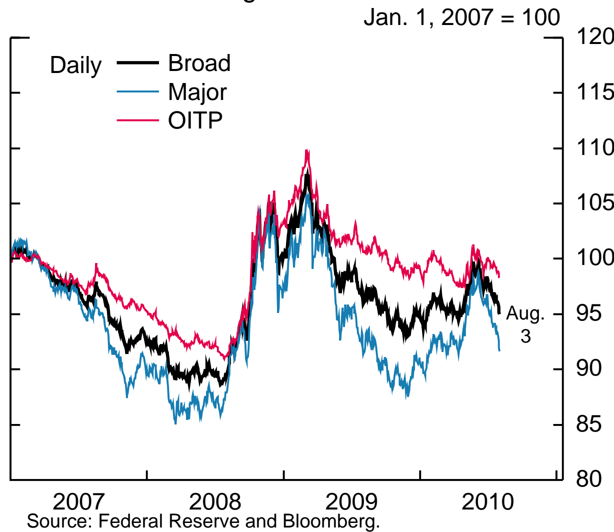
Note: Spread over German bunds.
Source: Bloomberg.



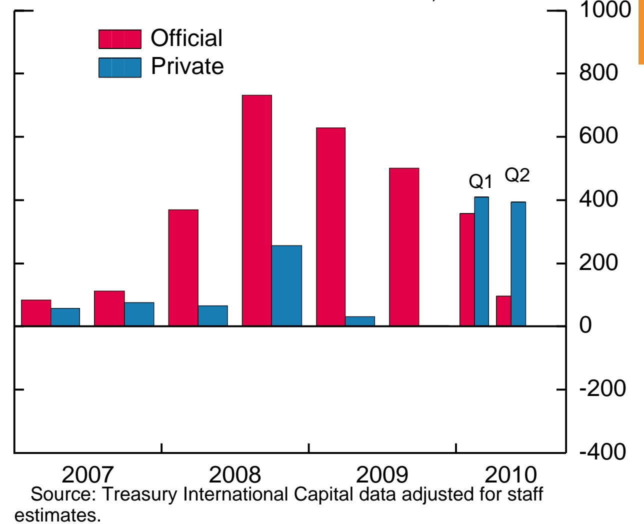
Source: Bloomberg.



Source: Bloomberg.



Source: Federal Reserve and Bloomberg.



Source: Treasury International Capital data adjusted for staff estimates.

purchases of sovereign debt in recent weeks, spreads of yields on the 10-year sovereign bonds of Ireland, Portugal, and Spain relative to German bunds narrowed over the period. The spread on Greek debt also narrowed in recent weeks but is up for the period as a whole.

Headline European equity indexes were modestly higher, but European bank stocks increased more than 13 percent, spurred by some positive earnings announcements as well as by cautious optimism about the stress test results and the announcement that some aspects of the Basel III bank capital rules would be less stringent than originally proposed. The lack of any disruption to market functioning following the maturation of the ECB's first one-year refinancing operation on July 1 also seemed to inspire some confidence. The outstanding amount of euro liquidity supplied by ECB refinancing operations has declined over €300 billion since the one-year operation matured; the EONIA rate rose as much as 20 basis points after the end of the operation but has since fallen back close to its level in June.

Consistent with these developments, market expectations of overnight rates in the euro area appear to have increased, while expectations of overnight rates in the United Kingdom and Japan appear little changed. As in the United States, benchmark sovereign yields decreased in the United Kingdom and Japan. German yields, supported in part by the rise in expected overnight rates, were unchanged on net.

The foreign exchange value of the dollar declined about 4½ percent, on net, over the period on a trade-weighted basis against the major foreign currencies and about ¾ percent on average against the emerging market currencies. Spurred by some reversal of flight-to-safety flows as financial system strains in Europe diminished, better-than-expected foreign economic data, and some weak U.S. economic data releases, the dollar depreciated about 7 percent against the euro and sterling and 5 percent against the yen.

The renminbi has risen about ¾ percent since authorities in China announced that they would take steps to increase the flexibility of their currency against the dollar. However, the renminbi has moved little in recent weeks. Weaker-than-expected second-quarter growth in China and signs that the country's housing market may be cooling have led investors to scale back the amount of monetary policy tightening expected there over the next year. Elsewhere in emerging Asia, the central banks of South Korea, Taiwan, Thailand, Malaysia, and India increased policy rates. In Latin America, the central banks of Brazil and Chile continued to tighten monetary policy. Equity prices in most emerging

market economies have risen since the last FOMC meeting, and flows into emerging market equity funds continued to be strong.

Foreign official purchases of U.S. assets resumed in June after net sales in May. Data on custody holdings at the Federal Reserve Bank of New York show that foreign official holdings increased robustly in July; the rise was concentrated in Treasury securities. Private investment from abroad reflected market tensions in May and June, with strong safe-haven flows into Treasury securities and very weak demand for other U.S. securities; U.S. investors sold foreign securities in June.

HOUSEHOLD FINANCE

The average interest rate on 30-year conforming fixed-rate mortgages fell to 4.54 percent, the lowest level in the 39-year history of this series.[2] MBS yields dropped about in line with Treasury yields.[3] The volume of mortgage refinancing applications picked up in June and July to levels comparable to those registered in early 2009, although insufficient home equity and damaged credit histories may be preventing many borrowers from refinancing (see the box, "How Many Borrowers Have an Incentive to Refinance and Are Likely Able to Do So?"). House prices increased notably during the spring; the FHFA, LoanPerformance, and 20-city S&P/Case-Shiller house price indexes all rose in April and May. Delinquency rates on outstanding mortgages have declined in recent months, in part because the share of mortgages becoming newly delinquent has ticked down, and also because delinquent mortgages entering loan modification programs are being reclassified as "current." Home mortgage debt is estimated to have declined at an annual rate of 2 percent in the second quarter.

Consumer credit is estimated to have contracted at an annual rate of 4¼ percent in the second quarter, as revolving credit continued to decline steeply while nonrevolving credit edged down. Consumer ABS issuance slowed a bit in July, reflecting in part

[2] More recent daily data from LoanSifter indicate that mortgage rates have continued to decline after July 28, the last observation shown in the exhibit.

[3] Fails to deliver in the agency MBS market remained elevated over the intermeeting period, reflecting the low level of short-term interest rates, which reduces the cost of failing to deliver, and the scarcity of deliverable securities with 5 and 5.5 percent coupons. The Federal Reserve's coupon swap operations reportedly helped to ease these pressures to some degree. Other indicators of liquidity also continue to point to strains in this market, but there are few signs that these conditions have impeded the functioning of the primary mortgage market.

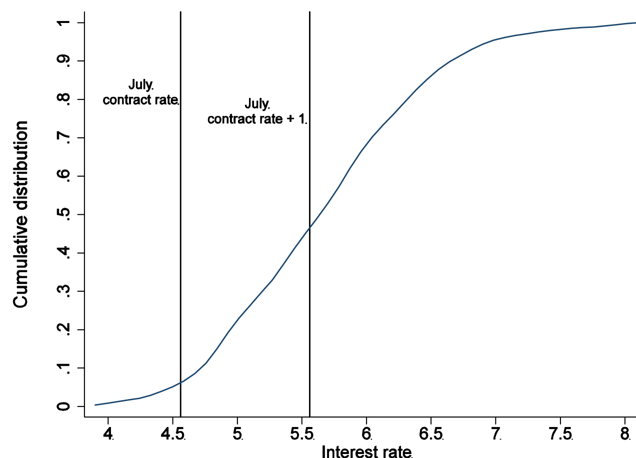
How Many Borrowers Have an Incentive to Refinance and Are Likely Able to Do So?

The historically low level of mortgage rates has created a substantial incentive for many borrowers to refinance their mortgages. Indeed, the index of refinancing applications rose more than 40 percent in June and remained at that elevated level in July. Refinancing can lower borrowers' mortgage payments and reduce debt service burdens, thereby improving their financial positions. This box explores the incentives to refinance and discusses some potential constraints on refinancing activity.

To measure the financial incentive to refinance, we consider the difference between the interest rate on loans currently outstanding and the contract rate on new conforming 30-year fixed-rate mortgages. The figure below plots the cumulative distribution of interest rates on outstanding prime, fixed-rate loans in May 2010 (the latest month for which the data are available).[1] Almost 90 percent of outstanding mortgages had an interest rate that was above the average contract rate that prevailed in July on new conforming 30-year fixed-rate loans. More than 50 percent of borrowers had a large incentive to refinance in the sense that their loan carried an interest rate more than 1 percentage point greater than the July contract rate. A back-of-the-envelope calculation suggests that refinancing would reduce the monthly payment of these borrowers by an average of $180. In addition, about one-fourth of loans had an interest rate between ½ and 1 percentage point more than the July contract rate, giving those borrowers a moderate incentive to refinance. We estimate the average monthly savings for these borrowers to be about $100.

Despite the potential interest savings, tight credit conditions may prevent many borrowers from refinancing for at least two reasons. First, following several years of steep house price declines, many borrowers currently have less than 20 percent equity in their homes, making it difficult to refinance given that most private lenders require a loan-to-value (LTV) ratio below 80 percent. Accordingly, we assume that any mortgage with an LTV ratio greater than 80 percent will not be refinanced, unless the borrower is eligible for the Home Affordable

[1] Prime, fixed-rate loans constituted the bulk of outstanding first-lien mortgages—78 percent in May 2010. We exclude subprime and adjustable-rate mortgages because the incentive to refinance is less sensitive to the current rate available on new fixed-rate mortgages.



Financial Developments

Refinance Plan (HARP).[2] Under this program, borrowers with an LTV of up to 125 percent may be able to refinance if their existing loan is guaranteed by Fannie Mae or Freddie Mac and if they are not delinquent on the loan. As shown in the table, only 35 percent of loans in May 2010 had both a large incentive to refinance and a qualifying LTV (through either a private channel or HARP).

Second, borrowers may be unable to refinance because their credit is impaired. To adjust our estimates for this constraint, we exclude loans that were delinquent at any point in the previous year. Combining the LTV/HARP and credit-quality criteria, we estimate that only 32 percent of all prime, fixed-rate loans—or 60 percent of the loans with a large incentive to refinance—had a large incentive to refinance and appear likely to be eligible to do so. These same criteria suggest that an additional 15 percent of borrowers had a moderate incentive to refinance and would likely be eligible.

Of course, if the contract rate on new mortgages were to fall appreciably further, borrowers' incentive to refinance would increase. As shown in the last row of the first column of the table, the potential step-up in refinancing activity under such conditions could be considerable because a substantial fraction of borrowers fall into this category and have suitable LTV ratios and credit histories.

The staff forecast for refinancing activity is substantially lower than would be implied by the calculations presented in this discussion, owing to large transactions costs and other barriers to refinancing.[3] For example, take-up rates under HARP are much lower than we initially projected. Moreover, because the refinancing process now takes more time and mortgage originators continue to be capacity constrained, we expect some refinancing activity to be delayed. Consequently, conditional on our expectation that mortgage rates remain low, the current refinancing wave could be drawn out through the end of the year.

[2] Requiring an LTV of 80 percent might be too strict because some borrowers might be able to refinance through the FHA, which allows higher LTVs, and other borrowers might be able to bring cash to the settlement. However, our measure of LTV does not include second liens, so we are underestimating the total debt on the property in many cases.

[3] Not only does refinancing entail monetary and time costs, but some evidence points to other, possibly nonrational, barriers. For example, about 5 percent of borrowers in the 1980s were extremely unlikely to prepay their mortgage, regardless of the apparent financial incentive (See Yongheng Deng, John M. Quigley, and Robert Van Order (2000), "Mortgage Terminations, Heterogeneity and the Exercise of Mortgage Options," *Econometrica,* vol. 68, pp. 275–307).

Distribution of Prime, Fixed-Rate Loans in May 2010

Gap = Current Rate – July 2010 Contract Rate (4.56 percent)

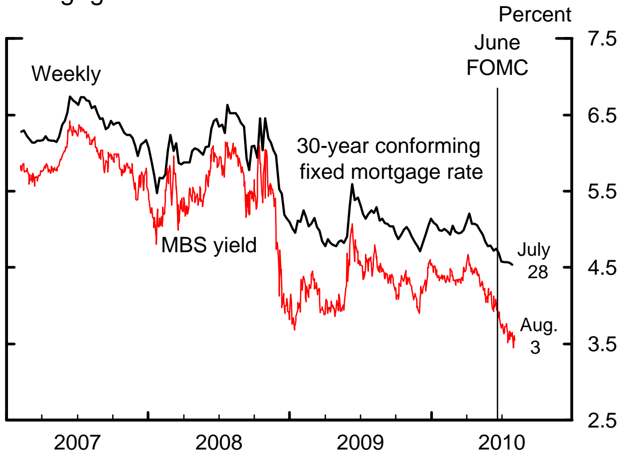
	Gap<0.5	0.5<Gap<1	1<Gap
Incentive to refinance	Small	Moderate	Large
Percent of loans	25	21	54
Percent of loans with:			
(a) LTV<=80 or HARP-eligible	18	15	35
(b) Both (a) and good credit	17	15	32

Note: Weighted by current loan balance. Prime, fixed-rate loans constitute 78 percent of all outstanding first liens. LTV does not include second liens. Good credit is defined as not having been delinquent on the mortgage in the past 12 months.

Source: Lender Processing Services.

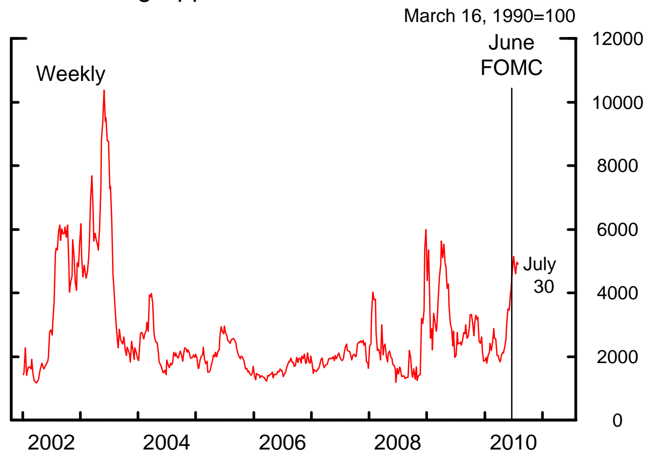
Household Finance

Mortgage Rate and MBS Yield



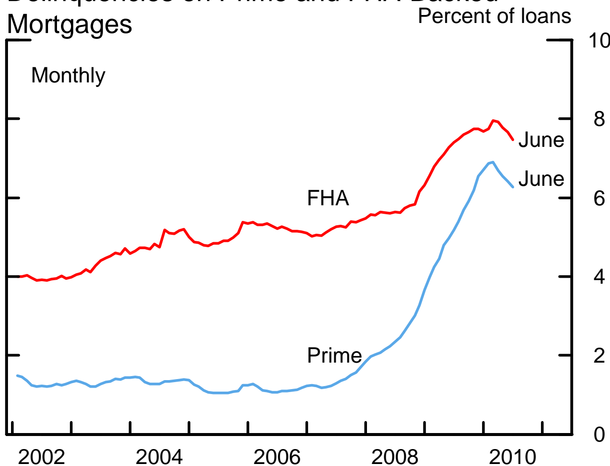
Note: For MBS yield, Fannie Mae 30-year current coupon rate.
Source: For mortgage rate, Freddie Mac; for MBS yield, Bloomberg.

Refinancing Applications



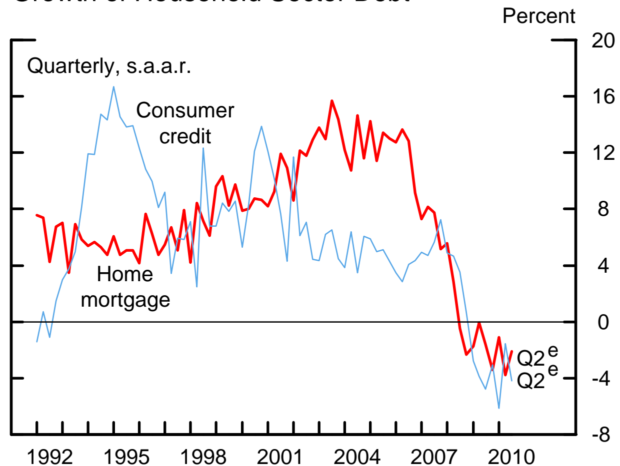
Note: Seasonally adjusted by FRB staff.
Source: Mortgage Bankers Association.

Delinquencies on Prime and FHA-Backed Mortgages



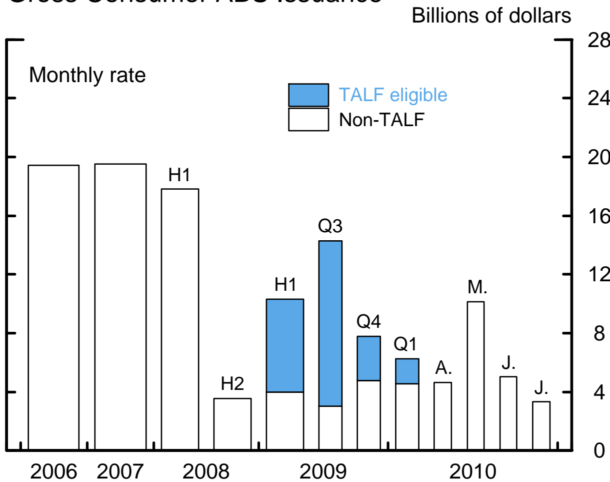
Note: Percent of loans 90 or more days past due or in foreclosure. Prime includes near-prime mortgages.
Source: McDash.

Growth of Household Sector Debt



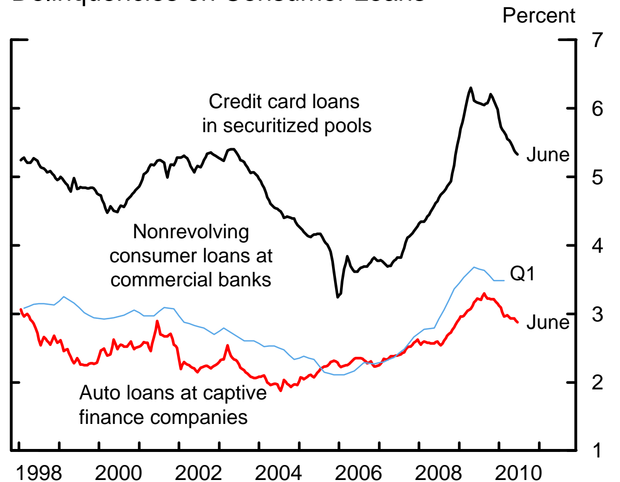
e Estimate.
Source: Federal Reserve.

Gross Consumer ABS Issuance



Note: Credit card, auto, and student loan ABS.
Source: Inside MBS & ABS; Merrill Lynch; Bloomberg; Federal Reserve Board.

Delinquencies on Consumer Loans



Source: For credit cards, Moody's Investors Service; for nonrevolving consumer loans, Call Report; for auto loans, Federal Reserve Board.

Financial Developments

typical seasonal patterns.[4] Consumer credit quality continued to improve, with delinquency and charge-off rates for most types of consumer loans moving down in recent months, though they remain elevated. Spreads of credit card interest rates over Treasury yields stayed at a relatively high level in May, while interest rate spreads on auto loans at captive finance companies remained near the middle of their range in recent years.

Business Finance

Net debt financing of nonfinancial corporations picked up in July. Gross issuance of nonfinancial bonds rebounded from relatively subdued levels in May and June, and nonfinancial commercial paper outstanding continued to expand. C&I loans contracted again in July, but at a much slower pace than earlier this year, consistent with results from the SLOOS indicating some net easing of banks' lending policies to nonfinancial firms as well as a reported stabilization in demand for C&I loans. Issuance of syndicated leveraged loans increased further in the second quarter and lending by institutional investors continued to pick up, but deals were reportedly financed under somewhat more stringent terms in the wake of the recent financial strains in Europe as investors pulled back from risk-taking.

Gross public equity issuance by nonfinancial firms was moderate in June and July. In the first quarter, equity retirements from share repurchases and cash-financed mergers picked up slightly, and net equity issuance remained negative.

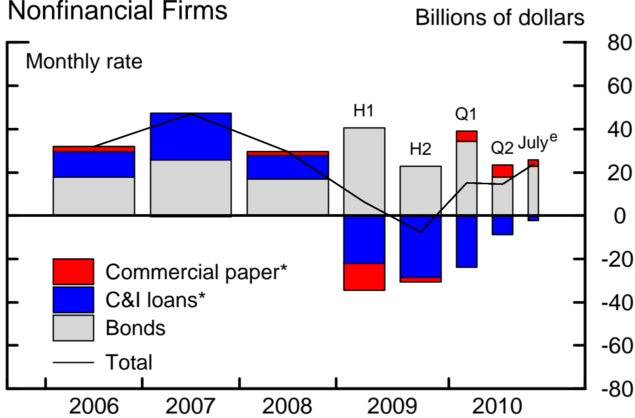
Most second-quarter earnings reports for S&P 500 firms have easily exceeded Wall Street analyst forecasts, and based on nearly 400 earnings reports in hand and analyst forecasts for the rest, operating earnings per share for S&P 500 firms are estimated to have grown at a quarterly rate of nearly 5 percent. However, firms' forward-looking guidance was somewhat cautious, and analysts did not significantly revise their forecasts for year-ahead earnings in the four weeks ending in mid-July.

The credit quality of nonfinancial firms appears to have remained solid. The aggregate ratio of liquid assets to total assets for nonfinancial corporations stayed in

[4] ABS issuance stalled briefly in the middle of July when rating agencies refused to allow their ratings to be included in the prospectuses of publicly issued deals because of liability concerns arising from the financial reform legislation. However, the SEC subsequently provided guidance that facilitated a resumption of issuance. The SEC has proposed revisions to Regulation AB that effectively would resolve this issue by eliminating the investment-grade rating requirement for shelf registrations.

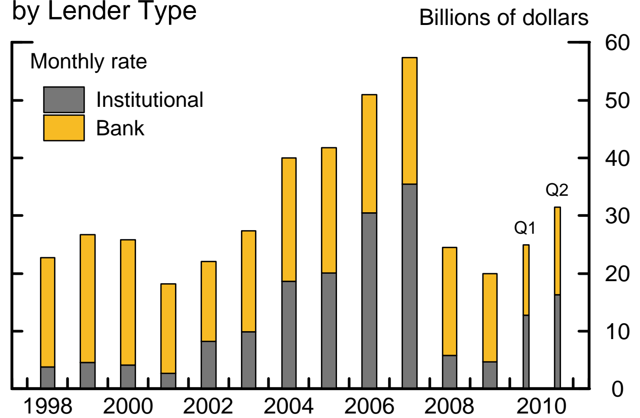
Business Finance

Selected Components of Net Debt Financing, Nonfinancial Firms



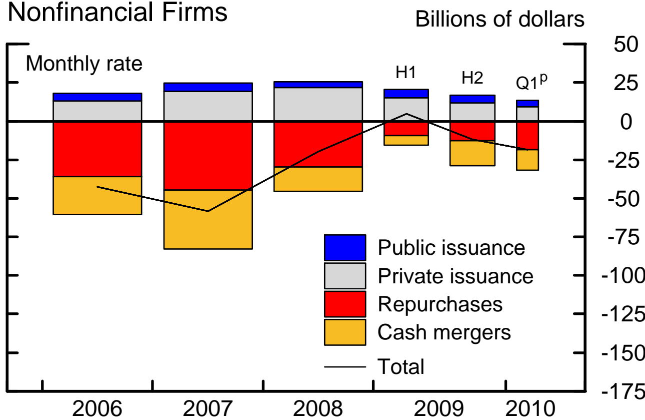
* Seasonally adjusted, period-end basis.
e Estimate.
Source: Depository Trust & Clearing Corporation; Thomson Financial; Federal Reserve Board.

Syndicated Leveraged Loan Issuance, by Lender Type



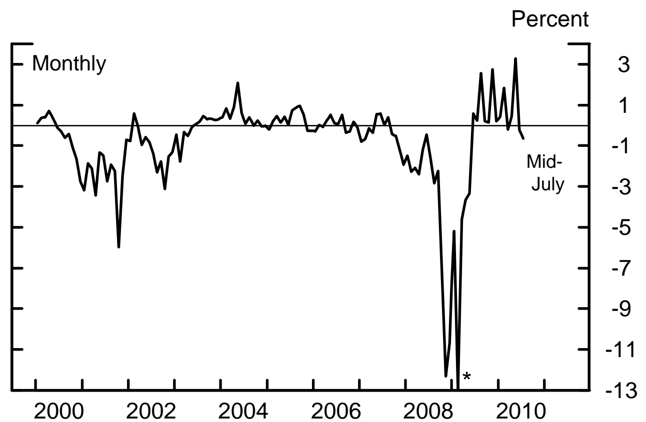
Source: Thomson Reuters LPC.

Selected Components of Net Equity Issuance, Nonfinancial Firms



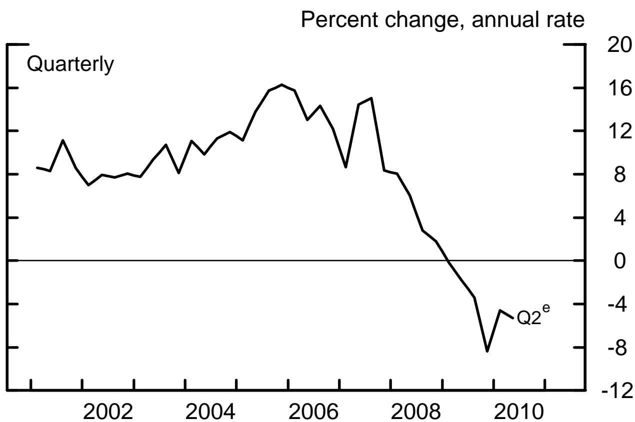
p Preliminary.
Source: Thomson Financial, Investment Benchmark Report; Money Tree Report by PricewaterhouseCoopers, National Venture Capital Association, and Venture Economics.

Revisions to Expected S&P 500 Earnings



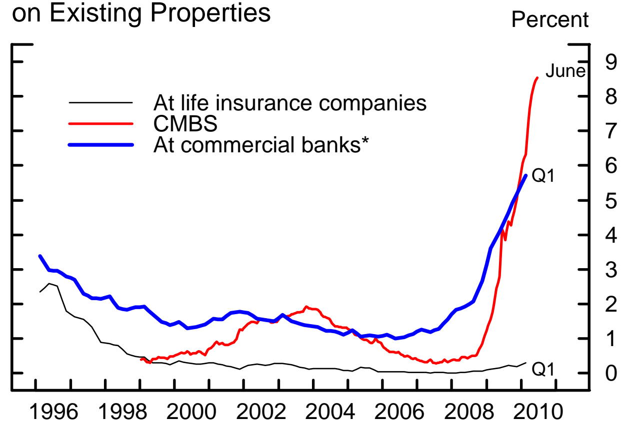
Note: Index is a weighted average of the percent change in the consensus forecasts of current-year and following-year earnings per share for a fixed sample.
* Revision in Feb. 2009 was -17.2%.
Source: Thomson Financial.

Commercial Mortgage Debt



e Estimate.
Source: Federal Reserve.

Delinquency Rates on Commercial Mortgages on Existing Properties



Note: CMBS are commercial mortgage-backed securities.
* Excluding farmland.
Source: Citigroup; Call Report data; ACLI.

Financial Developments

record-high territory in the first quarter, while the debt-to-asset ratio declined a bit further. July saw very few bond ratings changes, though in June the dollar value of nonfinancial corporate bonds upgraded by Moody's significantly outpaced that of downgraded bonds—continuing the pattern evident since the beginning of the year. The six-month trailing bond default rate for nonfinancial firms edged down a bit further in June to just above zero. Nonetheless, the KMV expected year-ahead default rate for nonfinancial firms remained somewhat elevated through early August, reflecting continued low equity valuations and higher-than-normal volatility.

Commercial real estate markets remained under pressure. Commercial mortgage debt is estimated to have posted another sizable decline in the second quarter, and the delinquency rate for securitized commercial mortgages climbed to 8½ percent in June. However, commercial real estate prices appear to have increased in the second quarter, although the low level of transactions makes it difficult to discern whether prices have reached a trough. Meanwhile, some signs of stabilization in financing conditions have emerged in the past few months. Investor demand for high-quality CMBS is reportedly robust, although issuance remains muted due to a lack of eligible loans. In addition, lenders generally appear willing to extend financing for legacy commercial real estate assets for which cash flows suffice to cover debt service, but less so for assets with inadequate cash flows.

GOVERNMENT FINANCE

Over the intermeeting period, the Treasury auctioned about $240 billion of nominal coupon securities and $12 billion of 10-year TIPS. The Treasury continued to trim the sizes of auctions of nominal securities, but the 10-year TIPS auction was larger than usual. Bid-to-cover ratios of most auctions exceeded historical averages. At its quarterly refunding announcement, the Treasury indicated that it would likely continue to trim the auction sizes of nominal coupon securities at a gradual pace but that it is considering more frequent reopenings of TIPS offerings in an effort to improve liquidity in the TIPS market.

Gross issuance of long-term municipal bonds slowed a bit in July, while short-term issuance was moderate. Municipal yields declined over the intermeeting period, and the ratio of yields on long-term municipal bonds to those on comparable-maturity high-grade corporate bonds was little changed, on net, at a relatively high level.

Commercial Banking and Money

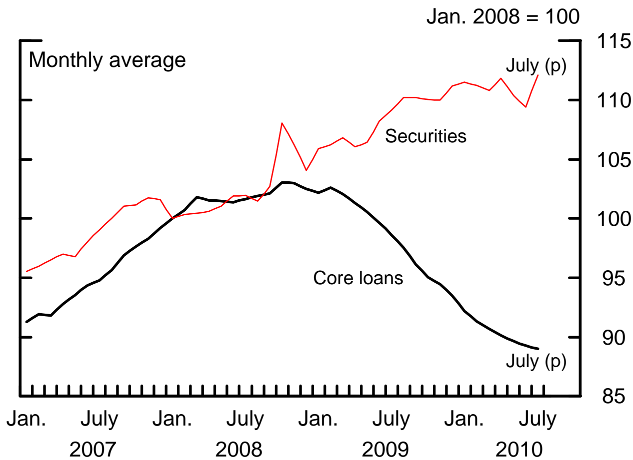
Commercial banks' core loans—the sum of C&I, real estate, and consumer loans—are estimated to have contracted at about a 4½ percent annual rate on average in June and July. The runoff in C&I loans in those two months was appreciably smaller than the declines seen earlier in the year. In contrast, commercial real estate loans continued to decline steeply, and residential real estate loans also decreased, in part because of increased sales and securitizations of loans with the GSEs. Consumer loans were about flat, on balance, as reductions in credit card loans about offset an increase in nonrevolving consumer loans. Total bank credit has been buffeted recently by large adjustments to securities holdings at a few large banks, and substantial growth in securities and noncore loans over the first three weeks of July suggests that bank credit could post its first monthly increase since February 2009.

The July SLOOS indicated a second straight quarter of modest unwinding of the widespread tightening of standards that occurred during the financial crisis, particularly by larger banks, and respondents noted that loan demand had continued to weaken, on balance. A small net fraction of domestic respondents reported that they had eased standards for C&I loans in the second quarter, and a significant net fraction of banks noted that they had trimmed the cost of credit lines and reduced spreads of C&I loan rates over their cost of funds, even for small firms. Among the respondents that eased standards or terms on C&I loans, nearly all cited more aggressive competition from other banks or nonbank lenders as an important reason for doing so, and about half cited a "more favorable or less uncertain economic outlook." In contrast, banks continued to tighten their standards on CRE loans, but the net fraction doing so edged down to about 5 percent. Small net fractions of respondents reported having eased standards on residential real estate and consumer loans; larger banks accounted for most of the reported easing. Banks reported an increased willingness to make consumer installment loans, on balance, for the third consecutive quarter.

M2 was little changed in July after expanding slightly in the second quarter. The subdued growth of M2 relative to nominal GDP probably continued to reflect an unwinding of safe-haven flows as well as the very low rates of return on M2 assets. In particular, small time deposits and retail money market mutual funds have continued to contract, reflecting especially low returns on these assets relative to other instruments. In contrast, liquid deposits expanded through July, likely boosted by substitution from

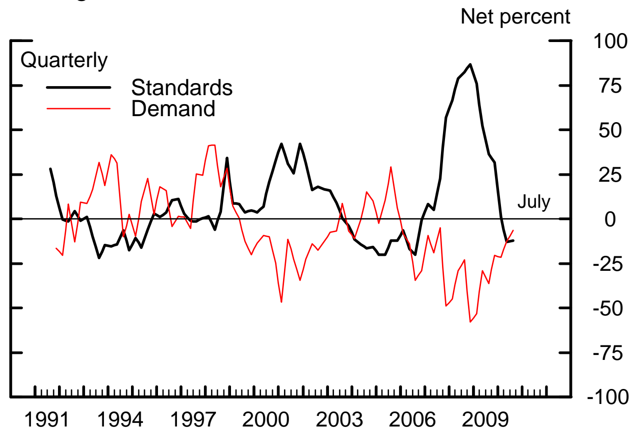
Commercial Banking and Money

Bank Credit



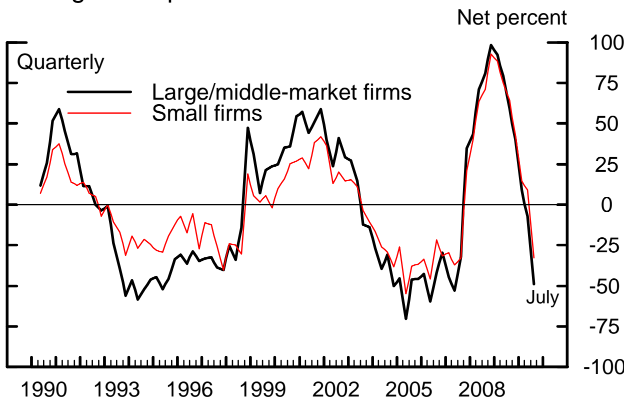
Note: The data have been adjusted to remove the effects of consolidations of assets under FAS 166 and FAS 167. Core loans consist of commercial and industrial, real estate, and consumer loans.
p Preliminary.
Source: Federal Reserve.

Changes in Standards and Demand for Bank Loans



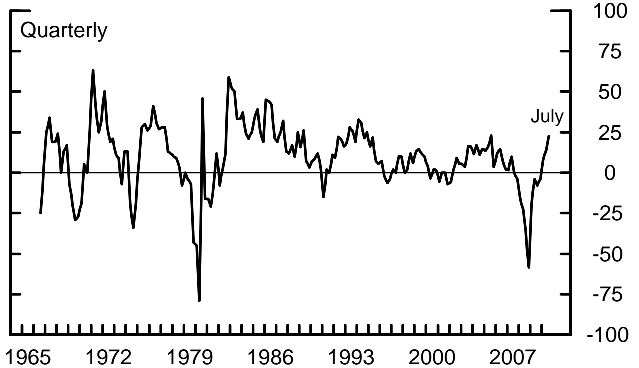
Note: A composite index of changes in standards or loan demand that represents the net percentage of loans on respondents' balance sheets that were in categories for which banks reported tighter lending standards or stronger loan demand over the past 3 months.
Source: Senior Loan Officer Opinion Survey on Bank Lending Practices.

Changes in Spreads on Bank C&I Loans



Note: Net percent of respondents that widened spreads over the past 3 months.
Source: Senior Loan Officer Opinion Survey on Bank Lending Practices.

Changes in Banks' Willingness to Make Consumer Installment Loans



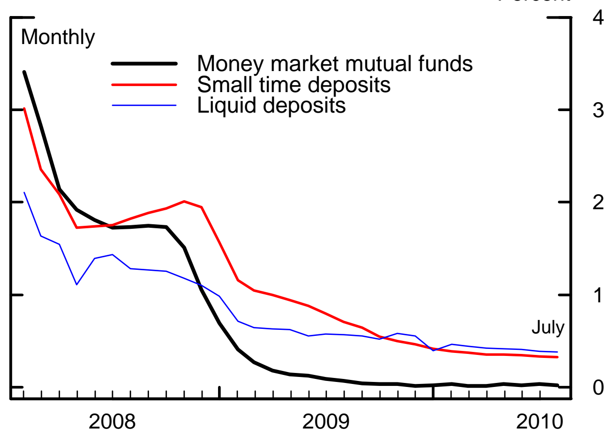
Source: Senior Loan Officer Opinion Survey on Bank Lending Practices.

Growth of M2 and Its Components

Percent, s.a.a.r.	M2	Liquid deposits	Small time deposits	RMMF	Curr.
2008	8.6	6.9	12.3	13.6	5.8
2009					
H1	7.6	16.4	-6.1	-15.4	10.8
H2	2.4	16.5	-26.4	-31.0	2.9
2010					
Q1	0.0	9.2	-25.0	-27.1	2.1
Q2	2.0	8.4	-18.6	-20.2	6.4
July (e)	-0.8	2.7	-16.6	-11.5	4.5

Note: RMMF are retail money market mutual funds.
e Estimate.
Source: Federal Reserve.

Interest Rates on Selected Components of M2



Source: Federal Reserve; Call Report; Bank Rate Monitor.

Financial Developments

Balance Sheet Developments over the Intermeeting Period

Total assets of the Federal Reserve edged down over the intermeeting period to $2.33 trillion. Securities held outright decreased $17 billion, reflecting a net decline of $11 billion in the principal balance of agency mortgage-backed securities (MBS) and the maturing of $6 billion in agency debt securities. In late June, the Trading Desk of the Federal Reserve Bank of New York conducted several agency MBS coupon swap operations in order to facilitate the timely settlement of outstanding Federal Reserve agency MBS purchases. In these operations, the Desk effectively sold $9.2 billion in relatively scarce, 5.5 percent coupon issues and simultaneously purchased a corresponding amount of lower-coupon securities that were more readily available for settlement, and which were delivered in a timely manner.

Liquidity provided to financial institutions and lending through other credit facilities declined a touch. Primary credit remained at a low level and foreign central bank liquidity swaps outstanding under the reestablished arrangements increased slightly.

On June 30, 2010, the Federal Reserve closed the Term Asset-Backed Securities Loan Facility (TALF) for new loan extensions against newly issued commercial mortgage-backed securities. The TALF had been closed for new loans against all other types of collateral since March 31, 2010, and there had been no loan requests since the March subscription. Over the intermeeting period, prepayments reduced total TALF loans outstanding by about $3 billion.

Consistent with the terms of the Maiden Lane LLC transaction, on July 15, the LLC began making distributions to repay the loan it received from the Federal Reserve Bank of New York. To date, these distributions have totaled $30 million; they will occur on a monthly basis unless otherwise directed by the Federal Reserve. In addition, the Federal Reserve released updated fair value estimates of the three Maiden Lane portfolios. The fair values of the three portfolios increased about $2 billion since the June FOMC, and all three portfolio values exceed the corresponding loans outstanding from the Federal Reserve Bank of New York.

On the liability side of the Federal Reserve's balance sheet, the U.S. Treasury's supplementary financing account remained steady at $200 billion, while the Treasury's general account increased $15 billion on balance over the period. Reserve balances of depository institutions fell $41 billion to $1.01 trillion. In preparation for future reserve draining operations, over the intermeeting period, two small-value auctions were conducted through the Term Deposit Facility. Both auctions were well-subscribed, with bid-to-cover ratios in excess of 3.5. In addition, the Federal Reserve Bank of New York began to conduct a series of small-scale, real-value reverse repurchase transactions with primary dealers using all eligible collateral types, including, for the first time, agency MBS from the SOMA portfolio. The first of these operations will settle on August 5 and will mature on August 6.

Federal Reserve Balance Sheet
Billions of dollars

	Change since last FOMC	Current (08/02/10)	Maximum level	Date of maximum level
Total assets	**-18**	**2,329**	**2,364**	**05/13/10**
Selected assets:				
Liquidity programs for financial firms	-0	1	1,176	11/06/08
Primary, secondary, and seasonal credit	-0	+0	114	10/28/08
Term auction credit (TAF)	0	0	493	03/11/09
Foreign central bank liquidity swaps	+0	1	586	12/04/08
Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility (AMLF)	0	0	152	10/01/08
Lending through other credit facilities	-3	40	351	01/23/09
Net portfolio holdings of Commercial Paper Funding Facility LLC (CPFF)	+0	+0	351	01/23/09
Term Asset-Backed Securities Loan Facility (TALF)	-3	40	49	03/11/10
Support for specific institutions	1	118	121	05/05/10
Credit extended to AIG, net	-2	24	91	10/27/08
Preferred interests in AIA Aurora LLC and ALICO Holdings LLC	+0	26	26	08/02/10
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC	2	69	75	12/30/08
Securities held outright*	-17	2,054	2,073	06/14/10
U.S. Treasury securities	+0	777	791	08/14/07
Agency debt securities	-6	159	169	03/11/10
Agency mortgage-backed securities	-11	1,118	1,129	06/14/10
Memo: Term securities lending facility (TSLF)	0	0	236	10/01/08
Total liabilities	**-20**	**2,270**	**2,309**	**05/13/10**
Selected liabilities:				
Federal Reserve notes in circulation	5	904	908	07/07/10
Reserve balances of depository institutions	-41	1,013	1,249	02/24/10
Term deposits held by depository institutions	1	2	4	07/28/10
U.S. Treasury, general account	15	68	187	12/31/09
U.S. Treasury, supplementary financing account	-0	200	559	10/22/08
Other deposits	-2	+0	81	03/12/10
Total capital	**2**	**59**	**59**	**08/02/10**

+0 (-0) denotes positive (negative) value rounded to zero
* Par value.

lower-yielding M2 assets, and currency also rose. The monetary base declined somewhat over June and July, owing primarily to a decline in reserves (see the box, "Balance Sheet Developments over the Intermeeting Period").

Appendix

Senior Loan Officer Opinion Survey on Bank Lending Practices

The July 2010 Senior Loan Officer Opinion Survey indicated that, on net, banks eased standards and terms over the previous three months on loans in some categories, particularly those affected by competitive pressures from other banks or from nonbank lenders.[1] Nonetheless, lending standards appear to remain quite tight for many households and businesses. Moreover, while the survey results suggest that lending conditions are beginning to ease, the improvement to date has been concentrated at large domestic banks.[2] Most banks reported that demand for business and consumer loans was about unchanged.

Domestic survey respondents reported easing standards and most terms on C&I loans to firms of all sizes, a move that continues a slow unwinding of the widespread tightening that occurred over the past few years. Moreover, this is the first survey that has shown an easing of standards on C&I loans to small firms since late 2006.[3] Significant net fractions of domestic banks also reported having eased their pricing of C&I loans to firms of all sizes. Banks pointed to increased competition in the market for C&I loans as an important factor behind the recent easing of terms and standards. Demand for C&I loans from large and middle-market firms and from small firms was reportedly little changed, on net, over the survey period after declining over the three months prior to the April survey.

On net, large domestic banks reported easing standards and terms on almost all of the different categories of loans to households. Other banks showed either smaller net fractions easing lending policies or a net tightening of lending policies. Regarding residential real estate lending, a few large banks reported having eased standards on prime mortgage loans, while a modest net fraction of the remaining banks reported having tightened standards on such loans. Banks reported an increased willingness to make consumer installment loans, on balance, for the third consecutive quarter, and small net fractions of banks reported having eased standards on both credit card and other consumer loans. However, these indicators of increased availability of credit were countered by small net fractions of respondents reporting having tightened the terms and conditions on credit card loans.

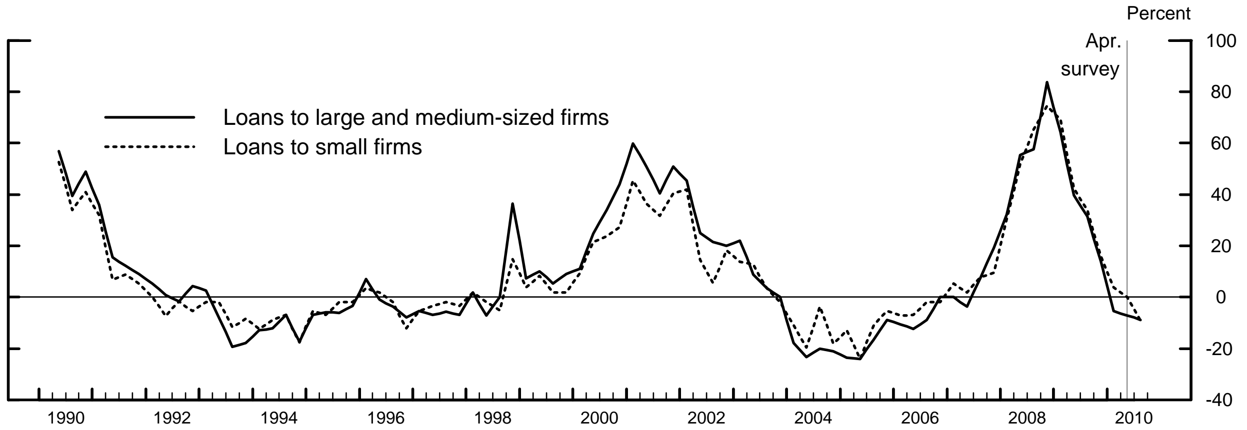
[1] The July 2010 survey addressed changes in the supply of, and demand for, loans to businesses and households over the past three months. The survey also included a set of special questions that asked banks about lending to affiliates and subsidiaries of banks and nonfinancial companies headquartered in Europe. This appendix is based on responses from 57 domestic banks and 23 U.S. branches and agencies of foreign banks. Respondent banks received the survey on or after July 13, 2010, and responses were due by July 27, 2010.

[2] Large banks are defined as banks with assets greater than $20 billion as of March 31, 2010.

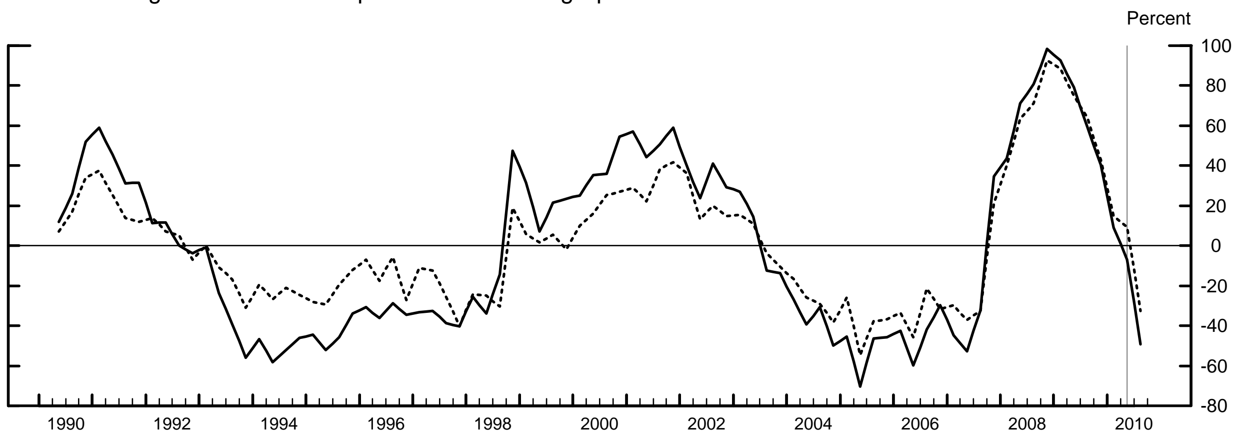
[3] Small firms are defined as firms with annual sales of less than $50 million.

Measures of Supply and Demand for Commercial and Industrial Loans, by Size of Firm Seeking Loan

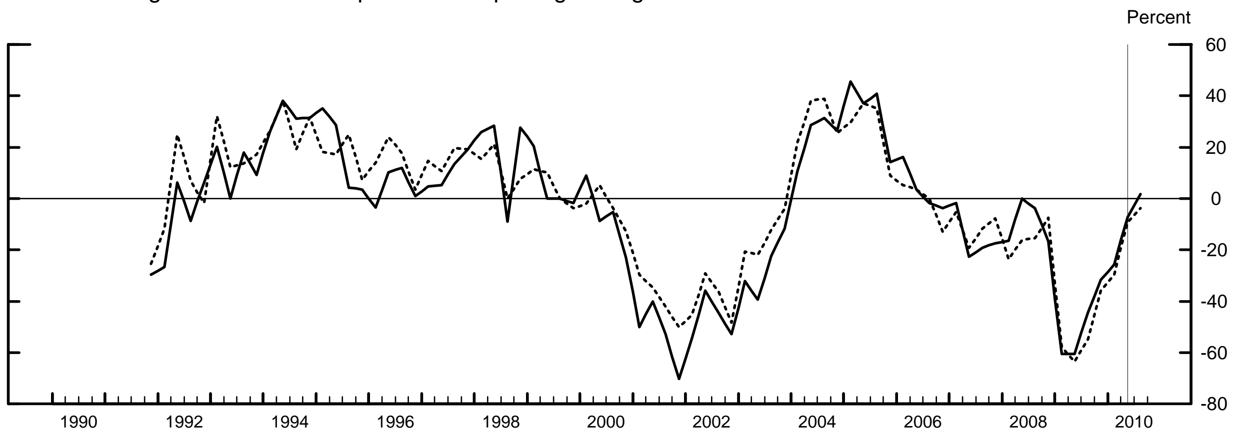
Net Percentage of Domestic Respondents Tightening Standards for Commercial and Industrial Loans



Net Percentage of Domestic Respondents Increasing Spreads of Loan Rates over Banks' Costs of Funds



Net Percentage of Domestic Respondents Reporting Stronger Demand for Commercial and Industrial Loans



Financial Developments

LENDING TO BUSINESSES

Questions on Commercial and Industrial Lending

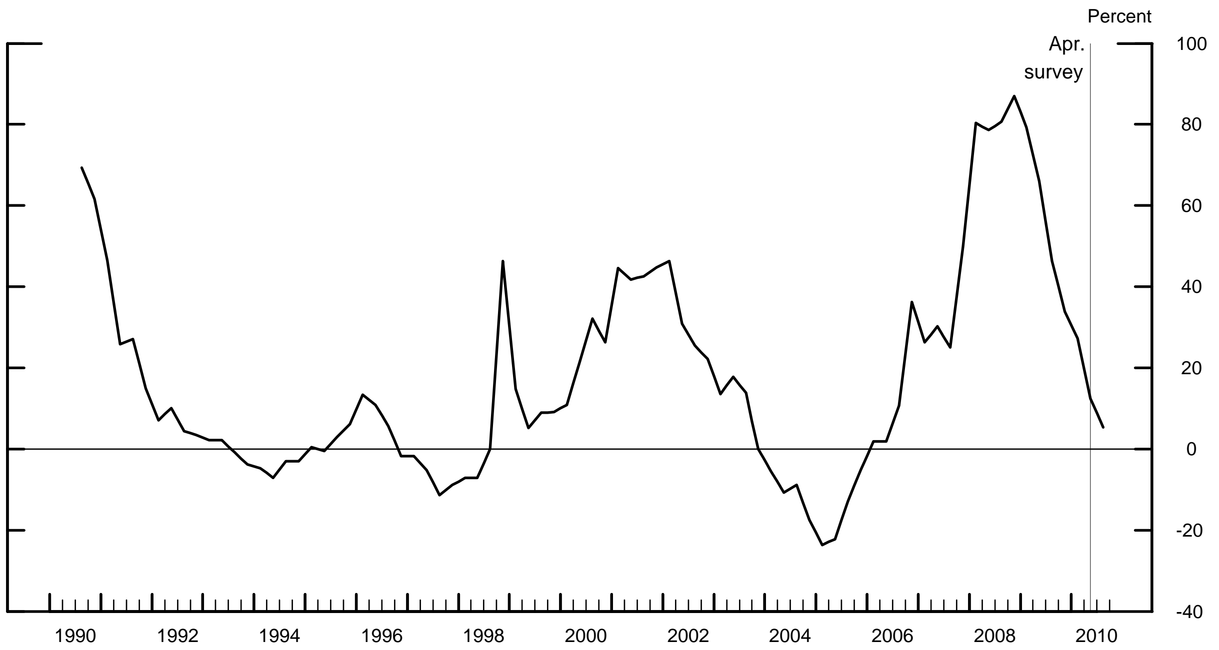
The July survey showed a modest net fraction of domestic respondents had eased standards for lending to large and middle-market firms over the previous three months—the second consecutive survey showing such an easing. For the first time since 2006, banks reported having eased their lending standards on C&I loans to small firms. In particular, around one-fifth of large domestic banks reported an easing of lending standards for small firms, which offset a net tightening of standards by a small fraction of other banks.

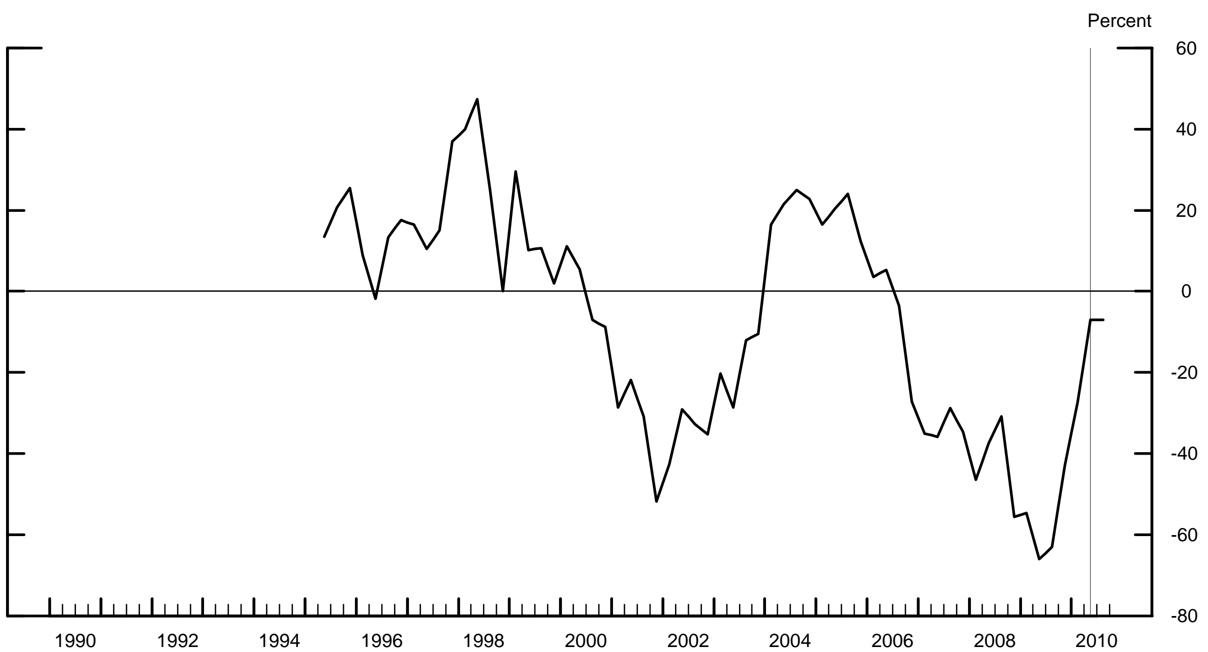
Many banks had eased the terms on C&I loans, with especially sizable net fractions of domestic banks reporting that they had reduced spreads of loan rates over their bank's cost of funds and had trimmed the costs of credit lines. On net, large domestic banks eased each of the seven surveyed loan terms for firms of all sizes. Other domestic banks reported a net easing of the spread of loan rates over their own cost of funds and of the costs associated with credit lines, but small net fractions of those banks reported having increased premiums for riskier borrowers and tightened the majority of nonprice loan terms, particularly loan covenants. Domestic banks also reported that they had stopped reducing the size of existing credit lines for commercial and industrial firms, on net—the first time that banks had not reported cutting such lines since these questions were added in January 2009.

Nearly all of the respondents that eased standards or terms on C&I loans cited more aggressive competition from other banks or nonbank lenders (other financial intermediaries or the capital markets) as an important reason for doing so, and about one-half of those respondents pointed to a more favorable or less uncertain economic outlook. The easing in the price terms on C&I loans reported by large banks for large and middle-market firms and the reported influence of increased competition from other lenders are consistent with the recent reduction in loan rate spreads in the syndicated loan market. However, those spreads remain quite elevated relative to their long-run averages. Respondents that had tightened lending policies—primarily smaller banks in the sample—generally attributed the move to a less favorable or more uncertain economic outlook, rather than bank-specific factors such as concerns about capital or liquidity positions.

On balance, demand for C&I loans from large and middle-market firms and from small firms changed little. In the April survey, banks had reported weaker demand from firms of all sizes. A shift in customer borrowing to their bank from other credit sources and customers' increased financing needs for inventory and receivables were the most common reasons cited by banks that had experienced higher loan demand. The net percentage of respondents that pointed to customers' increased investment in plant or equipment as an important reason for stronger demand for C&I loans also edged up relative to the April survey. A sizable jump in the net percentage of banks that reported an increase in the number of inquiries regarding new or increased lines of credit suggests that C&I loan demand could strengthen.

Measures of Supply and Demand for Commercial Real Estate Loans





In the July survey, U.S. branches and agencies of foreign banks reported that their standards for approving C&I loans had remained basically unchanged, after having reported a net easing of such standards in April. Small net fractions of foreign respondents still reported an easing of most loan terms in the current survey, but the easing was much less widespread than in the April survey. Moreover, branches and agencies had tightened premiums charged on riskier loans, on balance, a move that was due primarily to changes by European institutions.

Special Questions on Lending to European Firms and Their Affiliates and Subsidiaries

A set of special questions asked respondents about lending to firms headquartered in Europe—both nonfinancial companies and banks, as well as their affiliates and subsidiaries. Only about 22 of the 57 domestic respondents indicated that they make loans or extend credit lines to European firms. While only small net percentages of domestic and foreign respondents indicated that their standards and terms on loans to European nonfinancial companies had tightened, a modest net fraction indicated that they had tightened their policies for lending to European banks. Both domestic and foreign respondents indicated, on net, almost no change in demand for loans from European firms or their affiliates or subsidiaries. However, modest net percentages of banks reported that the number of inquiries regarding the availability of new or increased lines of credit from such borrowers had risen over the past three months.

Questions on Commercial Real Estate Lending

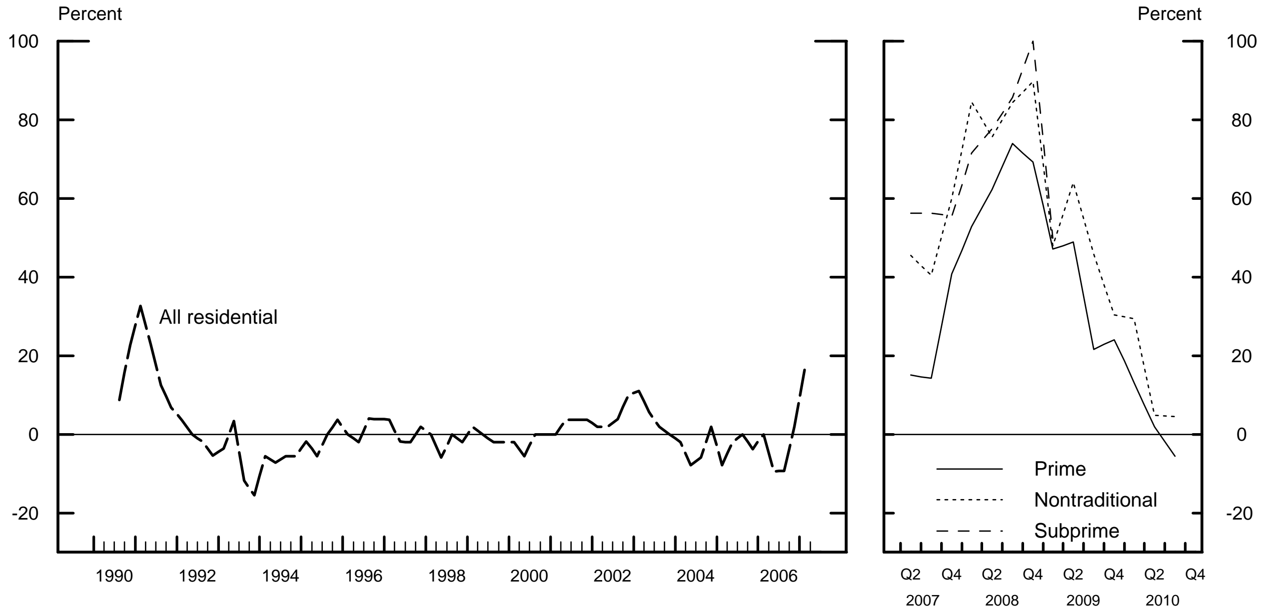
In the July survey, most respondents reported no change in their bank's standards for approving commercial real estate loans. The net percentage of banks that reported that their standards had tightened dropped slightly, to around 5 percent, and, as in the previous survey, only one respondent indicated having eased standards on CRE loans. Overall, the net fraction of banks that reported that demand for CRE loans had decreased continued to be small. When broken out by bank size, however, large banks reported that demand for CRE loans had increased for the second consecutive quarter, while other banks accounted for the reported reduction in loan demand.

LENDING TO HOUSEHOLDS

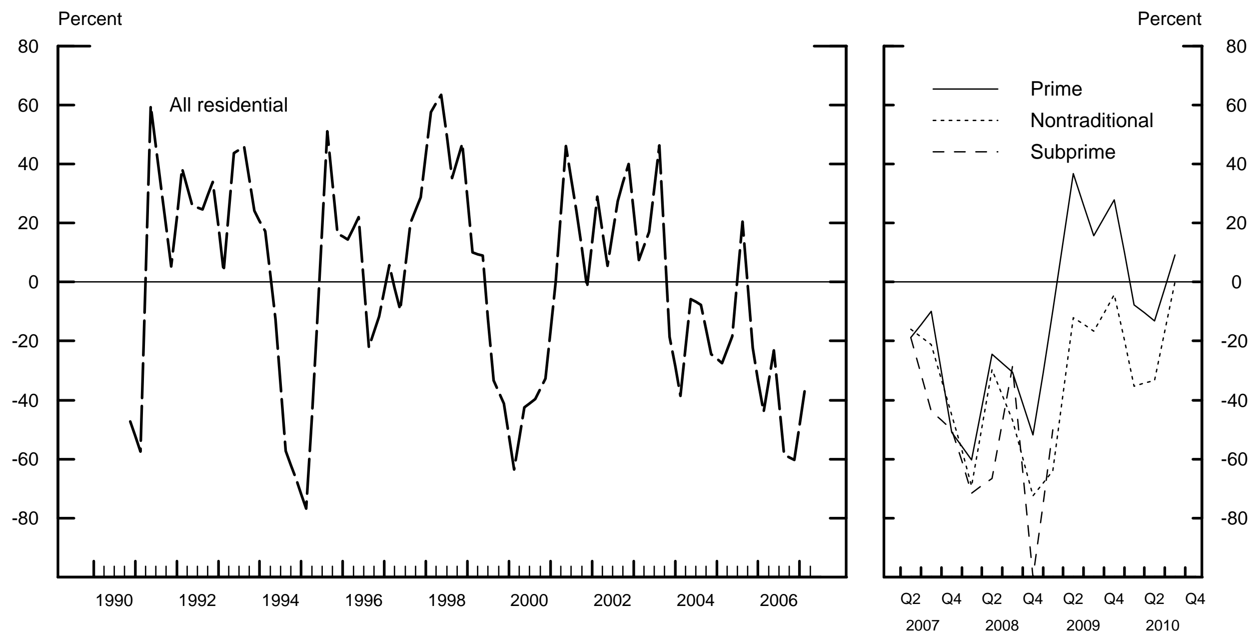
Questions on Residential Real Estate Lending

On net, a small fraction of domestic banks reported having eased standards on prime residential mortgage loans. The few banks that eased standards were all large banks. Collectively, the banks that eased their standards on prime residential mortgages accounted for 14 percent of all closed-end residential mortgages held by all domestically chartered banks as of March 30, 2010. Although the increase in demand for prime residential mortgage loans reported by several respondents to the current survey marked a reversal of the net weakening of demand for such loans reported in the April survey, the improvement may reflect in part a boost from the homebuyer tax credit before it expired at the end of April. The increase in demand is also

Measures of Supply and Demand for Residential Mortgage Loans



Note: For data starting in 2007:Q2, changes in standards for prime, nontraditional, and subprime mortgage loans are reported separately. Series are not reported when the number of respondents is 3 or fewer.



Note: For data starting in 2007:Q2, changes in demand for prime, nontraditional, and subprime mortgage loans are reported separately. Series are not reported when the number of respondents is 3 or fewer.

Financial Developments

consistent with the recent noticeable rise in applications to refinance mortgages, as reported by the Mortgage Bankers Association.[4]

Fewer than one-half of survey respondents indicated that their bank originated nontraditional mortgage loans. Of these respondents, nearly all reported no change in their bank's standards on such loans. The small number of banks that reported an increase in demand for nontraditional mortgage loans balanced the number of banks that reported a decrease in demand. However, this stability represented a noticeable change from the April survey, when one-third of banks, on net, reported that demand for nontraditional mortgage loans had weakened.

A small share of respondents reported that their bank's standards for approving home equity lines of credit (HELOCs) had eased over the past three months. But a similar fraction of respondents indicated that they had decreased the size of HELOCs for existing customers over the same period. A small net percentage of banks reported that demand for HELOCs had weakened, on net, but that percentage was down sharply from last quarter.

Questions on Consumer Lending

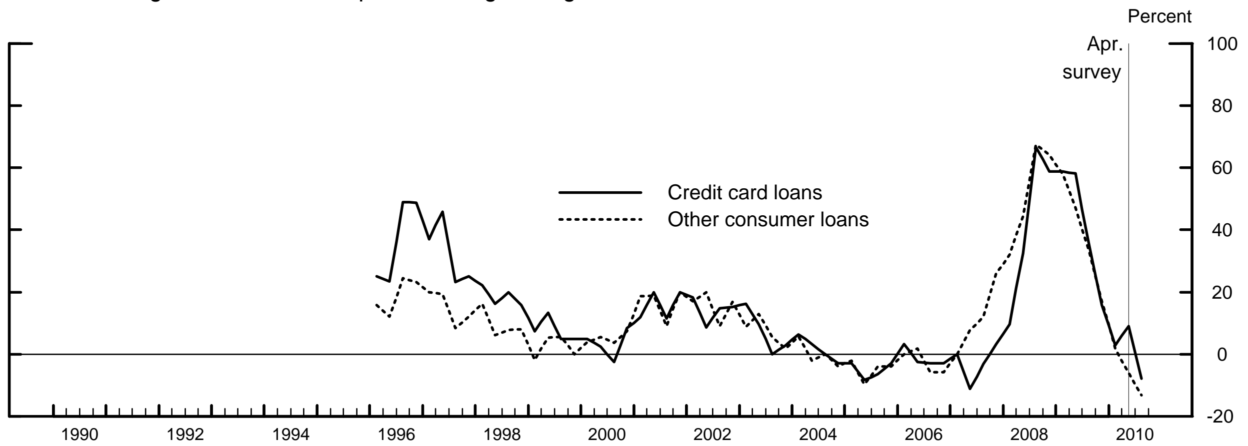
The net percentage of respondents that reported an increased willingness to make consumer installment loans extended the upward trend that it has exhibited in recent quarters, reaching the upper end of its range over the past decade. This increased willingness is consistent with a net easing of standards for approving consumer loans other than credit card loans and with moderate growth in nonrevolving loans at commercial banks over the past few months. However, terms on consumer loans other than credit card loans were reported to be roughly unchanged, on net, in the July survey.

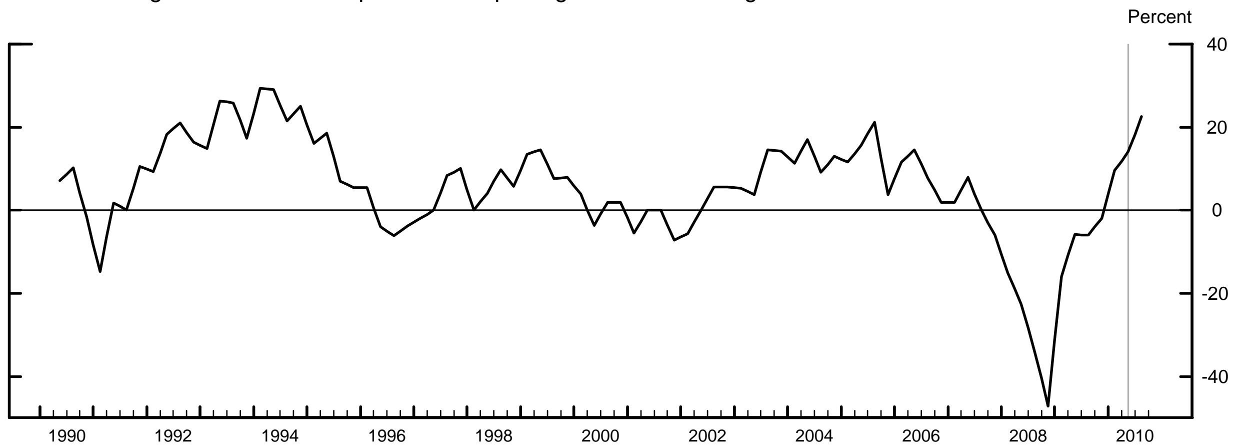
Indicators of changes in standards and terms for approving applications for credit card loans were mixed. A few banks reported having eased standards, but small net fractions of respondents indicated that they had tightened terms and conditions on credit card accounts. Moreover, a small fraction of banks, on net, reported having reduced the size of credit card lines for existing customers, though that fraction has decreased noticeably over the past few surveys. The easing of standards and terms on credit cards was accounted for by large banks, while the reported tightening occurred at other banks.

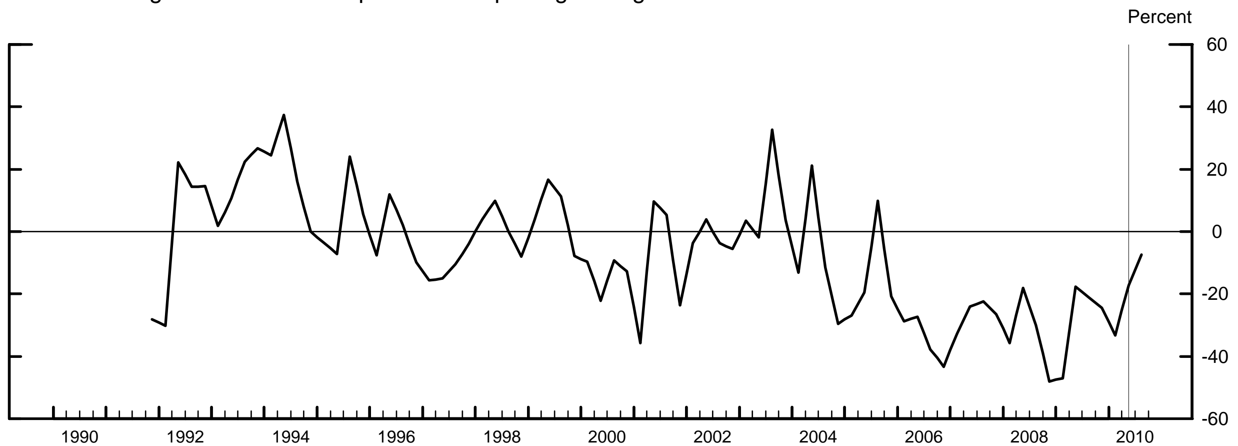
On balance, a small percentage of respondents indicated that demand for consumer loans had weakened. A modest net percentage of large banks reported an increase in demand for the second consecutive quarter, but a slightly larger net percentage of other banks reported a decrease in such demand.

[4] See Mortgage Bankers Association (2010), "Mortgage Refinance Applications Increase as Rates Continue to Drop in Latest MBA Weekly Survey," press release, June 30, www.mbaa.org/NewsandMedia/PressCenter/73294.htm. Survey respondents are instructed to consider only demand for new originations as opposed to the refinancing of existing mortgages. However, the responses to this question are highly correlated with measures of refinancing activity.

Measures of Supply and Demand for Consumer Loans







Financial Developments

Risks and Uncertainty

ALTERNATIVE SCENARIOS

The risks to the outlook are substantial, as indicated by the sizable confidence intervals around our projections of real activity and inflation (whether based on FRB/US stochastic simulations or the staff's historical forecast errors). To illustrate some of these risks, we consider a number of alternatives to the baseline projection using simulations of staff models. In the first scenario, we assume that the disappointing tone of a wide range of recent indicators is signaling a much more sluggish recovery this year and next than we have built into the baseline. The second scenario also explores the risk of weaker real activity, fueled in this case by less favorable supply-side conditions that imply lower permanent income. In contrast, the third scenario considers the possibility that the recent softness in the data is simply noise, which is masking building momentum that will lead to a more robust recovery than in the baseline. We then turn to opposing risks to the inflation outlook—either that inflation will come in noticeably higher than we project, as many private forecasters expect, or that we will experience the more pronounced disinflation predicted by some of the staff's reduced-form models. The final two scenarios consider risks arising from the foreign sector: first, that Europe will dip back into recession, and second, that the depreciation of the dollar will be more rapid than in the baseline.

In these scenarios, the federal funds rate responds to movements in real activity and inflation as prescribed by a simple policy rule. We generate most of the scenarios using the FRB/US model and the same policy rule for the federal funds rate as that detailed in the long-term outlook discussion in the "Domestic Economic Developments and Outlook" section, with nontraditional policy assumed to follow the baseline path. The last two scenarios, however, are generated using the multicountry SIGMA model, which uses a somewhat different policy rule that employs an alternative concept of resource utilization.[1]

[1] For the policy rule in SIGMA, the measure of slack is the difference between actual output and the model's estimate of the level of output that would occur in the absence of slow adjustment in wages and prices.

Alternative Scenarios

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

Measure and scenario	2010 H1	2010 H2	2011	2012	2013-14
Real GDP					
Extended Tealbook baseline	2.9	2.5	3.6	4.8	4.8
Weaker recovery	2.9	1.6	2.3	4.6	5.2
Lower potential	2.9	2.1	2.8	3.3	3.6
Virtuous circle	2.9	3.0	5.0	5.6	4.9
Higher inflation	2.9	2.5	3.5	4.5	4.4
Greater disinflation	2.9	2.5	3.6	4.8	5.4
Double-dip recession in Europe	2.9	2.3	3.1	4.7	5.0
Dollar depreciation	2.9	2.7	4.3	4.9	4.5
Unemployment rate[1]					
Extended Tealbook baseline	9.7	9.7	8.9	7.6	5.3
Weaker recovery	9.7	9.8	9.5	8.2	5.5
Lower potential	9.7	9.8	9.4	8.8	7.4
Virtuous circle	9.7	9.6	8.4	6.8	4.6
Higher inflation	9.7	9.7	8.9	7.7	5.7
Greater disinflation	9.7	9.7	8.9	7.6	4.8
Double-dip recession in Europe	9.7	9.7	9.0	7.8	5.5
Dollar depreciation	9.7	9.7	8.6	7.2	5.0
Core PCE inflation					
Extended Tealbook baseline	1.2	.9	.9	1.0	1.3
Weaker recovery	1.2	.9	.9	.9	1.2
Lower potential	1.2	1.1	1.4	1.5	1.8
Virtuous circle	1.2	.9	1.0	1.1	1.4
Higher inflation	1.2	1.2	1.6	1.8	2.0
Greater disinflation	1.2	.8	.4	.0	.0
Double-dip recession in Europe	1.2	.8	.7	.9	1.3
Dollar depreciation	1.2	1.1	1.3	1.1	1.3
Federal funds rate[1]					
Extended Tealbook baseline	.2	.1	.1	.4	3.3
Weaker recovery	.2	.1	.1	.1	2.9
Lower potential	.2	.1	1.1	1.9	3.9
Virtuous circle	.2	.1	.1	1.4	4.3
Higher inflation	.2	.1	.3	1.5	3.8
Greater disinflation	.2	.1	.1	.1	1.8
Double-dip recession in Europe	.2	.1	.1	.2	3.1
Dollar depreciation	.2	.1	.1	.6	3.6

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

Risks & Uncertainty

Weaker Recovery

The surprisingly weak tone of recent data suggests that the recovery may be having difficulty gaining traction. Indeed, some statistical models predict that, based on the incoming data, the increase in real GDP will fall noticeably short of 2 percent in the second half of this year. In this scenario, we assume that the near-term improvements in the labor market, confidence, and credit conditions underlying our baseline projection are slow to materialize, leading households and firms to hold back on spending through next year. In addition, the sluggish pace of recovery leads to a reassessment of the outlook for earnings and the riskiness of equity holdings, causing equity prices to fall about 10 percent relative to the baseline by next year, which further depresses spending. In this environment, real GDP expands at an average annual rate of only 1½ percent until mid-2011. In turn, labor market conditions stagnate, and the unemployment rate remains above 9½ percent until the end of next year. Inflation, however, is little affected because less capital spending holds down productivity and boosts unit labor costs relative to baseline, largely offsetting the disinflationary effects of greater slack. With these weaker conditions, lift-off of the federal funds rate from its effective lower bound is delayed until mid-2013. This additional monetary stimulus, together with an assumed gradual return of spending to long-run fundamentals, causes real GDP to expand more rapidly than in the baseline starting in 2013.

Lower Potential

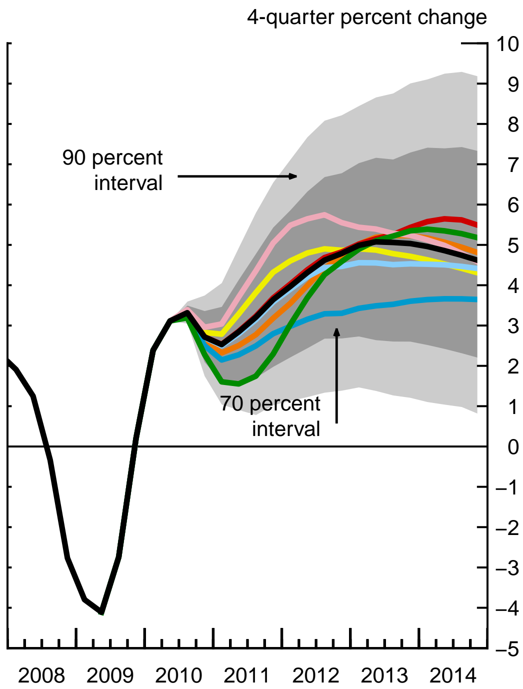
The pace of the recovery could also turn out to be slower than expected if we have overestimated the economy's productive potential, given that less favorable supply-side conditions would imply lower long-run levels of real household income and corporate earnings. Although the NAIRU and potential output are always difficult to measure, this risk seems more elevated than usual in light of the extremely high level of long-duration unemployment, as well as the difficulty of gauging the longer-run economic consequences of the unprecedented disturbances to the financial system. Indeed, some outside forecasters have noticeably lower estimates of slack. In this scenario, we assume that output is currently 4 percent below potential rather than the baseline estimate of 7¾ percent, reflecting both a higher NAIRU and a lower level of structural productivity. The lower long-run levels of household income and corporate earnings implied by this assumption, and their effects on consumption and investment, cause real GDP to expand 1 percentage point less per year, on average, through 2014 than in the baseline, and the unemployment rate to decline more slowly. In addition, prices accelerate more noticeably: Core PCE inflation rises to 1½ percent in 2011 and to almost 2 percent by

Forecast Confidence Intervals and Alternative Scenarios

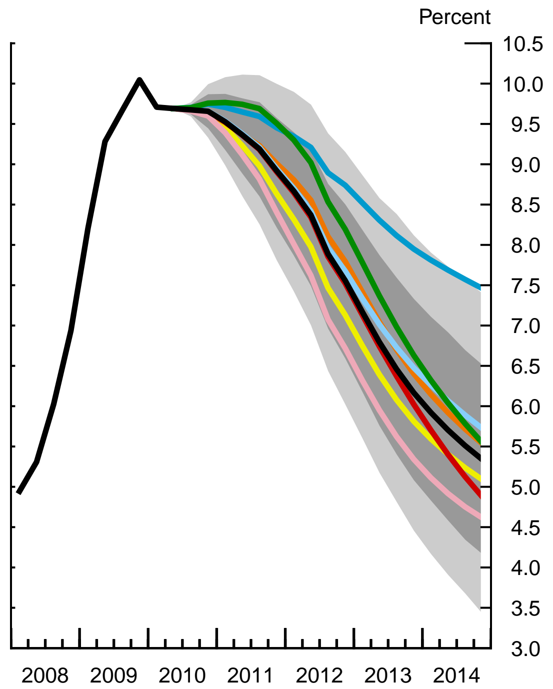
Confidence Intervals Based on FRB/US Stochastic Simulations

- Extended Tealbook baseline
- Weaker recovery
- Lower potential
- Virtuous circle
- Higher inflation
- Greater disinflation
- Double−dip recession in Europe
- Dollar depreciation

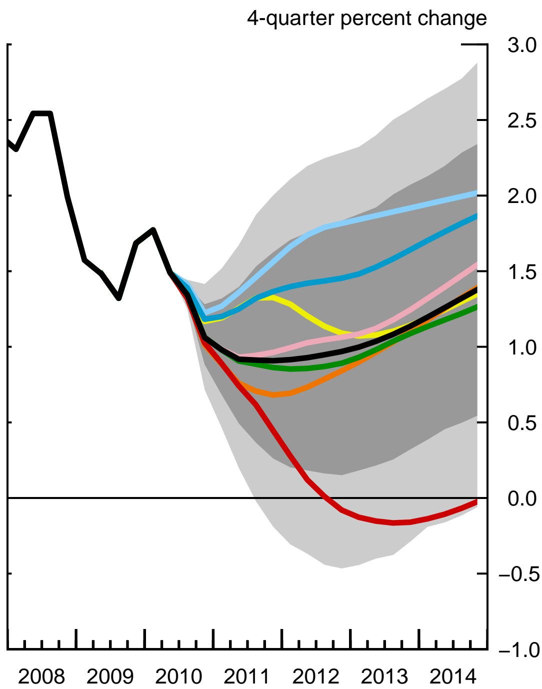
Real GDP



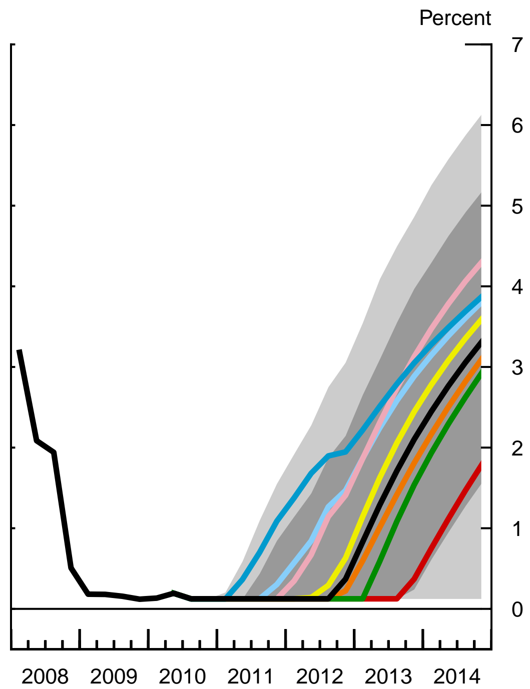
Unemployment Rate



PCE Prices excluding Food and Energy



Federal Funds Rate



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

Measure	2010	2011	2012	2013	2014
Real GDP					
(percent change, Q4 to Q4)					
Projection	2.7	3.6	4.8	5.0	4.6
Confidence interval					
Tealbook forecast errors	1.9–3.6	1.8–5.5	2.9–6.7	. . .	. . .
FRB/US stochastic simulations	2.1–3.4	2.0–5.4	2.7–6.8	2.6–7.3	2.2–7.3
Civilian unemployment rate					
(percent, Q4)					
Projection	9.7	8.9	7.6	6.2	5.3
Confidence interval					
Tealbook forecast errors	9.3–10.0	8.1–9.7	6.4–8.8	. . .	. . .
FRB/US stochastic simulations	9.4–9.9	8.2–9.6	6.6–8.5	5.1–7.3	4.2–6.5
PCE prices, total					
(percent change, Q4 to Q4)					
Projection	1.3	1.1	1.0	1.2	1.4
Confidence interval					
Tealbook forecast errors	.8–1.7	-.1–2.2	-.3–2.3	. . .	. . .
FRB/US stochastic simulations	1.0–1.6	.1–2.1	.0–2.1	.1–2.4	.3–2.7
PCE prices excluding food and energy					
(percent change, Q4 to Q4)					
Projection	1.1	.9	1.0	1.1	1.4
Confidence interval					
Tealbook forecast errors	.7–1.4	.2–1.6	.0–2.0	. . .	. . .
FRB/US stochastic simulations	.9–1.3	.3–1.6	.2–1.8	.3–2.1	.5–2.3
Federal funds rate					
(percent, Q4)					
Projection	.1	.1	.4	2.1	3.3
Confidence interval					
FRB/US stochastic simulations	.1–.1	.1–.8	.1–2.1	.2–4.0	1.6–5.2

Note: Shocks underlying FRB/US stochastic simulations are randomly drawn from the 1969–2009 set of model equation residuals.

Intervals derived from Tealbook forecast errors are based on projections made from 1979–2009, except for PCE prices excluding food and energy, where the sample is 1981–2009.

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

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2014, reflecting both the direct effects of lower productivity on marginal cost and a smaller margin of slack. Policymakers gradually take on board the evidence of less-favorable supply-side conditions, and in response to less slack and higher inflation, monetary policy begins tightening in the middle of next year.

Virtuous Circle

Although we have marked down the forecast in response to incoming data, such indicators are inherently noisy and could be misleading us. Moreover, we may have understated the degree to which a resumption of spending delayed during the recession, improving financial conditions, and a recovering labor market will generate a rapid rebound in activity. In light of this possibility, this scenario examines a stronger bounceback in spending on consumer durables and an even more marked acceleration in capital expenditure, reflecting a mutually reinforcing cycle of improved optimism, higher spending, greater hiring, and increasing credit availability. The strong activity in turn reinforces optimism in financial markets, and equity prices are 12 percent above baseline by the end of next year; financial conditions improve further into 2012. The virtuous circle causes real GDP to expand 5¼ percent, on average, in 2011 and 2012, thereby pushing the unemployment rate down to 8½ percent by the end of next year and to the NAIRU by 2013. With less slack, inflation is higher; however, the upward pressure is partially checked by more capital deepening and thus larger productivity gains. Under these conditions, the federal funds rate begins to rise in early 2012 and remains above baseline thereafter.

Higher Inflation

Many outside forecasters anticipate higher inflation than in the staff projection despite similar or more pessimistic outlooks for the real economy. The "Lower Potential" scenario described one set of factors that could lead to higher inflation than in the staff's projection; here we consider other possibilities. One risk is that we may have taken too much signal from the low inflation figures so far this year, with the consequence that the deceleration in underlying inflation could be more modest than we have implicitly assumed. Another possibility is that the acceleration in activity to above-trend growth will place more upward pressure on inflation than we expect through "speed effects," with commodity and other prices reacting to the rate of change in activity. In this scenario, inflation follows a path consistent with outside forecasters' consensus, which we read as anticipating core PCE inflation of about 1½ percent next year. In the face of this higher inflation, the policy rule prescribes raising the federal funds rate

starting in late 2011, about a year earlier than in the baseline and closer to the interest rate projections of some outside forecasters. The tighter monetary policy tempers aggregate demand, so real GDP expands somewhat more slowly than in the baseline.

Greater Disinflation

In the baseline, inflation remains relatively stable through next year and then begins to rise as unemployment declines in an environment of well-anchored inflation expectations. But inflation expectations could prove less stable than we expect given persistent weakness in labor and product markets and ongoing low inflation. In this scenario, both expected and actual inflation fall significantly, by magnitudes that are roughly in line with the predictions of many reduced-form forecasting equations. As a result, inflation runs around zero from 2011 through 2014, causing the federal funds rate to remain near zero until the end of 2013. The more accommodative monetary policy eventually stimulates aggregate spending, and real GDP expands faster than in the baseline during 2013 and 2014.

Double-Dip Recession in Europe

In the baseline, we project that the European economies continue to recover next year as financial stress eases and sentiment improves. In this scenario, we assume that financial stress remains elevated and consumer confidence deteriorates. Specifically, sovereign and corporate debt spreads in Europe rise 50 and 100 basis points above baseline, respectively, and the trade-weighted euro depreciates about 10 percent relative to baseline. In response, European GDP contracts ¾ percent in 2011 and is 3 percent below baseline by the end of that year—a reduction in activity in line with the assumptions embedded in the EU's recent bank stress tests (see the box on the EU-wide stress-test exercise in the "International Economic Developments and Outlook" section). U.S. real net exports decline because of both a stronger dollar and weaker foreign activity. On net, this mild European recession leaves U.S. real GDP growth ½ percentage point below baseline in 2011. U.S. core PCE inflation is ¼ percentage point below baseline in 2011, reflecting both lower import prices and greater resource slack. The lower inflation and greater slack imply a federal funds rate that runs a bit below baseline after mid-2012. U.S. real GDP growth is slightly above baseline in 2012 and 2013 because of greater monetary accommodation and a gradual improvement in European conditions.

Dollar Depreciation

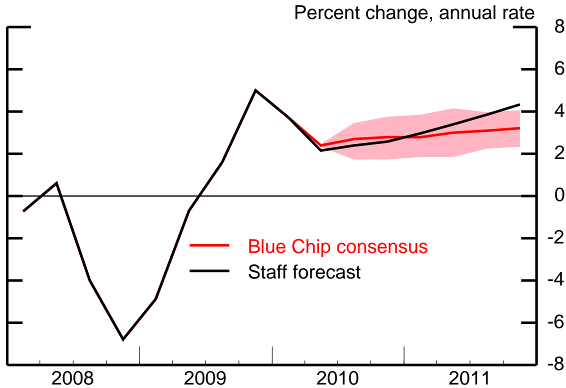
A sizable dollar decline could be spurred by a broad range of global developments, including faster-than-expected foreign growth, a more rapid tightening of monetary policy abroad than projected, or an enhanced risk appetite for foreign assets. In this scenario, the broad real dollar depreciates 10 percent below baseline by mid-2011 because of a lower risk premium that increases the relative attractiveness of foreign assets. As a result, U.S. exports become more competitive, and U.S. consumers substitute away from imports toward domestically produced goods. Relative to baseline, U.S. real GDP rises ¾ percentage point faster in 2011. Core PCE price inflation rises in response to higher import prices and greater resource utilization and is ½ percentage point above baseline in 2011. The nominal trade balance improves 1¼ percent of GDP by the end of 2011. Starting in 2012, the federal funds rate is somewhat higher than in the baseline, and, as a result, real GDP growth is somewhat lower in 2013 and 2014.

OUTSIDE FORECASTS

The Blue Chip consensus forecast released in early July shows real GDP advancing about 2¾ percent in the second half of 2010 and 3 percent in 2011, a bit slower than anticipated in the June survey. (These projections were made prior to the annual revision to the NIPA that was released in late July.) Compared with the staff forecast, the consensus projection for real GDP growth is a bit stronger in the second half of this year but notably weaker in 2011; indeed, by the end of 2011, the staff forecast for real GDP growth is similar to that of the 10 Blue Chip respondents with the highest forecasts of real activity. Regarding inflation, the consensus forecast shows the CPI increasing 1.7 percent in 2011, 0.2 percentage point less than the consensus projection made a month earlier. Nonetheless, private forecasts for CPI inflation are, on average, notably above the staff forecast of 1.1 percent, and the staff inflation outlook is similar to that held by the 10 Blue Chip respondents with the lowest forecasts for inflation. Staff assumptions for interest rates are below those of the Blue Chip consensus.

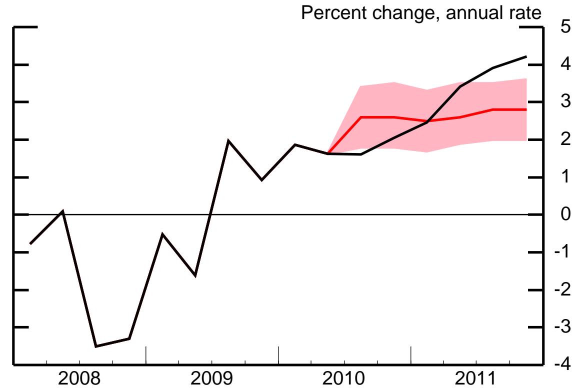
Tealbook Forecast Compared with Blue Chip
(Blue Chip survey released July 10, 2010)

Real GDP

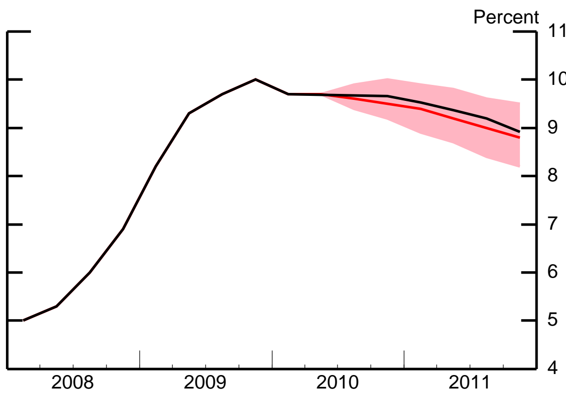


Note: The shaded area represents the area between the Blue Chip top ten and bottom ten averages.

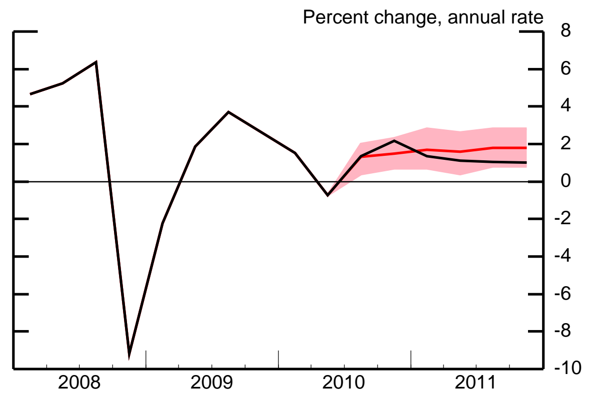
Real PCE



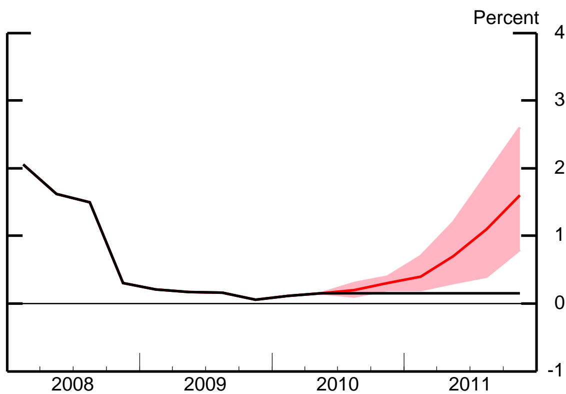
Unemployment Rate



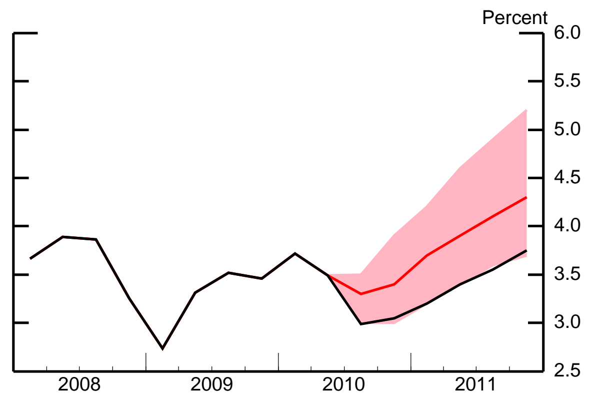
Consumer Price Index



Treasury Bill Rate



10-Year Treasury Yield



Note: The yield is for on-the-run Treasury securities. Over the forecast period, the staff's projected yield is assumed to be 15 basis points below the off-the-run yield.

Risks & Uncertainty

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

Interval	Nominal GDP		Real GDP		PCE price index		Core PCE price index		Unemployment rate[1]	
	06/16/10	08/04/10	06/16/10	08/04/10	06/16/10	08/04/10	06/16/10	08/04/10	06/16/10	08/04/10
Quarterly										
2009:Q1	-4.6	-3.9	-6.4	-4.9	-1.5	-1.6	1.1	.9	8.2	8.2
Q2	-.8	-.4	-.7	-.7	1.4	1.9	2.0	2.3	9.3	9.3
Q3	2.6	2.3	2.2	1.6	2.6	2.9	1.2	1.5	9.7	9.7
Q4	6.1	4.7	5.6	5.0	2.5	2.7	1.8	2.1	10.0	10.0
2010:Q1	4.2	4.8	3.1	3.7	1.5	2.1	.6	1.2	9.7	9.7
Q2	4.8	4.0	3.6	2.1	-.2	.1	.9	1.1	9.8	9.7
Q3	3.4	3.8	2.7	2.4	.9	1.1	.8	.9	9.7	9.7
Q4	4.3	3.4	3.2	2.6	1.5	1.8	.8	.9	9.5	9.7
2011:Q1	4.2	4.1	3.3	3.0	1.1	1.2	.8	.9	9.3	9.5
Q2	4.3	4.4	3.5	3.4	1.0	1.0	.8	.9	9.1	9.4
Q3	4.6	4.8	3.8	3.9	1.0	1.0	.8	.9	8.9	9.2
Q4	4.8	5.3	4.1	4.3	.9	1.0	.8	.9	8.6	8.9
Two-quarter[2]										
2009:Q2	-2.7	-2.2	-3.6	-2.8	-.1	.1	1.6	1.6	2.4	2.4
Q4	4.3	3.5	3.9	3.3	2.5	2.8	1.5	1.8	.7	.7
2010:Q2	4.5	4.4	3.4	2.9	.7	1.1	.8	1.2	-.2	-.3
Q4	3.8	3.6	3.0	2.5	1.2	1.5	.8	.9	-.3	.0
2011:Q2	4.3	4.2	3.4	3.2	1.1	1.1	.8	.9	-.4	-.3
Q4	4.7	5.1	3.9	4.1	.9	1.0	.8	.9	-.5	-.5
Four-quarter[3]										
2008:Q4	.1	-.7	-1.9	-2.8	1.7	1.7	2.0	2.0	2.1	2.1
2009:Q4	.7	.6	.1	.2	1.2	1.5	1.5	1.7	3.1	3.1
2010:Q4	4.2	4.0	3.2	2.7	.9	1.3	.8	1.1	-.5	-.3
2011:Q4	4.5	4.7	3.7	3.6	1.0	1.1	.8	.9	-.9	-.8
Annual										
2008	2.6	2.2	.4	.0	3.3	3.3	2.4	2.3	5.8	5.8
2009	-1.3	-1.7	-2.4	-2.6	.2	.2	1.5	1.5	9.3	9.3
2010	4.1	3.8	3.3	2.9	1.4	1.8	1.1	1.4	9.7	9.7
2011	4.3	4.1	3.4	3.1	1.0	1.2	.8	.9	9.0	9.3

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.

Greensheets

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

Item	2009				2010				2011						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2009[1]	2010[1]	2011[1]
Real GDP	-4.9	-.7	1.6	5.0	3.7	2.1	2.4	2.6	3.0	3.4	3.9	4.3	.2	2.7	3.6
Previous Tealbook	-6.4	-.7	2.2	5.6	3.1	3.6	2.7	3.2	3.3	3.5	3.8	4.1	.1	3.2	3.7
Final sales	-3.9	.2	.4	2.1	1.1	1.6	1.6	3.2	3.0	3.7	3.9	4.8	-.3	1.9	3.8
Previous Tealbook	-4.1	.7	1.5	1.7	1.2	3.9	2.2	3.0	3.1	3.4	3.3	3.7	-.1	2.6	3.4
Priv. dom. final purch.	-7.1	-2.9	1.8	.6	2.1	4.3	1.5	2.9	3.4	4.5	4.9	5.3	-2.0	2.7	4.5
Previous Tealbook	-7.2	-2.7	2.2	2.1	3.0	4.5	2.5	3.4	3.8	4.1	4.2	4.2	-1.5	3.3	4.1
Personal cons. expend.	-.5	-1.6	2.0	.9	1.9	1.6	1.6	2.0	2.5	3.4	3.9	4.2	.2	1.8	3.5
Previous Tealbook	.6	-.9	2.8	1.6	3.4	2.9	2.2	2.3	2.9	3.1	3.2	3.3	1.0	2.7	3.1
Durables	4.8	-3.1	20.1	-1.1	8.8	7.5	6.8	5.6	7.0	8.8	9.8	12.9	4.8	7.2	9.6
Nondurables	.4	-.7	1.7	3.1	4.2	1.6	.7	2.0	3.1	3.2	3.0	3.0	1.1	2.1	3.1
Services	-1.6	-1.7	-.5	.5	.1	.8	1.1	1.5	1.6	2.7	3.3	3.3	-.8	.9	2.7
Residential investment	-36.2	-19.7	10.6	-.8	-12.3	28.5	-8.6	8.3	15.6	19.3	19.6	21.5	-13.4	2.8	19.0
Previous Tealbook	-38.2	-23.3	18.9	3.8	-10.6	18.7	-5.5	16.4	15.9	17.3	17.3	17.8	-12.5	3.9	17.1
Business fixed invest.	-35.2	-7.5	-1.7	-1.4	7.8	19.8	3.0	7.8	7.2	8.8	8.5	9.0	-12.7	9.4	8.4
Previous Tealbook	-39.2	-9.6	-5.9	5.3	3.7	13.5	6.5	8.5	7.6	8.0	7.9	7.3	-14.1	8.0	7.7
Equipment & software	-31.6	.2	4.2	14.6	20.4	26.1	3.9	10.5	10.1	12.2	11.8	12.5	-4.9	14.9	11.6
Previous Tealbook	-36.4	-4.9	1.5	19.0	13.5	20.3	10.4	12.2	10.7	11.3	11.1	10.1	-7.5	14.0	10.8
Nonres. structures	-41.0	-20.2	-12.4	-29.2	-17.8	4.8	.6	.7	-.2	-.3	-.6	-.8	-26.5	-3.3	-.5
Previous Tealbook	-43.6	-17.3	-18.4	-18.0	-15.2	-.8	-2.2	-.2	-.1	-.2	-.3	-.2	-25.3	-4.8	-.2
Net exports[2]	-389	-342	-391	-330	-338	-426	-422	-395	-390	-394	-400	-391	-363	-395	-394
Previous Tealbook[2]	-386	-330	-357	-348	-374	-380	-390	-387	-393	-399	-409	-407	-356	-383	-402
Exports	-27.8	-1.0	12.2	24.4	11.4	10.3	11.9	8.7	8.3	8.1	8.2	8.1	-.1	10.6	8.2
Imports	-35.3	-10.6	21.9	4.9	11.2	28.8	8.6	1.7	5.8	7.3	7.9	4.9	-7.2	12.1	6.5
Gov't. cons. & invest.	-3.0	6.1	1.6	-1.4	-1.6	4.5	1.4	.0	.3	.4	.5	.5	.8	1.1	.4
Previous Tealbook	-2.6	6.7	2.6	-1.3	-1.9	2.4	2.1	.6	.7	.9	.9	.9	1.3	.8	.9
Federal	-5.0	14.9	5.7	.0	1.8	9.2	4.3	.5	.9	1.0	1.1	.9	3.6	3.9	1.0
Defense	-8.4	16.8	9.0	-2.5	.4	7.4	6.5	.8	.0	.0	.2	-.1	3.3	3.7	.0
Nondefense	2.6	10.9	-.9	5.6	5.0	13.0	-.3	-.2	3.0	3.1	3.1	3.2	4.5	4.2	3.1
State & local	-1.7	1.0	-1.0	-2.3	-3.8	1.4	-.5	-.2	-.2	.0	.1	.2	-1.0	-.8	.0
Change in bus. inventories[2]	-126	-162	-128	-37	44	61	87	68	69	62	59	46	-113	65	59
Previous Tealbook[2]	-114	-160	-139	-20	41	31	48	54	61	65	81	94	-108	43	75
Nonfarm[2]	-129	-169	-128	-43	37	51	82	63	65	58	56	42	-117	58	55
Farm[2]	2	6	-1	6	8	10	6	6	4	4	4	4	3	7	4

1. Change from fourth quarter of previous year to fourth quarter of year indicated.
2. Billions of chained (2005) 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	2003	2004	2005	2006	2007	2008	2009	2010	2011
Real GDP	3.8	3.1	2.7	2.4	2.3	-2.8	.2	2.7	3.6
Previous Tealbook	3.8	3.1	2.7	2.4	2.5	-1.9	.1	3.2	3.7
Final sales	3.8	2.8	2.7	2.8	2.5	-1.9	-.3	1.9	3.8
Previous Tealbook	3.8	2.8	2.7	2.8	2.7	-1.4	-.1	2.6	3.4
Priv. dom. final purch.	4.2	4.2	3.1	2.5	1.3	-3.8	-2.0	2.7	4.5
Previous Tealbook	4.2	4.2	3.1	2.5	1.4	-3.2	-1.5	3.3	4.1
Personal cons. expend.	3.4	3.5	2.7	3.3	1.7	-1.9	.2	1.8	3.5
Previous Tealbook	3.4	3.5	2.7	3.3	2.0	-1.8	1.0	2.7	3.1
Durables	8.9	5.5	2.1	6.3	3.9	-12.3	4.8	7.2	9.6
Nondurables	3.9	3.0	3.3	3.2	.8	-2.9	1.1	2.1	3.1
Services	2.2	3.4	2.6	2.8	1.7	.3	-.8	.9	2.7
Residential investment	11.5	6.6	5.3	-15.7	-20.7	-24.6	-13.4	2.8	19.0
Previous Tealbook	11.5	6.6	5.3	-15.7	-20.5	-21.0	-12.5	3.9	17.1
Business fixed invest.	5.9	7.0	4.4	7.8	8.2	-8.3	-12.7	9.4	8.4
Previous Tealbook	5.9	7.0	4.4	7.8	7.9	-6.0	-14.1	8.0	7.7
Equipment & software	7.5	8.8	6.1	6.0	4.3	-11.8	-4.9	14.9	11.6
Previous Tealbook	7.5	8.8	6.1	6.0	3.2	-10.7	-7.5	14.0	10.8
Nonres. structures	1.3	1.7	-.1	13.0	17.3	-1.5	-26.5	-3.3	-.5
Previous Tealbook	1.3	1.7	-.1	13.0	18.9	3.2	-25.3	-4.8	-.2
Net exports[1]	-604	-688	-723	-729	-655	-504	-363	-395	-394
Previous Tealbook[1]	-604	-688	-723	-729	-648	-494	-356	-383	-402
Exports	6.2	7.1	6.7	10.2	10.1	-2.9	-.1	10.6	8.2
Imports	5.1	10.9	5.2	4.1	.7	-6.0	-7.2	12.1	6.5
Gov't. cons. & invest.	1.6	.6	.7	1.5	1.9	3.1	.8	1.1	.4
Previous Tealbook	1.6	.6	.7	1.5	2.5	3.0	1.3	.8	.9
Federal	5.7	2.3	1.2	2.2	3.1	9.2	3.6	3.9	1.0
Defense	8.4	2.4	.4	4.4	2.6	9.5	3.3	3.7	.0
Nondefense	.7	2.3	2.6	-2.3	4.2	8.5	4.5	4.2	3.1
State & local	-.5	-.4	.4	1.2	1.2	-.4	-1.0	-.8	.0
Change in bus. inventories[1]	17	66	50	59	28	-38	-113	65	59
Previous Tealbook[1]	17	66	50	59	19	-26	-108	43	75
Nonfarm[1]	17	58	50	63	29	-39	-117	58	55
Farm[1]	0	8	0	-4	-1	1	3	7	4

1. Billions of chained (2005) dollars.

Greensheets

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

Item	2009				2010				2011						
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2009[1]	2010[1]	2011[1]
Real GDP	-4.9	-.7	1.6	5.0	3.7	2.1	2.4	2.6	3.0	3.4	3.9	4.3	.2	2.7	3.6
Previous Tealbook	-6.4	-.7	2.2	5.6	3.1	3.6	2.7	3.2	3.3	3.5	3.8	4.1	.1	3.2	3.7
Final sales	-3.8	.3	.5	2.2	1.1	1.6	1.6	3.2	3.0	3.6	3.9	4.7	-.3	1.9	3.8
Previous Tealbook	-4.1	.7	1.5	1.8	1.2	3.9	2.2	3.0	3.1	3.4	3.3	3.7	-.1	2.6	3.4
Priv. dom. final purch.	-6.1	-2.4	1.5	.6	1.7	3.5	1.2	2.4	2.8	3.7	4.0	4.4	-1.6	2.2	3.7
Previous Tealbook	-6.1	-2.3	1.8	1.8	2.5	3.7	2.1	2.8	3.1	3.4	3.4	3.5	-1.3	2.8	3.4
Personal cons. expend.	-.3	-1.1	1.4	.7	1.3	1.2	1.1	1.4	1.7	2.4	2.8	3.0	.1	1.3	2.5
Previous Tealbook	.4	-.6	2.0	1.2	2.4	2.0	1.6	1.6	2.1	2.2	2.2	2.3	.7	1.9	2.2
Durables	.4	-.2	1.4	-.1	.6	.5	.5	.4	.5	.6	.7	.9	.3	.5	.7
Nondurables	.1	-.1	.3	.5	.7	.3	.1	.3	.5	.5	.5	.5	.2	.3	.5
Services	-.8	-.8	-.2	.3	.0	.4	.5	.7	.7	1.3	1.6	1.6	-.4	.4	1.3
Residential investment	-1.2	-.5	.3	.0	-.3	.6	-.2	.2	.4	.4	.5	.5	-.4	.1	.5
Previous Tealbook	-1.3	-.7	.4	.1	-.3	.4	-.1	.4	.4	.4	.4	.5	-.4	.1	.4
Business fixed invest.	-4.5	-.7	-.1	-.1	.7	1.7	.3	.7	.7	.8	.8	.9	-1.4	.9	.8
Previous Tealbook	-5.3	-1.0	-.6	.5	.3	1.2	.6	.8	.7	.8	.8	.7	-1.6	.7	.7
Equipment & software	-2.5	.0	.3	.9	1.2	1.6	.3	.7	.7	.8	.8	.9	-.3	1.0	.8
Previous Tealbook	-3.0	-.3	.1	1.1	.8	1.2	.7	.8	.7	.8	.8	.7	-.5	.9	.7
Nonres. structures	-2.0	-.8	-.4	-1.0	-.5	.1	.0	.0	.0	.0	.0	.0	-1.1	-.1	.0
Previous Tealbook	-2.3	-.7	-.7	-.6	-.5	.0	-.1	.0	.0	.0	.0	.0	-1.1	-.1	.0
Net exports	2.9	1.5	-1.4	1.9	-.3	-2.9	.1	.8	.1	-.1	-.2	.2	1.2	-.5	.0
Previous Tealbook	2.6	1.7	-.8	.3	-.9	-.2	-.3	.1	-.2	-.2	-.3	.1	1.0	-.3	-.2
Exports	-3.6	-.1	1.3	2.6	1.3	1.2	1.4	1.1	1.1	1.0	1.1	1.1	.0	1.3	1.1
Imports	6.5	1.6	-2.7	-.7	-1.6	-4.1	-1.3	-.3	-.9	-1.2	-1.3	-.8	1.2	-1.8	-1.1
Gov't. cons. & invest.	-.6	1.2	.3	-.3	-.3	.9	.3	.0	.1	.1	.1	.1	.2	.2	.1
Previous Tealbook	-.5	1.3	.6	-.3	-.4	.5	.4	.1	.2	.2	.2	.2	.3	.2	.2
Federal	-.4	1.1	.5	.0	.2	.7	.3	.0	.1	.1	.1	.1	.3	.3	.1
Defense	-.5	.9	.5	-.1	.0	.4	.4	.0	.0	.0	.0	.0	.2	.2	.0
Nondefense	.1	.3	.0	.1	.1	.3	.0	.0	.1	.1	.1	.1	.1	.1	.1
State & local	-.2	.1	-.1	-.3	-.5	.2	-.1	.0	.0	.0	.0	.0	-.1	-.1	.0
Change in bus. inventories	-1.1	-1.0	1.1	2.8	2.6	.6	.8	-.6	.0	-.2	-.1	-.4	.5	.8	-.2
Previous Tealbook	-2.4	-1.4	.7	3.8	1.9	-.3	.6	.2	.2	.1	.5	.4	.1	.6	.3
Nonfarm	-1.0	-1.2	1.3	2.6	2.6	.5	1.0	-.6	.1	-.2	-.1	-.4	.5	.8	-.2
Farm	-.1	.1	-.2	.2	.1	.1	-.2	.0	-.1	.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	2009				2010				2011				2009[1]	2010[1]	2011[1]
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
GDP chain-wt. price index	1.1	.3	.7	-.2	1.0	1.8	1.3	.8	1.1	.9	.9	1.0	.5	1.2	1.0
Previous Tealbook	1.9	.0	.4	.5	1.0	1.1	.6	1.0	.9	.8	.8	.7	.7	1.0	.8
PCE chain-wt. price index	-1.6	1.9	2.9	2.7	2.1	.1	1.1	1.8	1.2	1.0	1.0	1.0	1.5	1.3	1.1
Previous Tealbook	-1.5	1.4	2.6	2.5	1.5	-.2	.9	1.5	1.1	1.0	1.0	.9	1.2	.9	1.0
Energy	-36.3	4.8	41.5	18.0	16.4	-17.5	5.1	18.2	6.8	3.9	2.6	1.9	2.7	4.5	3.8
Previous Tealbook	-36.7	-2.0	40.6	19.9	16.1	-18.6	1.2	14.6	6.3	4.3	3.2	2.1	1.1	2.3	3.9
Food	-.8	-3.3	-2.4	-.1	1.8	1.6	.7	1.2	.8	.7	.7	.7	-1.6	1.3	.7
Previous Tealbook	-1.1	-3.6	-2.1	-.1	1.9	1.9	1.3	1.1	.7	.7	.7	.7	-1.7	1.5	.7
Ex. food & energy	.9	2.3	1.5	2.1	1.2	1.1	.9	.9	.9	.9	.9	.9	1.7	1.1	.9
Previous Tealbook	1.1	2.0	1.2	1.8	.6	.9	.8	.8	.8	.8	.8	.8	1.5	.8	.8
CPI	-2.2	1.9	3.7	2.6	1.5	-.7	1.4	2.2	1.3	1.1	1.0	1.0	1.5	1.1	1.1
Previous Tealbook	-2.2	1.9	3.7	2.6	1.5	-1.0	.9	1.8	1.2	1.1	1.0	.9	1.5	.8	1.1
Ex. food & energy	1.6	2.3	1.5	1.5	.0	.9	1.1	.9	.8	.9	.9	.9	1.7	.7	.9
Previous Tealbook	1.6	2.3	1.5	1.5	.0	.6	.7	.7	.8	.8	.8	.8	1.7	.5	.8
ECI, hourly compensation[2]	.7	1.1	1.5	1.5	2.6	1.8	1.9	1.9	2.4	1.9	1.9	1.9	1.2	2.0	2.0
Previous Tealbook[2]	.7	1.1	1.5	1.5	2.6	1.8	1.9	1.9	2.2	2.0	2.0	2.0	1.2	2.0	2.0
Nonfarm business sector															
Output per hour	3.6	8.5	7.0	6.0	3.8	-1.0	1.6	1.0	.7	1.1	1.5	2.0	6.3	1.4	1.3
Previous Tealbook	.9	7.6	7.8	6.3	2.9	.1	.7	.9	.7	.7	1.0	1.0	5.6	1.2	.9
Compensation per hour	-3.6	9.3	3.5	1.6	.0	-.3	1.5	2.3	3.0	2.1	1.9	1.9	2.6	.9	2.2
Previous Tealbook	-4.2	7.7	-.4	-1.9	1.5	.7	2.3	2.3	3.1	2.2	2.0	2.0	.2	1.7	2.3
Unit labor costs	-6.9	.7	-3.3	-4.2	-3.7	.7	-.1	1.3	2.2	1.0	.3	-.2	-3.5	-.5	.8
Previous Tealbook	-5.0	.1	-7.6	-7.7	-1.4	.6	1.5	1.4	2.4	1.5	1.0	1.0	-5.1	.5	1.5
Core goods imports chain-wt. price index[3]	-10.0	-2.4	1.2	4.3	4.2	3.2	1.3	2.0	1.4	1.2	1.2	1.1	-1.9	2.7	1.2
Previous Tealbook[3]	-9.4	-2.3	1.3	4.7	4.1	3.0	-.1	.0	1.1	1.4	1.8	1.8	-1.6	1.7	1.5

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	2003	2004	2005	2006	2007	2008	2009	2010	2011
GDP chain-wt. price index	2.1	3.2	3.5	2.9	2.6	2.1	.5	1.2	1.0
Previous Tealbook	2.1	3.2	3.5	2.9	2.7	1.9	.7	1.0	.8
PCE chain-wt. price index	1.9	3.0	3.3	1.9	3.5	1.7	1.5	1.3	1.1
Previous Tealbook	1.9	3.0	3.3	1.9	3.6	1.7	1.2	.9	1.0
Energy	8.6	18.6	21.5	-3.7	19.4	-9.0	2.7	4.5	3.8
Previous Tealbook	8.6	18.6	21.5	-3.7	19.7	-9.1	1.1	2.3	3.9
Food	3.2	2.7	1.5	1.7	4.8	6.9	-1.6	1.3	.7
Previous Tealbook	3.2	2.7	1.5	1.7	4.7	6.8	-1.7	1.5	.7
Ex. food & energy	1.5	2.2	2.3	2.3	2.4	2.0	1.7	1.1	.9
Previous Tealbook	1.5	2.2	2.3	2.3	2.5	2.0	1.5	.8	.8
CPI	2.0	3.4	3.7	1.9	4.0	1.6	1.5	1.1	1.1
Previous Tealbook	2.0	3.4	3.7	1.9	4.0	1.6	1.5	.8	1.1
Ex. food & energy	1.2	2.2	2.1	2.7	2.3	2.0	1.7	.7	.9
Previous Tealbook	1.2	2.2	2.1	2.7	2.3	2.0	1.7	.5	.8
ECI, hourly compensation[1]	4.0	3.8	2.9	3.2	3.0	2.4	1.2	2.0	2.0
Previous Tealbook[1]	4.0	3.8	2.9	3.2	3.0	2.4	1.2	2.0	2.0
Nonfarm business sector									
Output per hour	5.0	1.5	1.5	1.0	2.7	-.3	6.3	1.4	1.3
Previous Tealbook	5.0	1.5	1.5	1.0	2.9	1.4	5.6	1.2	.9
Compensation per hour	5.7	3.4	3.6	4.5	3.6	2.3	2.6	.9	2.2
Previous Tealbook	5.7	3.4	3.6	4.5	3.6	3.1	.2	1.7	2.3
Unit labor costs	.6	1.9	2.0	3.5	.9	2.7	-3.5	-.5	.8
Previous Tealbook	.6	1.9	2.0	3.5	.7	1.7	-5.1	.5	1.5
Core goods imports chain-wt. price index[2]	1.6	3.6	2.2	2.5	2.9	3.5	-1.9	2.7	1.2
Previous Tealbook[2]	1.6	3.6	2.2	2.5	3.5	3.8	-1.6	1.7	1.5

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

Other Macroeconomic Indicators

Item	2009 Q1	2009 Q2	2009 Q3	2009 Q4	2010 Q1	2010 Q2	2010 Q3	2010 Q4	2011 Q1	2011 Q2	2011 Q3	2011 Q4	2009[1]	2010[1]	2011[1]
Employment and production															
Nonfarm payroll employment[2]	-2.2	-1.7	-1.0	-.4	.1	.7	.1	.4	.7	.8	.8	.8	-5.4	1.2	3.1
Unemployment rate[3]	8.2	9.3	9.7	10.0	9.7	9.7	9.7	9.7	9.5	9.4	9.2	8.9	10.0	9.7	8.9
Previous Tealbook[3]	8.2	9.3	9.7	10.0	9.7	9.8	9.7	9.5	9.3	9.1	8.9	8.6	10.0	9.5	8.6
NAIRU[3]	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Previous Tealbook[3]	5.1	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
GDP gap[4]	-7.4	-8.2	-8.4	-7.9	-7.6	-7.6	-7.7	-7.6	-7.5	-7.3	-7.0	-6.6	-7.9	-7.6	-6.6
Previous Tealbook[4]	-7.0	-7.8	-7.9	-7.3	-7.1	-6.8	-6.7	-6.5	-6.3	-6.1	-5.8	-5.4	-7.3	-6.5	-5.4
Industrial production[5]	-17.6	-10.3	8.3	7.0	7.0	6.6	3.5	1.4	3.5	4.4	4.6	5.1	-3.8	4.6	4.4
Previous Tealbook[5]	-19.0	-10.4	6.4	6.8	7.6	7.5	6.0	4.6	4.8	4.7	5.2	4.4	-4.7	6.4	4.8
Manufacturing industr. prod.[5]	-21.0	-9.3	10.4	7.1	6.1	7.9	2.7	2.0	4.2	5.5	5.5	6.6	-4.1	4.6	5.5
Previous Tealbook[5]	-22.0	-8.8	8.4	5.6	6.3	9.9	6.8	5.3	4.9	5.5	5.8	4.9	-5.0	7.1	5.3
Capacity utilization rate - mfg.[3]	67.0	65.6	67.4	68.8	70.0	71.3	71.8	72.1	72.8	73.8	74.7	75.9	68.8	72.1	75.9
Previous Tealbook[3]	66.7	65.4	67.0	68.2	69.5	71.3	72.6	73.7	74.6	75.6	76.7	77.6	68.2	73.7	77.6
Housing starts[6]	.5	.5	.6	.6	.6	.6	.6	.7	.8	.9	1.0	1.1	.6	.6	.9
Light motor vehicle sales[6]	9.5	9.6	11.5	10.7	11.0	11.3	11.4	11.6	12.0	12.6	13.4	14.3	10.3	11.4	13.1
Income and saving															
Nominal GDP[5]	-3.9	-.4	2.3	4.7	4.8	4.0	3.8	3.4	4.1	4.4	4.8	5.3	.6	4.0	4.7
Real disposable pers. income[5]	.4	5.9	-4.4	.0	1.7	4.4	1.1	1.5	1.7	3.9	4.0	4.0	.4	2.2	3.4
Previous Tealbook[5]	.2	6.2	-3.6	.0	1.9	4.8	1.9	2.2	.8	4.5	4.1	3.9	.7	2.7	3.3
Personal saving rate[3]	5.4	7.2	5.6	5.5	5.5	6.2	6.3	6.2	6.0	6.2	6.2	6.2	5.5	6.2	6.2
Previous Tealbook[3]	3.7	5.4	3.9	3.7	3.4	3.9	3.8	3.8	3.4	3.7	3.9	4.1	3.7	3.8	4.1
Corporate profits[7]	71.2	14.8	47.1	42.8	48.9	20.0	4.0	3.5	1.8	2.1	3.6	3.5	42.5	17.8	2.8
Profit share of GNP[3]	8.0	8.3	9.1	9.8	10.7	11.1	11.1	11.1	11.1	11.0	11.0	10.9	9.8	11.1	10.9
Net federal saving[8]	-1,003	-1,337	-1,357	-1,310	-1,310	-1,338	-1,338	-1,337	-1,249	-1,218	-1,220	-1,204	-1,252	-1,331	-1,223
Net state & local saving[8]	-42	-34	-19	14	29	5	21	29	-10	-18	-14	-11	-20	21	-13
Gross national saving rate[3]	11.4	10.7	10.1	10.8	11.2	11.8	11.8	11.9	12.1	12.4	12.5	12.6	10.8	11.9	12.6
Net national saving rate[3]	-2.3	-2.8	-3.3	-2.3	-1.7	-.8	-.6	-.5	-.3	.1	.2	.4	-2.3	-.5	.4

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	2003	2004	2005	2006	2007	2008	2009	2010	2011
Employment and production									
Nonfarm payroll employment[1]	-.1	2.0	2.4	2.1	1.2	-2.8	-5.4	1.2	3.1
Unemployment rate[2]	5.8	5.4	5.0	4.5	4.8	6.9	10.0	9.7	8.9
Previous Tealbook[2]	5.8	5.4	5.0	4.5	4.8	6.9	10.0	9.5	8.6
NAIRU[2]	4.9	4.9	4.8	4.8	4.8	4.9	5.2	5.2	5.2
Previous Tealbook[2]	4.9	4.9	4.8	4.8	4.8	4.9	5.2	5.2	5.2
GDP gap[3]	-1.6	-.7	-.3	-.3	-.5	-5.7	-7.9	-7.6	-6.6
Previous Tealbook[3]	-1.6	-.8	-.4	-.4	-.4	-4.8	-7.3	-6.5	-5.4
Industrial production[4]	1.4	2.9	2.3	2.5	2.3	-7.6	-3.8	4.6	4.4
Previous Tealbook[4]	1.6	3.0	2.6	1.8	1.8	-6.7	-4.7	6.4	4.8
Manufacturing industr. prod.[4]	1.6	3.5	3.5	2.0	2.6	-10.0	-4.1	4.6	5.5
Previous Tealbook[4]	1.8	3.6	3.8	1.2	1.9	-8.7	-5.0	7.1	5.3
Capacity utilization rate - mfg.[2]	74.6	77.4	78.8	79.0	79.1	70.9	68.8	72.1	75.9
Previous Tealbook[2]	74.6	77.3	79.2	79.0	78.7	70.9	68.2	73.7	77.6
Housing starts[5]	1.8	2.0	2.1	1.8	1.4	.9	.6	.6	.9
Light motor vehicle sales[5]	16.6	16.8	16.9	16.5	16.1	13.1	10.3	11.4	13.1
Income and saving									
Nominal GDP[4]	6.0	6.4	6.3	5.4	5.0	-.7	.6	4.0	4.7
Real disposable pers. income[4]	3.9	3.5	.6	4.6	1.5	1.0	.4	2.2	3.4
Previous Tealbook[4]	3.9	3.5	.6	4.6	1.0	.3	.7	2.7	3.3
Personal saving rate[2]	3.6	3.6	1.5	2.5	2.1	5.2	5.5	6.2	6.2
Previous Tealbook[2]	3.6	3.6	1.5	2.5	1.5	3.8	3.7	3.8	4.1
Corporate profits[6]	12.2	21.9	19.6	3.7	-8.1	-31.9	42.5	17.8	2.8
Profit share of GNP[2]	9.1	10.5	11.8	11.6	10.1	6.9	9.8	11.1	10.9
Net federal saving[7]	-376	-379	-283	-204	-245	-616	-1252	-1331	-1223
Net state & local saving[7]	-39	-8	26	51	12	-47	-20	21	-13
Gross national saving rate[2]	14.3	14.3	15.5	16.3	13.6	11.8	10.8	11.9	12.6
Net national saving rate[2]	2.5	2.7	3.5	4.2	1.3	-1.4	-2.3	-.5	.4

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				2009				2010				2011			
	2008[a]	2009[a]	2010	2011	Q1[a]	Q2[a]	Q3[a]	Q4[a]	Q1[a]	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Unified budget					Not seasonally adjusted											
Receipts[1]	2524	2104	2162	2431	442	599	516	488	466	643	565	546	513	733	639	608
Outlays[1]	2983	3520	3468	3701	891	904	845	876	795	930	867	943	948	904	906	923
Surplus/deficit[1]	-458	-1416	-1306	-1270	-449	-305	-329	-388	-329	-287	-302	-397	-435	-171	-267	-315
Previous Tealbook	*-458*	*-1416*	*-1381*	*-1341*	*-449*	*-305*	*-329*	*-388*	*-329*	*-318*	*-346*	*-410*	*-446*	*-198*	*-287*	*-329*
On-budget	-642	-1553	-1394	-1366	-468	-382	-318	-394	-359	-351	-289	-440	-433	-236	-258	-364
Off-budget	183	137	88	96	19	77	-11	6	30	64	-13	43	-2	65	-9	49
Means of financing																
Borrowing	768	1743	1385	1317	465	338	379	261	478	344	301	449	390	196	282	305
Cash decrease	-296	96	5	20	98	-49	43	82	-25	-71	19	0	50	-20	-10	15
Other[2]	-13	-424	-83	-68	-114	16	-92	45	-124	14	-18	-53	-5	-5	-5	-5
Cash operating balance, end of period	372	275	270	250	269	318	275	194	219	290	270	270	220	240	250	235
NIPA federal sector					Seasonally adjusted annual rates											
Receipts	2556	2261	2329	2519	2224	2191	2176	2232	2327	2362	2395	2423	2515	2551	2588	2626
Expenditures	3072	3355	3653	3775	3227	3528	3533	3542	3637	3700	3733	3760	3764	3768	3808	3830
Consumption expenditures	912	977	1029	1082	958	989	1000	1002	1017	1039	1060	1064	1080	1087	1095	1102
Defense	620	659	692	727	643	663	677	673	684	695	715	719	726	729	732	735
Nondefense	291	318	337	355	315	326	323	328	333	344	345	346	353	358	362	367
Other spending	2160	2378	2624	2693	2269	2539	2533	2540	2620	2661	2674	2696	2684	2681	2713	2728
Current account surplus	-515	-1094	-1324	-1256	-1003	-1337	-1357	-1310	-1310	-1338	-1338	-1337	-1249	-1218	-1220	-1204
Gross investment	140	151	164	171	145	151	156	158	161	168	171	172	171	171	172	172
Gross saving less gross investment[3]	-537	-1122	-1361	-1293	-1025	-1364	-1388	-1342	-1344	-1377	-1379	-1377	-1287	-1255	-1256	-1239
Fiscal indicators[4]																
High-employment (HEB) surplus/deficit	-457	-758	-918	-858	-686	-962	-949	-896	-904	-936	-937	-930	-846	-820	-834	-836
Change in HEB, percent of potential GDP	1.6	1.9	0.9	-0.6	1.6	1.8	-0.1	-0.4	0.0	0.1	-0.1	-0.1	-0.6	-0.2	0.0	-0.0
Fiscal impetus (FI), percent of GDP	0.8	1.2	0.9	-0.2	0.1	0.8	0.3	0.2	0.2	0.3	0.1	-0.0	-0.1	-0.1	-0.1	-0.1
Previous Tealbook	*0.8*	*1.0*	*0.8*	*-0.1*	*0.0*	*0.7*	*0.3*	*0.1*	*0.1*	*0.2*	*0.2*	*0.1*	*-0.2*	*-0.0*	*-0.1*	*-0.2*

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 (2005) 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								
2004	8.8	11.0	13.4	5.6	6.2	7.3	9.0	6.4
2005	9.5	11.1	13.3	4.5	8.7	10.2	7.0	6.3
2006	9.0	10.1	11.2	4.1	10.6	8.3	3.9	5.4
2007	8.7	6.7	6.8	5.8	13.1	9.5	4.9	5.0
2008	6.0	.3	-.4	1.5	5.4	2.2	24.2	-.7
2009	3.1	-1.7	-1.5	-4.4	-2.5	4.8	22.7	.6
2010	4.6	-1.3	-2.0	-1.6	1.2	3.0	20.1	4.0
2011	5.0	1.6	.3	5.1	2.7	4.7	12.5	4.7
Quarter								
2008:1	5.7	3.3	2.8	4.6	8.0	3.9	8.1	1.0
2	3.3	.1	-.5	3.5	6.7	1.3	5.9	4.1
3	8.3	-.5	-2.4	.7	5.6	3.4	39.2	.4
4	6.1	-1.8	-1.8	-2.7	1.1	.1	37.0	-7.9
2009:1	3.8	-1.2	-.1	-3.9	-.7	4.7	22.6	-3.9
2	4.3	-1.6	-1.6	-4.8	-2.9	4.0	28.2	-.4
3	2.7	-2.5	-3.4	-3.1	-3.0	5.6	20.6	2.3
4	1.3	-1.6	-1.1	-6.2	-3.5	4.6	12.6	4.7
2010:1	3.6	-2.4	-3.8	-1.7	.2	4.2	18.5	4.8
2	4.9	-1.9	-2.1	-4.2	.5	-2.3	24.0	4.0
3	3.8	-.9	-1.5	-1.2	1.7	5.0	13.5	3.8
4	5.8	.2	-.5	.8	2.1	5.2	19.1	3.4
2011:1	4.4	.8	-.3	3.1	2.5	4.8	11.7	4.1
2	5.2	1.2	.0	4.3	2.4	4.8	14.2	4.4
3	4.8	1.9	.5	5.7	2.9	4.4	11.0	4.8
4	5.1	2.5	1.0	7.1	3.0	4.4	11.0	5.3

Note: Quarterly data are at seasonally adjusted annual rates.
1. Data after 2010:Q1 are staff projections. Changes are measured from end of the preceding period to end of period indicated except for annual nominal GDP growth, which is calculated from Q4 to Q4.

Flow of Funds Projections: Highlights
(Billions of dollars at seasonally adjusted annual rates except as noted)

Category	2008	2009	2010	2011	2009		2010				2011			
					Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Domestic nonfinancial sectors														
Net funds raised														
Total	1563.2	966.1	1425.8	1617.9	992.4	141.3	1038.3	1589.7	1165.3	1909.8	1414.0	1743.2	1585.0	1729.4
Net equity issuance	-336.0	-63.3	-171.6	-188.0	65.7	-312.2	-207.6	-110.6	-188.0	-180.0	-180.0	-180.0	-196.0	-196.0
Net debt issuance	1899.2	1029.4	1597.3	1805.9	926.7	453.6	1246.0	1700.3	1353.3	2089.8	1594.0	1923.2	1781.0	1925.4
Borrowing indicators														
Debt (percent of GDP)[1]	227.3	241.8	242.1	243.8	243.9	242.3	241.1	241.4	241.8	242.7	243.3	243.6	243.8	243.6
Borrowing (percent of GDP)	13.2	7.3	10.9	11.8	6.6	3.2	8.6	11.7	9.2	14.1	10.6	12.7	11.6	12.4
Households														
Net borrowing[2]	35.9	-240.8	-172.3	216.5	-349.1	-220.3	-325.7	-263.4	-125.3	25.2	104.2	166.8	253.1	341.8
Home mortgages	-46.6	-162.6	-202.1	30.4	-359.6	-113.5	-389.8	-215.0	-152.8	-50.7	-30.4	0.0	50.6	101.4
Consumer credit	38.8	-115.3	-39.2	125.1	-79.5	-155.4	-42.9	-103.6	-28.7	18.3	75.5	106.3	140.5	178.0
Debt/DPI (percent)[3]	126.2	124.4	118.9	114.9	124.0	122.5	120.9	119.0	118.0	116.9	116.2	115.1	114.1	113.3
Business														
Financing gap[4]	260.3	-17.9	2.9	31.2	-78.4	-14.6	43.2	-32.5	5.2	-4.2	17.1	15.0	46.6	46.1
Net equity issuance	-336.0	-63.3	-171.6	-188.0	65.7	-312.2	-207.6	-110.6	-188.0	-180.0	-180.0	-180.0	-196.0	-196.0
Credit market borrowing	576.1	-281.9	125.8	302.5	-336.7	-389.3	26.9	57.4	189.3	229.4	276.8	269.8	323.2	340.3
State and local governments														
Net borrowing	48.1	108.2	71.6	113.7	127.6	107.4	98.6	-55.7	117.7	125.7	117.7	117.7	109.7	109.7
Current surplus[5]	206.8	244.1	238.3	209.2	255.1	276.4	237.3	225.2	241.0	249.9	211.1	203.8	209.2	212.7
Federal government														
Net borrowing	1239.2	1443.9	1572.5	1173.2	1484.9	955.8	1446.1	1962.0	1171.6	1709.5	1095.4	1368.9	1095.0	1133.6
Net borrowing (n.s.a.)	1239.2	1443.9	1572.5	1173.2	378.7	261.4	477.7	344.5	300.9	449.4	389.8	196.2	281.8	305.4
Unified deficit (n.s.a.)	680.5	1471.3	1314.6	1188.5	329.4	388.1	328.9	287.0	302.1	396.6	435.1	171.2	266.8	315.4
Depository institutions														
Funds supplied	407.6	-639.9	-49.7	159.6	-1001.3	-536.7	-570.2	281.4	59.7	30.1	132.6	153.0	168.5	184.2

Note: Data after 2010:Q1 are staff projections.
1. Average debt levels in the period (computed as the average of period-end debt positions) divided by nominal GDP.
2. Includes change in liabilities not shown in home mortgages and consumer credit.
3. Average debt levels in the period (computed as the average of period-end debt positions) divided by disposable personal income.
4. For corporations, excess of capital expenditures over U.S. internal funds.
5. NIPA state and local government saving plus consumption of fixed capital and net capital transfers.
n.s.a. Not seasonally adjusted.

Foreign Real GDP and Consumer Prices: Selected Countries
(Quarterly percent changes at an annual rate)

Measure and country	2009 Q1	2009 Q2	2009 Q3	2009 Q4	2010 Q1 (Projected)	2010 Q2 (Projected)	2010 Q3 (Projected)	2010 Q4 (Projected)	2011 Q1 (Projected)	2011 Q2 (Projected)	2011 Q3 (Projected)	2011 Q4 (Projected)
Real GDP [1]												
Total foreign	-9.5	2.4	4.5	4.9	4.8	4.7	3.1	3.2	3.3	3.3	3.4	3.5
Previous Tealbook	*-9.6*	*2.6*	*4.4*	*4.8*	*4.9*	*4.3*	*3.3*	*3.3*	*3.3*	*3.3*	*3.4*	*3.4*
Advanced foreign economies	-8.7	-.7	1.0	3.1	3.6	3.3	2.4	2.3	2.3	2.3	2.3	2.4
Canada	-7.0	-2.8	.9	4.9	6.1	3.6	3.3	3.3	3.3	3.2	3.2	3.2
Japan	-15.8	6.9	.4	4.6	5.0	2.8	1.5	1.6	1.7	1.7	1.7	1.7
United Kingdom	-9.0	-2.8	-1.0	1.7	1.3	4.5	2.6	2.3	1.4	2.1	2.3	2.4
Euro area	-9.8	-.3	1.6	.5	.8	2.8	1.4	1.2	1.2	1.2	1.3	1.4
Germany	-13.4	1.8	2.9	.7	.6	5.2	2.1	1.6	1.6	1.6	1.7	1.8
Emerging market economies	-10.4	6.5	9.2	7.1	6.4	6.4	4.0	4.4	4.6	4.6	4.7	4.8
Asia	-2.2	12.8	10.7	7.7	13.1	7.6	4.3	5.2	5.7	5.7	5.8	5.8
Korea	1.0	9.8	13.4	.7	8.8	6.0	4.5	4.0	4.0	4.1	4.2	4.4
China	8.9	12.7	12.5	11.9	9.9	6.9	8.1	8.3	8.4	8.4	8.5	8.5
Latin America	-18.2	1.5	8.1	7.1	.6	5.3	3.7	3.7	3.6	3.6	3.7	3.8
Mexico	-24.5	1.2	10.1	7.9	-1.4	6.0	3.3	3.5	3.5	3.5	3.6	3.8
Brazil	-5.9	6.0	9.0	9.3	11.4	2.8	3.8	3.8	3.8	4.0	4.0	4.0
Consumer prices [2]												
Total foreign	-.7	1.0	1.5	3.1	3.4	1.3	1.8	2.2	2.3	2.2	2.1	2.2
Previous Tealbook	*-.7*	*1.0*	*1.5*	*3.1*	*3.4*	*2.0*	*1.8*	*2.0*	*2.1*	*2.2*	*2.1*	*2.1*
Advanced foreign economies	-1.3	-.2	.3	2.1	2.1	.1	.7	1.2	1.5	1.2	1.2	1.2
Canada	-1.0	.1	.6	3.7	2.3	-.9	1.6	1.6	1.8	1.9	2.0	2.0
Japan	-3.0	-1.7	-2.1	-1.3	.7	-.9	-1.0	-1.0	-.8	-.7	-.6	-.6
United Kingdom	.8	1.6	2.9	3.2	5.5	2.3	1.0	1.8	5.0	1.4	1.4	1.5
Euro Area	-1.0	-.2	.6	2.3	1.8	1.4	.7	1.7	1.6	1.5	1.2	1.3
Germany	-.5	-.1	.2	1.8	1.4	.7	.8	1.5	1.5	1.4	1.1	1.1
Emerging market economies	-.1	2.1	2.7	4.1	4.7	2.4	2.7	3.1	3.0	3.0	3.1	3.1
Asia	-2.2	.6	2.2	4.7	3.6	2.0	2.4	2.6	2.6	2.6	2.6	2.6
Korea	2.1	2.3	2.1	3.1	3.3	1.9	2.0	2.3	2.3	2.4	2.4	2.4
China	-3.4	-.0	1.3	4.6	3.0	2.6	2.0	2.4	2.4	2.4	2.5	2.5
Latin America	4.7	5.5	3.3	2.6	7.8	3.6	3.6	4.0	4.0	4.0	4.1	4.1
Mexico	4.7	5.8	3.3	2.0	7.9	2.7	3.4	3.7	3.7	3.7	3.7	3.7
Brazil	4.9	5.0	3.2	3.6	7.4	5.9	2.4	4.3	4.3	4.3	4.3	4.3

[1] Foreign GDP aggregates calculated using shares of U.S. exports.
[2] Foreign CPI aggregates calculated using shares of U.S. non-oil imports.

Foreign Real GDP and Consumer Prices: Selected Countries
(Percent change, Q4 to Q4)

Measure and country	2003	2004	2005	2006	2007	2008	2009	-----Projected----- 2010	2011
Real GDP [1]									
Total foreign	2.9	3.9	4.1	3.9	4.2	-.8	.4	4.0	3.4
Previous Tealbook	*2.9*	*3.8*	*4.1*	*3.9*	*4.2*	*-.8*	*.4*	*3.9*	*3.3*
Advanced foreign economies	1.8	2.6	2.8	2.5	2.4	-1.7	-1.4	2.9	2.3
Canada	1.5	3.7	3.1	1.9	2.5	-.9	-1.1	4.0	3.2
Japan	2.4	1.1	2.9	2.1	1.8	-4.2	-1.4	2.7	1.7
United Kingdom	3.2	2.4	2.4	2.7	2.4	-2.7	-2.9	2.7	2.0
Euro area	1.2	1.8	2.1	3.5	2.2	-2.0	-2.1	1.5	1.3
Germany	.1	.2	1.6	4.3	1.6	-1.8	-2.2	2.4	1.7
Emerging market economies	4.5	5.6	5.9	5.8	6.5	.3	2.8	5.3	4.7
Asia	7.0	6.0	7.8	7.2	8.4	.9	7.1	7.5	5.7
Korea	3.6	2.7	5.2	4.6	5.7	-3.2	6.1	5.8	4.2
China	10.3	10.0	10.5	11.0	12.6	7.2	11.5	8.3	8.4
Latin America	1.7	5.1	3.9	4.6	4.6	-.4	-1.0	3.3	3.7
Mexico	1.2	4.6	3.5	3.8	3.8	-1.2	-2.4	2.8	3.6
Brazil	.8	5.1	3.5	4.8	6.8	.9	4.4	5.4	3.9
Consumer prices [2]									
Total foreign	2.1	2.8	2.3	2.1	3.7	3.4	1.2	2.2	2.2
Previous Tealbook	*2.1*	*2.8*	*2.3*	*2.1*	*3.7*	*3.4*	*1.2*	*2.3*	*2.2*
Advanced foreign economies	1.3	1.8	1.6	1.4	2.2	2.0	.2	1.0	1.3
Canada	1.7	2.3	2.3	1.4	2.5	1.9	.8	1.1	1.9
Japan	-.3	.5	-1.0	.3	.6	1.0	-2.0	-.6	-.7
United Kingdom	1.3	1.4	2.1	2.7	2.1	3.9	2.1	2.6	2.3
Euro Area	2.0	2.3	2.3	1.8	2.9	2.3	.4	1.4	1.4
Germany	1.1	2.1	2.2	1.3	3.1	1.7	.3	1.1	1.3
Emerging market economies	3.1	3.9	3.0	2.9	5.1	4.6	2.2	3.2	3.0
Asia	2.3	3.1	2.6	2.4	5.5	3.7	1.3	2.6	2.6
Korea	3.5	3.4	2.5	2.1	3.4	4.5	2.4	2.4	2.4
China	2.7	3.2	1.4	2.1	6.6	2.6	.6	2.5	2.5
Latin America	4.9	5.6	3.7	4.1	4.2	6.6	4.0	4.7	4.1
Mexico	3.9	5.3	3.1	4.1	3.8	6.2	4.0	4.4	3.7
Brazil	11.5	7.2	6.1	3.2	4.3	6.2	4.2	5.0	4.3

[1] Foreign GDP aggregates calculated using shares of U.S. exports.
[2] Foreign CPI aggregates calculated using shares of U.S. non-oil imports.

U.S. Current Account

Quarterly Data

	2009				2010 (Projected)				2011 (Projected)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Billions of dollars, s.a.a.r.											
U.S. current account balance	**-382.3**	**-337.8**	**-390.0**	**-403.6**	**-436.0**	**-499.8**	**-469.3**	**-452.7**	**-465.8**	**-453.7**	**-461.4**	**-448.3**
Previous Tealbook	*-409.6*	*-388.4*	*-421.1*	*-445.4*	*-496.7*	*-457.0*	*-476.0*	*-476.1*	*-502.4*	*-497.6*	*-516.5*	*-513.8*
Current account as percent of GDP	-2.7	-2.4	-2.8	-2.8	-3.0	-3.4	-3.2	-3.0	-3.1	-3.0	-3.0	-2.9
Previous Tealbook	*-2.9*	*-2.7*	*-3.0*	*-3.1*	*-3.4*	*-3.1*	*-3.2*	*-3.2*	*-3.3*	*-3.2*	*-3.3*	*-3.3*
Net goods & services	-361.8	-321.8	-397.3	-418.8	-461.0	-513.9	-501.7	-498.2	-501.1	-508.9	-520.2	-513.1
Investment income, net	106.3	112.9	149.6	148.1	175.0	152.4	155.9	164.6	167.3	172.0	178.3	179.9
Direct, net	246.8	238.2	265.1	258.2	281.5	261.1	267.6	277.8	285.0	293.3	303.1	310.0
Portfolio, net	-140.5	-125.3	-115.5	-110.1	-106.5	-108.7	-111.7	-113.2	-117.7	-121.3	-124.8	-130.2
Other income and transfers, net	-126.9	-128.9	-142.3	-132.9	-150.0	-138.3	-123.5	-119.1	-132.0	-116.9	-119.5	-115.1

Annual Data

	2003	2004	2005	2006	2007	2008	2009	2010 (Projected)	2011 (Projected)
	Billions of dollars								
U.S. current account balance	**-520.7**	**-630.5**	**-747.6**	**-802.6**	**-718.1**	**-668.9**	**-378.4**	**-464.5**	**-457.3**
Previous Tealbook	*-520.7*	*-630.5*	*-747.6*	*-802.4*	*-727.3*	*-708.9*	*-416.1*	*-476.4*	*-507.6*
Current account as percent of GDP	-4.7	-5.3	-5.9	-6.0	-5.1	-4.7	-2.7	-3.2	-3.0
Previous Tealbook	*-4.7*	*-5.3*	*-5.9*	*-6.0*	*-5.2*	*-4.9*	*-2.9*	*-3.2*	*-3.3*
Net goods & services	-494.2	-609.3	-714.2	-759.2	-702.1	-698.8	-374.9	-493.7	-510.8
Investment income, net	51.0	73.4	78.8	54.7	106.6	159.3	129.2	162.0	174.4
Direct, net	112.7	150.9	173.2	174.0	241.6	287.7	252.1	272.0	297.9
Portfolio, net	-61.7	-77.5	-94.4	-119.4	-134.9	-128.4	-122.8	-110.0	-123.5
Other income and transfers, net	-77.5	-94.5	-112.2	-98.1	-122.6	-129.3	-132.8	-132.7	-120.9

Abbreviations

ABS	asset-backed securities
AFE	advanced foreign economy
ARRA	American Recovery and Reinvestment Act
BEA	Bureau of Economic Analysis
CDS	credit default swap
C&I	commercial and industrial
CMBS	commercial mortgage-backed securities
CPI	consumer price index
CRE	commercial real estate
DSGE	dynamic stochastic general equilibrium
EC	European Commission
ECB	European Central Bank
ECI	Employment Cost Index
EDO Model	Estimated Dynamic Optimization-Based Model
EEB	extended and emergency unemployment benefits
EME	emerging market economy
EONIA	Euro Overnight Index Average
E&S	equipment and software
EU	European Union
EUC	emergency unemployment compensation
FHFA	Federal Housing Finance Agency
FI	fiscal impetus
FOMC	Federal Open Market Committee; also, the Committee

FRB	Federal Reserve Board
GDP	gross domestic product
GSE	government-sponsored enterprise
HARP	Home Affordable Refinance Plan
HELOC	home equity line of credit
IMF	International Monetary Fund
IP	industrial production
Libor	London interbank offered rate
LTV	loan to value
MBS	mortgage-backed securities
NAIRU	non-accelerating inflation rate of unemployment
NIPA	national income and product accounts
NRS	nonresidential structures
OECD	Organisation for Economic Co-operation and Development
OIS	overnight index swaps
PCE	personal consumption expenditures
SCAP	Supervisory Capital Assessment Program
SEC	Securities and Exchange Commission
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
SOMA	System Open Market Account
TALF	Term Asset-Backed Securities Loan Facility
TIPS	Treasury inflation-protected securities
VAR	vector autoregression
VAT	value-added tax
WTI	West Texas Intermediate