## Prefatory Note

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

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## Part 2

## CURRENT ECONOMIC AND FINANCIAL CONDITIONS

## Recent Developments

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

## Recent Developments

## Domestic Nonfinancial Developments

## Domestic Nonfinancial Developments

The incoming data, on balance, suggest that economic activity is beginning to turn up. While employment continued to contract in July and August, the pace of decline has slowed noticeably from earlier in the year. Factory output, especially motor vehicle production, moved up in July and August, and sales and construction of single-family homes have now risen for several months-though, to be sure, these increases are from very low levels. Consumer spending on motor vehicles was boosted in July and August by the "cash for clunkers" program and increased dealer incentives, and household spending elsewhere appears to have increased in August after having been roughly flat in the May to July period. Meanwhile, investment in equipment and software also appears to be stabilizing after declining sharply in the first half of the year. Core consumer price inflation remained subdued in July and August, though a jump in gasoline prices pushed up overall consumer inflation last month.

## Labor Market Developments

Although the labor market continues to deteriorate, the pace of job losses moderated further in July and August. Private nonfarm payroll employment fell by 248,000 in July and 198,000 in August, the smallest monthly declines since last August. Although employment losses have continued to be spread across nearly every major industry, the rate of decline has also diminished in most industries over the past two months. The decline in hours worked has also slowed: The length of the average workweek for production and nonsupervisory workers has remained steady, albeit at a low level, and aggregate hours worked for this group fell 0.2 percent over July and August, the smallest two-month decline in the past year.

In the household survey, the rise in the unemployment rate has slowed, on net, in recent months: The unemployment rate increased 0.3 percentage point in August, to 9.7 percent, after having dipped slightly in July. The labor force participation rate moved down to 65.5 percent in July and remained unchanged in August. In addition, the fraction of workers who are working part time for economic reasons-a measure of the underutilization of labor-remains high but has not increased further since the spring.

Other indicators of labor demand have been mixed recently. Although the number of individuals receiving unemployment insurance through regular state programs has fallen a bit from its peak, the total number of individuals receiving unemployment insurance-

Note: A list of abbreviations is available at the end of Part 2.
Changes in Employment
(Thousands of employees; seasonally adjusted)

| Measure and sector | 2008 | 2008 | 2009 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Q4 | Q1 | Q2 | June | July | Aug. |
|  | Average monthly change |  |  |  | Monthly change |  |  |
| Nonfarm payroll employment <br> (establishment survey) -257 -553 -691 -428 -463 -276 -216 |  |  |  |  |  |  |  |
| Private | -270 | -552 | -695 | -425 | -391 | -248 | -198 |
| Natural resources and mining | 4 | -2 | -12 | -11 | -10 | -6 | -8 |
| Manufacturing | -73 | -140 | -202 | -140 | -123 | -43 | -63 |
| Ex. motor vehicles | -58 | -121 | -176 | -117 | -102 | -74 | -48 |
| Construction | -57 | -97 | -124 | -80 | -79 | -73 | -65 |
| Residential | -35 | -51 | -53 | -26 | -25 | -23 | -23 |
| Nonresidential | -22 | -45 | -71 | -54 | -54 | -50 | -43 |
| Wholesale trade | -16 | -32 | -36 | -20 | -15 | -17 | -17 |
| Retail trade | -44 | -80 | -55 | -27 | -20 | -43 | -10 |
| Financial activities | -19 | -35 | -51 | -35 | -33 | -17 | -28 |
| Temporary help services | -44 | -70 | -73 | -28 | -30 | -8 | -7 |
| Nonbusiness services ${ }^{1}$ | 19 | -19 | -25 | 19 | 18 | 23 | 26 |
| Total government | 14 | -1 | 4 | -3 | -72 | -28 | -18 |
| Federal government | 3 | 2 | 10 | 3 | -43 | 9 | -5 |
| Total employment (household survey) | -246 | -564 | -817 | -230 | -374 | -155 | -392 |
|  |  |  |  |  |  |  |  |
| Aggregate hours of private production workers (percent change) ${ }^{2}$ | -3.3 | -7.4 | -8.9 | -7.8 | -. 7 | . 1 | -. 3 |
| Average workweek (hours) ${ }^{3}$ | 33.6 | 33.4 | 33.2 | 33.1 | 33.0 | 33.1 | 33.1 |
| Manufacturing (hours) | 40.8 | 40.2 | 39.6 | 39.5 | 39.5 | 39.8 | 39.8 |

1. Nonbusiness services comprises education and health, leisure and hospitality, and "other."
2. Establishment survey. Annual data are percent changes from Q4 to Q4. Quarterly data are percent changes from preceding quarter at an annual rate. Monthly data are percent changes from preceding month.
3. Establishment survey.


## Selected Unemployment and Labor Force Participation Rates

(Percent; seasonally adjusted)

| Rate and group | 2008 | $\begin{gathered} 2008 \\ \hline \text { Q4 } \\ \hline \end{gathered}$ | 2009 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Q1 | Q2 | June | July | Aug. |
| Civilian unemployment rate |  |  |  |  |  |  |  |
| Total | 5.8 | 6.9 | 8.1 | 9.2 | 9.5 | 9.4 | 9.7 |
| Teenagers | 18.7 | 20.7 | 21.3 | 22.7 | 24.0 | 23.8 | 25.5 |
| 20-24 years old | 10.2 | 11.3 | 13.0 | 15.0 | 15.2 | 15.3 | 15.1 |
| Men, 25 years and older | 4.8 | 6.0 | 7.4 | 8.8 | 9.2 | 9.0 | 9.5 |
| Women, 25 years and older | 4.4 | 5.2 | 6.2 | 6.9 | 7.0 | 6.9 | 7.0 |
| Labor force participation rate |  |  |  |  |  |  |  |
| Total | 66.0 | 65.9 | 65.6 | 65.8 | 65.7 | 65.5 | 65.5 |
| Teenagers | 40.2 | 38.7 | 38.3 | 38.4 | 38.6 | 38.0 | 37.7 |
| 20-24 years old | 74.4 | 74.1 | 73.7 | 74.1 | 73.4 | 73.5 | 73.0 |
| Men, 25 years and older | 75.4 | 75.2 | 74.6 | 74.9 | 75.0 | 74.8 | 75.0 |
| Women, 25 years and older | 60.0 | 60.1 | 60.0 | 60.3 | 60.3 | 60.1 | 59.9 |

## Unemployment Rate



Note: Shaded bar indicates a period of business
recession as defined by the National Bureau of
Economic Research (NBER). The NBER peak is the
last business cycle peak as defined by the NBER.

## Persons Working Part Time for Economic Reasons



Labor Force Participation Rate


Note: See the note to the figure "Unemployment Rate."


Less Than 5 Weeks

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

## Labor Market Indicators

Insured Unemployment


Note: 4-week moving averages.
Source: U.S. Dept. of Labor, Employment and Training Administration.


Note: Percent planning an increase in employment minus the percent planning a reduction.
Source: National Federation of Independent Business (NFIB); Manpower, Inc.
Job Availability and Hard-to-Fill Positions


Layoffs and Initial Claims


Note: Data for initial claims are 4-week moving averages. Source: For layoffs and discharges, Job Openings and Labor Turnover Survey; for initial claims, U.S. Dept of Labor, Employment and Training Administration.

Job Openings

*Index of staff composite help wanted advertising as a percent of payroll employment.
Source: For job openings, Job Openings and Labor Turnover Survey; for Help Wanted Index, Conference Board and staff calculations.


Note: The proportion of households expecting labor
market conditions to improve, minus the proportion expecting conditions to worsen, plus 100.
p Preliminary.
Source: Conference Board; Reuters/University of Michigan Surveys of Consumers.
which includes extended and emergency benefits-has not yet started to decline. ${ }^{1}$ In addition, initial claims for unemployment insurance have fallen from their peak earlier in the year, but they have moved sideways since July and are currently at a level consistent with further declines in employment. The layoff rate as measured from the Job Openings and Labor Turnover Survey has also fallen, on net, since the turn of the year, but it moved back up in July-its most recent reading-and is now just a notch below its firstquarter level. Forward-looking indicators of hiring-such as the indexes of hiring plans from the Manpower and NFIB surveys-remain weak. In contrast, some survey measures of job openings and of labor market slack have improved slightly in recent months, and household expectations of labor market conditions over the next 6 to 12 months showed noticeable further improvement in August and September.

## Output per Hour

| (Percent change from preceding period at an annual rate; |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | :---: |
| seasonally adjusted) |  |  |  |  |  |  |  |

1. Staff estimates.
2. Assumes that the growth rate of hours of non-employees equals the growth rate of hours of employees. Source: For output, U.S. Dept. of Commerce, Bureau of Economic Analysis; for hours, U.S. Dept. of Labor, Bureau of Labor Statistics.

With hours having declined much more rapidly than output in the second quarter, the staff estimates that productivity in the nonfarm business sector rose at an annual rate of $61 / 2$ percent last quarter. However, this gain followed three quarters of weak productivity performance, and over the four quarters ending in the second quarter of this year, productivity is estimated to have increased 2 percent.

[^0]Selected Components of Industrial Production
(Percent change from preceding comparable period)

| Component | Proportion 2008 (percent) | $2008{ }^{1}$ | 2009 |  | 2009 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Q1 | Q2 | June | July | Aug. |
|  |  |  | Annual rate |  | Monthly rate |  |  |
| Total | 100.0 | -6.7 | -19.0 | -10.5 | -. 4 | 1.0 | . 8 |
| Previous | 100.0 | -6.7 | -19.1 | -11.4 | -. 4 | . 5 | ... |
| Manufacturing | 79.0 | -8.7 | -22.0 | -9.0 | -. 3 | 1.4 | . 6 |
| Ex. motor veh. and parts | 74.5 | -7.8 | -18.3 | -8.8 | -. 1 | . 6 | . 4 |
| Ex. high-tech industries | 70.3 | -7.8 | -18.0 | -9.3 | -. 2 | . 5 | . 4 |
| Mining | 10.6 | . 8 | -11.7 | -21.3 | -. 9 | . 6 | . 5 |
| Utilities | 10.4 | . 3 | -4.1 | -11.2 | -. 5 | -1.6 | 1.9 |
| Selected industries Energy | 23.9 | 1.3 | -6.5 | -14.2 | -. 7 | -. 7 | 1.1 |
| High technology | 4.2 | -6.9 | -24.3 | . 7 | . 8 | 2.5 | -. 5 |
| Computers | 1.0 | -11.9 | -26.5 | -22.1 | -1.9 | -1.2 | -1.1 |
| Communications equipment | 1.3 | 10.4 | -3.5 | -4.1 | 2.9 | . 7 | . 0 |
| Semiconductors ${ }^{2}$ | 1.8 | -15.0 | -38.1 | 22.2 | . 3 | 6.1 | -. 6 |
| Motor vehicles and parts | 4.5 | -23.3 | -69.5 | -13.8 | -3.6 | 20.1 | 5.5 |
| Aircraft and parts | 2.3 | -13.2 | 64.6 | -18.4 | -1.2 | 2.1 | -. 7 |
| Total ex. selected industries | 65.1 | -8.3 | -21.1 | -9.3 | -. 1 | . 4 | . 5 |
| Consumer goods | 20.7 | -4.2 | -9.2 | -5.2 | -. 1 | -. 2 | 1.0 |
| Durables | 3.5 | -14.7 | -25.7 | -12.8 | -. 5 | 1.4 | -. 7 |
| Nondurables | 17.1 | -1.8 | -5.7 | -3.8 | -. 1 | -. 4 | 1.2 |
| Business equipment | 6.6 | -4.8 | -23.5 | -22.0 | -. 8 | . 4 | . 3 |
| Defense and space equipment | 1.1 | -2.1 | -4.9 | 4.2 | . 1 | 1.9 | -. 3 |
| Construction supplies | 4.8 | -11.8 | -34.1 | -10.8 | -. 1 | . 7 | . 0 |
| Business supplies | 7.3 | -9.8 | -24.8 | -11.1 | . 3 | . 0 | . 2 |
| Materials | 24.6 | -11.7 | -27.0 | -8.9 | -. 1 | 1.0 | . 4 |
| Durables | 12.4 | -11.4 | -37.9 | -23.9 | -. 6 | 1.9 | . 0 |
| Nondurables | 12.2 | -12.0 | -14.6 | 7.1 | . 4 | . 2 | . 8 |

1. From fourth quarter of preceding year to fourth quarter of year shown.
2. Includes related electronic components.
.. Not applicable.
Source: Federal Reserve, G. 17 Statistical Release, "Industrial Production and Capacity Utilization."
Capacity Utilization
(Percent of capacity)

| Sector | $\begin{gathered} \text { 1972- } \\ \text { 2008 } \\ \text { average } \end{gathered}$ | $\begin{gathered} 1994- \\ 95 \\ \text { high } \end{gathered}$ | $\begin{gathered} 2001- \\ 02 \\ \text { low } \end{gathered}$ | $\frac{2008}{\text { Q4 }}$ | 2009 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Q1 | Q2 | July | Aug. |
| Total industry | 80.9 | 84.9 | 73.5 | 74.2 | 70.4 | 68.6 | 69.0 | 69.6 |
| Manufacturing | 79.6 | 84.5 | 71.4 | 70.9 | 66.7 | 65.3 | 66.1 | 66.6 |
| Mining | 87.6 | 89.1 | 84.9 | 89.6 | 86.8 | 81.9 | 81.7 | 82.2 |
| Utilities | 86.8 | 93.3 | 84.2 | 83.6 | 82.4 | 79.6 | 77.3 | 78.7 |
| Stage-of-process groups |  |  |  |  |  |  |  |  |
| Crude | 86.6 | 89.9 | 81.7 | 83.8 | 80.9 | 79.5 | 80.0 | 80.7 |
| Primary and semifinished | 82.0 | 87.9 | 74.3 | 73.4 | 68.4 | 66.2 | 66.3 | 66.7 |
| Finished | 77.7 | 80.3 | 70.0 | 71.0 | 68.4 | 67.1 | 67.7 | 68.5 |

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

## Industrial Production

Industrial production (IP) rose in both July and August, led by a bounceback in motor vehicle production from the extraordinarily low assembly rates earlier this year. Aside from a hurricane-related rebound in October 2008, these gains were the first monthly increases in overall IP since December 2007. Manufacturing production moved up at an average rate of 1 percent in July and August; excluding motor vehicles, factory output rose 0.5 percent, on average, in the past two months, likely reflecting rising demand for materials from the motor vehicle sector and a slowing pace of inventory liquidation elsewhere. Despite the recent production gains and favorable indicators of orders, an enormous amount of slack remains in the manufacturing sector; the factory operating rate, at 66.6 percent in August, is only modestly above its recent historical low.

In the transportation sector, the production of motor vehicles and parts jumped 27 percent from June to August. Meanwhile, the output of aircraft and parts has continued to move roughly sideways. Despite the continuing delays in Boeing’s 787 program—currently, the first test flight is expected at the end of this year, and the first delivery is expected in late 2010—overall commercial aircraft production probably will remain close to present levels in coming months due to the company's large backlog of orders.

The output of high-tech industries, which turned up in February, increased at an annual rate of about 11 percent between May and August. Semiconductor output has revived modestly in the past six months, as a broad-based increase in the output of chips has been partly offset by declines in circuit board production. ${ }^{2}$ Industry anecdotes suggest that these recent gains, in part, reflect inventory restocking after the exceptionally deep production cuts late last year. For computers, production declines moderated in both July and August. Although unit shipments of personal computers moved slightly higher, real output nevertheless decreased as production shifted toward lower-valued machines; in addition, second-quarter shipments of servers fell precipitously. The output of communications equipment edged up, on net, in July and August after jumping in June.

Forward-looking indicators of high-tech production point to some improvement in the near term. Intel and Texas Instruments announced anticipated revenue gains in the third quarter, citing strong demand for some of their chips. For computers, major manufacturers and high-tech consultancies expect demand to stabilize in the second half

[^1]
## Indicators of High-Tech Manufacturing Activity



Bookings and Billings for Semiconductor Manufacturing Equipment

U.S. Personal Computer and Server Absorption


High-Tech Exports

of 2009 and to begin to increase in 2010. Finally, major U.S. telecommunications service providers recently reiterated that they expect to meet their annual 2009 capital expenditure guidance, suggesting that this market segment will buttress communications equipment production over the remainder of the year. ${ }^{3}$ Recent trade data showing sharply rising high-tech exports suggest that the foreign sector, which absorbs the majority of U.S. high-tech IP, will also support production in the near term.

The production of energy stepped up in August. A swing to warmer-than-average temperatures in August from a relatively cool July contributed to a large gain in utilities output last month following a weather-related decline a month earlier. In addition, drilling activity appears to have flattened out recently after plunging by more than half since late last year.

Outside of energy, transportation, and high-technology industries, production rose at an average rate of about 0.5 percent in July and August. Production of consumer goods increased 1.0 percent in August after edging down in July. The output of business equipment rose modestly in both July and August after averaging declines in the first half of the year of about 2 percent per month.

The output of construction supplies increased at an average rate of about 0.3 percent in July and August, though output remains more than 25 percent below its peak in January 2006. Elsewhere, the production of materials averaged gains of $3 / 4$ percent in July and August; demand for steel and other materials was likely boosted by the bounceback in motor vehicle assemblies.

The available indicators of near-term manufacturing activity have continued to brighten and point to further gains in factory output. The three-month moving average of the staff's series on real adjusted durable goods orders rose in July for the third straight month. The diffusion index of new orders from the national manufacturing ISM survey jumped $91 / 2$ index points to 65 in August. The new orders diffusion indexes from the regional manufacturing surveys also have moved up but by less than the ISM index. In the Empire State survey, the first reading on manufacturing activity in September, new orders rose further and were consistent with solid near-term increases in manufacturing output.

[^2]
## Indicators of Industrial Activity



Manufacturing Capacity Utilization


Note: Horizontal line is 1972-2008 average.
Source: Federal Reserve, G. 17 Statistical Release, "Industrial Production and Capacity Utilization."

New Orders Diffusion Indexes: Empire State and Average of Regional Surveys


IP Diffusion Index


Three-Month Changes in Months' Supply


Sales of Light Vehicles
(Millions of units at an annual rate; FRB seasonals)

| Category | 2008 | $\begin{gathered} 2008 \\ \hline \text { Q4 } \end{gathered}$ | 2009 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Q1 | Q2 | June | July | Aug. |
| Total | 13.1 | 10.4 | 9.5 | 9.6 | 9.7 | 11.2 | 14.1 |
| Autos | 6.7 | 5.3 | 4.8 | 4.9 | 5.0 | 6.2 | 8.0 |
| Light trucks | 6.4 | 5.1 | 4.7 | 4.7 | 4.7 | 5.1 | 6.1 |
| North American ${ }^{1}$ | 9.8 | 7.7 | 6.8 | 7.1 | 7.2 | 8.3 | 10.1 |
| Autos | 4.5 | 3.6 | 3.1 | 3.2 | 3.3 | 4.2 | 5.3 |
| Light trucks | 5.3 | 4.2 | 3.7 | 3.9 | 3.9 | 4.2 | 4.8 |
| Foreign-produced | 3.3 | 2.7 | 2.7 | 2.4 | 2.5 | 2.9 | 4.0 |
| Autos | 2.2 | 1.7 | 1.7 | 1.6 | 1.7 | 2.0 | 2.7 |
| Light trucks | 1.1 | . 9 | 1.0 | . 8 | . 8 | . 9 | 1.2 |
| Memo: <br> Detroit Three market share (percent) ${ }^{2}$ | 48.3 | 48.0 | 44.1 | 46.8 | 46.3 | 44.8 | 41.3 |

Note: Components may not sum to totals because of rounding.

1. Excludes some vehicles produced in Canada that are classified as imports by the industry.
2. Includes domestic and foreign brands affiliated with the Detroit Three.

Source: Ward's Communications. Adjusted using FRB seasonals.


p Preliminary.
Source: Reuters/University of Michigan Surveys of Consumers.

Light Vehicle Market Shares


Source: Ward's Communications. Adjusted using FRB seasonals.

Average Value of Incentives on Light Vehicles


Note: Weekly weighted average of customer cash rebate Source: J.D. Power and Associates. Adjusted using FRB seasonals.

Production of Domestic Light Vehicles
(Millions of units at an annual rate except as noted)

| Item | 2009 |  |  |  | 2009 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q1 | Q2 | Q3 | Q4 | May | June | July | Aug. |
| U.S. production ${ }^{1}$ | 4.4 | 4.4 | 6.3 | 6.8 | 4.2 | 4.0 | 5.7 | 6.4 |
| Autos | 1.7 | 1.8 | 2.6 | 2.8 | 1.8 | 1.8 | 2.3 | 2.6 |
| Light trucks | 2.8 | 2.5 | 3.8 | 4.0 | 2.4 | 2.2 | 3.5 | 3.8 |
| Days' supply ${ }^{2}$ | 93 | 70 | n.a. | n.a. | 76 | 70 | 55 | 36 |
| Autos | 93 | 78 | n.a. | n.a. | 84 | 76 | 55 | 32 |
| Light trucks | 93 | 64 | n.a. | n.a. | 70 | 64 | 55 | 41 |
| Inventories ${ }^{3}$ | 2.05 | 1.63 | n.a. | n.a. | 1.83 | 1.63 | 1.50 | 1.20 |
| Autos | . 92 | . 82 | n.a. | n.a. | . 88 | . 82 | . 75 | . 56 |
| Light trucks | 1.13 | . 81 | n.a. | n.a. | . 95 | . 81 | . 75 | . 64 |
| Memo: U.S. production, total motor vehicles ${ }^{4}$ | 4.6 | 4.5 | 6.5 | 6.9 | 4.3 | 4.1 | 5.9 | 6.6 |

Note: FRB seasonals. Components may not sum to totals because of rounding.

1. Production rates for the third and fourth quarters of 2009 reflect the latest industry schedules.
2. Quarterly values are calculated with end-of-period stocks and average reported sales.
3. End-of-period stocks.
4. Includes medium and heavy trucks.
n.a. Not available.

Source: Ward's Communications.
Inventories of Light Vehicles


Days' Supply of Light Vehicles


## Motor Vehicles

Purchases of light motor vehicles rose again in August, surging almost 3 million units to an annual rate of 14.1 million units. While sales were up for the Detroit Three, imports and vehicles produced by the major transplants accounted for about three-fourths of the August increase. As a result, the market share of domestically produced vehicles fell further, weighed down by a sharp drop in the share of the Detroit Three.

The increase in vehicle sales last month was largely due to the government's cash-forclunkers program, which officially began on July 27 and ended on August 24. ${ }^{4}$ About 690,000 (not at an annual rate) vehicles were sold under the program. Past experience with earlier large-scale automobile incentive programs suggests that most of these purchases were likely pulled ahead from future sales, and indeed, weekly PIN data from J.D. Power and Associates suggest that both light vehicle sales and consumer incentives plummeted in the weeks after the program expired. ${ }^{5}$ The end of the cash-for-clunkers program also likely contributed to the early September drop in the index of car-buying attitudes from the Reuters/University of Michigan Surveys of Consumers; this index fell back to its level at the beginning of the year.

Production of light motor vehicles increased $3 / 4$ million units in August to an annual rate of 6.4 million units after having jumped 1.7 million units in July. ${ }^{6}$ However, the higher

[^3]
## Real Personal Consumption Expenditures

(Percent change from preceding comparable period)

| Category | 2008 | 2009 |  | 2009 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H2 | Q1 | Q2 | June | July | Aug. |
|  |  | Annual rate |  | Monthly rate |  |  |
| Total real PCE ${ }^{1}$ | -3.3 | . 6 | -1.0 | . 1 | . 2 | n.a. |
| Motor vehicles | -31.1 | 9.6 | -6.1 | 2.4 | 8.7 | 18.0 |
| Goods ex. motor vehicles | -6.6 | 1.9 | -2.9 | . 0 | -. 2 | 1.0 |
| Services | -. 4 | -. 3 | . 2 | . 1 | . 1 | n.a. |
| Ex. energy | -. 5 | -. 2 | . 7 | . 1 | . 2 | n.a. |
| Memo: |  |  |  |  |  |  |
| Real PCE control ${ }^{2}$ | -6.8 | 1.3 | -2.5 | . 1 | . 0 | . 9 |
| Nominal retail control ${ }^{3}$ | -4.4 | 1.9 | -2.8 | . 1 | -. 3 | . 7 |

1. The values for Q2, June, July, and August are staff estimates based on available data. The semiannual values are Q4/Q2.
2. Durables excluding motor vehicles, nondurables excluding gasoline, and food services.
3. Total sales less outlays at building material and supply stores, automobile and other motor vehicle dealers, and gasoline stations.
n.a. Not available.

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


Note: Shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research (NBER). The NBER peak is the last business cycle peak as defined by the NBER.

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

## Change in Real PCE Services



Note: Shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research (NBER). The NBER peak is the last business cycle peak as defined by the NBER.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.
production rates in recent months were insufficient to keep pace with the surge in sales spurred by cash for clunkers, and stocks of domestic vehicles plunged in August to their lowest level in the history of this series, which begins in 1983. Industry schedules call for assemblies to move up again in September and to rise to an annual rate of 6.8 million units in the fourth quarter. Assuming some post-cash-for-clunkers dropback in sales, days' supply should return to more comfortable levels next quarter.

## Consumer Spending

As noted, overall consumer spending was boosted temporarily in July and August by the cash-for-clunkers program. On the basis of the latest retail sales release, we estimate that real spending on most other goods and food services (PCE control) jumped 0.9 percent in August after little change in July. This is the first sizable increase in several months for this category, which had drifted down, on average, in the first half of the year after having contracted sharply in the second half of last year. ${ }^{7}$ Real spending on services moved up again in July-the latest available data-but only slightly. The saving rate edged down to 4114 percent in July, 3 percentage points higher than its pre-recession level.

Despite some positive incoming news, the environment for household spending remains challenging. Real disposable income increased moderately over the first half of the year, as the lower taxes and increased transfers included in the stimulus package outweighed a sizable contraction in labor compensation. ${ }^{8}$ However, most of the direct effect for households of the stimulus bill was already reflected in the level of disposable income by the end of the second quarter. And although the wealth-to-income ratio ticked up in the second quarter-its first increase since the second quarter of 2007-and likely rose further this quarter, households have lost wealth equivalent to about $1 \frac{1}{4}$ years of income over the past two years and are likely still making the attendant adjustments to their spending. On a more positive note, compensation in July posted its first nominal gain this year, and the various measures of household sentiment-though still at low levelshave improved some in recent months.

## Housing

A gradual recovery in housing activity appears to be under way. In July, single-family housing starts registered their fifth consecutive increase, and the level of starts stood

[^4]
## Fundamentals of Household Spending



Consumer Confidence


## Private Housing Activity

(Millions of units, seasonally adjusted; annual rate except as noted)

| Sector | 2008 | 2009 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Q1 | Q2 | May | June | July |
| All units |  |  |  |  |  |  |
| Starts | . 91 | . 53 | . 54 | . 55 | . 59 | . 58 |
| Permits | . 91 | . 53 | . 53 | . 52 | . 57 | . 56 |
| Single-family units |  |  |  |  |  |  |
| Starts | . 62 | . 36 | . 43 | . 41 | . 48 | . 49 |
| Permits | . 58 | . 36 | . 41 | . 41 | . 43 | . 46 |
| Adjusted permits ${ }^{1}$ | . 58 | . 37 | . 42 | . 42 | . 45 | . 47 |
| New homes |  |  |  |  |  |  |
| Sales , | . 49 | . 34 | . 37 | . 36 | . 40 | . 43 |
| Months' supply ${ }^{2}$ | 10.68 | 11.61 | 9.55 | 9.71 | 8.51 | 7.51 |
| Existing homes |  |  |  |  |  |  |
| Sales | 4.35 | 4.12 | 4.24 | 4.22 | 4.33 | 4.61 |
| Months' supply ${ }^{2}$ | 9.98 | 9.69 | 8.80 | 8.82 | 8.39 | 8.03 |
| Multifamily units |  |  |  |  |  |  |
| Starts | . 28 | . 17 | . 11 | . 14 | . 11 | . 09 |
| Built for rent | . 22 | . 14 | . 10 | n.a. | n.a. | n.a. |
| Built for sale | . 07 | . 03 | . 02 | n.a. | n.a. | n.a. |
| Permits | . 33 | . 17 | . 12 | . 11 | . 14 | . 10 |
| Condos and co-ops Existing home sales | . 56 | . 47 | . 52 | . 50 | . 56 | . 63 |

1. Adjusted permits equal permit issuance plus total starts outside of permit-issuing areas.
2. At current sales rate; expressed as the ratio of seasonally adjusted inventories to seasonally adjusted sales. Quarterly and annual figures are averages of monthly figures.
n.a. Not available.

Source: Census Bureau.

## Private Housing Starts and Permits

(Seasonally adjusted annual rate)


[^5]
## Indicators of Single-Family Housing



Existing Single-Family Home Sales


Prices of Existing Homes


Note: LoanPerformance plans to publish its price index in late September. Data are confidential until then.
Source: For FHFA, Federal Housing Finance Agency; for S\&P/Case-Shiller, Standard \& Poor's; for LP, LoanPerformance, a division of First American CoreLogic.

Inventories of New Homes and Months' Supply


## Mortgage Rates



House Price Expectations

almost 40 percent above the record low reached in the first quarter of this year. ${ }^{9}$ Adjusted permit issuance-which often is a more reliable indicator of the underlying pace of new construction activity-has also moved up in recent months, though its level was a touch below the rate of starts in July. In contrast, in the much smaller multifamily sector-where credit conditions have remained especially tight and vacancies have remained high—starts have continued to decline, on net, this year after having plunged in the second half of 2008.

The latest sales data suggest that the demand for new single-family homes has also strengthened after having stabilized in the early part of this year. The Census Bureau's measure of the number of new-home sales agreements jumped to an annual rate of 433,000 units in July, 32 percent above the record low in January. ${ }^{10}$
. Although sales levels are still quite modest, they have been enough, given the very slow pace of production, to pare the overhang of unsold singlefamily houses: By July, these inventories had fallen to about one-half of their peak level in the summer of 2006, and the months' supply of new homes was down considerably from its record high in January. ${ }^{11}$

Sales of existing single-family houses, which had been fairly flat early in the year, advanced 6.5 percent in July to their highest level since mid-2007, and pending home sales agreements through July suggest that resale activity will climb further in the months ahead. ${ }^{12}$ To be sure, sales in the existing-home market have been supported for much of the year by the elevated number of transactions involving bank-owned and other distressed properties. However, the recent rise in resale activity appears to have been driven by a rise in transactions of nondistressed properties: Data from the National Association of Realtors suggest that distressed sales dropped to one-third of all sales transactions for existing homes in the May to July period after reportedly accounting for about 40 to 45 percent of sales between December and April.

[^6]

The apparent modest revival of housing demand seen in recent months is likely due, in part, to improvements in housing affordability stemming from low rates for conforming mortgages and from both the lower level and the slower rate of decline of house prices. ${ }^{13}$ Mortgage interest rates for conforming thirty-year fixed-rate mortgages-at about 5 percent—remain very low by historical standards. In addition, although spreads between rates for jumbo and standard conforming loans remain elevated relative to precrisis norms, they have continued to narrow in recent months despite the fact that the secondary market for private-label nonconforming mortgages remains closed. As for house prices, the repeat-sales price index for existing single-family homes calculated by LoanPerformance jumped 12 percent at an annual rate in the second quarter; over the 12 months ending in July, the index fell 12 percent, a noticeably slower rate of decline than earlier in the year. Moreover, the Reuters/Michigan survey's diffusion index for year-ahead house price expectations moved up further in September's preliminary read: A greater number of respondents now expect house prices to increase over the next 12 months than expect prices to fall.

## Equipment and Software

Real spending on equipment and software (E\&S) appears to be stabilizing after having dropped steeply for more than a year. Although this leveling out is particularly noticeable in the transportation equipment sector, some signs of stabilization are evident for both high-tech and other types of equipment. Orders for nondefense capital goods excluding aircraft have recovered considerably in recent months and, in July, stood $3 ½$ percent above their second-quarter average. Meanwhile, shipments increased in June and July at an average monthly rate of about 1 percent.

Business purchases of transportation equipment appear to be expanding at a solid clip in the third quarter. Business outlays for light vehicles in July and August rose from their lackluster second-quarter pace. Most of the gain came from rental car companies. Demand for medium and heavy trucks edged higher, on average, in July and August from the extremely low levels that prevailed in the second quarter. As freight shipping has picked up, the pace of new truck orders has begun to move higher, which suggests some additional improvement in medium and heavy truck sales over the next couple of months.

[^7]Fundamentals of Equipment and Software Investment

Real Business Output


User Cost of Capital


1991199319951997199920012003200520072009
Source: Staff calculation.

NFIB: Survey on Loan Availability


Note: Of borrowers who sought credit in the past 3
months, the proportion that reported or expected more difficulty
in obtaining credit less the proportion that reported or expected
more ease in obtaining credit. Seasonally adjusted.
Source: National Federation of Independent Business (NFIB).

Corporate Bond Yields


Note: End of month. September value as of September 15. Source: Merrill Lynch.

Surveys of Business Conditions


Although aircraft shipments in July were below their second-quarter average, the value of Boeing's airplane deliveries stepped up in August.

After declining steeply for several quarters, real spending on high-tech E\&S appears to have turned up. In the second quarter, spending on computers and peripherals and on communications equipment increased, and, as indicated by the recent data from the Quarterly Services Survey, purchases of software weakened less than the BEA had assumed in its earlier estimates of second-quarter real GDP. Early this quarter, investment in high-tech equipment appears to have continued to advance, with the levels of both nominal orders and shipments in July nearly 8 percent above their averages in the second quarter. In addition, a few major producers of high-tech equipment have recently reported that they are seeing some signs of improvement in demand.

Business investment in equipment other than transportation and high-tech, a broad category of goods that accounts for one-half of total $\mathrm{E} \& \mathrm{~S}$ outlays, is also showing tenuous hints of stabilization. Orders have recovered markedly in recent months, while shipments edged up, on balance, over June and July.

The fundamental determinants of investment in E\&S remain weak, but conditions appear to have become less adverse in recent months. The decline in business output was less pronounced last quarter than in the preceding three quarters, and the four-quarter change in the user cost of capital fell back somewhat in the second quarter after having spiked last year. Monthly surveys of business conditions and sentiment have recently recovered to levels suggesting a modest rise in business spending. Although spreads of corporate bonds over Treasury securities are still somewhat elevated, they have come down considerably from their extremely high levels at the end of last year, likely reflecting a decrease in uncertainty and assessments of better underlying profitability. In addition, the net share of small businesses reporting increased difficulty in obtaining credit moved down a bit in the August NFIB survey, and the July SLOOS reported that the net percentage of banks that tightened standards on commercial and industrial loans receded further. Nevertheless, the levels of these indicators suggest that credit is still tight.

## Nonresidential Construction

Conditions in the nonresidential construction sector generally remain dismal. Although outlays on energy-related projects surged in the second quarter, data through July suggest that broader measures of construction spending remain on a steep downward trajectory. The weakness was widespread across categories and likely reflected the drag from a large number of negative fundamentals: Available data show that vacancy rates are rising and

that property prices are generally plunging across the sector. In addition, the architectural billings index in July remained at a level consistent with further spending declines, and the nonresidential construction industry has continued to shed workers. Finally, as indicated by the July SLOOS, the financing environment for nonresidential construction projects remains very tight, and available Call Report data show that banks pared back nonresidential construction lending in both the first and second quarters.

Real spending on drilling and mining structures dropped at an annual rate of 70 percent in the second quarter after an even larger decline in the first quarter; available indicators suggest that activity more recently has only edged up from a low level. The steep decline in energy prices in the second half of last year greatly diminished incentives for additional drilling activity. This downward pressure has been particularly pronounced in the natural gas sector-which accounts for most of the rigs in operation-as spot prices have remained near a seven-year low because of weak demand and a glut of new supply from recently developed fields. By contrast, this year's partial rebound in oil prices seems to have led to a modest increase in drilling activity in that sector.

## Business Inventories

The sharp cuts in production this year have reduced inventory stocks significantly. Real nonfarm inventories excluding motor vehicles fell at an annual rate of about $\$ 120$ billion in the second quarter, more than twice the pace of liquidation recorded in the first quarter, and the book-value data for the manufacturing and trade sector in July suggest that businesses continued to cut back inventory stocks early in the third quarter. ${ }^{14}$ Although the months' supply measure implied by the book-value data has come down significantly in the past few months, it remains elevated when measured at the current soft pace of sales. The picture from the staff's flow-of-goods inventory system is broadly the same: While the level of inventories continued to drop back in July and August, the decline in months' supply, aside from motor vehicles, has been modest given weak demand. Months' supply remains elevated for all the major market groups excluding motor vehicles. By contrast, according to the ISM, the net fraction of manufacturing supply managers that perceive their customers' inventories as too high moved down further in August to a level not seen since 2004, suggesting that purchasing managers in

[^8]Nonfarm Inventory Investment
(Billions of dollars; seasonally adjusted annual rate)

| Measure and sector | 2008 | 2009 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q4 | Q1 | Q2 | May | June | July |
| Real inventory investment (chained 2005 dollars) |  |  |  |  |  |  |
| Total nonfarm business | -35.7 | -114.9 | -163.2 | ... | ... | ... |
| Motor vehicles | -. 7 | -63.6 | -48.1 | ... | ... | ... |
| Nonfarm ex. motor vehicles | -35.1 | -51.3 | -115.1 | ... | ... | ... |
| Manufacturing and trade ex. wholesale and retail motor vehicles and parts | -19.8 | -49.3 | -111.0 | -86.3 | -138.2 ${ }^{\text {e }}$ | n.a. |
| Manufacturing | 8.2 | -28.9 | -40.0 | -26.7 | -45.3 ${ }^{\text {e }}$ | n.a. |
| Wholesale trade ex. motor vehicles \& parts | -10.2 | -8.8 | -52.4 | -36.8 | -81.8 ${ }^{\text {e }}$ | n.a. |
| Retail trade ex. motor vehicles \& parts | -17.8 | -11.6 | -18.6 | -22.8 | $-11.0^{\text {e }}$ | n.a. |
| Book-value inventory investment (current dollars) |  |  |  |  |  |  |
| Manufacturing and trade ex. wholesale and retail motor vehicles and parts | -155.9 | -143.2 | -150.2 | -124.9 | -178.0 | -121.4 |
| Manufacturing | -65.2 | -77.3 | -63.6 | -48.4 | -68.9 | -43.8 |
| Wholesale trade ex. motor vehicles \& parts | -55.7 | -47.3 | -62.9 | -49.8 | -90.6 | -55.3 |
| Retail trade ex. motor vehicles \& parts | -34.9 | -18.6 | -23.7 | -26.8 | -18.5 | -22.3 |

n.a. Not available.
... Not applicable.
e Staff estimate of real inventory investment based on revised book-value data.
Source: For real inventory investment, U.S. Dept. of Commerce, Bureau of Economic Analysis; for book-value data, Census Bureau.

Inventory Ratios ex. Motor Vehicles


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: Census Bureau; staff calculation.
manufacturing, at least, believe that some restocking by their customers may be in train. ${ }^{15}$

## Federal Government Sector

The deficit in the federal unified budget widened further in July and August. The budget costs associated with financial stabilization programs and the 2009 stimulus package, together with the effects of the recession on revenues and outlays, have continued to add to the budget gap. The deficit for the 12 months ending in August totaled about $\$ 1.3$ trillion, almost $\$ 1$ trillion larger than in the preceding 12 months. ${ }^{16}$

Federal outlays, excluding such financial transactions as those related to the TARP and to the conservatorship of the mortgage-related GSEs, were 12 percent higher in the JulyAugust period than a year earlier. Outlays were boosted by spending authorized under the fiscal stimulus plan and for income-support programs that have expanded during the recession. The rise in outlays for defense in the July-August period points to a modest increase during the third quarter in the NIPA measure of real federal expenditures following a sizable gain in the second quarter.

Receipts fell $61 / 2$ percent in the July-August period relative to a year earlier, reflecting the ongoing weakness in economic activity. Individual income and payroll tax receipts have decreased as wages and salaries have declined, and as capital gains realizations have likely fallen off. Corporate tax payments have plummeted, as profits were much lower than a year earlier.

The Congressional Budget Office (CBO), in its updated Budget and Economic Outlook, estimates that the federal budget deficit will be almost $\$ 1.6$ trillion in fiscal 2009 and that it will edge down to around $\$ 1.4$ trillion in fiscal 2010. Similarly, the Office of Management and Budget (OMB), in its recent Mid-Session Review, expects the deficit to be about $\$ 1.6$ trillion in fiscal 2009 and $\$ 1.5$ trillion in fiscal 2010. Although the CBO and OMB estimates for the deficit in this fiscal year are essentially the same, they are based on different budget accounting assumptions for the mortgage-related GSEs: The

[^9]
## Federal Government Budget

(Unified basis; adjusted for payment-timing shifts and financial transactions; data from Monthly Treasury Statement)



Recent Federal Outlays and Receipts
(Billions of dollars except as noted; adjusted for payment-timing shifts and financial transactions)

| Function or source | Sum of July-August |  |  | 12 months ending in August |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2008 | 2009 | Percent change | 2008 | 2009 | Percent change |
| Outlays | 496.8 | 556.3 | 12.0 | 2,939.4 | 3,238.7 | 10.2 |
| Net interest | 49.2 | 40.6 | -17.6 | 247.9 | 204.0 | -17.7 |
| National defense | 105.3 | 108.0 | 2.6 | 615.2 | 660.4 | 7.4 |
| Major transfers ${ }^{1}$ | 270.4 | 320.0 | 18.3 | 1,633.9 | 1,866.4 | 14.2 |
| Other | 71.9 | 87.8 | 22.1 | 442.4 | 507.9 | 14.8 |
| Receipts | 317.5 | 297.0 | -6.4 | 2,536.8 | 2,157.9 | -14.9 |
| Individual income and payroll taxes | 266.3 | 254.1 | -4.6 | 1,985.7 | 1,791.6 | -9.8 |
| Corporate income taxes | 14.2 | 7.5 | -47.0 | 327.4 | 163.1 | -50.2 |
| Other | 37.0 | 35.4 | -4.5 | 223.7 | 203.3 | -9.1 |
| Surplus or deficit (-) | -179.3 | -259.3 | $\ldots$ | -402.7 | -1,080.8 | $\ldots$ |
| Memo: |  |  |  |  |  |  |
| Unadjusted surplus or deficit (-) | -214.7 | -292.1 | ... | -387.7 | -1,332.6 | $\ldots$ |

1. Includes Social Security, Medicare, Medicaid, and income security programs.
... Not applicable.

## CBO Baseline Budget Projections and Economic Assumptions

|  | Actual 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | Average 2015-19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Budget projections ${ }^{1}$ | Billions of dollars |  |  |  |  |  |  |  |
| Receipts | 2524 | 2100 | 2264 | 2717 | 3010 | 3221 | 3403 | 3913 |
| Outlays | 2983 | 3688 | 3644 | 3638 | 3600 | 3759 | 3961 | 4542 |
| Surplus or deficit (-) | -459 | -1587 | -1381 | -921 | -590 | -538 | -558 | -630 |
| Debt held by public ${ }^{2}$ | 5803 | 7612 | 8868 | 9782 | 10382 | 10870 | 11439 | 14324 |
|  | Percent of GDP |  |  |  |  |  |  |  |
| Receipts | 17.7 | 14.9 | 15.7 | 18.1 | 19.1 | 19.4 | 19.6 | 20.0 |
| Outlays | 21.0 | 26.1 | 25.2 | 24.3 | 22.8 | 22.6 | 22.9 | 23.2 |
| Surplus or deficit (-) | -3.2 | -11.2 | -9.6 | -6.1 | -3.7 | -3.2 | -3.2 | -3.2 |
| Debt held by public ${ }^{2}$ | 40.8 | 53.8 | 61.4 | 65.2 | 65.9 | 65.5 | 66.0 | 67.8 |
| Economic assumptions ${ }^{3}$ (calendar years) | Percent change, year over year |  |  |  |  |  |  |  |
| Nominal GDP | 3.3 | -. 7 | 2.9 | 4.0 | 5.4 | 5.2 | 4.1 | 4.1 |
| Real GDP | 1.1 | -2.5 | 1.7 | 3.5 | 5.0 | 4.5 | 3.0 | 2.4 |
| PCE prices | 3.3 | . 4 | 1.5 | . 8 | . 7 | . 8 | 1.1 | 1.7 |
| Core PCE prices | 2.2 | 1.7 | 1.1 | . 6 | . 6 | . 8 | 1.1 | 1.6 |
| CPI-U | 3.8 | -. 5 | 1.7 | 1.3 | 1.0 | 1.1 | 1.5 | 2.0 |
| Core CPI-U | 2.3 | 1.7 | 1.3 | 1.0 | 1.0 | 1.2 | 1.5 | 2.0 |
|  | Percent, annual average |  |  |  |  |  |  |  |
| Unemployment rate | 5.8 | 9.3 | 10.2 | 9.1 | 7.2 | 5.6 | 4.9 | 4.8 |
| Treasury yields |  |  |  |  |  |  |  |  |
| 3-month | 1.4 | . 2 | . 6 | 1.7 | 3.1 | 4.1 | 4.5 | 4.7 |
| 10-year | 3.7 | 3.3 | 4.1 | 4.4 | 4.7 | 5.0 | 5.3 | 5.6 |

1. The CBO calculates the cost of the TARP by estimating the present value (or accrual value) of all of the program's financial transactions, adjusted for market risk. Also, the CBO includes all of the costs and revenues associated with the GSEs (Fannie Mae and Freddie Mac) in the budget in a manner consistent with its assumption that these institutions should be treated as part of the federal government.
2. Debt held by the public at the end of the period.
3. The CBO did not update its economic assumptions to reflect the comprehensive NIPA revision released by the BEA in July 2009. The CBO still used a reference year of 2000 for its price and GDP projections, and its projections also do not reflect the BEA's reclassification affecting core PCE prices.

Source: Congressional Budget Office (2009), The Budget and Economic Outlook: An Update (August).

## II-30

## Administration Budget Deficit Projections and Economic Assumptions

|  | $\begin{gathered} \text { Actual } \\ 2008 \end{gathered}$ | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | Average 2015-19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Budget projections (fiscal years) | Billions of dollars |  |  |  |  |  |  |  |
| Receipts | 2524 | 2074 | 2264 | 2591 | 2945 | 3161 | 3365 | 3987 |
| Outlays | 2983 | 3653 | 3766 | 3715 | 3741 | 3936 | 4143 | 4802 |
| Deficit (-) | -459 | -1580 | -1502 | -1123 | -796 | -775 | -778 | -815 |
| Total debt held by public ${ }^{1}$ | 5803 | 7856 | 9575 | 10590 | 11443 | 12281 | 13126 | 17493 |
|  | Percent of GDP |  |  |  |  |  |  |  |
| Receipts | 17.7 | 14.7 | 15.7 | 17.1 | 18.4 | 18.6 | 18.7 | 19.0 |
| Outlays | 21.0 | 25.9 | 26.1 | 24.6 | 23.3 | 23.2 | 23.0 | 22.9 |
| Deficit (-) | -3.2 | -11.2 | -10.4 | -7.4 | -5.0 | -4.6 | -4.3 | -3.9 |
| Total debt held by public ${ }^{1}$ | 40.8 | 55.7 | 66.3 | 70.0 | 71.4 | 72.3 | 72.9 | 76.5 |
| Economic assumptions | Percent change, fourth quarter to fourth quarter |  |  |  |  |  |  |  |
| Nominal GDP | 1.2 | . 2 | 4.1 | 5.8 | 6.1 | 6.1 | 5.8 | 4.7 |
| Real GDP | -1.9 | -1.7 | 2.9 | 4.3 | 4.3 | 4.3 | 4.0 | 2.9 |
| GDP price index | 1.9 | 1.4 | 1.2 | 1.4 | 1.7 | 1.7 | 1.7 | 1.8 |
| CPI-U | 1.5 | . 5 | 1.4 | 1.7 | 2.0 | 2.0 | 2.0 | 2.1 |
|  | Percent, annual average |  |  |  |  |  |  |  |
| Unemployment rate | 5.8 | 9.3 | 9.8 | 8.6 | 7.7 | 6.8 | 5.9 | 5.4 |
| Treasury yields 3-month 10-year | $\begin{aligned} & 1.4 \\ & 3.7 \end{aligned}$ | .2 3.6 | 1.3 4.5 | 2.6 4.9 | 3.8 5.2 | 4.0 5.2 | 4.0 5.2 | 4.0 5.2 |

1. Debt held by the public at the end of the period.

Source: Office of Management and Budget (2009), Mid-Session Review: Budget of the U.S. Government, Fiscal Year 2010 (August).

## State and Local Indicators

Real Spending on Consumption and Investment
Percent change, annual rate


Net Change in Employment
Thousands of jobs, monthly average


State Revenues
Percent change from year earlier


## Real Construction

Billions of chained (2005) dollars, annual rate


## Local Revenues

Percent change from year earlier


| Price Measures (Percent change) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Measures | 12-month change |  | 3-month change |  | 1-month change |  |
|  | $\begin{aligned} & \text { Aug. } \\ & 2008 \end{aligned}$ | $\begin{aligned} & \text { Aug. } \\ & 2009 \end{aligned}$ | Annual rate |  | Monthly rate |  |
|  |  |  | $\begin{aligned} & \text { May } \\ & 2009 \end{aligned}$ | $\begin{aligned} & \text { Aug. } \\ & 2009 \\ & \hline \end{aligned}$ | $\begin{gathered} \text { July } \\ 2009 \end{gathered}$ | $\begin{aligned} & \text { Aug. } \\ & 2009 \end{aligned}$ |
| CPI |  |  |  |  |  |  |
| Total | 5.4 | -1.5 | -. 2 | 4.9 | . 0 | . 4 |
| Food | 6.1 | . 4 | -2.2 | -. 5 | -. 3 | 1 |
| Energy | 27.2 | -23.0 | -18.9 | 57.1 | -. 4 | 4.6 |
| Ex. food and energy | 2.5 | 1.4 | 2.3 | 1.4 | . 1 | . 1 |
| Core goods | . 6 | 1.1 | 4.4 | 1.0 | . 2 | -. 3 |
| Core services | 3.3 | 1.6 | 1.5 | 1.6 | . 0 | . 2 |
| Shelter | 2.4 | . 9 | 1.1 | -. 2 | -. 2 | . 1 |
| Other services | 4.6 | 2.5 | 1.7 | 3.9 | . 3 | . 4 |
| Memo: core ex. tobacco | 2.5 | 1.2 | 1.5 | 1.3 | . 1 | . 1 |
| Chained CPI (n.s.a.) ${ }^{1}{ }^{1}$ | 4.6 | -1.5 | ... | $\ldots$ | $\ldots$ | $\ldots$ |
| Ex. food and energy ${ }^{1}$ | 2.1 | 1.0 | ... | ... | ... | ... |
| PCE prices ${ }^{2}$ |  |  |  |  |  |  |
| Total | 4.4 | -. 5 | . 2 | 3.8 | . 0 | . 4 |
| Food and bev. at home | 6.7 | -. 5 | -4.3 | -. 9 | -. 4 | . 1 |
| Energy | 28.4 | -23.9 | -19.4 | 64.7 | -. 4 | 4.9 |
| Ex. food and energy | 2.7 | 1.3 | 1.8 | 1.5 | . 1 | . 1 |
| Core goods | . 6 | 1.1 | 3.6 | -. 1 | -. 1 | -. 1 |
| Core services | 3.4 | 1.5 | 1.2 | 2.1 | . 1 | . 2 |
| Housing services | 2.8 | 1.7 | 2.0 | . 3 | . 0 | . 1 |
| Other services | 3.5 | 1.4 | 1.0 | 2.6 | . 2 | . 3 |
| Memo: core ex. tobacco | 2.6 | 1.1 | 1.0 | 1.4 | . 1 | . 1 |
| Core market-based | 2.6 | 1.7 | 2.1 | 1.3 | . 1 | . 1 |
| Core non-market-based | 2.7 | -. 8 | . 2 | 2.8 | . 3 | . 2 |
| PPI |  |  |  |  |  |  |
| Total finished goods | 9.7 | -4.3 | -2.1 | 11.0 | -. 9 | 1.7 |
| Food | 9.0 | -4.1 | -3.4 | . 0 | -1.5 | . 4 |
| Energy | 27.6 | -21.1 | -10.1 | 59.6 | -2.4 | 8.0 |
| Ex. food and energy | 3.7 | 2.3 | . 5 | 2.4 | -. 1 | . 2 |
| Core consumer goods | 3.9 | 2.8 | 1.8 | 2.2 | -. 1 | . 1 |
| Capital equipment | 3.3 | 1.6 | -1.0 | 2.3 | -. 2 | . 3 |
| Intermediate materials | 16.3 | -12.3 | -6.6 | 14.8 | -. 2 | 1.8 |
| Ex. food and energy | 11.8 | -8.2 | -5.2 | 4.8 | . 2 | . 6 |
| Crude materials | 35.4 | -35.2 | 26.7 | 15.9 | -4.5 | 3.8 |
| Ex. food and energy | 31.4 | -30.0 | 19.4 | 57.2 | 2.9 | 6.0 |

1. Higher-frequency figures are not applicable for data that are not seasonally adjusted (n.s.a.).
2. PCE prices in August 2009 are staff estimates.
.. Not applicable.
Source: For consumer price index (CPI) and producer price index (PPI), U.S. Dept. of Labor, Bureau of Labor Statistics; for personal consumption expenditures (PCE), U.S. Dept. of Commerce, Bureau of Economic Analysis.

CBO treats Fannie Mae and Freddie Mac as if they were entities of the federal government, while the OMB records only the ongoing budget costs of the GSE conservatorship. Using the OMB's budget accounting method for the GSEs, the CBO estimates that the deficit would be $\$ 1.4$ trillion in fiscal 2009. ${ }^{17}$

## State and Local Government Sector

The recent data on purchases by state and local governments have exhibited striking crosscurrents, with substantial cutbacks in employment balanced against considerable strength in construction spending. According to the latest labor market report, state and local employment fell 13,000 in August, and estimates for June and July were revised down to show a cumulative decline of 66,000 ; payrolls at both the state and local levels have fallen noticeably since May after having been little changed, on net, over the first five months of the year. Meanwhile, real construction expenditures appear to have turned in another strong performance in July after rising at an annual rate of 25 percent in the second quarter. ${ }^{18}$ The upswing in real construction spending follows a steep drop in the second half of 2008 and the first quarter of 2009 and is likely attributable to a number of factors, including the availability of federal stimulus funds, the easing of credit conditions in the municipal bond market, and reductions in construction costs. ${ }^{19}$

The incoming information on the fiscal position of the sector remains grim. The Rockefeller Institute of Government estimates that, according to information from 46 states, state tax revenues fell nearly 20 percent on a year-over-year basis in the second quarter of 2009, with widespread weakness across the major categories of taxes. ${ }^{20}$ Like the states, local governments are struggling to close budget gaps. Indeed, nearly all cities that responded to the City Financial Conditions Survey conducted by the National League of Cities during the spring and early summer indicated that they were cutting spending in response to fiscal pressures (most commonly through attrition and laying off workers or by canceling infrastructure projects). In addition, 45 percent of the responding cities had raised fees for public services, and 25 percent had hiked property tax rates.

[^10]
## Consumer Prices

(12-month change except as noted; PCE prices in August are staff estimates)



## Total PCE



Measures of Core PCE


Source: For trimmed mean, Federal Reserve Bank of Dallas; for all else, U.S. Dept. of Commerce, Bureau of Economic Analysis.

PCE Goods and Services


PCE excluding Food and Energy


## Prices

Both headline and core PCE prices have decelerated significantly over the past year, and recent monthly data suggest that the core measure has remained quite subdued while the headline measure has been boosted by a sharp upturn in energy prices. Based on our translation of the consumer price index (CPI) and the producer price index (PPI), we estimate that, over the three months ending in August, headline PCE prices rose at an annual rate of $33 / 4$ percent after remaining about flat over the preceding three months. Meanwhile, we estimate that core PCE prices rose at an annual rate of $11 / 2$ percent over the same period, compared with a $13 / 4$ percent increase over the preceding three months. ${ }^{21}$ Over the 12 months ending in August, headline PCE prices declined $1 / 2$ percent after having risen $41 / 2$ percent over the year-earlier period; this sharp deceleration reflects the reversal of last year's surge in energy prices as well as a step-down in the increase in PCE prices excluding food and energy. Core PCE prices rose $11 / 4$ percent over the 12 months ending in August, compared with an increase of $2 \frac{3}{4}$ percent during the yearearlier period, as market-based prices decelerated and non-market-based prices actually declined. Survey measures of longer-term inflation expectations have also edged down since the last Greenbook, but remain within their range of the past few years.

We estimate that consumer energy prices increased 5 percent in August after a small decline in the previous month. The pickup in August was led by a sizable increase in retail gasoline prices. The latest available survey data show that gasoline prices edged up further in the first two weeks of September, but with crude oil prices down from their recent high in August of around $\$ 74$ per barrel, we expect gasoline prices to drift down over the following couple of months.

We estimate that PCE food prices turned up slightly in August, bringing the decline over the three months ending in August to nearly 1 percent. This decline, however, is much smaller than the sharp decrease over the previous three months, a pattern consistent with our view that the pass-through from the sharp downturn in spot prices of farm products in the second half of last year is complete. That said, farm prices have fallen again of late. The August USDA crop report projects a bumper harvest, which has pushed down corn and wheat spot prices since the last Greenbook, bringing the decline in these prices since the beginning of the year to about 10 and 30 percent, respectively.

PCE prices excluding food and energy have been rising more slowly in recent months than they did earlier in the year; we estimate that core PCE prices rose 0.1 percent in

[^11]
## Energy and Food Price Indicators

(Data from U.S. Department of Energy, Energy Information Administration, except as noted)

Total Gasoline Margin


* Regular grade seasonally adjusted by FRB staff,
less average spot crude price: 60\% West Texas Intermediate,
40\% Maya heavy crude. Includes gasoline taxes.

Gasoline Inventories


Note: Bounds are defined as the monthly mean over the
preceding five years, plus or minus the standard deviation
for each month. Monthly data through May 2009,
weekly data thereafter.

* The RBOB component of total motor gasoline inventories
is adjusted for ethanol use after 2006, boosting reported stocks; estimated by FRB staff.

PCE: Food at Home and Core Prices


## Gasoline Price Decomposition



Natural Gas Prices


Spot Prices of Agricultural Commodities


| Broad Measures of Inflation <br> (Percent change, Q2 to Q2) |  |  |  |  |
| :--- | :---: | :---: | :---: | ---: |
| Measure | 2006 | 2007 | 2008 | 2009 |
| Product prices |  |  |  |  |
| GDP price index | 3.6 | 3.0 | 1.9 | 1.5 |
| $\quad$ Less food and energy | 3.6 | 2.7 | 2.4 | .9 |
| Nonfarm business chain price index | 3.5 | 2.4 | 1.1 | 1.7 |
| Expenditure prices |  |  |  |  |
| Gross domestic purchases price index | 3.9 | 2.8 | 3.5 | -.2 |
| $\quad$ Less food and energy | 3.4 | 2.6 | 2.8 | .8 |
| PCE price index | 3.2 | 2.4 | 3.8 | -.2 |
| $\quad$ Less food and energy | 2.3 | 2.2 | 2.5 | 1.6 |
| PCE price index, market-based components | 3.3 | 2.3 | 3.7 | -.1 |
| $\quad$ Less food and energy | 2.2 | 2.0 | 2.3 | 2.1 |
| CPI | 3.9 | 2.6 | 4.3 | -.9 |
| $\quad$ Less food and energy | 2.5 | 2.3 | 2.3 | 1.8 |
| Chained CPI | 3.6 | 2.4 | 3.8 | -1.2 |
| Less food and energy | 2.2 | 1.8 | 2.0 | 1.4 |
| Median CPI | 2.8 | 3.1 | 3.0 | 2.4 |
| Trimmed mean CPI | 2.6 | 2.7 | 3.0 | 1.9 |
| Trimmed mean PCE | 2.6 | 2.7 | 2.7 | 2.1 |
| Soure: For CPI US. Dept. of Labr Bur |  |  |  |  |

Source: For CPI, U.S. Dept. of Labor, Bureau of Labor Statistics; for median and trimmed mean CPI, Federal Reserve Bank of Cleveland; for all else, U.S. Dept. of Commerce, Bureau of Economic Analysis.

## Surveys of Inflation Expectations

(Percent)

| Period | $\begin{gathered} \text { Actual } \\ \text { CPI } \\ \text { inflation }{ }^{1} \end{gathered}$ | Reuters/Michigan Survey |  |  |  | Professional forecasters $(10 \text { years })^{4}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1 year $^{2}$ |  | 5 to 10 years $^{3}$ |  |  |  |
|  |  | Mean | Median | Mean | Median | CPI | PCE |
| 2007:Q4 | 4.0 | 4.1 | 3.3 | 3.3 | 2.9 | 2.4 | 2.1 |
| 2008:Q1 | 4.1 | 4.2 | 3.8 | 3.3 | 3.0 | 2.5 | 2.2 |
| Q2 | 4.4 | 6.4 | 5.0 | 3.8 | 3.3 | 2.5 | 2.2 |
| Q3 | 5.3 | 5.4 | 4.7 | 3.6 | 3.1 | 2.5 | 2.2 |
| Q4 | 1.6 | 3.0 | 2.8 | 2.9 | 2.8 | 2.5 | 2.2 |
| 2009:Q1 | . 0 | 2.4 | 2.0 | 3.3 | 2.9 | 2.4 | 2.2 |
| Q2 | -1.2 | 3.4 | 2.9 | 3.1 | 2.9 | 2.5 | 2.3 |
| Q3 | n.a. | 3.2 | 2.8 | 3.3 | 2.9 | 2.5 | 2.2 |
| 2009:May | -1.3 | 3.2 | 2.8 | 3.1 | 2.9 | 2.5 | 2.3 |
| June | -1.4 | 3.9 | 3.1 | 3.2 | 3.0 | ... | ... |
| July | -2.1 | 3.6 | 2.9 | 3.4 | 3.0 |  |  |
| Aug. | -1.5 | 3.0 | 2.8 | 3.1 | 2.8 | 2.5 | 2.2 |
| Sept.(p) | n.a. | 3.1 | 2.6 | 3.3 | 2.9 | ... | ... |

[^12]
## Measures of Expected Inflation

Survey Measures (Reuters/University of Michigan)


Inputs to Models of Inflation



Note: The distributed lag of core PCE inflation is derived from one of the reduced-form Phillips curves used by Board staff.
Source: For the distributed lag of core PCE inflation, FRB staff calculations; for the FRB/US measure, for 2007 forward, the median proiection for PCE inflation over the next 10 years trom the Survey of Professional Forecasters (SPF); for 1990 to 2006 , the equivalent SPF projection for the CPI; for 1981 to 1989 , a related survey for the CPI conducted by Richard Hoey; and for the period preceding 1981, a model-based estimate constructed by Board staff. The survey data before 2007 are adjusted down 0.5 percentage point to put the CPI projections approximately on a PCE basis.

Inflation Compensation from TIPS


Note: Based on a comparison of an estimated TIPS (Treasury inflation-protected securities) yield curve with an estimated nominal
off-the-run Treasury yield curve, with an adjustment for the indexation-lag effect.
Source: FRB staff calculations.

## Commodity Price Indexes

> Journal of Commerce

Ratio scale, $2006=100$


## Commodity Research Bureau



## Selected Commodity Price Indexes

(Percent change)

| Index |  | $12 / 30 / 08$ <br> to | $8 / 4 / 09^{2}$ <br> to | $52-$ week <br> change to <br> $9 / 15 / 09$ |
| :--- | :---: | :---: | :---: | :---: |
| JOC industrials | $2008^{1}$ | $8 / 4 / 09^{2}$ | -41.4 | 40.6 |
| 年 | -48.2 | 64.3 | 1.2 | -18.1 |
| JOC metals | -34.3 | 34.2 | -.8 | -12.3 |
| CRB spot industrials | -14.1 | 5.9 | .2 | -17.6 |
| CRB spot foodstuffs | -24.7 | 21.4 | .4 | -5.0 |
| CRB futures |  |  |  |  |

1. From the last week of the preceding year to the last week of the year indicated.
2. August 4, 2009, is the Tuesday preceding publication of the August Greenbook.

## Hourly Compensation and Unit Labor Costs

(Percent change from preceding period at compound annual rate; based on seasonally adjusted data)

| Category |  | $\begin{gathered} \text { 2008:Q2 } \\ \text { to } \\ 2009: \text { Q2 }^{\mathrm{e}} \end{gathered}$ | 2008 |  | 2009 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Q3 | Q4 | Q1 ${ }^{\text {e }}$ | Q2 ${ }^{\text {e }}$ |
| Compensation per hour Nonfarm business | 2.7 | . 7 | 4.5 | 2.9 | -4.7 | . 4 |
| Output per hour Nonfarm business | 2.6 | 1.9 | -. 1 | . 8 | . 3 | 6.6 |
| Unit labor costs Nonfarm business | . 1 | -1.1 | 4.6 | 2.0 | -5.0 | -5.8 |

e Staff estimate.
Source: U.S. Dept. of Labor, Bureau of Labor Statistics.


## Average Hourly Earnings

(Percent change from year-earlier period)


Unit Labor Costs
(Percent change from year-earlier period)


Markup, Nonfarm Business


August, the same as in July. ${ }^{22}$ Although core nonmarket prices have turned back up recently after posting sizable declines early this year, prices have decelerated considerably in many other categories. In particular, tax-related hikes in tobacco prices are no longer pushing up inflation as much as they did this spring, increases in prices of housing services have moderated noticeably, and a number of durable goods prices have declined outright.

Median year-ahead inflation expectations in the Reuters/Michigan survey slipped to 2.6 percent in the preliminary September survey but are still noticeably higher than the roughly 2 percent level recorded around the turn of the year. Long-term expectations-at 2.9 percent in the preliminary September survey—have edged down since the August Greenbook but remain in the narrow range that has prevailed over the past few years. In addition, median long-term expected PCE inflation from the Survey of Professional Forecasters fell back to 2.2 percent in the third quarter after edging up briefly to 2.3 percent in the previous quarter.

At earlier stages of processing, the PPI for core intermediate materials posted an increase in August for a third consecutive month; this index has now retraced about one-third of the decline that occurred over the preceding eight months. Following sharp increases over the first seven months of this year, changes in prices of non-energy commodities have been mixed since the August Greenbook. In particular, the CRB index of spot prices of commodities has edged down $3 / 4$ percent, whereas the Journal of Commerce index has risen 2 percent.

## Labor Costs

All of our measures of hourly compensation and wages have decelerated sharply this year, likely in response to the sizable degree of slack in labor markets. The ECI for private industry workers increased at an annual rate of only $3 / 4$ percent in the first half of the year, $13 / 4$ percentage points less than the rise in 2008. The deceleration in the ECI was broadly similar for both the wages and benefits components of the index. In addition, P\&C compensation per hour (CPH) in the nonfarm business sector is now estimated to have tumbled at an annual rate of 4.7 percent in the first quarter, possibly reflecting a

[^13]steep decline in bonus payments similar to what we have seen in the ECI. In the second quarter, CPH is reported to have ticked up, bringing the decline over the first half of the year to an annual rate of $21 / 4$ percent, which is by far the largest half-year drop in nominal compensation on record. ${ }^{23}$ As a result of the decline in hourly compensation and the large gain in productivity, the already-elevated markup of prices over unit labor costs in the nonfarm business sector rose further in the first half of this year.

Turning to the current quarter, average hourly earnings of production and nonsupervisory workers rose 0.3 percent in both July and August, with the latest reading boosted by an increase in the federal minimum wage that went into effect at the end of July. Over the 12 months ending in August, this wage measure rose 2.6 percent, $1 \frac{1}{4}$ percentage points less than over the preceding year.

Last page of Domestic Nonfinancial Developments

[^14]
## Domestic Financial Developments

III-T-1
Selected Financial Market Quotations
(One-day quotes in percent except as noted)

| Instrument |  | 2008 | 2009 |  |  | Change to Sept. 15 from selected dates (percentage points) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Sept. 12 | June 22 | Aug. 11 | Sept. 15 | $\begin{array}{r} 2008 \\ \text { Sept. } 12 \end{array}$ | $\begin{array}{r} 2009 \\ \text { June } 22 \end{array}$ | $\begin{array}{r} 2009 \\ \text { Aug. } 11 \end{array}$ |
| Short-term |  |  |  |  |  |  |  |  |
| FOMC intended federal funds rate |  | 2.00 | . 13 | . 13 | . 13 | -1.87 | . 00 | . 00 |
| Treasury bills ${ }^{1}$ |  |  |  |  |  |  |  |  |
| 3-month |  | 1.46 | . 20 | . 18 | . 13 | -1.33 | -. 07 | -. 05 |
| 6-month |  | 1.80 | . 34 | . 28 | . 21 | -1.59 | -. 13 | -. 07 |
| Commercial paper (A1/P1 rates) ${ }^{2}$ |  |  |  |  |  |  |  |  |
| 1-month |  | 2.39 | . 30 | . 22 | . 19 | -2.20 | -. 11 | -. 03 |
| 3-month |  | 2.75 | . 63 | . 29 | . 25 | -2.50 | -. 38 | -. 04 |
| Large negotiable CDs ${ }^{1}$ |  |  |  |  |  |  |  |  |
| 3-month |  | 2.79 | . 40 | . 32 | . 25 | -2.54 | -. 15 | -. 07 |
| 6-month |  | 3.09 | . 68 | . 46 | . 36 | -2.73 | -. 32 | -. 10 |
| Eurodollar deposits ${ }^{3}$ |  |  |  |  |  |  |  |  |
| 1-month |  | 2.60 | . 65 | . 50 | . 35 | -2.25 | -. 30 | -. 15 |
| 3-month |  | 3.00 | 1.05 | . 80 | . 50 | -2.50 | -. 55 | -. 30 |
| Bank prime rate |  | 5.00 | 3.25 | 3.25 | 3.25 | -1.75 | . 00 | . 00 |
| Intermediate- and long-term U S. Treasury ${ }^{4}$ |  |  |  |  |  |  |  |  |
| 2-year |  | 2.24 | 1.17 | 1.20 | . 96 | -1.28 | -. 21 | -. 24 |
| 5-year |  | 2.97 | 2.71 | 2.70 | 2.42 | -. 55 | -. 29 | -. 28 |
| 10-year |  | 3.93 | 4.04 | 3.97 | 3.74 | -. 19 | -. 30 | -. 23 |
| U.S. Treasury indexed notes ${ }^{5}$ |  |  |  |  |  |  |  |  |
| 5-year |  | 1.33 | 1.45 | 1.54 | . 99 | -. 34 | -. 46 | -. 55 |
| 10-year |  | 1.77 | 2.10 | 1.89 | 1.63 | -. 14 | -. 47 | -. 26 |
| Municipal general obligations | Buyer) ${ }^{6}$ | 4.54 | 4.86 | 4.65 | 4.33 | -. 21 | -. 53 | -. 32 |
| Private instruments |  |  |  |  |  |  |  |  |
| 10-year swap |  | 4.26 | 3.97 | 3.98 | 3.67 | -. 59 | -. 30 | -. 31 |
| 10 -year FNMA ${ }^{7}$ |  | 4.36 | 4.40 | 4.35 | 4.15 | -. 21 | -. 25 | -. 20 |
| 10 -year $\mathrm{AA}^{8}$ |  | 6.62 | 5.94 | 5.41 | 5.13 | -1.49 | -. 81 | -. 28 |
| 10 -year BBB ${ }^{8}$ |  | 7.22 | 7.58 | 6.72 | 6.44 | -. 78 | -1.14 | -. 28 |
| 10 -year high yield ${ }^{8}$ |  | 10.66 | 12.13 | 10.61 | 10.17 | -. 49 | -1.96 | -. 44 |
| Home mortgages (FHLMC survey rate) |  |  |  |  |  |  |  |  |
| 30-year fixed |  | 5.78 | 5.42 | 5.29 | 5.07 | -. 71 | -. 35 | -. 22 |
| 1-year adjustable |  | 5.03 | 4.93 | 4.72 | 4.64 | -. 39 | -. 29 | -. 08 |
| Stock exchange index | Record high |  | 2009 |  |  | Change to Sept. 15 <br> from selected dates (percent) |  |  |
|  | Level | Date | June 22 | Aug. 11 | Sept. 15 | Record high | $\begin{array}{r} 2009 \\ \text { June } 22 \end{array}$ | $\begin{array}{r} 2009 \\ \text { Aug. } 11 \end{array}$ |
| Dow Jones Industrial | 14,165 | 10-9-07 | 8,339 | 9,241 | 9,683 | -31.64 | 16.12 | 4.78 |
| S\&P 500 Composite | 1,565 | 10-9-07 | 893 | 994 | 1,053 | -32.75 | 17.87 | 5.86 |
| Nasdaq | 5,049 | 3-10-00 | 1,766 | 1,970 | 2,103 | -58.35 | 19.05 | 6.75 |
| Russell 2000 | 856 | 7-13-07 | 493 | 562 | 605 | -29.32 | 22.73 | 7.60 |
| D.J. Total Stock Index | 15,807 | 10-9-07 | 9,130 | 10,243 | 10,870 | -31.23 | 19.06 | 6.11 |

1. Secondary market.
2. Financial commercial paper.
3. Bid rates for Eurodollar deposits collected around 9:30 a.m. eastern time.
4. Derived from a smoothed Treasury yield curve estimated using off-the-run securities.
5. Derived from a smoothed Treasury yield curve estimated using all outstanding securities and adjusted for the carry effect.
6. Most recent Thursday quote.
7. Constant-maturity yields estimated from Fannie Mae domestic noncallable coupon securities.
8. Derived from smoothed corporate yield curves estimated using Merrill Lynch bond data.

## NOTES:

September 12, 2008, is the last business day before Lehman Brothers Holdings filed for bankruptcy.
June 22, 2009, is the day before the June 2009 FOMC monetary policy announcement.
August 11, 2009, is the day before the most recent FOMC monetary policy announcement.

## Policy Expectations and Treasury Yields

Interest Rates


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

Implied Federal Funds Rate


10-Year Treasury Implied Volatility


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

Source: Bloomberg

Treasury Yield Curve


Note: Smoothed yield curve estimated from off-the-run Treasury coupon securities. Yields shown are those on notional par Treasury securities with semiannual coupons.

Source: Federal Reserve Board.

## Inflation Compensation



Note: Estimates based on smoothed nominal and inflation-indexed
Treasury yields.
*Adjusted for lagged indexation of Treasury inflation-protected securities.

Source: Federal Reserve Board.

## Domestic Financial Developments

## Overview

Over the intermeeting period, conditions in U.S. short-term funding markets improved a bit more, and loans outstanding at the Federal Reserve's liquidity and credit facilities declined further. Although economic data appeared to be largely in line with, or a little better than, market expectations, federal funds and Eurodollar futures rates moved down on net. Nominal Treasury yields also decreased across the term structure, and auctions of very large volumes of newly issued Treasury securities were well received by investors. TIPS-based measures of inflation compensation increased over the next five years, but forward measures of inflation compensation beyond that horizon moved lower. Broad stock price indexes rose over the intermeeting period, while spreads of yields on corporate bonds over those on comparable-maturity Treasury securities were little changed. Net debt financing by businesses and households remained exceptionally weak.

## Policy Expectations and Treasury Yields

Policy rates implied by futures market quotes moved down, on net, over the intermeeting period. Based on the staff's standard assumptions about term premiums, investors now appear to expect the federal funds rate to remain in the current target range until the second quarter of 2010, about one quarter later than at the time of the August FOMC meeting. Futures quotes imply that market participants expect the federal funds rate to be about $11 / 4$ percent at the end of 2010 —about 50 basis points lower than expected in August. Amid data that continued to suggest a weak labor market and benign inflation, market participants may have come to the view that lower policy rates in the medium term would be more consistent with the likely pace of economic recovery. At the same time, a reduction in option-implied volatility suggests that term premiums in money market rates may have declined somewhat in recent weeks, indicating that our usual assumptions may overstate the extent to which market participants have revised down their policy expectations. Consistent with this interpretation, the September Blue Chip survey did not indicate a significant change in the consensus forecast for the path of the federal funds rate through the end of next year. And, similar to the August survey, this week, 14 of the 17 primary dealers reported expecting the first target rate increase to occur in or after the third quarter of 2010.

Yields on intermediate- and longer-term nominal Treasury securities also decreased over the intermeeting period, falling 28 and 23 basis points, respectively. Implied volatility on longer-term Treasury yields moved lower over the period suggesting, that, as with money market rates, a drop in term premiums was one reason for the decline in longer-term yields. When asked about the factors contributing to the recent decline in longer-term

Financial Institutions, Short-Term Funding Markets, and Liquidity Facilities


Note: Large bank ETF consists of 24 banks; regional and smaller bank ETF consists of 51 banks.
Source: Keefe, Bruyette \& Woods (KBW) and Bloomberg

## Libor over OIS Spread



## Federal Reserve Credit Outstanding

Billions of dollars


Senior CDS Spreads for Banking Organizations


Note: Median spreads for 6 large bank holding companies and 11 other banks.
Source: Markit.

Spreads on 30-day Commercial Paper


Note: The ABCP spread is the AA ABCP rate minus the AA nonfinancial rate. The A2/P2 spread is the A2/P2 nonfinancial rate minus the AA nonfinancial rate.

Source: Depository Trust \& Clearing Corporation.
Federal Reserve Large-Scale Asset Purchases

nominal Treasury yields, primary dealers attributed the most importance to a reduction in upside inflation risk, an increase in downside inflation risk, and foreign official flows. TIPS-based inflation compensation over the next five years increased 26 basis points, on net, but five-year inflation compensation five years forward decreased 25 basis points. The intermeeting decline in forward inflation compensation reversed some of the increase registered earlier in the summer. Median inflation expectations over the next 5 to 10 years in the Reuters/University of Michigan Surveys of Consumers ticked down 10 basis points, while long-term inflation expectations from the Survey of Professional Forecasters were unchanged.

## Financial Institutions and Short-Term Funding Markets

Changes in investor sentiment toward the banking sector were mixed. Equity prices for larger banks increased about 6 percent since the August FOMC meeting, while stock prices for regional and smaller banks slipped about 3 percent. Market participants reportedly continued to be wary of the credit quality of banks’ loan portfolios and the ability of smaller banking organizations to raise additional capital should the need arise. The divergence in equity prices may also partly reflect the quickening pace of failures of smaller banks-21 depository institutions with combined assets of about $\$ 53$ billion failed over the intermeeting period, and the FDIC's list of troubled banks and thrifts reached 416, the highest count since 1994. Nonetheless, CDS spreads for banking institutions changed little, on net, since the August FOMC meeting. Citigroup was the only financial institution to issue FDIC-guaranteed debt over the intermeeting period; a number of firms, however, issued nonguaranteed debt, albeit at somewhat wider spreads than in July.

Conditions in short-term funding markets improved a bit further over the intermeeting period. One-month and three-month Libor-OIS spreads have now returned to about the levels prevailing before the onset of the financial crisis; longer-term Libor-OIS spreads also narrowed, though they have remained high by historical standards. Reports of considerable tiering in the market suggest that many banks have been paying well above Libor to obtain term funding. Since the August FOMC meeting, spreads on A2/P2-rated commercial paper and AA-rated ABCP were little changed, on net, remaining at the low ends of their ranges over the past two years.

## Federal Reserve Purchase Programs and Facilities

Total Federal Reserve assets rose about $\$ 135$ billion over the intermeeting period, as an increase in holdings of securities more than offset declines in the usage of liquidity and

## Corporate Yields, Risk Spreads, and Stock Prices



Source: Standard \& Poor's.

Implied Volatility on S\&P 500 (VIX)


## Corporate Bond Spreads



Note: Corporate yields from smoothed yield curves based on
Merrill Lynch bond data and spreads measured relative to comparable-maturity Treasury securities.

Expected Real Equity Return and

prices and latest earnings data from I/B/E/S
Corporate Bond Yields


Estimated Median Bid-Asked Spread for Corporate Bonds


Source: Staff estimate using data from the National Assn. of Securities Dealers' Trade Reporting and Compliance Engine.
credit facilities. Commercial paper held by the CPFF continued to trend down, as did credit extended under the TAF. The Federal Reserve reduced the amount of TAF credit offered in August and September, and, despite reductions in the maximum size of TAF auctions from $\$ 125$ billion to $\$ 75$ billion, the auctions continued to be undersubscribed.

Over the intermeeting period, TALF loans outstanding increased about $\$ 14$ billion, to $\$ 44$ billion. The August 20 TALF subscription garnered $\$ 2.3$ billion in loan requests for legacy commercial mortgage-backed securities, while TALF loans backed by assetbacked securities (ABS) totaled $\$ 6.5$ billion at the September 3 subscription. Cash investors who do not use TALF financing have been purchasing larger shares of TALFeligible auto, credit card, and equipment ABS. However, investors in other categories of TALF-eligible ABS have remained heavily reliant on TALF financing.

During the intermeeting period, the Federal Reserve purchased a total of $\$ 162$ billion of long-term securities, bringing the System's cumulative purchases of Treasury securities, agency debt, and agency MBS to $\$ 283$ billion, $\$ 125$ billion, and $\$ 836$ billion, respectively. ${ }^{1}$ Subsequent to the announced tapering of Treasury purchases, market commentary and the primary dealer survey suggested that investors expect the FOMC to indicate that a similar process will be used to wind down the agency debt and agency MBS purchases as those programs approach their ends. On September 16, the Treasury announced that it would draw down balances held in the Supplementary Finance Program from the current level of about $\$ 200$ billion to a level of $\$ 15$ billion to provide flexibility to manage federal debt within the statutory debt limit.

## Stock Prices and Corporate Interest Rates

Amid somewhat better than expected data on housing market conditions and aggregate spending and lower interest rates, broad stock price indexes rose about 6 percent, on net, over the intermeeting period. The staff's estimate of the expected real equity return over the next 10 years for S\&P 500 firms decreased slightly, while the gap between the expected return and real 10-year Treasury yield-a gauge of the equity risk premiumremained high by historical standards. After having come down significantly in prior months, option-implied volatility on the S\&P 500 index stayed in a relatively narrow band at a level broadly comparable with prior recessions.

[^15]
## Corporate Earnings and Credit Quality

Domestic Corporate Profits before Tax


Financial Ratios for Nonfinancial Corporations


Selected Default and Delinquency Rates
Percent of outstandings


6 -month trailing defaults divided by beginning-of-period outstandings, at an annual rate.
Source: For default rate, Moody's Investors Service; for delinquency rate, Call Report.

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.

Source: Thomson Financial.

Bond Ratings Changes of Nonfinancial Companies


Source: Calculated using data from Moody's Investors Service.

* Based on July and August.

Expected Nonfinancial Year-Ahead Defaults


Note: Firm-level estimates of default weighted by firm liabilities as
a percent of total liabilities, excluding defaulted firms.
Source: Calculated using firm-level data from Moody's KMV.

Yields on investment- and speculative-grade corporate bonds declined along with Treasury yields, leaving their risk spreads little changed. Staff estimates of bid-asked spreads for investment- and speculative-grade corporate bonds narrowed a bit further, indicating the most liquid trading conditions seen in about a year. Conditions in the secondary market for leveraged syndicated loans also continued to recover, as average bid prices rose a bit further and bid-asked spreads narrowed.

## Corporate Earnings and Credit Quality

Preliminary estimates indicate that the domestic profits of nonfinancial and financial corporations rebounded somewhat through the second quarter after having plunged in the latter half of 2008. ${ }^{2}$ Nonfinancial profits were boosted last quarter by reductions in costs for labor and materials. However, smoothing through the quarterly volatility, financial corporations’ operating profits did not show signs of a significant turnaround. Amid relatively light earnings news through mid-September, analysts did not substantively change their forecasts of year-ahead earnings for S\&P 500 firms.

Indicators of the credit quality of nonfinancial firms have improved, on balance, in recent months. Preliminary estimates suggest that the aggregate ratio of debt to assets for nonfinancial corporations ticked down in the second quarter, while the aggregate liquid asset ratio rose further to nearly its peak level reached in 2004. The pace of nonfinancial corporate ratings downgrades by Moody's moderated in the first two months of the third quarter, while upgrades remained sparse. The six-month trailing bond default rate (for all U.S. firms) was about unchanged in August, staying well below its level in the spring. By contrast, the delinquency rate on C\&I loans rose further in the second quarter to nearly the rate reached in 2002. In September, the year-ahead expected default frequency for nonfinancial firms from Moody's KMV remained close to 2 percent, less than half the rate registered in March.

## Business Finance

Gross bond issuance by nonfinancial corporations moved back up in August following a lull in July; the rebound was particularly strong for speculative-grade firms, a trend that extended into September. However, on net, commercial paper outstanding was unchanged last month, and C\&I loans tumbled again. Overall, net debt financing for the nonfinancial business sector remained negative in August.

[^16]
## Business Finance

Gross Issuance of Securities by U.S. Corporations
(Billions of dollars; monthly rates, not seasonally adjusted)

| Type of security | 2005 | 2006 | 2007 | 2008 |  | 2009 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | H1 | H2 | Q1 | Q2 | July | Aug. |
| Nonfinancial corporations |  |  |  |  |  |  |  |  |  |
| Stocks ${ }^{1}$ | 4.6 | 4.7 | 5.5 | 3.5 | 4.0 | 2.7 | 8.0 | 2.2 | 5.6 |
| Initial public offerings | 1.7 | 1.8 | 1.6 | . 6 | . 1 | . 3 | . 2 | . 0 | . 3 |
| Seasoned offerings | 2.8 | 2.9 | 3.8 | 2.9 | 3.9 | 2.4 | 7.8 | 2.1 | 5.3 |
| Bonds ${ }^{2}$ | 18.7 | 29.3 | 35.1 | 36.0 | 19.4 | 57.4 | 42.8 | 21.5 | 29.8 |
| Investment grade | 8.7 | 13.1 | 17.5 | 24.9 | 14.2 | 42.5 | 22.8 | 7.3 | 15.8 |
| Speculative grade | 5.2 | 6.2 | 7.5 | 3.1 | . 4 | 3.0 | 7.5 | 2.6 | 7.5 |
| Other (sold abroad/unrated) | 4.8 | 10.1 | 10.0 | 8.0 | 4.8 | 11.9 | 12.4 | 11.7 | 6.5 |
| Memo |  |  |  |  |  |  |  |  |  |
| Net issuance of commercial paper ${ }^{3}$ | -. 2 | 2.4 | -. 4 | -. 5 | 3.7 | -12.7 | -12.2 | -3.7 | -1.1 |
| Change in C\&I loans at commercial banks ${ }^{3}$ | 10.1 | 11.2 | 21.2 | 20.7 | 5.2 | -16.0 | -18.7 | -22.1 | -36.4 |
| Financial corporations |  |  |  |  |  |  |  |  |  |
| Stocks ${ }^{1}$ | 5.0 | 5.3 | 8.6 | 17.2 | 9.9 | . 9 | 30.8 | 3.1 | 4.9 |
| Bonds ${ }^{2}$ | 170.4 | 180.6 | 151.7 | 66.2 | 24.6 | 38.9 | 50.2 | 34.5 | 29.8 |

Note: Components may not sum to totals because of rounding.

1. Excludes private placements and equity-for-equity swaps that occur in restructurings.
2. Data include regular and 144a private placements. Bond totals reflect gross proceeds rather than par value of original discount bonds.

Bonds are categorized according to Moody's bond ratings or to Standard \& Poor's if unrated by Moody's.
3. End-of-period basis, seasonally adjusted.

Source: Depository Trust \& Clearing Corporation; Thomson Financial; Federal Reserve Board

## Selected Components of Net Debt Financing



Components of Net Equity Issuance


## Commercial Real Estate



Prices of Commercial Real Estate



Note: Data series begin in 2007:Q1.
Source: Call Reports

Commercial Real Estate Sales


Delinquency Rates on Commercial Mortgages


$2007-2008-2009$
Note: Each index corresponds to pools of mortgages securitized in 2006:H1.

Source: JPMorgan Chase \&Co.

## Residential Mortgages



Note: For MBS yield, Fannie Mae 30-year current coupon rate. Source: For mortgage rate, Freddie Mac; for MBS yield, Bloomberg.
Agency and Non-Agency MBS Issuance
Billions of dollars


20022003200420052006200720082009
Source: For non-agency issuance, Inside Mortgage Finance; for agency, Fannie Mae, Freddie Mac, and Ginnie Mae.

Delinquencies on Prime Mortgages


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

Spread of Mortgage Rate to Treasury Yield


Note: Spreads are relative to corresponding off-the-run
Treasury yields.
Source: Bloomberg; Freddie Mac.
Prices of Existing Homes
Percent change from a year earlier


Note: LoanPerformance plans to publish its price index in late
September. Data are confidential until then.
Source: For FHFA, Federal Housing Finance Agency; for LoanPerformance, First American CoreLogic; for S\&P/Case-Shiller, Standard \& Poor's.
Delinquencies on Subprime and FHA-Backed Mortgages


Note: Percent of loans 90 or more days past due in foreclosure.
For subprime mortgages, rates are for securitized loans.
Source: For FHA-backed mortgages, McDash Analytics; for subprime mortgages, LoanPerformance, a division of First American CoreLogic.

Following a sluggish pace in July, last month, gross public equity issuance by nonfinancial firms has rebounded, boosted by a pickup in secondary offerings. Equity retirements from cash-financed mergers and estimated share repurchases were again quite modest in the second quarter and were outpaced by issuance. As a result, net equity issuance remained positive. In July and August, announcements of share repurchase programs remained thin, indicating that many corporations continued to conserve cash. Even so, over the same period, a spate of announced cash-financed mergers and acquisitions signaled a pickup in dealmaking from moribund levels.

## Commercial Real Estate Finance

Credit markets for commercial real estate remained strained. Outstanding commercial mortgage debt is estimated to have decreased at an annual rate of $11 / 2$ percent in the second quarter, and indications suggest another decline this quarter. Sales of commercial properties have ticked up in recent months but remained quite light. In addition, a record 45 percent of the commercial real estate property that changed hands in August was sold at a loss, suggesting that many sellers were under financial pressure. Commercial property prices edged down further in June, leaving the broad indexes about one-third below their levels in early 2007. Delinquency rates on commercial mortgages held by banks-particularly those for residential and commercial construction loans-continued to rise in the second quarter, and, in July, the delinquency rate on securitized commercial mortgages remained near its historical high. Commercial mortgage CDS index prices were little changed, on net, over the intermeeting period.

## Household Finance

The average interest rate on 30-year conforming fixed-rate mortgages declined further over the intermeeting period, to about 5.1 percent, the lowest level recorded since the spring. Spreads between mortgage interest rates and 10-year Treasury yields were little changed, on net. Agency MBS yields decreased around 25 basis points, and issuance of MBS by the housing-related GSEs remained very strong in July. No private-label MBS have been issued since the beginning of 2008.

Regarding house prices, the repeat-sales price index for existing single-family homes from LoanPerformance (LP) jumped 12 percent at an annual rate in the second quarter, and similar indexes constructed by the Federal Housing Finance Agency (FHFA) and S\&P/Case-Shiller (CS; this index covers 20 large cities) also turned up in recent months. Nonetheless, over the year ending in July, the LP index decreased 12 percent, while the FHFA and CS indexes dropped about 5 and 15 percent, respectively, through June.

## Consumer Credit and Mutual Funds



Net Flows into Mutual Funds
(Billions of dollars, monthly rate)

| Fund type | 2008 |  | 2009 |  |  |  | Assets July |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H1 | H2 | Q1 | Q2 | July | Aug. ${ }^{\text {e }}$ |  |
| Total long-term funds | 11.8 | -49.7 | 0.5 | 46.1 | 46.7 | 51.6 | 6,825 |
| Equity funds | -3.6 | -36.0 | -14.4 | 14.2 | 9.8 | 3.5 | 4,365 |
| Domestic | -5.0 | -20.7 | -7.8 | 9.7 | 2.8 | -2.3 | 3,265 |
| International | 1.3 | -15.3 | -6.5 | 4.4 | 7.0 | 5.8 | 1,099 |
| Hybrid funds | 1.7 | -4.8 | -2.9 | 2.3 | 1.8 | 3.0 | 559 |
| Bond funds | 13.8 | -8.9 | 17.8 | 29.7 | 35.1 | 45.1 | 1,901 |
| High-yield | -0.2 | 0.1 | 2.7 | 2.9 | 1.9 | 0.8 | 164 |
| Other taxable | 11.1 | -7.4 | 11.2 | 21.1 | 25.9 | 34.9 | 1,335 |
| Municipals | 2.9 | -1.6 | 3.9 | 5.7 | 7.3 | 9.4 | 402 |
| Money market funds | 56.1 | 59.6 | 0.1 | -55.2 | -49.9 | -55.6 | 3,623 |

[^17]
## Treasury Finance



Average Absolute Nominal Yield Curve


Note: Calculated from securities with 2 to 10 years until maturity, excluding on-the-run and first off-the-run securities.

Source: Federal Reserve Board.

Treasury On-the-Run Premium


Note: Computed as the spread of the yield read from an estimated off-the-run yield curve over the on-the-run Treasury yield. September observation is the month-to-date average.

Source: Federal Reserve Board.

Foreign Participation in Treasury Auctions


Note: Indirect bids and actual allotment are a percentage of the total amount accepted, including the amount tendered to the Federal Reserve. Moving averages include 2-, 5-, and 10year original auctions and reopenings.

Source: Federal Reserve Board.
Daily Treasury Market Volume


Treasury Fails-to-Deliver


Source: Federal Reserve Board, FR 2004, Government Securities Dealers Reports.

## State and Local Government Finance

Gross Offerings of Municipal Securities
(Billions of dollars; monthly rate, not seasonally adjusted)

| Type of security | 2005 | 2006 | 2007 | 2008 |  | 2009 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | H1 | H2 | Q1 | Q2 | July | Aug. |
| Total | 38.4 | 36.1 | 40.4 | 41.7 | 33.2 | 30.5 | 42.4 | 33.2 | 49.5 |
| Long-term ${ }^{1}$ | 34.2 | 32.5 | 35.5 | 38.1 | 26.7 | 28.7 | 37.1 | 25.9 | 36.1 |
| Refundings ${ }^{2}$ | 15.6 | 10.6 | 12.6 | 18.0 | 11.2 | 10.5 | 14.4 | 9.1 | 11.9 |
| New capital | 18.6 | 21.9 | 22.9 | 20.1 | 15.5 | 18.2 | 22.7 | 16.8 | 24.2 |
| Short-term | 4.2 | 3.7 | 4.9 | 3.6 | 6.5 | 1.8 | 5.3 | 7.3 | 13.4 |
| Memo: Long-term taxable | 2.1 | 2.5 | 2.4 | 2.8 | 1.8 | 1.1 | 7.9 | 4.9 | 10.4 |

1. Includes issues for public and private purposes.
2. All issues that include any refunding bonds.

Source: Thomson Financial.

Ratings Changes


Note: Recent upgrades reflect S\&P's change of rating standard.
Source: S\&P's Credit Week Municipal; S\&P's Ratings Direct.



## III-15

Delinquency rates on prime and subprime mortgages continued to rise, and the delinquency rate for FHA-backed loans rose to a record high of nearly 7.5 percent in July, about 120 basis points above its level at the end of 2008.

Consumer credit contracted for the sixth consecutive month in July, reflecting sizable declines in revolving and nonrevolving credit. Consumer credit ABS issuance decreased somewhat in August, but a large volume of TALF-eligible securities was issued early this month. Over the intermeeting period, secondary-market spreads on AAA-rated credit card and auto loan ABS both declined to 50 basis points, levels not seen in about a year. Average interest rates on variable-rate credit cards increased 25 basis points over the intermeeting period, continuing the trend from earlier this summer. The number of credit card offers sent by mail remained steady in July, indicating that the contraction in the supply of credit card loans might be abating. The latest readings on delinquency rates for consumer loans remained high by historical standards.

As in June and July, long-term mutual funds attracted sizable inflows in August, with bond funds attracting outsized flows. Money market funds continued to experience substantial net outflows last month, as yields on such funds remained extremely low.

## Treasury and Agency Finance

Over the intermeeting period, nine auctions of Treasury securities totaling $\$ 254$ billion were held. Considering the very large volume of securities offered, the auctions were generally quite well received, with stop-out rates near the when-issued rates just prior to the auctions and bid-to-cover ratios near or above their previous averages. Market commentary and evidence from indirect bidding at recent Treasury auctions suggest that foreign demand for Treasury securities has risen recently.

No material changes were observed in the market functioning for nominal Treasury securities over the intermeeting period. Average fitting errors from staff yield curve models for nominal Treasury issues were little changed. Bid-asked spreads held roughly steady in recent weeks, and trading volumes stayed relatively low. The staff's measure of the on-the-run premium for the 10-year Treasury note was little changed at an elevated level, while premiums for 2-year and 5-year Treasury securities stayed very low.

## State and Local Government Finance

Gross issuance of long-term municipal bonds was robust in August, mostly driven by the strength in new capital issuance, a substantial portion of which consisted of Build

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| Aggregate and components | M2 Monetary Aggregate <br> (Based on seasonally adjusted data) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Percent change (annual rate) ${ }^{1}$ |  |  |  |  |  | Level (billions of dollars), Aug. (p) |
|  | 2007 | 2008 | 2009 |  |  |  |  |
|  |  |  | Q1 | Q2 | July | Aug. (p) |  |
| M2 | 5.9 | 8.3 | 12.9 | 2.6 | -3.1 | -7.3 | 8,298 |
| Components ${ }^{2}$ |  |  |  |  |  |  |  |
| Currency | 2.0 | 5.8 | 16.0 | 6.9 | 0.6 | 6.7 | 858 |
| Liquid deposits ${ }^{3}$ | 4.3 | 6.8 | 20.6 | 12.6 | 7.9 | 4.1 | 5,317 |
| Small time deposits | 4.4 | 11.7 | 0.2 | -16.3 | -26.0 | -33.1 | 1,218 |
| Retail money market funds | 20.2 | 12.9 | -7.6 | -23.9 | -36.0 | -50.0 | 899 |
| Memo: |  |  |  |  |  |  |  |
| Institutional money market funds | 40.2 | 24.6 | 29.9 | 6.3 | -7.0 | -23.2 | 2,459 |
| Monetary base | 2.0 | 70.4 | 65.4 | 24.2 | -10.3 | 28.2 | 1,705 |

1. For years, Q 4 to Q 4 ; for quarters and months, calculated from corresponding average levels.
2. Nonbank traveler's checks are not listed.
3. Sum of demand deposits, other checkable deposits, and savings deposits.
p Preliminary.
Source: Federal Reserve.

## III-17

America Bonds, authorized by the fiscal stimulus program enacted earlier this year. ${ }^{3}$ Short-term issuance in August doubled the July volume, as some municipalities reportedly acted on low short-term yields. Yields on long-term municipal bonds declined over the intermeeting period, leaving the ratio to yields on comparable-maturity Treasury securities about unchanged. Rating upgrades in the second quarter again outpaced downgrades, as rating agencies continued to transition their ratings for municipalities toward the models used for corporate debt.

## Money and Bank Credit

Following a decline of 3 percent at an annual rate in July, the contraction in M2 steepened to $7 \frac{1}{4}$ percent last month, likely reflecting an increase in appetite for risky assets and a further reaction to low interest rates on M2 assets. Both small time deposits and retail money market funds contracted much more rapidly in August than they had in July. Although liquid deposits, the largest component of M2, expanded last month, the 4 percent growth rate was less than half the rate posted in July. In part, the outflows from small time deposits and retail money market funds, as well as the smaller rise in liquid deposits, may have been associated with the rapid inflows to bond mutual funds in recent months. After having registered strong expansion in the first half of the year, currency growth moderated somewhat over July and August. Currency demand from abroad was restrained compared with early this year amid stabilizing financial conditions around the globe; domestic demand remained solid. The monetary base rose 9 percent over July and August, as the effects of the Federal Reserve's large-scale asset purchases more than offset reduced usage of the liquidity and credit facilities.

Total assets at commercial banks decreased significantly again in August, as another substantial decrease in bank loans more than offset a considerable increase in cash-a category that includes bank reserves-and a further rise in securities. For most of this year, the contraction in commercial bank credit had been concentrated at large and foreign banks, but, in August, it extended to smaller banks.

Total bank loans shrank at a rate of 17 percent last month. C\&I loans dropped at a 28 percent pace last month with reported paydowns of outstanding loans again elevated and widespread. Results from the August Survey of Terms of Business Lending showed

[^18]Commercial Bank Credit
(Percent change, annual rate, except as noted; seasonally adjusted)

| Type of credit | 2007 | 2008 | H 2 <br> 2008 | Q1 <br> 2009 | Q2 <br> 2009 | July <br> 2009 | Aug. <br> 2009 | Level $^{1}$ <br> Aug. 2009 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |  |  |  |  |
| Total | 9.9 | 5.1 | 4.5 | -5.5 | -3.5 | -12.6 | -10.8 | 9,258 |
| Loans $^{2}$ |  |  |  |  |  |  |  |  |
| Total | 10.7 | 4.6 | 2.1 | -7.1 | -6.6 | -19.3 | -17.0 | 6,886 |
| $\quad$ Core | 9.6 | 5.2 | 2.7 | -3.0 | -5.8 | -8.7 | -14.4 | 6,120 |
| $\quad$ To businesses |  |  |  |  |  |  |  |  |
| $\quad$ Commercial and industrial | 19.0 | 16.6 | 11.4 | -13.4 | -15.3 | -12.1 | -28.0 | 1,453 |
| $\quad$ Commercial real estate | 9.3 | 6.0 | 2.9 | -.7 | -1.7 | -5.1 | -7.8 | 1,690 |
| $\quad$ To households |  |  |  |  |  |  |  |  |
| $\quad$ Residential real estate | 5.6 | -3.0 | -5.2 | -1.4 | -1.5 | -9.5 | -12.2 | 2,131 |
| $\quad$ Revolving home equity | 5.7 | 13.0 | 13.0 | 10.0 | 2.8 | -6.1 | -5.3 | 606 |
| $\quad$ Closed-end mortgages | 5.6 | -7.9 | -11.2 | -5.6 | -3.2 | -10.8 | -15.1 | 1,524 |
| $\quad$ Consumer | 6.7 | 7.2 | 7.4 | 8.0 | -7.0 | -8.4 | -9.4 | 847 |
| $\quad$ Memo: Originated ${ }^{3}$ | 6.4 | 5.7 | 4.4 | 1.4 | -4.3 | -3.8 | -11.4 | 1,248 |
| Other | 18.7 | .5 | -1.5 | -34.2 | -13.0 | -95.6 | -37.3 | 767 |
| Securities |  |  |  |  |  |  |  |  |
| Total | 7.0 | 6.9 | 12.9 | -.2 | 6.4 | 7.7 | 7.4 | 2,372 |
| Treasury and agency | -6.1 | 18.6 | 32.4 | 5.9 | -5.8 | 8.6 | 15.5 | 1,418 |
| Other ${ }^{4}$ | 28.3 | -7.0 | -11.2 | -9.6 | 25.6 | 6.4 | -4.4 | 953 |

Note: Yearly annual rates are Q4 to Q4; quarterly and monthly annual rates use corresponding average levels. Data have been adjusted to remove the effects of mark-to-market accounting rules (FAS 115) and the initial consolidation of certain variable interest entities (FIN 46). Data also account for the effects of nonbank structure activity of $\$ 5$ billion or more.

1. Billions of dollars. Pro rata averages of weekly (Wednesday) levels.
2. Excludes interbank loans.
3. Includes an estimate of outstanding loans securitized by commercial banks.
4. Includes private mortgage-backed securities; securities of corporations, state and local governments, and foreign governments; and any trading account securities that are not Treasury or agency securities.
Source: Federal Reserve.

that C\&I loan rate spreads over comparable-maturity market instruments had risen noticeably since the May survey. The increase in spreads was evident across most loan characteristics, with the exception being a decline in spreads on lower-risk loans. In August, the runoff in commercial real estate loans held by banks also intensified. Although originations of closed-end residential mortgages apparently picked up during the intermeeting period, an unusually large volume of loans were sold to the GSEs, and banks' balance-sheet holdings decreased at an annual rate of 15 percent last month. Revolving home equity and consumer loans on banks' books also shrank. Part of the overall weakness in bank loans likely owes to the further reduction in unused commitments to fund loans shown by the second quarter Call Report data. That said, the rate of contraction in unused commitments was about half the pace in the fourth quarter of 2008 and first quarter of this year.

Call Report data also show that the U.S. commercial banking industry registered a loss in the second quarter after posting a small gain in the first quarter. The drop in profitability was attributable to a further sizable increase in the rate of provisioning for loan losses and by the FDIC's special assessment to bolster its Deposit Insurance Fund. Despite increased provisioning by banks, measures of reserve adequacy declined to historically low levels in the second quarter, as net charge-off and delinquency rates increased to their highest levels since at least 1985. Nonetheless, regulatory capital ratios rose further, as banks' boosted their capital buffers while their risk-weighted assets and average tangible assets ran off.

Last page of Domestic Financial Developments

## International Developments

## International Developments

## U.S. International Transactions

## Trade in Goods and Services

The U.S. international trade deficit widened to $\$ 32$ billion in July from $\$ 27.5$ billion in June, as a strong increase in exports was more than offset by a sizable increase in imports. The July figures further solidify the view that trade bottomed out in the second quarter.

## Trade in Goods and Services

|  | 2008 | Annual rate |  |  | Monthly rate |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2008 | 2009 |  | $2009$ |  |  |
|  |  | Q4 | Q1 | Q2 | May | June | July |
|  | Percent change |  |  |  |  |  |  |
| Nominal BOP |  |  |  |  |  |  |  |
| Exports | -3.4 | -38.0 | -40.7 | -4.6 | 1.4 | 2.1 | 2.2 |
| Imports | -7.3 | -46.2 | -55.4 | -11.4 | -. 7 | 2.5 | 4.7 |
| Real NIPA |  |  |  |  |  |  |  |
| Exports | -3.4 | -19.5 | -29.9 | -5.0 | ... | ... | ... |
| Imports | -6.8 | -16.7 | -36.4 | -15.1 | ... | ... | ... |
|  |  |  |  | illions of | dollars |  |  |
| Nominal BOP |  |  |  |  |  |  |  |
| Net exports | -695.9 | -578.0 | -369.6 | -332.0 | -26.4 | -27.5 | -32.0 |
| Goods, net | -840.2 | -715.3 | -496.1 | -461.9 | -37.2 | -38.3 | -42.7 |
| Services, net | 144.3 | 137.3 | 126.5 | 129.9 | 10.8 | 10.8 | 10.7 |

n.a. Not available. ... Not applicable.

BOP Balance of payments.
NIPA National income and product accounts.
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis; Census Bureau.

The value of exports of goods and services rose 2.2 percent in July, following a similar increase in June and marking the third consecutive monthly increase since the April low. About one-half of the July increase was in exports of automotive products, which soared 25 percent as production cutbacks among automakers eased. Nearly all other major categories of exports also grew, with exports of computers, consumer goods, and industrial supplies exhibiting solid increases. The increase in exports of industrial supplies reflected greater volumes rather than price increases.

Despite the increases observed in May and June, sharp declines in previous months led the average value of exports in the second quarter to fall 4.6 percent at an annual rate. Exports of capital goods exhibited the largest decline, with exports of automotive
products and services also displaying notable decreases. In contrast, exports of industrial supplies and agricultural goods rose, helped by higher prices.

## U.S. International Trade in Goods and Services

(Quarterly)
Contribution of Net Exports to


Growth of Real Gross Domestic Product



Selected Imports


## U.S. Exports and Imports of Goods and Services

(Billions of dollars; annual rate, balance of payments basis)

|  | Levels |  |  |  | Change ${ }^{1}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2009 |  | 2009 |  | 2009 |  | 2009 |  |
|  | Q1 | Q2 | June | July | Q1 | Q2 | June | July |
| Exports of goods and services | 1488.8 | 1471.3 | 1498.5 | 1531.1 | -207.8 | -17.5 | 30.6 | 32.6 |
| Goods exports | 997.5 | 984.5 | 1008.6 | 1040.5 | -164.8 | -13.0 | 23.7 | 31.9 |
| Gold | 13.8 | 12.3 | 12.0 | 12.7 | . 4 | -1.5 | -2.3 | . 8 |
| Other goods | 983.7 | 972.2 | 996.7 | 1027.8 | -165.2 | -11.4 | 26.0 | 31.1 |
| Capital goods | 393.8 | 373.1 | 377.1 | 386.1 | -42.3 | -20.7 | 5.3 | 9.0 |
| Aircraft \& parts | 79.0 | 73.4 | 74.1 | 76.0 | 14.7 | -5.6 | 1.9 | 1.8 |
| Computers \& accessories | 36.9 | 35.5 | 35.2 | 39.1 | -2.4 | -1.4 | -. 9 | 4.0 |
| Semiconductors | 33.4 | 35.0 | 36.9 | 38.5 | -10.6 | 1.6 | 2.7 | 1.6 |
| Other capital goods | 244.5 | 229.2 | 230.9 | 232.4 | -44.0 | -15.3 | 1.7 | 1.6 |
| Automotive | 70.2 | 66.7 | 65.5 | 81.6 | -38.9 | -3.4 | . 8 | 16.0 |
| Ind. supplies (ex. ag., gold) | 240.2 | 249.8 | 267.8 | 272.6 | -59.3 | 9.6 | 15.9 | 4.8 |
| Consumer goods | 146.0 | 144.2 | 144.9 | 149.3 | -10.1 | -1.8 | -. 3 | 4.4 |
| Agricultural | 94.4 | 101.0 | 103.7 | 98.8 | -8.6 | 6.6 | 3.0 | -4.9 |
| All other goods | 39.1 | 37.4 | 37.8 | 39.4 | -6.0 | -1.7 | 17.8 | 1.7 |
| Services exports | 491.3 | 486.7 | 489.9 | 490.6 | -43.0 | -4.6 | 6.9 | . 7 |
| Imports of goods and services | 1858.4 | 1803.3 | 1828.4 | 1914.6 | -416.2 | -55.1 | 43.9 | 86.2 |
| Goods imports | 1493.6 | 1446.5 | 1468.6 | 1552.6 | -383.9 | -47.2 | 36.9 | 84.0 |
| Oil | 208.9 | 227.8 | 259.2 | 268.5 | -132.9 | 18.9 | 50.7 | 9.4 |
| Gold | 7.3 | 8.4 | 11.4 | 10.1 | . 7 | 1.1 | 4.7 | -1.3 |
| Other goods | 1277.5 | 1210.3 | 1198.0 | 1273.9 | -251.7 | -67.2 | -18.5 | 75.9 |
| Capital goods | 366.3 | 345.6 | 346.3 | 361.9 | -60.5 | -20.7 | -. 7 | 15.6 |
| Aircraft \& parts | 30.2 | 31.4 | 31.5 | 33.5 | -2.0 | 1.2 | 1.2 | 2.0 |
| Computers \& accessories | 80.6 | 84.4 | 89.1 | 95.0 | -7.0 | 3.8 | 5.4 | 6.0 |
| Semiconductors | 19.0 | 20.4 | 20.8 | 21.5 | -4.0 | 1.4 | . 1 | . 8 |
| Other capital goods | 236.5 | 209.4 | 205.0 | 211.8 | -47.5 | -27.1 | -7.4 | 6.8 |
| Automotive | 129.4 | 126.8 | 132.9 | 161.5 | -70.1 | -2.6 | 11.0 | 28.5 |
| Ind. supplies (ex. oil, gold) | 212.9 | 178.7 | 172.8 | 182.1 | -74.8 | -34.2 | -8.7 | 9.3 |
| Consumer goods | 423.6 | 419.1 | 404.8 | 425.1 | -32.9 | -4.4 | -21.2 | 20.3 |
| Foods, feeds, beverages | 81.7 | 81.5 | 82.3 | 81.6 | -7.1 | -. 2 | . 9 | -. 7 |
| All other goods | 63.7 | 58.6 | 58.9 | 61.7 | -6.3 | -5.1 | . 1 | 2.8 |
| Services imports | 364.8 | 356.8 | 359.8 | 362.0 | -32.2 | -8.0 | 7.0 | 2.2 |
| Memo: |  |  |  |  |  |  |  |  |
| Oil quantity (mb/d) | 13.78 | 11.62 | 11.66 | 11.63 | . 19 | -2.16 | . 81 | -. 03 |
| Oil import price (\$/bbl) | 41.61 | 53.70 | 60.85 | 63.22 | -27.83 | 12.10 | 8.23 | 2.37 |

1. Change from previous quarter or month.

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

The value of imports of goods and services rose 4.7 percent in July, marking two months of increases following the May trough. As with exports, imports of automotive products exhibited the largest increase, reflecting some recovery in North American auto production. Imports of consumer goods, capital goods, and industrial supplies also rose sharply. Imports of oil rose more moderately, with the increase in the value of oil imports wholly reflecting higher prices, as volumes moved down slightly.

The average value of imports in the second quarter declined 11.4 percent at an annual rate. Imports of industrial supplies and machinery registered very large declines. Imports of automotive products, consumer goods, and services also moved down, while imports of aircraft, computers, and semiconductors recorded small increases. Imports of oil rose visibly on account of higher prices, as volumes decreased.

## Prices of Internationally Traded Goods

Non-oil imports. Prices for imported core goods fell 0.2 percent in July and then rose 0.4 percent in August. The August increase was the largest rise since July 2008 and reflected a turnaround in the prices for material-intensive goods. In July, prices of material-intensive goods declined 0.5 percent but bounced back with a 1.5 percent increase in August, reflecting higher prices for foods and primary metals. Overall prices for finished goods were little changed over the two months; prices for imported consumer goods fell 0.2 percent each month, whereas prices for automotive products rose by a similar amount.

After falling modestly in the second quarter, the average level of core import prices in July and August was 1.1 percent at an annual rate above the second-quarter average. The reversal mostly reflected price fluctuations for nonfuel industrial supplies, whose prices fell 4.2 percent in the second quarter and have increased 3.9 percent so far in the third quarter. Most of the other major categories also saw higher average prices in July and August. The one exception was imported consumer goods, whose average price in July and August was 0.8 percent lower.

Oil. The Bureau of Labor Statistics price index of imported oil rose 10.5 percent in August on the heels of a 2.6 percent decline in July. The spot price of West Texas Intermediate (WTI) crude oil showed only modest volatility during August and closed most recently on September 15 at $\$ 70.93$ per barrel, down a touch from the previous month's average price of $\$ 71.06$. The modest decline in the price of spot WTI appears

## Prices of U.S. Imports and Exports




## Merchandise Exports





Categories of Core Exports


## Prices of U.S. Imports and Exports

(Percentage change from previous period)

|  | Annual rate |  |  | Monthly rate |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2009 |  |  | 2009 |  |  |
|  | Q1 | Q2 | Q3 ${ }^{\text {e }}$ | June | July | Aug. |
|  | ----------------------- BLS prices ----------------------- |  |  |  |  |  |
| Merchandise imports | -24.3 | 14.9 | 11.4 | 2.7 | -. 7 | 2.0 |
| Oil | -72.6 | 247.1 | 89.1 | 17.2 | -2.6 | 10.5 |
| Non-oil | -10.9 | -3.2 | . 4 | . 2 | -. 3 | . 4 |
| Core goods ${ }^{1}$ | -11.3 | -1.2 | 1.1 | . 2 | -. 2 | . 4 |
| Finished goods | -1.2 | -. 5 | . 1 | . 1 | -. 0 | -. 0 |
| Cap. goods ex. comp. \& semi. | -. 7 | -1.4 | . 5 | . 0 | . 2 | -. 1 |
| Automotive products | -. 5 | . 0 | 1.2 | . 1 | . 1 | . 2 |
| Consumer goods | -1.8 | -. 1 | -. 8 | . 1 | -. 2 | -. 2 |
| Material-intensive goods | -30.1 | -2.9 | 3.4 | . 4 | -. 5 | 1.5 |
| Foods, feeds, beverages | -9.6 | . 8 | . 9 | . 4 | -1.0 | 1.7 |
| Industrial supplies ex. fuels | -35.4 | -4.2 | 3.9 | . 3 | -. 3 | 1.3 |
| Computers | -8.3 | -4.2 | 1.0 | -. 6 | . 6 | . 0 |
| Semiconductors | -10.9 | 7.1 | -6.9 | . 0 | -2.0 | . 5 |
| Natural gas | -61.0 | -74.7 | -25.4 | 4.3 | -9.0 | 1.5 |
| Merchandise exports | -8.8 | 2.4 | 3.4 | 1.0 | -. 3 | . 7 |
| Core goods ${ }^{2}$ | -11.1 | 2.5 | 3.8 | 1.3 | -. 5 | . 9 |
| Finished goods | 1.6 | . 3 | 1.7 | . 2 | . 2 | . 1 |
| Cap. goods ex. comp. \& semi. | 3.1 | 2.5 | 1.8 | . 2 | . 3 | . 1 |
| Automotive products | . 5 | -. 6 | -. 8 | -. 1 | -. 2 | . 1 |
| Consumer goods | -1.2 | -4.0 | 3.6 | . 4 | . 4 | . 3 |
| Material-intensive goods | -24.4 | 5.2 | 6.3 | 2.6 | -1.4 | 1.7 |
| Agricultural products | -12.3 | 19.5 | -4.1 | 4.2 | -4.9 | . 2 |
| Industrial supplies ex. ag. | -28.4 | 1.2 | 10.1 | 2.0 | -. 1 | 2.3 |
| Computers | -9.1 | -3.4 | -2.3 | -. 3 | -. 7 | . 5 |
| Semiconductors | 7.4 | 12.3 | 4.9 | -. 3 | 1.2 | . 1 |
|  | --------------------- NIPA prices ----------------------- |  |  |  |  |  |
| Chain price index |  |  |  |  |  |  |
| Imports of goods \& services | -28.3 | 4.1 | -- | $\ldots$ | $\ldots$ | $\ldots$ |
| Non-oil merchandise | -10.5 | -4.0 | -- | $\ldots$ | ... | $\ldots$ |
| Core goods ${ }^{1}$ | -9.4 | -2.4 | -- | ... | ... | ... |
| Exports of goods \& services | -12.6 | . 5 | -- | ... | ... | ... |
| Total merchandise | -14.8 | 2.5 | -- | $\ldots$ | $\ldots$ | ... |
| Core goods ${ }^{2}$ | -12.5 | 2.6 | -- | ... | ... | ... |

1. Excludes computers, semiconductors, and natural gas.
2. Excludes computers and semiconductors.
e Estimate based on average of two months.
n.a. Not available. ... Not applicable.

BLS Bureau of Labor Statistics.
NIPA National income and product accounts.
Source: U.S. Dept. of Commerce, Bureau of Economic Analysis; Bureau of Labor Statistics.
to reflect positive supply developments; in particular, Russian production has been stronger than expected in recent months, once again topping 10 million barrels per day.

Exports. Core export prices rose 0.9 percent in August after falling 0.5 percent in July. The July price decline mainly reflected a 4.9 percent drop in the prices for agricultural exports. Prices for these goods stabilized in August, but prices for non-agricultural industrial supplies rose 2.3 percent. Prices for exported finished goods edged up in both July and August.

The average level of core export prices in July and August was up 3.8 percent at an annual rate from the second-quarter average. Over this period, prices for exported nonagricultural industrial supplies were up 10.1 percent. Prices for exported consumer goods, which fell at a 4 percent pace in the second quarter, were 3.6 percent higher, on average, in July and August. In contrast, prices for exported agricultural and automotive products fell on average.

## U.S. International Financial Transactions

Since the previous Greenbook, we have received Treasury data on international financial transactions for July that indicate a continued easing of tensions in financial markets and further portfolio reallocations toward riskier securities. Private foreign investors purchased sizable amounts of U.S. equities and sold U.S. Treasury securities. U.S. investors' net purchases of foreign securities have returned to their pre-crisis levels. Foreign official purchases of U.S. Treasuries remained strong in July, although total official inflows were damped somewhat by sales of agency securities.

Foreign official inflows in July (see line 1 of the table "Summary of U.S. International Transactions;" see also the figure "Foreign Official Financial Inflows through July 2009") totaled \$43 billion, roughly equal to the average monthly rate registered in each of the past three years.

More recent custody data from the FRBNY suggest that the pace of foreign official inflows into Treasuries and of outflows from agencies slowed a bit in August. The figure to the right shows the amounts of Treasury bills, notes, and bonds issued at auctions and the shares allotted to foreign accounts (private and official). Even though the U.S. Treasury has been issuing more Treasury securities this year, the foreign share of auction allotments has increased notably, suggesting that foreigners continue to participate heavily in Treasury auctions.


Following a trend that began earlier this year, foreign private investors continued to increase their purchases of corporate stocks in July (see line 4d of the table and the middle-right panel of the figure "Private Securities Flows through July 2009"). Foreign private sales of agencies continued, but at a much slower pace (line 4 b ). Net purchases of Treasuries (line 4a) and corporate and municipal bonds (line 4c) remain volatile and were
negative in July. Overall, foreign private investors recorded an outflow of $\$ 16$ billion from their net sales of U.S. securities in July (line 4).

Financial outflows associated with U.S. investors’ net purchases of foreign securities returned to their pre-crisis level in the second quarter of this year and remained steady in July (line 5 and the bottom panels of the figure "Private Securities Flows through July 2009").

More-stable conditions in interbank funding markets have continued to foster crossborder lending through private channels, replacing the funding provided by the Federal Reserve swap lines; central banks' outstanding drawings on the swap lines declined to $\$ 61$ billion as of September 11. The official inflows associated with the unwinding of these swaps are shown in line 2. Outflows from net private bank lending continued to be large in July (line 3).

The BEA will release the balance of payments data for the second quarter on September 16 ; these data will be discussed in the Greenbook supplement.

Summary of U.S. International Transactions
(Billions of dollars; not seasonally adjusted except as noted)

|  | 2007 | 2008 | 2008 |  | 2009 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Q3 | Q4 | Q1 | Q2 | June | July |
| Official financial flows | 451.1 | -54.6 | -108.9 | -286.5 | 313.5 | 319.6 | 119.1 | 81.7 |
| 1. Change in foreign official assets in the U.S. (increase, + ) | 475.2 | 480.0 | 117.5 | -17.9 | 70.7 | 128.2 | 56.1 | 43.4 |
| a. G-10 countries + ECB | 36.8 | -8.4 | 8.9 | -16.0 | -7.4 | 15.5 | 20.5 | 6.6 |
| b. OPEC | 33.0 | 45.5 | 16.1 | -3.4 | -5.0 | -0.3 | -1.3 | -0.4 |
| c. All other countries | 405.5 | 430.0 | 92.5 | -11.4 | 83.1 | 113.0 | 36.9 | 37.2 |
| 2. Change in U.S. official assets (decrease, $+{ }^{1}$ | -24.1 | -534.6 | -226.4 | -268.7 | 242.8 | 191.4 | 63.0 | 38.2 |
| Private financial flows Banks | 212.5 | 559.7 | 252.0 | 374.8 | -266.4 | n.a. | ... | ... |
| 3. Change in net foreign positions of banking offices in the U.S. ${ }^{2}$ | -86.1 | -15.6 | -106.7 | 338.9 | -278.6 | -191.5 | -116.7 | -99.0 |
| Securities ${ }^{3}$ <br> 4. Foreign net purchases (+) of U.S. securities | 673.9 | 70.9 | -24.1 | 52.7 | 3.7 | 18.3 | 57.0 | -16.0 |
| a. Treasury securities | 67.1 | 197.0 | 79.1 | 81.6 | 55.4 | 17.4 | 47.6 | -19.2 |
| b. Agency bonds | -8.6 | -185.0 | -70.1 | -21.5 | -45.2 | -13.8 | -2.4 | -2.8 |
| c. Corporate and municipal bonds | 384.7 | 2.5 | -35.4 | -3.8 | -12.5 | -21.0 | -4.5 | -17.5 |
| d. Corporate stocks ${ }^{4}$ | 230.7 | 56.4 | 2.4 | -3.6 | 6.0 | 35.7 | 16.3 | 23.5 |
| 5. U.S. net acquisitions (-) of foreign securities | -366.8 | 60.5 | 79.6 | 68.6 | -33.1 | -89.8 | -35.5 | -30.8 |
| a. Bonds | -218.5 | 64.2 | 65.5 | 37.0 | -31.8 | -52.5 | -20.6 | -15.2 |
| b. Stock purchases | -136.4 | 3.4 | 14.1 | 35.8 | 0.6 | -37.3 | -14.9 | -15.6 |
| c. Stock swaps ${ }^{4}$ | -11.9 | -7.1 | 0.0 | -4.3 | -1.9 | 0.0 | 0.0 | 0.0 |
| Other flows ${ }^{5}$ |  |  |  |  |  |  |  |  |
| 6. U.S. direct investment (-) abroad | -398.6 | -332.0 | -54.1 | -84.5 | -24.0 | n.a. | ... | ... |
| 7. Foreign direct investment in the U.S. | 275.8 | 319.7 | 62.8 | 96.8 | 35.3 | n.a. | ... | ... |
| 8. Net derivatives (inflow, +) | 6.2 | -28.9 | -4.1 | -14.5 | 8.4 | n.a. | ... | ... |
| 9. Foreign acquisitions of U.S. currency | -10.7 | 29.2 | 5.8 | 29.9 | 11.8 | n.a. | $\ldots$ | ... |
| 10. Other (inflow, + ) ${ }^{6}$ | 118.8 | 455.8 | 292.8 | -113.0 | 10.0 | n.a. | ... | ... |
| U.S. current account balance ${ }^{5}$ | -726.6 | -706.1 | -184.2 | -154.9 | -101.5 | n.a. | ... | ... |
| Capital account balance ${ }^{7}$ | -1.9 | 1.0 | 3.0 | -0.7 | -0.7 | n.a. | ... | ... |
| Statistical discrepancy ${ }^{5}$ | 64.9 | 200.1 | 38.1 | 67.2 | 55.1 | n.a. | ... | ... |

[^19]Foreign Official Financial Inflows (+) through July 2009
(Billions of dollars; monthly rate, not seasonally adjusted)


Private Securities Flows through July 2009
(Billions of dollars; monthly rate, not seasonally adjusted)
Foreign Net Purchases (+) of U.S. Securities



U.S. Net Acquisitions (-) of Foreign Securities


## Foreign Financial Markets

The trade-weighted index of the exchange value of the dollar against the major foreign currencies has changed little on net since the August Greenbook. The dollar appreciated $3 / 4$ percent against the Canadian dollar and 3 percent against sterling, but it depreciated $11 / 2$ percent against the euro, and $43 / 4$ percent against the Japanese yen. The exchange value of the dollar against its other important trading partners has increased $3 / 4$ percent, as the dollar has appreciated about 2 percent against the Mexican peso. This appreciation came after the Bank of Mexico signaled that it would scale back its foreign exchange intervention.

Despite upbeat economic indicators, expected policy rates over the next two years and sovereign yields declined in major industrial economies. Market participants attributed part of these movements to major central banks emphasizing their commitments to keeping interest rates low. Although the European Central Bank left its main policy rate unchanged at 1 percent, as expected, it surprised some market participants by announcing that it will again charge banks that rate rather than a higher rate for twelve-month funds at its upcoming long-term refinancing operation. The Bank of England (BoE) surprised markets by expanding its asset purchase program by $£ 50$ billion at its August meeting; the minutes showed some support for an even larger expansion. On August 12, the BoE released its quarterly inflation report, which market participants interpreted as more pessimistic than expected on the outlook for recovery. In connection with the release, Governor King expressed concern that the remuneration of all reserves at the Bank Rate, introduced along with its quantitative easing program in March, created a disincentive for banks to turn those reserves into other assets. Some market participants expect the BoE to revert to a framework in which reserves exceeding a particular level are remunerated at a penalty.

Headline stock indexes in Europe increased 7 to 8 percent, which market participants partly attributed to an improvement in the economic outlook, but the Japanese stock market was down about 3 percent. CDS spreads on emerging market sovereign debt declined slightly, and equity prices in most major emerging market economies rose moderately. Conversely, China’s A-shares index declined 13 percent, partly driven by media reports that authorities were taking actions to moderate the pace of loan growth in China, but H-shares (which consist of shares of some Chinese companies traded in Hong Kong and open to global investors) declined only $13 / 4$ percent.

## Exchange Value of the Dollar and Stock Market Indexes

|  |  |  |
| :---: | :---: | :---: |
|  | Latest |  |
| Exchange rates* |  | Percent change since <br> August Greenbook |
| Euro (\$/euro) | 1.4617 |  |
| Yen (\$/\$) | 90.950 | -1.5 |
| Sterling (\$/f) | 1.6436 | -4.7 |
| Canadian dollar (C\$/\$) | 1.0760 | 3.0 |
| Nominal dollar indexes*^ |  | 0.7 |
| Broad index | 103.1 |  |
| Major Currencies index | 74.5 | 0.4 |
| OITP index | 135.0 | 0.1 |
| Stock market indexes |  | 0.7 |
| DJ Euro Stoxx | 266 |  |
| TOPIX | 933 | -2.8 |
| FTSE 100 | 5042 | 7.9 |
| S\&P 500 | 1053 | 4.7 |
|  |  |  |

* Positive percent change denotes appreciation of U.S. dollar.
$\wedge$ ^ Indexed to 100 in Jan. 1997 for the Broad and OITP indexes and Mar. 1973 for the Major Currencies index.

Exchange Value of the Dollar





## Industrial Countries: Nominal and Real Interest Rates

|  | 3-month Libor |  | 10-year nominal |  | 10-year indexed |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Latest | Change since Aug. Greenbook | Latest | Change since Aug. Greenbook | Latest | $\underset{\text { Change since }}{\text { Aug. Greenbook }}$ |
| Germany | 0.72 | -0.13 | 3.29 | -0.05 | 1.02 | -0.31 |
| Japan | 0.35 | -0.06 | 1.32 | -0.12 | 2.31 | -0.18 |
| United Kingdom | 0.61 | -0.27 | 3.62 | -0.23 | 0.98 | -0.32 |
| Canada | 0.50 | -0.10 | 3.37 | -0.17 | ... | $\ldots$ |
| United States | 0.29 | -0.18 | 3.47 | -0.23 | 1.72 | -0.26 |

... Not applicable.
Libor: London interbank offered rate.


## Measures of Market Volatility

Dollar-Euro Options-Implied Volatility*

*Annualized volatility derived from at-the-money options.

Yen-Dollar Options-Implied Volatility*

*Annualized volatility derived from at-the-money options.

Realized Stock Market Volatility*

*Annualized standard deviation of 60-day window of daily returns.

Realized 10-Year Bond Volatility*

*Annualized standard deviation of 60-day window of daily returns.





Emerging Markets: Exchange Rates and Stock Market Indexes

|  | Exchange value of the dollar |  | Stock market index |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Latest | Percent change since Aug. Greenbook* | Latest | Percent change since Aug. Greenbook |
| Mexico | 13.3365 | 1.8 | 29625 | 6.3 |
| Brazil | 1.8058 | -1.5 | 59264 | 5.8 |
| Venezuela | 2.14 | 0.0 | 53795 | 16.5 |
| China | 6.8289 | -0.0 | 3034 | -12.6 |
| Hong Kong | 7.7501 | 0.0 | 20866 | 0.3 |
| Korea | 1217.4 | -0.2 | 1653 | 5.6 |
| Taiwan | 32.57 | -0.2 | 7346 | 5.6 |
| Thailand | 33.90 | -0.2 | 703 | 9.7 |

* Positive percent change denotes appreciation of U.S. dollar.

Exchange Value of the Dollar



Stock Market Indexes



Emerging Markets: Short-Term Interest Rates and Dollar-Denominated Bond Spreads

|  | Short-term interest rates* |  | Dollar-denominated bond spreads** |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Latest | Change since Aug. Greenbook | Latest | Change since Aug. Greenbook |
| Mexico | 4.49 | 0.01 | 1.79 | -0.15 |
| Brazil | 9.00 | 0.40 | 2.24 | -0.16 |
| Argentina | 12.44 | -0.63 | 7.47 | -1.35 |
| China |  | ... | 0.86 | -0.16 |
| Korea | 2.10 | 0.00 | ... | ... |
| Taiwan | 1.14 | 0.07 | ... | ... |
| Singapore | 0.31 | 0.00 | ... | ... |
| Hong Kong | 0.14 | 0.07 | ... | ... |

*One-month interest rate except 1-week rate for Korea. (No reliable short-term interest rate exists for China.)
**EMBI+ Spreads or EMBI Global Spreads over similar-maturity U.S. Treasury securities.
... Not applicable. Korea, Taiwan, and Hong Kong have no outstanding dollar-denominated sovereign bonds.
EMBI+ Spreads


EMBI Global Spreads



## Developments in Advanced Foreign Economies

Gross domestic product (GDP) contracted more moderately in the advanced foreign economies in the second quarter, with positive growth resuming in several countries. In Japan, a trade-related rebound in industrial production led to a solid increase in output despite a sharp fall in private investment and further drag from inventories. Government incentives for automobile purchases contributed to a modest expansion of the German and French economies, but the euro-area economy as a whole contracted slightly owing to further declines in Spain and Italy; inventory drawdowns continued to weigh on activity throughout the euro area. Canada and the United Kingdom experienced further output drops amid weak exports and domestic demand, respectively.

Purchasing managers indexes (PMIs) rose further in the intermeeting period, reaching levels consistent with stabilization or moderate expansion of output in the third quarter. Confidence indicators also continued to climb, though they remained well below their pre-recession levels, in part because households worried about rising unemployment rates. Twelve-month consumer price inflation stayed negative in all major economies, with the exception of the United Kingdom, where it was stable at just less than 2 percent. The European Central Bank (ECB), the Bank of Japan (BOJ), and the Bank of England (BOE) continued the implementation of their asset-purchase programs.

Japanese GDP rose a solid 2.3 percent (a.r.) in the second quarter following a fourquarter contraction during which GDP fell more than 7 percent. Total second-quarter domestic demand dropped 4.0 percent, as a sharp fall in private investment and heightened inventory drawdowns offset solid consumption growth and a surge in public investment. Private investment has fallen 25 percent from its 2007:Q1 peak. Net exports contributed 5.1 percentage points to growth, as exports increased nearly 30 percent and imports fell 19 percent.

Japan's recovery has been led by a rebound in industrial production. Although industrial production remains depressed compared to pre-recession levels, it has increased nearly 20 percent since reaching its nadir in February. Consistent with the rebound in production, both exports and imports have risen sharply in recent months, but also remain far below their peak levels.

## Advanced Foreign Economies

Average Real Gross Domestic Product


Note: Chain weighted by moving bilateral shares in U.S. merchandise exports.
Source: FRB staff calculations.
Consumer Prices


Official or Targeted Interest Rates



With the help of government stimulus, consumption growth has been generally solid since early spring, and consumer confidence has continued to rise. However, indicators for the housing sector and the labor market remain weak. July housing starts, at more than 25 percent below their level at the beginning of the year, were approaching a series low. The ratio of job openings to applicants (the number of officially posted job openings relative to the number of officially registered job seekers) reached a new record low of 0.42 in July. Employment fell 2.1 percent over the past 12 months, the fastest 12month decline since 1955. The unemployment rate increased to 5.7 percent in July, a series record.

Japanese consumer prices fell 2.2 percent over the 12 months ending in July, in part as energy prices continued to put downward pressure on inflation. Excluding food and energy prices, 12-month consumer price inflation was negative 0.9 percent.

## Japan

Economic Activity



Real Trade


Consumer Price Inflation


Economic Indicators
(Percent change from previous period except as noted; seasonally adjusted)

| (Percent change from previous period except as noted; seasonally adjusted) |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: |
| Indicator | 2008 |  | 2009 |  | 2009 |  |  |  |
|  | Q4 | Q1 | Q2 | May | June | July | Aug. |  |
| Housing starts | -8.3 | -10.6 | -15.7 | -2.7 | -1.2 | -.5 | n.a. |  |
| Machinery orders |  |  |  |  |  |  |  |  |
| Household expenditures | -15.1 | -9.9 | -4.9 | -3.0 | 9.7 | -9.3 | n.a. |  |
| New car registrations | -1.4 | -1.9 | .9 | -.1 | .1 | .5 | n.a. |  |
| Business sentiment ${ }^{2}$ | -12.6 | -12.2 | 14.4 | 4.4 | 7.4 | 11.6 | -.7 |  |
| Wholesale prices ${ }^{3}$ | -24.0 | -46.0 | -45.0 | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ |  |

1. Private sector excluding ships and electric power.
2. Tankan survey, diffusion index. Level.
3. Percent change from year earlier; not seasonally adjusted.
n.a. Not available. ... Not applicable.

Source: Haver Analytics.

The BOJ left its target for the call rate unchanged at 0.1 percent over the intermeeting period and maintained its program to purchase commercial paper, corporate bonds, equities, and government bonds. In August elections, Prime Minister Taro Aso’s Liberal Demorcatic Party received a stunning loss at the hands of the Democratic Party of Japan. Yukio Hatoyama was appointed prime minister in a special Diet session held on September 16.

In the second quarter, the contraction of output in the euro area moderated to 0.5 percent, with economic activity in Germany and France expanding for the first time since early 2008. Private consumption increased almost $3 / 4$ percent, led by a surge in automobile purchases, but investment continued to decline, although at a slower pace. As in the first quarter, inventory investment was a significant drag on euro-area GDP. The decline in imports was deeper than the drop in exports, resulting in a positive contribution of net exports to output growth.

Euro-Area Real GDP
(Percent change from previous period except as noted, s.a.a.r.)

| Component |  | $2007^{1}$ | $2008^{1}$ | 2008 |  | 2009 |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | :---: |
|  |  |  | Q 3 | Q 4 | Q 1 | Q 2 |  |
| GDP | 2.2 | -1.7 | -1.4 | -7.0 | -9.5 | -.5 |  |
| Total domestic demand | 1.9 | -.3 | .9 | -2.5 | -7.7 | -3.3 |  |
| Consumption | 1.2 | -.7 | -.1 | -1.8 | -2.0 | .7 |  |
| Investment | 3.3 | -5.5 | -5.3 | -13.0 | -19.5 | -5.0 |  |
| Government consumption | 1.9 | 2.5 | 2.0 | 2.3 | 2.6 | 1.8 |  |
| Inventories ${ }^{2}$ | .1 | .7 | 1.5 | .7 | -2.9 | -2.8 |  |
| Exports | 4.0 | -6.7 | -3.6 | -25.7 | -31.0 | -4.3 |  |
| Imports | 3.5 | -3.8 | 1.3 | -17.5 | -27.8 | -10.9 |  |
| Net exports ${ }^{2}$ | .3 | -1.4 | -2.3 | -4.7 | -1.8 | 2.8 |  |
| Memo: |  |  |  |  |  |  |  |
| GDP of selected countries |  |  |  |  |  |  |  |
| France | 2.1 | -1.6 | -.9 | -5.5 | -5.3 | 1.4 |  |
| Germany | 1.6 | -1.8 | -1.3 | -9.4 | -13.4 | 1.3 |  |
| Italy | .1 | -2.9 | -3.1 | -8.1 | -10.4 | -2.0 |  |

1. Q4/Q4.
2. Percentage point contribution to GDP growth.

Source: Haver Analytics.

Data received during the intermeeting period point to a rebound in activity in the current quarter. In August, the business climate and economic sentiment indicators increased
further, reaching their highest levels in a year, and the manufacturing and services PMIs rose sharply. The total economy output index currently stands in the expansion region. Industrial orders in June increased at the fastest pace since early 2008, suggesting that manufacturing production is likely to pick up in upcoming months. Industrial production and retail sales, on the other hand, edged down in July. New car registrations leveled off in July and August, suggesting that the impetus to growth from government incentives for automobile purchases may be waning.

Conditions in the labor market deteriorated. The euro-area unemployment rate rose to 9.5 percent in July, but the pace of increase has moderated to 0.1 percentage point per month since the beginning of the second quarter. The extent of deterioration in labor market conditions remains diverse across countries, with the unemployment rate close to 20 percent in Spain and below 5 percent in the Netherlands and Austria.

Twelve-month euro-area inflation was negative 0.2 percent in August, versus negative 0.7 percent in July. The downturn in energy prices has been an important factor leading to a fall in the consumer price index: Excluding energy and food, August inflation was 1.2 percent.

The Governing Council of the ECB kept its benchmark rate unchanged at 1 percent at its September 3 meeting. The ECB also announced that it will not impose any penalty spread over its main refinancing rate at the next one-year liquidity operation, scheduled for September 30. In August, the ECB continued to purchase covered bonds in the amount of about $€ 5$ billion per month as part of its $€ 60$ billion purchase program.

## Euro Area

Nominal Exports and Imports



Economic Sentiment


Consumer Price Inflation


Economic Indicators
(Percent change from previous period except as noted; seasonally adjusted)

| Percent change from previous period except as noted; seasonally adjusted) |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: |
| Indicator | 2008 | 2009 |  | 2009 |  |  |  |  |
|  | Q4 | Q1 | Q2 | May | June | July | Aug. |  |
| Industrial production $^{1}$ | -6.2 | -7.5 | -2.7 | .7 | -.2 | -.3 | n.a. |  |
| Retail sales volume $^{2}$ | -.8 | -.8 | -.3 | -.5 | .0 | -.2 | n.a. |  |
| New car registrations | -7.0 | .9 | 12.2 | 5.2 | 2.2 | -2.1 | 1.0 |  |
| Employment | -.3 | -.7 | -.5 | $\ldots$ | $\ldots$ | $\ldots$ | $\ldots$ |  |
| Producer prices $^{3}$ | 2.7 | -2.0 | -5.2 | -5.4 | -5.9 | -7.8 | n.a. |  |
| M3 $^{3}$ | 9.2 | 6.5 | 4.7 | 4.3 | 4.1 | 3.5 | n.a. |  |

1. Excludes construction.
2. Excludes motor vehicles.
3. Eurostat harmonized definition. Percent change from year earlier.
n.a. Not available. ... Not applicable.

M3 Manufacturers' shipments, inventories, and orders.
Source: Haver Analytics.

In the United Kingdom, real GDP growth in the second quarter was revised up to a stillsizable decline of 2.6 percent. Private consumption and especially investment contracted further, although both components fell at a somewhat slower pace than in the previous quarter. The speed of inventory decumulation moderated for the first time since the third quarter of 2007, with the inventory swing contributing a percentage point to GDP growth. Net exports continued to add to overall demand growth, although both exports and imports posted sizable declines.
U.K. Real GDP
(Percent change from previous period except as noted, s.a.a.r.)

| Component | $2007^{1}$ | $2008^{1}$ | 2008 |  | 2009 |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  | Q 3 | Q 4 | Q 1 | Q 2 |
| GDP | 2.4 | -1.8 | -2.9 | -7.0 | -9.3 | -2.6 |
| Total domestic demand | 3.1 | -2.9 | -3.1 | -8.7 | -9.5 | -3.4 |
| Consumption | 2.2 | -.5 | -1.3 | -4.3 | -5.3 | -3.4 |
| Investment | 4.9 | -7.8 | -10.7 | -4.7 | -26.9 | -17.0 |
| Government consumption | 1.2 | 3.5 | 1.9 | 4.3 | .9 | 3.1 |
| Inventories ${ }^{2}$ | .6 | -2.0 | -.8 | -6.3 | -1.5 | 1.0 |
| Exports | 3.4 | -3.8 | -1.7 | -15.6 | -25.0 | -10.2 |
| Imports | 5.6 | -7.7 | -2.8 | -20.2 | -24.1 | -12.2 |
| Net exports ${ }^{2}$ | -.8 | 1.4 | .4 | 2.1 | .4 | .9 |

1. Q4/Q4.
2. Percentage point contribution to GDP growth.

Source: Haver Analytics.

Data on activity received since the last Greenbook point a return to growth in the third quarter. Industrial production rose 0.6 percent in both June and July after falling more than 12 percent from to its pre-recession level. Retail sales were robust in June and July, and the overall index of services posted its first monthly increase in June since September 2008. The PMI for services hit 54 in August, consistent with an acceleration in the pace of services growth late in the quarter, although the PMI for manufacturing, at about 50, was consistent only with stabilization.

Despite signs of recovery in several sectors of the U.K. economy, many indicators remain weak, particularly those related to the labor market, investment, and lending. The Labor Force Survey and the claims-based measures of the unemployment rate edged up to 7.9 percent and 5.0 percent in June and August, respectively. New construction orders fell back to near their recent trough in June despite a recovery in house prices and

## United Kingdom

Consumer Price Inflation


Purchasing Managers Survey


Unemployment Rates


Labor Costs


Economic Indicators
(Percent change from previous period except as noted; seasonally adjusted)

| Indicator | 2008 | 2009 |  | 2009 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Q4 | Q1 | Q2 | May | June | July | Aug. |
| Producer input prices ${ }^{1}$ | 9.0 | . 7 | -8.9 | -8.8 | -12.0 | -12.2 | -7.5 |
| Industrial production | -4.5 | -5.1 | -. 5 | -. 6 | . 6 | . 6 | n.a. |
| Business confidence ${ }^{2}$ | -38.3 | -45.0 | $-22.0$ | -17.0 | -17.0 | -14.0 | -5.0 |
| Consumer confidence ${ }^{2}$ | -28.1 | -31.0 | -19.9 | -20.8 | -18.1 | -16.0 | -16.2 |
| Trade balance ${ }^{3}$ | -9.6 | -11.8 | -12.3 | -3.7 | -3.9 | -4.0 | n.a. |
| Current account ${ }^{3}$ | -13.7 | -12.2 | -- | .. | $\ldots$ | ... | ... |

1. Percent change from year earlier.
2. Percent balance.
3. Level in billions of U.S. dollars
n.a. Not available. ... Not applicable.

Source: Haver Analytics; FRB staff calculations.
property transactions. According to the BOE Agents' Summary of Business Conditions, investment intentions in both the services and manufacturing sectors remained depressed in July, and 93 percent of industrial firms surveyed by the Confederation of British Industries in the third quarter judged that installed capacity was sufficient to meet demand over the coming year. Bank lending to private nonfinancial corporations fell 3.5 percent in the 12 months to July.

Pressures on production costs continued to be low in the intermeeting period. The 12month change in average weekly earnings excluding bonuses slipped to 1.7 percent in July, its lowest reading since the series records began in 1996. Producer input prices moved up in August, reflecting higher oil prices, but remained nearly 8 percent below their level a year earlier. Headline inflation, at 1.6 percent in August, has fallen at a slower rate than expected by most market analysts in recent months due to higher-thanpredicted pressure from import prices.

As of September 10, 2009, the Bank of England had acquired $£ 145.5$ billion in assets through its Asset Purchase Facility, the vast majority of which ( $£ 143.4$ billion) were gilts.

In Canada, real GDP fell 3.4 percent in the second quarter (a.r.) following a 6.1 percent decline in the previous quarter. The contraction in output wholly reflected a falloff in net exports, as exports fell faster than imports. Total domestic demand was unchanged as consumption rose solidly, investment fell a smaller-than-expected 5.6 percent, and the drag from inventory reductions lessened.

In encouraging news for the third quarter, monthly GDP turned positive in June, increasing 0.1 percent. Housing starts dipped in July but are up more than 25 percent from their April low. Manufacturing orders rose 21 percent in June, a pace more than double the previous record increase. Manufacturing shipments, however, rose only slightly.

Canadian exports and imports increased markedly in July. Real exports rose 4.3 percent as shipments of capital goods rose at near-record rates and automotive product exports surged 12.5 percent. Real imports jumped 8.6 percent, also on the back of capital goods and automotive products. Imports of consumer goods posted solid gains.

| Canadian Real GDP |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| (Percent change from previous period except as noted, s.a.a.r.) |  |  |  |  |  |  |
| Component | $2007^{1}$ | $2008^{1}$ | 2008 |  | 2009 |  |
|  |  |  | Q3 | Q4 | Q1 | Q2 |
| GDP | 2.8 | -1.0 | .4 | -3.7 | -6.1 | -3.4 |
| Total domestic demand | 6.6 | -1.1 | .6 | -6.1 | -10.9 | -.0 |
| Consumption | 5.4 | .2 | .6 | -3.1 | -1.2 | 1.8 |
| Investment | 4.5 | -3.6 | .6 | -14.8 | -22.8 | -5.6 |
| Government consumption | 3.7 | 3.1 | -.0 | 2.5 | 2.1 | 3.2 |
| Inventories ${ }^{2}$ | 1.7 | -1.1 | .1 | -1.2 | -5.1 | -.4 |
| Exports | -1.5 | -7.3 | -4.1 | -17.7 | -30.4 | -19.3 |
| Imports | 8.5 | -7.7 | -3.4 | -23.4 | -38.9 | -8.5 |
| Net exports ${ }^{2}$ | -4.2 | .7 | -.4 | 2.2 | 4.1 | -3.4 |
| 1. Q4/Q4. |  |  |  |  |  |  |
| 2. Percentage point contribution to GDP growth. |  |  |  |  |  |  |
| Source: Haver Analytics. |  |  |  |  |  |  |

The August employment report was mixed. Employment rose 27,000; however, the increase came solely from part-time workers. The number of full-time workers fell slightly. Hours worked declined 0.7 percent in August, and the unemployment rate climbed to 8.7 percent.

Consumer prices fell 1 percent in the 12 months to July. The decline was due almost entirely to energy prices, as inflation excluding food and energy was 1 percent, down slightly but within its range over the past several years.

The Bank of Canada kept its policy rate at 0.25 percent and reiterated its intention, conditional on the outlook for inflation, to keep rates at this level until the end of the second quarter of 2010.

## Canada



Economic Indicators
(Percent change from previous period and seasonally adjusted, except as noted)

| Cercent change from previous period and seasonally adjusted, except as noted) |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: |
| Indicator | 2008 | 2009 |  | 2009 |  |  |  |  |
|  | Q4 | Q1 | Q2 | May | June | July | Aug. |  |
| Industrial production | New manufacturing orders | -3.2 | -5.0 | -4.1 | -1.8 | -.6 | n.a. |  |
| n.a. |  |  |  |  |  |  |  |  |
| Retail sales | -9.3 | -12.2 | -2.0 | -12.0 | 16.7 | -4.0 | n.a. |  |
| Employment | -1.7 | -1.1 | .5 | .6 | .4 | n.a. | n.a. |  |
| Wholesale sales | .1 | -1.4 | -.4 | -.2 | -.0 | -.3 | .2 |  |
| Ivey PMI $^{1}$ | -7.6 | -7.3 | .1 | .1 | 1.0 | n.a. | n.a. |  |

[^20]
## Economic Situation in Other Countries

Data confirmed that economic activity in most emerging market economies rebounded strongly in the second quarter, particularly in Asia, although in Mexico, real GDP continued to contract. Indicators of activity in the third quarter point to a continued expansion of output. Purchasing managers indexes (PMIs) have moved into the expansionary range in many countries, indicating a rebound in manufacturing. Trade has been picking up, buoyed in part by Chinese demand, but demand from the advanced economies still appears weak. Inflation pressures remain muted, with inflation moving lower in Latin America and remaining subdued in emerging Asia.

In China, indicators point to a continued rapid expansion of the economy. The official PMI moved up to 54 in August, and industrial production increased 1.7 percent. Auto production and sales have been very strong, supported in part by a sales tax rebate on purchases of small cars. Real retail sales have edged up and were 18 percent higher in August than a year earlier. Robust domestic demand has contributed to rising imports, although they remain about 17 percent below their year-earlier level. Exports have also moved up, albeit to a lesser extent than imports, resulting in a somewhat narrower trade surplus. The recently released current account balance was $\$ 130$ billion over the first half of the year, about $\$ 60$ billion less than over the same period of 2008.

Chinese authorities continue to state that fiscal and monetary policy will remain accommodative until a sustainable recovery is assured, but they have begun to tighten policies at the margin. Authorities have taken some measures to slow loan growth that appear to have been effective, but the pace of lending observed in July and August should still be supportive of strong economic expansion. Despite the rapid loan growth this year, there are few indications at this point that the economy is overheating, and inflation pressures remain contained, with consumer prices in August about 1.2 percent below their year-earlier level.

## Chinese Economic Indicators

(Percent change from previous period, seasonally adjusted, except as noted)

| Indicator | 2007 | 2008 | 2009 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Q1 | Q2 | June | July | Aug. |
| Real GDP ${ }^{1}$ | 12.3 | 6.9 | 6.5 | 18.5 |  |  |  |
| Industrial production | 19.5 | 1.8 | 7.8 | 4.4 | 6.2 | -. 7 | 1.7 |
| Consumer prices ${ }^{2}$ | 6.5 | 1.2 | -. 6 | -1.5 | -1.7 | -1.8 | -1.2 |
| Merch. trade balance ${ }^{3}$ | 262.7 | 298.1 | 324.9 | 144.1 | 65.5 | 71.2 | 134.1 |

1. Gross domestic product. Annual rate. Quarterly data estimated by staff from reported 4-quarter growth rates. Annual data are Q4/Q4.
2. Non-seasonally adjusted percent change from year-earlier period, except annual data, which are Dec./Dec.
3. Billions of U.S. dollars, annual rate. Imports are valued at cost, insurance, and freight. n.a. Not available. ... Not applicable.

Source: CEIC.

India's economy grew a robust 7.3 percent at an annual rate in the second quarter. Growth was underpinned by a strong revival in the manufacturing sector as well as spending on public works. The manufacturing PMI remained steady at 55 in July before falling slightly to 53 in August, but it remains in the expansionary range. Exports rose for a fourth consecutive month in July; they have now risen 34 percent since March. The sharper rise in imports observed in recent months moderated in July. Twelve-month consumer price inflation spiked in July, as drought conditions in many provinces contributed to rising food prices. Wholesale prices have also been rising on a monthly basis, but remain below their year-earlier levels.

Indian Economic Indicators
(Percent change from previous period, seasonally adjusted, except as noted)

| Indicator | 2007 | 2008 | 2009 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Q1 | Q2 | June | July | Aug. |
| Real GDP ${ }^{1}$ | 9.3 | 5.8 | 6.3 | 7.3 |  |  |  |
| Industrial production | 9.9 | 4.4 | 1.0 | 3.6 | 6.1 | -1.0 | n.a. |
| Consumer prices ${ }^{2}$ | 5.5 | 9.7 | 9.4 | 8.2 | 8.3 | 10.9 | n.a. |
| Wholesale prices ${ }^{2}$ | 3.8 | 6.2 | 3.2 | . 5 | -1.0 | -1.3 | -. 9 |
| Merch. trade balance ${ }^{3}$ | -79.2 | -121.6 | -57.7 | -60.2 | -72.6 | -76.4 | n.a. |
| Current account ${ }^{4}$ | -11.3 | -36.1 | 19.0 | n.a. |  |  |  |

1. Gross domestic product. Annual rate. Annual data are Q4/Q4.
2. Non-seasonally adjusted percent change from year-earlier period, except annual data, which are Dec./Dec.
3. Billions of U.S. dollars, annual rate.
4. Billions of U.S. dollars, not seasonally adjusted, annual rate.
n.a. Not available. ... Not applicable.

Source: CEIC.

## China and India



## Merchandise Trade Balances




Consumer Prices


## Benchmark Interest Rates




Economic recovery in the newly industrialized economies (NIEs) ${ }^{1}$ was robust in the second quarter, with real GDP in all of the NIEs growing at a double-digit pace. This economic momentum appears to have been maintained in the third quarter, with indications of rising domestic demand, strengthening external demand (primarily from China), and, possibly, easing inventory decumulation. Korean industrial production rose 2 percent in July, led by autos, semiconductors, and electronic components. In August, Singapore's manufacturing PMI rose almost 3 points to more than 54, marking the strongest monthly gain since February 2000 and the highest level of the index since November 2006. Similarly, Taiwan's manufacturing PMI rose to 55 in July, including a jump in the new orders component to nearly 58. In addition, high-tech production in the region also continued to bounce back, recording gains in July of $21 / 2$ percent in Taiwan and $191 / 2$ percent in Singapore. Some leading indicators for the sector, such as the book-to-bill ratio (the ratio of orders received to the amount of goods shipped and billed), have now exceeded pre-crisis levels.

In Taiwan, additional fiscal stimulus measures were recently passed in response to the damage caused by Typhoon Morakot. The perceived poor response to the typhoon led the Taiwanese cabinet to resign en masse; Premier Liu Chao-shiuan was replaced by KMT Secretary General Wu Den-yih. We do not believe the cabinet reshuffling will have a significant economic impact.

Twelve-month consumer price inflation rose to 2.2 percent in August in Korea, led by recent increases in food and oil prices. The rest of the region experienced price deflation on a 12-month basis, generally reflecting previous declines in commodity prices; however, the most recent monthly inflation rates were positive.

[^21]Economic Indicators for Newly Industrialized Economies: Growth
(Percent change from previous period, seasonally adjusted, except as noted)

|  | 2007 | 2008 | 2009 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Q1 | Q2 | May | June | July |
| Real GDP ${ }^{1}$ |  |  |  |  |  |  |  |
| Hong Kong | 7.1 | -2.7 | -16.1 | 13.9 | $\ldots$ | ... |  |
| Korea | 5.7 | -3.4 | . 5 | 11.0 | $\ldots$ | $\ldots$ |  |
| Singapore | 5.8 | -4.0 | -12.2 | 20.7 | $\ldots$ | $\ldots$ |  |
| Taiwan | 6.5 | -8.5 | -3.7 | 11.8 | $\ldots$ | $\ldots$ |  |
| Industrial production |  |  |  |  |  |  |  |
| Hong Kong | -1.5 | -6.6 | -2.8 | n.a |  |  |  |
| Korea | 7.0 | 3.0 | -2.7 | 11.4 | 1.4 | 5.7 | 2.0 |
| Singapore | 5.9 | -4.2 | -7.4 | 13.9 | -2.6 | -9.6 | 23.4 |
| Taiwan | 7.8 | -1.8 | -8.0 | 17.3 | 1.6 | 5.0 | 1.2 |

1. Gross domestic product. Annual rate. Annual data are Q4/Q4.
n.a. Not available. ... Not applicable.

Source: CEIC; Reuters.
Economic Indicators for Newly Industrialized Economies: Merchandise Trade Balance (Billions of U.S. dollars; seasonally adjusted annual rate)

|  | 2009 |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: |
|  |  | 2008 |  |  |  |  |  |  |
|  |  |  | Q1 | Q2 | June | July | Aug. |  |
| Hong Kong |  | -25.9 | -19.9 | -15.5 | -19.2 | -39.9 | n.a. |  |
| Korea |  | 6.0 | 41.0 | 68.0 | 59.0 | 61.5 | n.a. |  |
| Singapore |  | 18.4 | 11.6 | 26.8 | 23.9 | 34.1 | n.a. |  |
| Taiwan |  | 4.4 | 26.5 | 21.7 | 18.2 | 23.2 | 27.9 |  |

n.a. Not available.

Source: CEIC.
Economic Indicators for Newly Industrialized Economies: Consumer Price Inflation (Non-seasonally adjusted percent change from year earlier except as noted)

|  |  | 2009 |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |
|  |  |  | Q1 | Q2 | June | July | Aug. |  |
| Hong Kong |  |  | 1.7 | -.1 | -.9 | -1.5 | n.a. |  |
| Korea |  |  | 3.9 | 2.8 | 2.0 | 1.6 | 2.2 |  |
| Singapore |  |  | 2.1 | -.5 | -.5 | -.5 | n.a. |  |
| Taiwan |  |  | .0 | -.8 | -2.0 | -2.3 | -.8 |  |

[^22]Newly Industrialized Economies


Merchandise Trade Balances



Consumer Prices


Benchmark Interest Rates



Since the last Greenbook, second-quarter GDP figures have come in for the Association of Southeast Asian Nations (ASEAN-4). ${ }^{2}$ In Malaysia, the economy grew 14.5 percent at an annual rate; in the Philippines, 9.8 percent; in Thailand, 9.6 percent; and in Indonesia, 4.5 percent. With the exception of Indonesia, growth was supported by a sharp rebound in industrial production, and data for Malaysia and Thailand suggest a continued expansion in July. Exports have also rebounded in all four countries, particularly in the Philippines and Indonesia. Consumer price inflation in the region appears to be stabilizing on a month-on-month basis, although prices remain below year-earlier levels in Malaysia and Thailand. The central banks of Malaysia, Thailand, and the Philippines kept their policy rates steady in August, while Bank Indonesia cut its rate from $63 / 4$ percent to $61 / 2$ percent.

ASEAN-4 ${ }^{1}$ Economic Indicators: Growth
(Percent change from previous period, seasonally adjusted, except as noted)

| Indicator | 2007 | 2008 | 2009 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Q1 | Q2 | May | June | July |
| Real GDP ${ }^{2}$ |  |  |  |  |  |  |  |
| Indonesia | 5.8 | 5.3 | 4.4 | 4.5 |  |  |  |
| Malaysia | 7.2 | . 1 | -17.6 | 14.5 |  | . . |  |
| Philippines | 6.4 | 2.9 | -8.3 | 9.8 |  | . . | . |
| Thailand | 5.9 | -4.2 | -7.2 | 9.6 |  | . . | . . |
| Industrial production ${ }^{3}$ |  |  |  |  |  |  |  |
| Indonesia ${ }^{4}$ | 5.6 | 3.0 | 1.9 | -. 7 | 3.1 | -2.9 | -1.8 |
| Malaysia | 2.1 | . 5 | -4.5 | 2.0 | -. 6 | . 2 | 5.5 |
| Philippines | -2.7 | . 3 | -17.0 | 13.5 | 5.8 | 1.5 | n.a. |
| Thailand | 8.2 | 5.3 | -9.0 | 9.8 | . 3 | 2.5 | 1.9 |

1. Association of Southeast Asian Nations.
2. Gross domestic product. Annual rate. Annual data are Q4/Q4.
3. Annual data are annual averages.
4. Staff estimate.
n.a. Not available. ... Not applicable.

Source: CEIC.

[^23]ASEAN-4 ${ }^{1}$ Economic Indicators: Merchandise Trade Balance (Billions of U.S. dollars; seasonally adjusted annualized rate)

| Indicator | 2007 | 2008 | 2009 |  |  |  |  |  |  |
| :--- | ---: | ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Q 1 | Q 2 | May | June | July |  |  |
| Indonesia | 39.6 | 31.6 | 29.8 | 36.9 | 34.5 | 34.1 | 31.4 |  |  |
| Malaysia | 29.2 | 42.7 | 38.1 | 30.8 | 33.1 | 31.1 | 29.8 |  |  |
| Philippines | -5.0 | -7.7 | -8.7 | -5.0 | -6.3 | -6.3 | n.a. |  |  |
| Thailand | 11.6 | .2 | 32.6 | 22.6 | 34.8 | 12.2 | 11.8 |  |  |

1. Association of Southeast Asian Nations. n.a. Not available.

Source: CEIC; Bank of Thailand; Philippines Economic Indicators Telegram (PEIT); Monetary Authority of Singapore.

ASEAN-4 ${ }^{1}$ Economic Indicators: Consumer Price Inflation
(Non-seasonally adjusted percent change from year earlier except as noted)

| Indicator | $2007^{2}$ | $2008^{2}$ | 2009 |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: | :---: |
|  |  |  | Q 1 | Q 2 | June | July | Aug. |  |  |
| Indonesia | 5.8 | 11.1 | 8.6 | 5.6 | 3.7 | 2.7 | 2.8 |  |  |
| Malaysia | 2.4 | 4.4 | 3.7 | 1.3 | -1.4 | -2.4 | -2.4 |  |  |
| Philippines | 3.9 | 8.0 | 6.9 | 3.2 | 1.5 | .2 | .1 |  |  |
| Thailand | 3.2 | .4 | -.2 | -2.8 | -4.0 | -4.4 | -1.0 |  |  |

1. Association of Southeast Asian Nations.
2. Dec./Dec.
n.a. Not available.

Source: CEIC; IMF International Financial Statistics database.

## ASEAN-4



Consumer Prices


Benchmark Interest Rates


Short-Term External Debt


In Mexico, real GDP continued to contract in the second quarter, led by the effects of the H1N1 flu outbreak and the restructuring of GM and Chrysler. Only a few signs of recovery have emerged in the third quarter thus far. Most significantly, automotive production increased sharply. Consumer and business confidence indexes continued to improve, but retail sales have risen only slightly. Rising unemployment continues to restrain household spending. Exports appear to have stabilized and imports have edged slightly higher. Twelve-month headline consumer price inflation has moderated further, falling to 5.1 percent in August. It appears that tepid domestic demand and the relative stabilization of the peso are beginning to make a dent in inflation.

In early September, President Felipe Calderon announced a cabinet reshuffling that replaced the attorney general, the agriculture secretary, and the director of PEMEX, Mexico’s state-owned oil monopoly. Mid-term cabinet changes are not uncommon in Mexico (President Calderon's term runs from 2006 to 2012), but some analysts have speculated that the removal of the attorney general may signal some change in the government's approach to the antidrug war. All in all, we do not expect these cabinet changes to have much economic impact.

Mexican Economic Indicators
(Percent change from previous period, seasonally adjusted, except as noted)

| Indicator | 2007 | 2008 | 2009 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Q1 | Q2 | June | July | Aug. |
| Real GDP ${ }^{1}$ | 3.7 | -1.7 | -21.2 | -4.4 |  |  |  |
| Overall economic activity | 3.1 | 1.0 | -5.2 | -1.6 | -. 2 | n.a. | n.a. |
| Industrial production | 2.4 | -1.0 | -4.7 | -1.1 | -. 2 | 2.8 | n.a. |
| Unemployment rate ${ }^{2}$ | 3.7 | 4.0 | 4.8 | 5.7 | 5.6 | 5.7 | n.a. |
| Consumer prices ${ }^{3}$ | 3.8 | 6.5 | 6.2 | 6.0 | 5.7 | 5.4 | 5.1 |
| Merch. trade balance ${ }^{4}$ | -10.1 | -17.3 | -12.1 | -4.9 | -8.3 | -14.7 | n.a. |
| Merchandise imports ${ }^{4}$ | 281.9 | 308.6 | 228.8 | 217.3 | 223.8 | 226.2 | n.a. |
| Merchandise exports ${ }^{4}$ | 271.9 | 291.3 | 216.7 | 212.3 | 215.5 | 211.4 | n.a. |
| Current account ${ }^{5}$ | -8.2 | -15.7 | -13.5 | 1.8 | . . . | . . . |  |

1. Gross domestic product. Annual rate. Annual data are Q4/Q4.
2. Percent; counts as unemployed those working 1 hour a week or less.
3. Non-seasonally adjusted percent change from year-earlier period, except annual data, which are Dec./Dec.
4. Billions of U.S. dollars, annual rate.
5. Billions of U.S. dollars, not seasonally adjusted, annual rate. n.a. Not available. ... Not applicable.

Source: Haver Analytics; Bank of Mexico.

In Brazil, real GDP rose 7.8 percent in the second quarter following two quarters of decline. The rebound in activity was led by private consumption, which rose $81 / 2$ percent, boosted by temporary tax breaks and rapid credit growth from government-owned banks. Exports, particularly of primary commodities to Asia, also soared. Indicators for the third quarter appear to be mixed. Industrial production jumped in July, and the manufacturing PMI moved above 50 in August. However, auto production declined over July and August. Despite a jump in Brazilian exports to China in recent months, total Brazilian exports have remained fairly constant. Headline inflation in August fell a touch on a monthly basis, and 12-month inflation remained about $41 / 2$ percent, around the midpoint of the inflation target range.

At its meeting this month, the central bank of Brazil held its policy rate steady at 83/4 percent after having reduced the rate a cumulative 500 basis points earlier this year. Brazil continues to be the recipient of net capital inflows, prompting the central bank to intervene in the foreign exchange market to mitigate upward pressures on the real. Partly because of these interventions, foreign reserves reached a record high of $\$ 220$ billion in early September.

Brazilian Economic Indicators
(Percent change from previous period, seasonally adjusted, except as noted)

| Indicator | 2007 | 2008 | 2009 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Q1 | Q2 | June | July | Aug. |
| Real GDP ${ }^{1}$ | 6.1 | 1.2 | -3.8 | 7.8 |  |  |  |
| Industrial production | 6.0 | 3.1 | -6.8 | 3.7 | . 4 | 2.2 | n.a |
| Unemployment rate ${ }^{2}$ | 9.3 | 7.9 | 8.5 | 8.3 | 7.9 | 7.9 | n.a |
| Consumer prices ${ }^{3}$ | 4.5 | 5.9 | 5.8 | 5.2 | 4.8 | 4.5 | 4.4 |
| Merch. trade balance ${ }^{4}$ | 40.0 | 25.0 | 21.0 | 43.2 | 50.4 | 23.4 | 32.1 |
| Current account ${ }^{5}$ | 1.6 | -28.2 | -19.8 | -8.5 | -6.4 | -20.0 | n.a |

[^24]
## Latin America





Consumer Prices


Benchmark Interest Rates


Short-Term External Debt


Russian real GDP contracted 2.3 percent in the second quarter, the third straight quarterly decline. However, the most recent indicators suggest that the economy is now expanding. Industrial production rose 3.4 percent from the previous month in both June and July. Fixed capital investment has shown recent strength, but weak consumer spending continues to be a drag on growth. Producer prices rose 2.3 percent in July but are still 12 percent lower than their year-earlier level. Consumer prices rose 0.8 percent in August, bringing 12-month headline inflation down to 11.3 percent, the lowest in a year and a half.

## Abbreviations-Part 2

## Abbreviations-Part 2

| ABCP | asset-backed commercial paper |
| :---: | :---: |
| ABS | asset-backed securities |
| ACLI | American Council of Life Insurers |
| ARM | adjustable-rate mortgage |
| ASEAN-4 | Association of Southeast Asian Nations (Indonesia, Malaysia, the Philippines, and Thailand) |
| BEA | Bureau of Economic Analysis, Department of Commerce |
| BLS | Bureau of Labor Statistics, Department of Labor |
| BOE | Bank of England |
| BOJ | Bank of Japan |
| BOP | balance of payments |
| BTU | British thermal units |
| CARS | Consumer Assistance to Recycle and Save |
| CBO | Congressional Budget Office |
| CD | certificate of deposit |
| CDS | credit default swap |
| C\&I | commercial and industrial |
| CPFF | Commercial Paper Funding Facility |
| CPH | compensation per hour |
| CPI | consumer price index |
| CPIP | construction put in place |
| CRB | Commodity Research Bureau |
| DPJ | Democratic Party of Japan |
| ECB | European Central Bank |
| ECI | employment cost index |
| E\&S | equipment and software |
| ETF | exchange-traded fund |
| FDIC | Federal Deposit Insurance Corporation |


| FHA | Federal Housing Administration, Department of Housing and Urban |
| :--- | :--- |
|  | Development |
| FHFA | Federal Housing Finance Agency |
| FHLMC | Federal Home Loan Mortgage Corporation (Freddie Mac) |
| FOMC | Federal Open Market Committee; also, the Committee |
| FRB | Federal Reserve Board |
| FRBNY | Federal Reserve Bank of New York |
| FRM | fixed-rate mortgage |
| GDP | gross domestic product |
| GM | General Motors |
| GSE | government-sponsored enterprise |
| IP | industrial production |
| IPO | initial public offering |
| ISM | Institute for Supply Management |
| IT | information technology |
| JOC | Journal of Commerce |
| KMT | Kuomintang (Taiwan) |
| LDP | Liberal Democratic Party (Japan) |
| Libor | London interbank offered rate |
| LSAP | large-scale asset purchase |
| LTRO | long-term refinancing operation |
| MBS | mortgage-backed securities |
| mpg | miles per gallon |
| MPU | microprocessor unit |
| NAR | National Association of Realtors |
| NBER | National Bureau of Economic Research |
| NCREIF | National Council of Real Estate Investment Fiduciaries |
| NFIBs | National Federation of Independent Business |
| newly industrialized economies (Hong Kong, South Korea, Singapore, |  |
| and Taiwan |  |


| NIPA | national income and product accounts |
| :--- | :--- |
| nsa | not seasonally adjusted |
| OIS | overnight index swap |
| OMB | Office of Management and Budget |
| OPEC | Organization of the Petroleum Exporting Countries |
| P\&C | Productivity and Costs |
| PCE | personal consumption expenditures |
| PEMEX | Petróleos Mexicanos |
| PMI | purchasing managers index |
| PPI | producer price index |
| RADGO | real adjusted durable goods orders |
| s.a. | seasonally adjusted |
| s.a.a.r. | seasonally adjusted annual rate |
| SLOOS | Senior Loan Officer Opinion Survey on Bank Lending Practices |
| SOMA | System Open Market Account |
| SPF | Survey of Professional Forecasters |
| TAF | Term Auction Facility |
| TALF | Term Asset-Backed Securities Loan Facility |
| TARP | Troubled Asset Relief Program |
| TIPS | Treasury inflation-protected securities |
| TLGP | Temporary Liquidity Guarantee Program |
| UI | unemployment insurance |
| USDA | U.S. Department of Agriculture |
| WTI | West Texas Intermediate |
| TA | The |


[^0]:    ${ }^{1}$ The decline in the number of individuals receiving unemployment insurance through regular state programs is likely due, in part, to an increase in the fraction of unemployed workers exhausting their benefits under these programs.

[^1]:    ${ }^{2}$ In addition, recent projections from consultancies, such as Gartner and iSupply, foresee a relatively dour, albeit improved, outlook for the semiconductor industry.

[^2]:    ${ }^{3}$ Indeed, Cisco recently reported a rise in orders consistent with normal seasonality for the current quarter, a marked improvement compared with recent quarters.

[^3]:    ${ }^{4}$ The official name is the Consumer Assistance to Recycle and Save (CARS) Act. Under the act, eligible trade-ins were required to be in drivable condition, to have been continuously insured by the same owner for at least a year prior to trade-in, to have been manufactured in model year 1984 or later, and to have a combined (city and highway) fuel economy rating of 18 miles per gallon (mpg) or less. Trade-ins were to be replaced by a new vehicle priced at $\$ 45,000$ or less. The new auto had to get at least 22 mpg and be at least 4 mpg more fuel efficient than the old vehicle to qualify for a $\$ 3,500$ voucher; if the new car got at least 10 mpg more than the old vehicle, the voucher was worth $\$ 4,500$. New light trucks were required to get at least 18 mpg and be at least 2 mpg more fuel efficient than the old vehicle to qualify for a $\$ 3,500$ voucher; if the new vehicle got at least 5 mpg more than the old, the voucher was worth $\$ 4,500$. Dealers had to first provide documentation that the trade-ins had been scrapped before receiving payment from the government.
    ${ }^{5}$ While cash for clunkers was in effect, many dealers increased their own cash rebates. However, PIN permitted the dealers in its sample to report a cash-for-clunkers voucher as either a cash rebate or a reduction in the vehicle price. As a result, we cannot separate the impact of the program on either of these series. Nonetheless, since the program ended, average cash rebates have fallen sharply, and average vehicle prices have surged.
    ${ }^{6}$ We believe that the cash-for-clunkers program will have only a small impact on light vehicle production over the long run. Manufacturers had announced a large increase in third-quarter motor vehicle production prior to the announcement of the program, and schedules have actually moved down a little since then.

[^4]:    ${ }^{7}$ The PCE control category includes durables excluding motor vehicles, nondurables excluding gasoline, and food services.
    ${ }^{8}$ In the latest GDP release, the BEA revised down its estimate of compensation in the first quarter further on the basis of the UI tax records.

[^5]:    Note: Adjusted permits equal permit issuance plus total starts outside of permit-issuing areas.
    Source: Census Bureau.

[^6]:    ${ }^{9}$ The series for single-family housing starts begins in 1959.
    ${ }^{10}$ The series for new home sales begins in 1963.
    ${ }^{11}$ The series for months' supply begins in 1963.
    ${ }^{12}$ However, according to the National Association of Realtors (NAR), the high proportion of distressed sales and the unusually tight credit conditions in the housing market have made pending home sales a lessinformative leading indicator of existing home sales than usual. Increases in the shares of cash purchases and of distressed sales have made the timing between contract and closing for existing homes more uncertain.

[^7]:    ${ }^{13}$ In addition, the first-time homebuyer tax credit may be providing some support to home sales at present. However, the proportion of first-time home purchasers has remained about flat over recent months at around 30 percent-considerably lower than the average proportion seen over the past decade of 40 percent (according to the NAR) -suggesting that other factors have been more important.

[^8]:    ${ }^{14}$ In all, real nonfarm inventories are estimated to have fallen at an annual rate of $\$ 169$ billion in the second quarter, with about one-fourth of this liquidation occurring in the motor vehicles sector.

[^9]:    ${ }^{15}$ The question posed to purchasing managers in the ISM survey to determine whether stocks are too high or too low does not specify the measure of sales against which respondents should compare the level of their customers' inventories. If the respondents currently are judging inventories against a level of expected sales in coming months that is materially above the recent pace of sales (not an unreasonable assumption given the marked improvement in recent months of their new orders index), the sharp decline in the customers' inventories measure to a low level is less obviously at odds with the inventory ratios in both the book-value data and the staff's flow-of-goods system.
    ${ }^{16}$ The financial stabilization programs added about $\$ 250$ billion to the deficit in the 12 months ending in August.

[^10]:    ${ }^{17}$ With these adjustments, the OMB's projection for the deficit this year is wider than the adjusted CBO estimate because the OMB assumes higher outlays this year for the TARP and for other programs. However, the OMB's estimates of current-year outlays have often been too high at the time of the MidSession Review.
    ${ }^{18}$ Work on state and local construction projects is largely performed by private contractors.
    ${ }^{19}$ As of the end of August, only about $\$ 2$ billion in infrastructure grants had been disbursed, but states may have gone ahead with construction projects in anticipation of receiving the stimulus funds at a later date.
    ${ }^{20}$ The estimates from the Rockefeller Institute are for internal use only. The missing states are New Jersey, New Mexico, North Carolina, and South Dakota.

[^11]:    ${ }^{21}$ The definition of core PCE was changed in the recent comprehensive revision of the national income and product accounts to include restaurant meals.

[^12]:    1. Percent change from the same period in the preceding year.
    2. Responses to the question, By about what percent do you expect prices to go up, on average, during the next 12 months?
    3. Responses to the question, By about what percent per year do you expect prices to go up, on average, during the next 5 to 10 years?
    4. Median CPI and PCE price projections.
    ... Not applicable.
    n.a. Not available.
    p Preliminary.
    Source: For CPI, U.S. Dept. of Labor, Bureau of Labor Statistics; for Reuters/Michigan Survey,
    Reuters/University of Michigan Surveys of Consumers; for professional forecasters, the Federal Reserve
    Bank of Philadelphia.
[^13]:    ${ }^{22}$ The staff estimates of PCE prices are slightly more tentative than usual because of an adjustment the BEA has announced it is making to the BLS prices for cars and trucks in July and August. A large number of cash-for-clunkers transactions occurred in the last week of July, but because the CPI measures new vehicle prices with some lag, a share of these transactions will be captured by the CPI in August rather than in July. The BEA has stated that it is making timing adjustments in order to better align the PCE price index with the actual timing of the cash-for-clunkers transactions.

[^14]:    ${ }^{23}$ The series for P\&C hourly compensation in the nonfarm business sector begins in 1947.

[^15]:    ${ }^{1}$ The New York Domestic Trading Desk announced on September 1 that it would begin to include on-the-run securities in its agency debt purchases to mitigate dislocations in the agency debt market associated with the previous practice of purchasing only off-the-run securities. Also, while approximately $\$ 836$ billion of the $\$ 1.25$ trillion in agency MBS has been purchased to date, due to lags in settlement and other factors, only about $\$ 684$ billion is currently on the Federal Reserve's balance sheet.

[^16]:    ${ }^{2}$ Although, in principle, NIPA profits should exclude the effects of capital losses (or gains) and writedowns on debt and securities, the fourth-quarter drop suggests that measuring financial firms' underlying operating earnings has been challenging.

[^17]:    Note: Excludes reinvested dividends.
    e Staff estimate.
    Source: Investment Company Institute.

[^18]:    ${ }^{3}$ The Build America Bonds Program allows state and local governments to issue taxable bonds in 2009 and 2010 for government capital projects and receive a subsidy payment from the Treasury for 35 percent of its interest costs. Issuers can choose either to offer the tax credit to buyers or to receive direct payment from the federal government. Most of the Build America Bonds issued so far are direct payment bonds.

[^19]:    Note: Data in lines 1 through 5 differ in timing and coverage from the balance of payments data published by the
    Department of Commerce. Details may not sum to totals because of rounding.

    1. Includes changes in U.S. official reserve assets and in outstanding reciprocal currency swaps with certain foreign central banks. 2. Changes in dollar-denominated positions of all depository institutions and bank holding companies plus certain transactions between broker-dealers and unaffiliated foreigners (particularly borrowing and lending under repurchase agreements). Includes changes in custody liabilities other than U.S. Treasury bills.
    2. Includes commissions on securities transactions and therefore does not match exactly the data on U.S. international transactions published by the Department of Commerce.
    3. Includes ( 4 d ) or represents ( 5 c ) stocks acquired through nonmarket means such as mergers and reincorporations.
    4. Quarterly data; seasonally adjusted.
    5. Transactions by nonbanking concerns and other banking and official transactions not shown elsewhere plus amounts resulting from adjustments made by the Department of Commerce and revisions (in lines 1 through 5 and 8 ) since publication of the quarterly data in the Survey of Current Business.
    6. Seasonally adjusted; consists of transactions in nonproduced nonfinancial assets and capital transfers.

    G-10 Group of Ten (Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, United Kingdom, United States).

    ECB European Central Bank.
    OPEC Organization of the Petroleum Exporting Countries.
    n.a. Not available. ... Not applicable.

    Source: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Treasury International Capital reports with staff adjustments.

[^20]:    1. PMI Purchasing managers index. Not seasonally adjusted. 50+ indicates expansion. n.a. Not available.

    Source: Haver Analytics; Bank for International Settlements.

[^21]:    ${ }^{1}$ The NIEs are Hong Kong, South Korea, Singapore, and Taiwan.

[^22]:    1.Dec./Dec.
    n.a. Not available.

    Source: CEIC.

[^23]:    ${ }^{2}$ The ASEAN-4 are Indonesia, Malaysia, the Philippines, and Thailand.

[^24]:    1. Gross domestic product. Annual rate. Annual data are Q4/Q4.
    2. Percent.
    3. Non-seasonally adjusted percent change from year-earlier period, except annual data, which are Dec./Dec. Price index is IPCA.
    4. Billions of U.S. dollars, annual rate.
    5. Billions of U.S. dollars, not seasonally adjusted, annual rate.
    n.a. Not available. ... Not applicable.

    Source: Haver Analytics; IMF International Financial Statistics database; Intituto Brasileiro de Geografia e Estatistica.

