The U.S. Economy in a Snapshot compiles observations of staff members of the Federal Reserve Bank of New York’s Research and Statistics Group. The views, model results, and analysis presented are solely those of the individual contributors and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System. The analysis presented herein is based on data released through September 9, 2015.
- Consumer spending remains on a steady growth trajectory.
  - Real consumption expenditures grew at a healthy rate in July after being essentially flat in June.
  - Auto sales have maintained their strength.

- Business equipment spending is showing tentative signs of a moderate pickup from earlier sluggishness.

- There are signs of further improvement in housing market conditions.
  - July single family housing starts and existing home sales touched post-recession highs.

- Payroll growth in August slowed relative to recent months’ pace, but the unemployment rate declined. There was no change in the labor force participation rate, and the employment-population ratio increased slightly.
  - Wage growth generally remains subdued relative to pre-recession levels.

- Inflation remained well below the FOMC’s longer-term objective.

- Concerns about an economic slowdown in China and a weaker global growth outlook generated significant financial market volatility and further downward pressure on commodity prices.

### Output remains below its potential level

- Real GDP growth over most of this expansion has been subdued compared to previous expansions.
  - 2015Q2 was an exception: real GDP rose 3.7% (annual rate), a sizable upward revision from the advance estimate of 2.3%.

- The gap between real GDP and the Congressional Budget Office’s (CBO) measure of real potential GDP was more than 3% in 2015Q2.
  - The CBO revised up its estimate of the level of potential GDP and lowered its estimate of NAIRU.

- Continued low inflation appears consistent with the economy operating below potential.
**Unemployment rate continues to decline**

- The unemployment rate declined from 5.3% in July to 5.1% in August, its lowest level since April 2008.
  - The unemployment rate fell from 4.3% to 4.2% for prime-age (age 25-54) men, and from 4.7% to 4.6% for prime-age women.

- The overall labor force participation rate was unchanged at 62.6%.
  - The participation rate of prime-age workers was also unchanged at 80.7%.

- The employment-population ratio increased from 59.3% to 59.4%.
  - For prime-age workers, the employment-population ratio increased from 77.1% to 77.2%.

**Inflation remains low**

- Both the total PCE deflator and the core PCE deflator (which excludes food and energy prices) edged up by 0.1% in July.

- On a 12 month change basis, both measures have been fairly stable since the beginning of the year at levels significantly below the FOMC’s longer-run objective of 2%.

- A strong dollar and declining nonoil import prices have been factors helping to restrain core inflation recently.
  - The recent decline in energy prices will likely put further downward pressure on total PCE inflation in the coming months.
**GDP Growth**

- GDP rose at a 3.7% annual rate during Q2, following an initial estimate of 2.3%.
- The upward revision primarily reflected higher nonresidential fixed investment, greater state and local government expenditures, and stronger inventory investment.
- Real gross domestic income, which provides an alternative measure of economic activity, increased at only a 0.6% annual rate.

**Productivity Growth**

- Productivity growth plays an important role in determining an economy’s potential growth rate and raising living standards.
- Productivity in the nonfarm business sector increased at a 3.3% annual rate in Q2.
  - Productivity growth in Q2 was revised up significantly from an initial estimate of 1.1%.
- Despite the sharp upward revision to Q2, productivity growth has remained low in recent years.
  - Productivity growth during the 2007 to 2014 period (corresponding to the current business cycle) averaged 1.3% per year, well below the long-term rate from 1947 to 2014 of 2.2% per year.
HOUSEHOLDS

Disposable Income, Consumption, and Wealth

- Real consumption expenditures grew a healthy 0.2% in July after being flat in June.
  - In a strong rebound from a June decline, goods consumption grew 0.9%.
  - Services expenditures grew only moderately.

- Households’ fundamentals remained strong in July.
  - Real disposable income increased 0.4%, above its average growth in Q2.
  - Employee compensation rose 0.4%, the largest increase so far this year.

- The personal saving rate increased to 4.9%, slightly higher than the average rate in the second quarter.

Total Light Vehicle Retail Sales

- Sales of light motor vehicles (automobiles and light trucks) reached 17.8 million units (seasonally-adjusted annual rate) in August.
  - The pace of these sales has improved steadily since the end of 2009, and is now 6.9% higher than the average pace during the 2002-2007 period.

- Automobile sales were 7.7 million units in August.
  - Though recovering rapidly between late 2009 and early 2012, automobile sales have fluctuated in a relatively narrow range since early 2012.

- In contrast, light truck sales have gradually improved since late 2009, reaching 10.1 million units in August.
**Business Sector**

**Business equipment spending fell in Q2**
- Real business investment in equipment declined 0.4% (annual rate) in 2015Q2, an upward revision from the advance estimate of -4.1%.
  - Over the past four quarters, business equipment spending has risen 3.1%, which is weak for an expansion period.
- Historically, the rate of growth of business spending on equipment has been positively correlated with the manufacturing capacity utilization rate.
- The manufacturing capacity utilization rate was 76.2% in July, up from 75.9% in 2015Q2.
  - The utilization rate has changed little over the past year and remains below pre-recession levels.

**New orders and shipments show recent pickup**
- Monthly data on new orders and shipments of nondefense capital goods are high frequency indicators of business investment in new equipment.
- After trending lower in 2014H2 and the first part of 2015, both new orders and shipments have risen in the past couple of months. Still, their levels are below mid-2014 levels.
- In July, new orders were slightly above shipments; they had been below shipments for several months.
  - Based on historical patterns, this shift in the differential suggests somewhat more momentum in equipment spending over the near term.
**HOUSING SECTOR**

### Housing Starts

- **Thousands, 3 MMA**
- **Housing Starts**
- **Total Multifamily (Left Axis)**
- **Single Family (Right Axis)**
- Source: Census Bureau, via Haver Analytics
- Note: Shading shows NBER recessions.

### Housing construction trends higher

- Total housing starts reached 1.2 million (seasonally-adjusted annual rate) in both June and July, the highest since October 2007.
  - A three month moving average of multifamily starts has reached 440,000 in recent months, a level not seen since the late 1980s.
  - A three month moving average of single family starts rose to 724,000 in July, the highest since the first quarter of 2008.
- Despite these gains and continued low mortgage interest rates, housing starts per capita remain well below the longer-term average.

### Home Builders Housing Market Index

- **Index**
- **Home Builders Housing Market Index**
- Source: National Association of Home Builders, via Haver Analytics
- Note: Shading shows NBER recessions.

### Home builder confidence continues to improve

- The National Association of Home Builders conducts a monthly survey to gauge members’ assessments of current conditions.
- The overall index is a composite of three sub-indices:
  - Assessment of current sales activity
  - Expectations for sales activity in six months
  - Assessments of the volume of prospective buyer traffic at builders’ subdivisions
- As of August, a three month moving average of the overall index reached a level of 60.
  - This reading indicates that 60 percent of respondents describe conditions as “good”.
  - This is the highest level of the index since late 2005.
GOVERNMENT SECTOR

Real Government Consumption and Gross Investment

- Total real government consumption and gross investment is now growing modestly on a year-over-year basis after contracting for a 3½ year period.
- Real consumption and gross investment at the federal level declined 0.3% over the four quarters ending in 2015Q2.
  - Nondefense spending is increasing modestly, while defense spending continues to decline but at a slower rate.
- Real consumption and gross investment at the state and local level grew 1.4% over the four quarters ending in 2015Q2.
  - The state and local sector represents over 60% of total government consumption and gross investment.

Investment at state and local level gaining traction

- State and local government gross investment was relatively strong in the second quarter, and is now only 17% below its 2008 peak.
  - July state and local construction spending suggests continued strength.
- Compared to consumption, investment declined more steeply in the recession and is taking longer to recover.
- Consumption expenditures continue to grow at a steady, albeit modest, pace.
  - Consumption expenditures, comprised largely of employee compensation, account for about 80% of state and local spending.
INTERNATIONAL DEVELOPMENTS

**Net Exports: Contribution to GDP Growth**

- Net exports added 0.2 percentage point to GDP growth in 2015Q2, following a 1.9 percentage point drag in Q1.
- Although there was some improvement in the July data, real exports of goods were still down 0.6% over the year.
  - Overall weakness in exports is mainly attributed to the strong dollar.
- Growth in real nonoil imports was weak in Q2 following strong growth during the previous two quarters.
  - Real nonoil good imports fell again in July, continuing the downward trend since March.

**Dollar Exchange Rate and Nonoil Import Prices**

- Import prices tend to fall when the dollar appreciates.
  - Stronger dollar lowers foreign production costs measured in dollar terms.
- The dollar is up almost 20% over the year and import prices, excluding oil, are down 3%.
  - Prices of industrial supplies are down 9%, while those for autos and consumer goods are down just 1%.
- Prices of industrial supplies are tied to commodity prices.
  - A stronger dollar also makes commodities denominated in dollars more expensive to the rest of the world, putting downward pressure on these prices.
LABOR MARKET

Growth of Payroll Employment and Aggregate Hours

Employment gains and hours growth remain solid
- Nonfarm payroll employment increased by 173,000 in August.
  - Payroll employment increased on average by 221,000 in the last three months.
- With the rise in payroll employment and an increase in average weekly hours from 34.5 to 34.6 hours, aggregate hours worked increased by 0.4% in August.
  - The 12 month change in aggregate hours was 2.7%.

Ongoing weakness in manufacturing
- Employment in the manufacturing sector declined by 24,000 in August following an increase of 12,000 in July.
  - On net, manufacturing employment has shown little growth in 2015.
- The one month diffusion index for manufacturing (reflecting the balance between industries increasing and decreasing employment) was 41.3 in August, down from 50.6 in July.
  - The decline in the index over 2015 is consistent with this sector’s ongoing weakness.
**Gradual improvement in job-finding prospects**

- The job-finding rate (monthly transition rate from unemployment to employment) was 25.1% in August.

- The job-finding rate averaged around 28% in 2006, declined substantially to around 16% in 2009Q4, and has subsequently shown gradual improvement.

- The improvement in job-finding prospects of the unemployed is likely to generate further declines in the unemployment rate.

**Labor compensation growth remains subdued**

- Average hourly earnings increased 0.3% in August and increased 2.2% over the past 12 months.
  - The 12 month change is within the narrow range that has prevailed since the end of the recession.

- After increasing by 0.6% in 2015Q1, growth in the employment cost index (ECI) slowed to 0.2% in the second quarter.
  - The weaker growth in the ECI reflected payback from unusually strong wage and salary growth in Q1 for some high-paying industries and occupations, as well as a broad-based slowing in benefits growth.
  - The 12 month change was 2.0%.
INFLATION

**CPI Inflation: Core Goods and Core Services**

12 Month % Change

<table>
<thead>
<tr>
<th>Year</th>
<th>Core Goods</th>
<th>Core Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>3.5%</td>
<td>2.3%</td>
</tr>
<tr>
<td>2002</td>
<td>3.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>2004</td>
<td>3.6%</td>
<td>2.3%</td>
</tr>
<tr>
<td>2006</td>
<td>3.3%</td>
<td>2.2%</td>
</tr>
<tr>
<td>2008</td>
<td>2.5%</td>
<td>2.0%</td>
</tr>
<tr>
<td>2010</td>
<td>3.0%</td>
<td>2.1%</td>
</tr>
<tr>
<td>2012</td>
<td>2.8%</td>
<td>2.1%</td>
</tr>
<tr>
<td>2014</td>
<td>2.7%</td>
<td>2.0%</td>
</tr>
<tr>
<td>2016</td>
<td>2.5%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

Source: Bureau of Labor Statistics, via Haver Analytics

Note: Shading shows NBER recessions.

**Goods and services inflation running below average**

- Core CPI inflation rose 0.1% in July; its 12 month change was stable at 1.8%.
- Inflation in both core goods and core services remains somewhat below the average of the last twenty years.
  - Core services prices are rising around 2.5% per year, while core goods prices are slightly but steadily declining.
- Looking at the last twenty years, a gap between the two inflation series of 2.5 to 3 percentage points is not unusual.

**CPI Inflation: Shelter and Its Main Components**

12 Month % Change

<table>
<thead>
<tr>
<th>Year</th>
<th>Rent of Primary Residence</th>
<th>Owners’ Equivalent Rent</th>
<th>Shelter</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>3.6%</td>
<td>2.5%</td>
<td>3.0%</td>
</tr>
<tr>
<td>2002</td>
<td>3.2%</td>
<td>2.3%</td>
<td>3.0%</td>
</tr>
<tr>
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<td>3.0%</td>
<td>2.2%</td>
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<tr>
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<td>2.5%</td>
<td>2.0%</td>
<td>2.8%</td>
</tr>
<tr>
<td>2010</td>
<td>2.4%</td>
<td>1.9%</td>
<td>2.7%</td>
</tr>
<tr>
<td>2012</td>
<td>2.3%</td>
<td>2.0%</td>
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Source: Bureau of Labor Statistics, via Haver Analytics

Note: Shading shows NBER recessions.

**Shelter inflation supporting core inflation**

- Shelter inflation has been increasing steadily since the recession, reaching a level of 3.1% in July on a 12 month basis.
  - Shelter inflation measures the change in the cost of shelter services for both renters (rent of primary residence) and homeowners (owners’ equivalent rent).
  - The shelter component represents about 33% of overall CPI inflation and about 42% of core CPI inflation.
- The relative strength in shelter inflation since 2014, especially in rents, has provided a significant offset to the weakness in core goods inflation over this same period.
Global equity markets decline

- Chinese equity markets declined noticeably.
  - From August 7 to September 4, the Shanghai A Share Index fell 15.6% amid concerns of lower global growth and depreciation of emerging market currencies.
  - Volatility has remained high in the presence of policy announcements and increased economic uncertainty.

- U.S. stock markets also suffered and German equity returns turned negative.
  - The S&P 500 declined 7.5% from August 7 to September 4 following a sell-off in global equities and commodities.
  - ETF and equity mutual funds saw outflows amid high volatility and technical events, including trading halts.
  - The DAX 30 index dropped 12.6% from August 7 to September 4, and other major European indices also fell.

10-year Treasury experiences volatility

- The 10-year Treasury yield was 2.23% on August 7. After hitting a low of 2.10% on August 24, it recovered to 2.22% by September 4.

- The term premium (as implied by the Adrian-Crum-Moench model) remained below 10 basis points until August 25, when it jumped to 24 basis points. The term premium then declined steadily and, by September 4, reached 8 basis points.
Inflation expectations remain well anchored

- Market-implied TIPS-based measures of long-term inflation expectations ("breakeven") continued its multi-month downward trend.
  - After reaching a recent high of 2.15% on July 7, the breakeven inflation rate declined to 1.92% on August 7 and fell further to 1.77% by September 4.
  - The breakeven inflation rate remains at the low end of the range observed in recent years.

- Variation in the breakeven inflation rate appears largely driven by changes in the inflation risk premium, with implied expected inflation (as measured by the Adrian-Crump-Moench model) remaining fairly stable.

Lower implied Federal Funds rate path

- The expected path for the Federal Funds rate implied by rates on overnight indexed swaps has flattened since early August, moving back the expected lift-off date.

- The market-implied path remains below the paths suggested by the median forecast in the FOMC’s Summary of Economic Projections and the NY Fed Primary Dealer Survey.
**High and volatile stock market volatility**

- Near-term stock market volatility reached levels not seen since the second half of 2011.
  - The VIX (a measure of expected volatility of the S&P 500 over the next 30 days) surpassed a level of 40 on August 24, the highest reading since concerns about European sovereign debt in 2011.
  - The VXV (an index similar to the VIX but focused on volatility over the next 90 days) also increased, signaling market expectations of persisting stock market volatility.

- Volatility of stock market volatility is itself elevated.
  - On August 24, the VVIX (a “VIX of VIX” index) reached its maximum level since its inception in 2007 and has remained above its historical mean since then.