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 October 11, 2018.
- Real consumer spending growth slowed slightly in September, but it confirmed the strong pace observed in 2018Q3.
  - The increase in spending for September was led by robust growth in durable goods expenditures.

- Business equipment spending rose modestly in 2018Q3, a further slowdown from the second quarter and well below the pace in 2017.
  - New orders of capital goods (excluding aircraft) remained above shipments, suggesting somewhat more momentum over the near term.

- Housing activity indicators remained soft in September.
  - While a strong labor market continues to have the potential to provide support to the housing sector, higher mortgage rates appear to have had some restraining effects on the market.

- Payroll growth was robust in October. The unemployment rate was unchanged while the labor force participation rate and the employment-to-population ratio both rose.
  - The latest readings of various measures of labor compensation indicate a gradual firming of wage growth.

- Core PCE inflation continued to run at a level roughly consistent with the FOMC's longer-run objective.

- U.S. equity indices declined over the past month amid higher volatility. The nominal 10-year Treasury yield increased slightly, remaining near a multi-year high. The nominal Treasury yield curve remained flat. The broad trade-weighted dollar index rose. Oil prices fell, returning to levels observed in the spring of 2018.

**Output moderately above potential GDP estimate**

- The level of real GDP in 2018Q3 was about 0.9% above the estimate of real potential GDP from the Congressional Budget Office (CBO).
  - Over this expansion, real GDP has grown at a 2.3% annual rate, compared to the 1.5% growth rate of real potential GDP.
  - Over the next four quarters, the CBO projects that real potential GDP will grow 2.1%.
  - The 3.7% unemployment rate in October was below most estimates of its natural rate, including the CBO (4.61%).

- The current output and unemployment gaps signal tight resource constraints in the U.S. economy.
  - However, capacity utilization rates remain below historical averages, suggesting looser constraints by that measure.
**OVERVIEW**

**Labor Market Indicators**

- **Sustained improvement in the labor market**
  - The unemployment rate was unchanged in October at 3.7 percent.
    - The unemployment rate is at its lowest level since December 1969.
  - The labor force participation rate increased from 62.7 percent in September to 62.9 percent in October.
    - Among prime-age workers, labor force participation increased from 81.8% to 82.3%. Among workers ages 16-24 and workers ages 55+, the labor force participation rate was unchanged at 55.0% and 40.1%, respectively.
  - The employment-to-population ratio increased from 60.4% to 60.6%.

**PCE Deflator**

- **Inflation remains near FOMC’s longer-run objective**
  - The total PCE price index rose 0.1% in September, same as in the previous three months. The core PCE price index (which excludes food and energy prices) rose 0.2% in September, in line with the monthly changes in the first half of 2018.
    - Energy prices declined 0.4% in September after rising 1.9% in August, and are up 5.1% over the past 12 months. Food prices were essentially unchanged.
  - The 12-month changes in the total PCE and core PCE price indices were both +2.0%.
    - The 12-month change in total PCE retreated somewhat from the corresponding changes in the previous four months.
    - Despite some softness in the monthly data, headline and core PCE inflation continue to be consistent with the FOMC’s 2 percent longer-run goal.
**ECONOMIC ACTIVITY**

### GDP Growth

![GDP Growth Chart]

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<tr>
<th>% Change – Annual Rate</th>
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Source: Bureau of Economic Analysis via Haver Analytics

### Strong real GDP growth for second straight quarter

- According to the advance estimate, real GDP rose at a 3.5% annual rate in 2018Q3, after rising at a 4.2% rate in 2018Q2.
  - The four-quarter change was 3.0%, the highest since 2015Q2.

- Strong growth in real personal consumption expenditures (PCE) was a primary contributor to Q3 GDP growth.
  - Real PCE rose 4.0% (annual rate) in Q3, the second straight quarter of strong growth.
  - In contrast, growth of nonresidential fixed investment was soft and residential investment fell.
  - Inventory investment and net exports mostly offset, as the former contributed +2.1 percentage points (pp) to real GDP growth and net exports contributed -1.8 pp.

### Manufacturing and ISM Manufacturing Index

![Manufacturing and ISM Manufacturing Index Chart]

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<th>12 Month % Change</th>
<th>ISM Manufacturing Index</th>
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Source: Institute for Supply Management, Federal Reserve Board via Haver Analytics

Note: Shading shows NBER recessions.

### Manufacturing activity expands in October

- Manufacturing production increased 0.2% in September following a 0.3% increase in August.
  - Manufacturing production rose by 3.5% in September on a 12-month change basis.

- The ISM PMI fell 2.1 percentage points to 57.7 in October.
  - Although the yearly average remains high, the reading is the lowest in the last 6 months.
  - The Prices Paid Index jumped 4.7 percentage points, indicating accelerated price pressures in raw material prices.

- All regional Fed manufacturing surveys indicated continued expansion in October.
**Households**

### Disposable Income and Consumption

- **Real PCE** rose 0.3% in September and its growth in August was revised up to 0.4%.
  - **Over the third quarter**, consumer spending grew a strong 4.0%.

- Nominal disposable personal income increased 0.2% in September, below consensus expectations.
  - The wages and salaries component of personal income was up 0.2%, the weakest growth since last October.

- The personal saving rate was 6.2% in September, lower than in August.
  - **Over the third quarter**, the personal saving rate declined to 6.4% from 6.8% in the second quarter.

### Services, Durables, and Nondurable Goods

- **Real expenditure on goods** grew 0.7% in September, after growing 0.4% in August.
  - **Durable goods consumption increased 1.8% in the month**; spending on nondurables increased 0.2%.

- Service consumption was fairly flat in September, after a 0.3% growth in August.

- Over the past few months, the 12-month changes in services and nondurable goods consumption have been moving up while durable goods consumption growth has now stabilized after declining from the high levels reached at the end of 2017.
**BUSINESS SECTOR**

**Equipment Investment and Capacity Utilization**

Real business equipment investment grew at a weak 0.4% annual rate in 2018Q3. So far this year, equipment spending has risen at a 4.4% annual rate after rising 9.6% in 2017.

- Compared to 2017, growth has slowed this year in all major categories of equipment spending.
- The equipment spending share of nominal GDP remained below its average share in 2013-15.

The recent softness in equipment investment has occurred against a backdrop of continued relatively low levels of the manufacturing capacity utilization rate.

- This rate was 75.9% in September, the same as in May 2015 and 2.4 percentage points below its longer-term average.
- Historically, utilization rates near 75% are associated with modest growth of equipment investment.

**Investment in Nonresidential Structures**

Over the four quarters ending in 2018Q3, real investment in nonresidential structure was up 5.1%, a slight slowing from the 5.7% growth rate of 2018Q2.

Fluctuations in the rate of growth of investment in real oil and natural gas related structures has been the main driver of fluctuation in total investment in nonresidential structures for several years. Growth in that category of structures has slowed over the past year but remains relatively high.

Excluding the oil and gas sector, the four-quarter change of nonresidential structures investment has been negative for five straight quarters, reflecting broad-based weakness.
**HOUSING SECTOR**

**Total housing starts decline in Q2 and Q3**
- Total housing starts fell 5.3% in September and are down 9.5% over the past six months. Nonetheless, the 12-month change remains positive at 3.7%.

- Single-family housing starts decreased a relatively modest 1.3% over the past six months. In contrast, multi-family starts—which are much more volatile—are down 25.8% over the six months ending in September.

- As of the end of October, contract mortgage interest rates on 30-year fixed rate mortgages were 5.1%, up around 100 basis points over the past year. An index of purchase mortgage applications is down 11.2% from its recent peak in April of this year.

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**New and Existing Home Sales**

**Home sales fall in September**
- Single-family existing home sales decreased 3.4% in September to 4.58 million units (seasonally adjusted annual rate).
  - Single-family existing home sales are 4.0% below a year ago and are comparable to early-2001 levels.

- Single-family new home sales decreased 5.5% (SAAR) in September to 553,000 units.
  - New home sales declined for four consecutive months with a cumulative decline of 15.3%.
  - Single family new home sales are now down about 160,000 units from the recent peak in November 2017.

- Favorable labor market conditions increased demand, but high home prices and rising interest rates have been important factors in the decline in existing home sales.
GOVERNMENT SECTOR

Real Government Consumption and Gross Investment

![Graph showing real government consumption and gross investment from 2000 to 2018. The graph displays the percentage change over four quarters, with Federal and State and Local categories. The shading indicates NBER recessions. Source: Bureau of Economic Analysis via Haver Analytics. Note: Shading shows NBER recessions.]

Growth of government spending is firming

- After being essentially unchanged from 2016Q1 to 2017Q3, growth of consumption and gross investment by the government sector has firmed over the past year, rising 2.4%.
- As of 2018Q3, growth of consumption and gross investment by the federal government rose to 3.4% (four-quarter percent change), the strongest since 2010Q3.
  - Spending on national defense is up 4.1% over the past four quarters while nondefense discretionary spending has risen by 2.4%.
- At the state and local level, consumption and gross investment grew 1.8% over the four quarters ending in 2018Q3, led by a strong increase in spending on infrastructure.

Real State & Local Consumption & Gross Investment

![Graph showing real state and local consumption and gross investment from 2000 to 2018. The graph displays the percentage change over four quarters, with Consumption Expenditures and Gross Investment categories. The shading indicates NBER recessions. Source: Bureau of Economic Analysis via Haver Analytics. Note: Shading shows NBER recessions.]

State and local spending continues to firm

Real state and local government gross investment grew 8.2% over the four quarters ending in 2018Q3.
- Gross investment has now grown for four consecutive quarters for the first time since 2014.
- Real state and local infrastructure spending remains below its level of a decade ago, but has now surpassed its 2011 level.

State and local consumption spending grew slightly in Q3.
- After a strong recovery between 2014 and 2016, real state and local consumption spending has been stable for about two years.
- Consumption, comprised mainly of wages and salaries, is about 80% of state and local government spending.
INTERNATIONAL DEVELOPMENTS

**Net Exports: Contribution to GDP Growth**

According to the advance release net exports subtracted 1.8 percentage points of GDP growth in 2018Q3.
- Real exports fell 3.5%, real imports rose 9.1% (SAAR).
- Q3 exports growth slowed relative to the preceding quarter, and imports growth accelerated significantly.

- The trade deficit went up slightly to $54 billion in September from a $53.3 billion deficit in August.
  - Real goods exports grew 2.1% over the month in September, owing to higher real exports of oil goods, industrial supplies (excluding petroleum) and capital goods (excluding autos).
  - Real goods imports rose 1.7% over the month. Nonoil goods imports increased 2%. Oil imports volumes fell.

**China: Manufacturing PMI and Industrial Production**

China’s four-quarter GDP growth rate slowed to 6.5% in Q3, the lowest growth rate since 2009Q1. Monthly data suggest that growth remained sluggish heading into Q4.

- China’s manufacturing purchasing managers’ index (PMI) declined in October for the second consecutive month, to 50.2. This reading is about 1.7 percentage points below its long-term average and the weakest reading since July 2016.
  - New export orders tumbled to 46.9, suggesting that exports will increasingly weigh on growth going forward.

- The quarterly growth rate of industrial production slowed to 5.9% in September.
**Labor Market**

**Payroll Employment and Aggregate Hours**

- 12-Month Percent Change
- Payroll Employment
- Aggregate Hours
- Source: Bureau of Labor Statistics via Haver Analytics
- Note: Shading shows NBER recessions.

**Payroll growth robust in October**

- The October labor market report indicated that labor market conditions continued to improve at a healthy pace. Nonfarm payrolls increased by 250,000, above the Bloomberg median forecast of +200,000. Private payroll employment rose by 246,000 and government payrolls went up by 4,000.
  - Monthly payroll gains averaged 218,000 over the past three months, decisively above the average value of 182,000 for 2017.
  - Average weekly hours worked by all private sector employees rose from 34.4 to 34.5.
  - The year-over-year growth rate in aggregate hours worked increased to 2.32%, its highest value since July 2015, when it was 2.36%.

**Labor Force Participation Rate - Gender Gap**

- Percent
- Source: Bureau of Labor Statistics via Haver Analytics
- Note: Shading shows NBER recessions.

**Increase in labor force participation across genders**

- The labor force participation rate increased from 68.7% to 68.9% for males and from 57.0% to 57.3% for females.
  - Among prime-age males, labor force participation increased from 88.6% to 89.0%. Among prime-age females, labor force participation increased from 75.2% to 75.8%.
  - The gap between male and female labor force participation narrowed to a series low of 11.6 percentage points.
  - The gap between prime-age male and prime-age female labor force participation dropped to a record low of 13.2 percentage points.
LABOR MARKET

Payroll Employment by Sector

Goods-producing employment relatively strong

- The year-over-year growth rate in goods-producing employment has been steadily increasing over the last two years, from 0.69% in January 2017 to 3.43% in October 2018.
  - The year-over-year growth rate in service-providing employment has declined slightly over the last two years, from 2.13% in January 2017 to 1.68% in October 2018.

- Goods-producing employment is still below its pre-recession level, declining from 22.0 million workers in November 2007 to 20.9 million workers in October 2018.
  - Over that same time period, service-providing employment increased from 94.0 to 106.5 million.

Growth of Average Hourly Earnings and ECI

Earnings growth reaches post-recession high

- The year-over-year change in average hourly earnings increased to 3.1%, its highest post-recession value.
  - Average hourly earnings increased 0.18% from $27.25 in September to $27.30 in October.
  - The relatively high measurement of average hourly earnings growth is in part attributable to the decline in average hourly earnings last October 2017, from $26.51 to $26.47.

- Average weekly earnings increased by 0.47% from $937.40 to $941.85.
  - The year-over-year change in average weekly earnings was 3.44%.
**INFLATION**

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

- **Core CPI inflation slows modestly**
  - Core CPI increased 0.1% in September, the same as in August, leaving its 12-month change stable at 2.2%.
  - Over the six months through September, core CPI increased at a 1.8% annual rate, a noticeable slowing from that in March (2.6% annual rate).
  - Core goods prices fell 0.3% in September, the second consecutive decline of that magnitude, pushing their 12-month change deeper into negative territory.
  - The six-month change in core goods prices was -1.4% (annual rate) in September, vs. +0.8% in March.
  - Core services prices increased 0.2% in September, the same as in August; the six-month change was +2.8% (annual rate).

**3-Year Ahead Inflation Expectations**

- **Consumer inflation expectations stable**
  - According to the NY Fed's Survey of Consumer Expectations, median inflation expectations at both the one-year and three-year horizons remained stable in September at 3.0%.
  - Inflation expectation at both horizons have remained virtually unchanged since April 2018.
  - Median inflation uncertainty—or the uncertainty expressed by respondents regarding future inflation outcomes—similarly remained unchanged at the one-year horizon and declined slightly at the three-year horizon.
  - Expectations for changes in the cost of a college education and of medical care decreased. The former dropped from 7.0% in September to 5.9%, and the latter decreased from 9.2% in September to 7.8%, its lowest value since May 2015.
**FINANCIAL MARKETS**

**U.S. Equity Market Index and Volatility**

- U.S. equity markets declined and volatility increased.
  - The S&P 500 index declined 3.5% between October 5 and November 6, erasing some of the year-to-date gains, which stand at 3.3% as of November 6.
  - Option-implied stock market volatility, as measured by the CBOE Volatility Index (VIX Index), increased.
    - The VIX Index closed at 17.6 on November 6, below its 37.3 multi-year high on February 5, but above its 2017 year-end value of 11.0.
    - The VIX was itself volatile, fluctuating between 25.2 on October 24 and 14.8 on October 5.

**USD Exchange Rates**

- The exchange value of the dollar against a basket of global currencies increased 0.4% between October 5 and November 7.
  - Over this same period the dollar appreciated by 0.4% against the euro and depreciated by 0.4% against the Japanese yen.
  - Also over this period, there was a large appreciation of 5.4% against the Mexican peso.
- Since the start of 2018, the dollar has appreciated 3.6% against a basket of global currencies.
**Bank stocks lose value**

- As measured by the KBW Nasdaq bank index, bank equities declined 6.1% between October 5 and November 7.
  - As of November 7, the index was down 6.6% year to date.
- The XLF financial sector ETF declined by 2.9% between October 5 and November 7.
  - As of November 7, the index was down 2.9% year to date.

**Implied path for federal funds rate little changed**

- The expected path of the federal funds rate implied by rates on overnight indexed swaps (OIS) moved slightly down for long maturities and remained virtually unchanged for shorter maturities between October 5 and November 7.
- The market-implied path remains somewhat below the median path of the FOMC’s September 2018 Summary of Economic Projections and the November 2018 NY Fed Survey of Primary Dealers at longer horizons.
**10-Year Treasury and Term Premium**

- Longer-term Treasury yields increased since early October.
  - The 10-year yield increased about 4 basis points between October 5 and November 6, and remains close to its highest level in the past four years.
  - Estimates from the Adrian-Crump-Moench term structure model attribute the increase almost exclusively to increases in the term premium, while the path for the short term interest rate remained broadly unchanged.
  - The 10-year term premium decreased by 5 basis points between October 5 and November 6.
  - The estimated path for the short term interest rate remained essentially unchanged in the same period.

**5-10 Year Forward Decomposition**

- Market-implied TIPS-based measures of long-term inflation expectations (“breakevens”) were little changed in recent weeks.
  - The five-to-ten year breakeven inflation rate was 2.06% on October 29, down by 7 basis points over the last month but up by about 11 basis points year-to-date.
  - According to the Abrahams-Adrian-Crump-Moench model, most of the year-to-date movements in forward inflation compensation continue to reflect movements in the inflation risk premium.
  - The estimated five-to-ten year inflation risk premium has increased 9 basis points year-to-date.
SPECIAL TOPIC: EUROPEAN AND GLOBAL PMI

Global PMI edges higher in October
- The global purchasing managers index—a GDP-weighted average of surveys for roughly 45 countries—provides a timely read on the state of the global business cycle.
  - Survey results are released weeks before the arrival of most hard data.
  - Separate surveys of manufacturing and services activity are conducted for the largest economies and many smaller ones.
  - A reading of 50 marks the break-even line separating global expansion from global contraction.
- The global composite index edged up 0.2 points to 53.0 in October after falling to a two-year low in September.
  - The composite PMI has declined by about 1.8 points since February, moving from somewhat above its long-term (20-year) average to somewhat below.

Global Growth and Tracking Model Estimate
- The October PMI survey results signal lackluster global growth.
  - A simple tracking model using the global composite PMI and its lag as explanatory variables places global GDP growth at an annualized 2.8% to start off Q4.
  - This compares with an average of 3.4% during 2016 and the first three quarters of 2017.
- The fit of the tracking model is not precise.
  - The growth estimate of 2.8% corresponds to roughly a two-thirds chance that actual growth will fall between 1.9% and 3.7%.
  - Nevertheless, this tracking performance is only slightly inferior to what can be achieved with the complete monthly data available only many weeks later.
**SPECIAL TOPIC: EUROPEAN AND GLOBAL PMI**

**Global Manufacturing and Services PMIs**

- **Move up in October driven by services activity**
  - The move up in October in the composite PMI index reflects stronger services activity.
    - The global services PMI rose 0.5 points to 53.4, leaving this index about 1.4 points below the cyclical high posted near the start of the year.
    - The global manufacturing PMI edged down 0.1 points to 52.1, leaving it 2.3 points below its recent cyclical high.
  - Survey details were positive for future services activity but point to possible further weakness in manufacturing.
    - The services new business index held steady at a level consistent with moderate expansion, and expectations for future activity rose to a five-month high.
    - The manufacturing new orders index fell to a 25-month low, and expectations for future output were the weakest since this series was introduced in 2012.

**Evolution of Global Market Growth Forecasts**

- **Global growth forecasts have also moved lower**
  - Global market forecasts have also moved lower over the past few months, breaking two years of upgrades.
  - These downgrades have been concentrated in emerging economies outside China, likely reflecting recent financial stresses.
    - Since April, the weighted-average forecast for roughly 20 major EMEs has been marked down by 0.4 percentage points for 2018 and by 0.5 percentage points for 2019.
    - Growth forecasts for China and for major advanced economies have been marked down by a tenth of a percentage point or less for both years.
  - Nevertheless, growth forecasts remain somewhat above the pace consistent with the latest PMI results.

*Source: Markit Economics*

*Sources: Blue Chip Economics, Consensus Economics. Figures are GDP-weighted averages for five AEs (counting the euro area as one economy) and 24 EMEs. The latest vintage surveys are from early to mid October.*