U.S. Economy in a Snapshot
Research & Statistics Group
November 2016

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 November 4, 2016.
Real consumer spending rebounded significantly in September, but the pace of growth in Q3 overall slowed notably from that in Q2.

Business equipment spending has declined for four consecutive quarters through 2016Q3, and September data suggested further sluggishness over the near term.

Activity in the manufacturing sector remained flat. While inventories-sales ratios for new and existing homes were below historical averages, real residential investment declined in both Q2 and Q3.

Payroll growth remained solid in October, and the unemployment rate fell. The labor force participation rate and the employment-population ratio declined.
- Labor compensation measures have started to show evidence of stronger growth.

Both headline and core inflation continued to run at levels below the FOMC’s longer-term objective, but inflation still showed slow progress toward the FOMC’s goal.

Long-term sovereign yields increased, but remained low. Broad equity indexes declined, and oil prices pulled back from recent highs. Market-based measures of longer-term inflation compensation moved up, but are still low.

Output is below its potential level
- The gap between real GDP and the Congressional Budget Office’s (CBO) measure of real potential GDP was about 1.5% in 2016Q3.
  - The October unemployment rate of 4.9% is near many estimates of its natural rate, including that of the CBO (4.74%).
  - Compared to these alternative unemployment gap estimates, the CBO output gap indicates more resource slack.
- Historically, inflation has tended to be restrained when the economy is operating below potential.
**Labor Market Indicators**

- **Labor market continues to improve gradually**
  - The unemployment rate edged down to 4.9% in October.
    - The unemployment rate has shown very little change since June, remaining in the 4.9-5% range.
    - An alternative measure of unemployment, U6, which includes marginally-attached workers as well as workers who hold part-time jobs but prefer full-time jobs, fell from 9.7% to 9.5%.
  - The labor force participation rate fell from 62.9% in September to 62.8% in October, and the employment-population ratio fell from 59.8% to 59.7%.
    - These indicators have shown some improvement in the last twelve months.

**PCE Deflator**

- **Inflation progressing slowly toward 2%**
  - The total PCE deflator rose 0.2% in September, while the core PCE deflator (which excludes food and energy prices) increased 0.1%.
    - Energy prices rose 3.0% in September, and are now down only 3.5% from a year ago.
    - Food prices fell 0.1% in September, and are down 1.7% from a year ago.
  - The 12-month change in the total PCE deflator was 1.2%, the highest reading since November 2014. The 12-month change in the core PCE deflator was 1.7%, the same as in August.
    - The recent data point to inflation moving very slowly toward the FOMC’s longer-run objective.
ECONOMIC ACTIVITY

GDP Growth

- % Change – Annual Rate
- Source: Bureau of Economic Analysis via Haver Analytics

Output advances at a quicker rate in Q3

- According to the first estimate, GDP expanded at a 2.9% annual rate in 2016Q3, up from 1.4% in Q2.
  - The Q3 reading was the strongest in two years.

- Consumer spending contributed a little under 1.5 percentage points to growth, similar to the combined growth contribution from net exports and inventory investment.
  - Business fixed investment added to growth during the quarter, with a positive contribution from investment in nonresidential structures, while residential investment subtracted from growth.

Manufacturing and ISM Manufacturing Index

- 12 Month % Change
- Source: Institute for Supply Management, Federal Reserve Board via Haver Analytics

Manufacturing sector ticks up slightly

- Manufacturing activity edged up 0.2% in September, after declining 0.6% in August.
  - Production in the manufacturing sector was unchanged from a year ago, as declines in business equipment production have offset gains in auto production.

- The ISM manufacturing index stood at 51.9 in October, up from 51.5 in September and 49.4 in August.
  - October's rise was driven by the employment component which jumped 3.2 percentage points to 52.9, and the production index which rose 2 percentage points to 54.6.

- Recent results from regional Fed surveys were mixed:
  - Indicators improved in the Dallas, Philadelphia and Kansas City Districts, but weakened in New York and Richmond.
**Disposable Income, Consumption, and Wealth**

- Real personal consumption expenditures rose 0.3% in September, a significant rebound from the 0.2% decline in August.
  - Consumer spending grew at an annual rate of 2.1% in Q3, and increased 2.6% on a 4-quarter change basis.
- Real disposable personal income was flat in September, the same as in August.
  - Real disposable personal income rose at a 2.2% annual rate in Q3, comparable to the pace of the first half of the year.
- The personal saving rate was 5.7% in September, down slightly from 5.8% in August.

**Durable goods spending led September rebound**

- Led by strong vehicle sales, expenditures on durable goods grew a robust 1.8% in September, after declining in August.
  - On a 12-month change basis, durable goods expenditures are up 5.7%.
- Nondurable goods expenditures remained in negative territory in September.
  - Spending on nondurables declined 0.1% in September, after falling 0.3% in both August and July.
- Services spending continued to grow at a modest pace.
  - Expenditures on services grew 0.1% in September, the same increase as in the previous two months, and rose 2.2% on a 12-month change basis.
**Investment in new equipment remains weak**

- Real business equipment spending fell 2.7% (annual rate) in 2016Q3, its fourth consecutive decline. The four-quarter change was -4.5%.
  - Investment in transportation equipment and “other” equipment fell in 2016Q3, more than offsetting increases in information equipment and industrial equipment.

- A key reason for weak equipment investment is the low level of the manufacturing capacity utilization rate.
  - This rate was 74.9% in September 2016, well below its longer-term average of 78.5%.
  - The utilization rate has been fairly flat since the beginning of 2015, even with slow growth in capacity.

**Nonresidential structures investment improved**

- Real investment in nonresidential structures grew at a 5.4% annual rate in 2016Q3, the first meaningful increase since 2014Q4.

- Real investment in petroleum and natural gas related structures continued to decline in the third quarter, but the rate of decline has begun to ease somewhat.

- Real investment in office structures has been robust since late 2013 and grew at a nearly 40% annual rate in 2016Q3.
  - The third quarter also saw strength in sectors such as multimerchandise shopping, food and beverage establishments, and other commercial categories.
**Housing Starts**

- Total housing starts fell in September, leading to a fall in the 3-month moving average to 1.138 million units at a seasonally-adjusted annual rate (SAAR).
  - The September fall in housing starts was concentrated in the multifamily sector, but building permits data indicate that this fall should be transitory.
  - Single family starts rose in September; however, they were only slightly above that of January despite low mortgage interest rates.
  - On a 3-month moving average basis, both single- and multifamily starts seemed to have plateaued recently.

- On a per capita basis, total housing starts remain about 46% below the longer-term average from 1968 to 2003.

**Household formations close to demographic trend**

- A household is defined as any person or group of persons who occupy a housing unit, with household formations referring to the growth of the number of households.
  - From a high rate in the mid-2000s, household formations slowed to around just 500,000 per year during the Great Recession and stayed near that rate through 2011.
  - Since then, household formations have moved up toward 1.4 million per year which is viewed as being consistent with underlying demographics.

- There has been a dramatic change in the housing tenure of household formations, with essentially all new households now being renters.
**Government sector is expanding modestly**

- On a year-over-year basis, real government consumption and gross investment was up 0.4% as of 2016Q3, a marked slowing from the recent high of 2.2% as of 2015Q4.

- At the federal level, real consumption and gross investment was up 1.1% over the four quarters ending in 2016Q3, compared to an increase of 1.7% as of 2015Q4.
  - Nondefense spending (about 40% of the total) rose 2.6% as of 2016Q3. Defense spending was unchanged after having declined for most of the preceding five years.

- At the state and local government level, which represents about 60% of total government spending (excluding entitlement spending), real consumption and gross investment in 2016Q3 showed little change from a year ago.

**State & local investment recovery backtracks**

- Real state and local government gross investment fell 4.2% over the four quarters ending in 2016Q3.
  - Investment displayed strong growth from late 2014 through early 2016, with the level in 2016Q1 being the highest in 5 years.
  - During the second and third quarters of 2016, however, investment declined sharply and is now 6.5% below its recent 2016Q1 peak.

- Real consumption expenditures grew 0.8% over the four quarters ending in 2016Q3.
  - State and local government consumption expenditures are generally less volatile than investment.
  - Compared to the first three quarters of 2015, quarterly growth in state and local government consumption expenditures has slowed.
INTERNATIONAL DEVELOPMENTS

Net Exports: Contribution to GDP Growth

- Net exports added 0.8 percentage point to GDP growth in 2016Q3 (SAAR).
  - This is an increase from the net export growth contribution of 0.2 percentage point in Q2.
- Real exports jumped in Q3, rising 10% (SAAR).
  - This rise was mostly driven by soybean exports to China.
- Real imports edged up 2.3% (SAAR) in Q2.
  - The four-quarter change in real imports was 1.0%.

Net Financial Outflows from China

Private financial outflows from China rebounded

- Over $200 billion in private-sector capital, on net, flowed out of China in Q3.
  - This is a pickup from roughly $100 billion in Q2.
  - Net private outflows have been substantial since mid-2015.
- The central bank sold $136 billion of its foreign assets.
  - These sales are partially offsetting private-sector outflows.
- The sum of private and central bank capital outflows was roughly unchanged at $71 billion.
  - Total outflows this year are down from last year's high levels.

Source: Bureau of Economic Analysis via Haver Analytics

Source: State Administration of Foreign Exchange via Haver Analytics

Note: Public outflow measured by central bank FX reserves. Private outflow = current account—reserves.
LABOR MARKET

Payroll Employment and Aggregate Hours

Payroll employment growth remained solid
- October nonfarm payroll employment rose by 161,000, below the revised gains of 191,000 in September.
  - Over the last three months, average monthly gains were 176,000, which is similar to the average gains of 171,000 in the first half of 2016.
- Aggregate hours increased 0.2% in October.
  - The 12-month change fell to 1.5% and remains below its recent peak of 2.7% in July 2015.
  - Average weekly hours remained at 34.4.
- Payroll gains remain broad based, with the one-month diffusion index at 59.2%, above its average of 56.8% over the first three quarters of 2016.

LFPR change from September 2015 to October 2016

Labor force participation rate rose in the last year
- The labor force participation rate (LFPR) fell slightly from 62.9% in September to 62.8% in October.
  - This rate gradually declined from 66.4% in January 2007 to 62.4% in September 2015.
- The labor force participation rate has shown some improvement in the last year, picking up from 62.4% in September 2015 to 62.8% in October 2016.
  - The labor force participation rate increased for both men and women.
  - The rise in participation was broad based across all age groups for male workers, while it was concentrated in the prime-age category for women.
**LABOR MARKET**

**LFPR: Actual vs. Counterfactual**

- The recent improvement in labor force participation is notable because the aging of the U.S. workforce is an important factor driving the trend decline in the participation rate.
- If population shares by age and gender had remained at their 2005-2006 averages and age/gender-specific participation rates had followed their actual evolution, the labor participation rate would have been around 65%.

**Role of demographics in participation trends**

**Compensation growth showing signs of a pickup**

- Average hourly earnings increased 0.4% in October and rose 2.8% over the past 12 months.
  - This 12-month growth rate in average hourly earnings is the highest reading since June 2009 and remains above the narrow range near 2% that prevailed from January 2010 through August 2015.
- Average weekly earnings also increased 0.4% from $888.21 to $891.65.
- The employment cost index rose 2.2% for the 12 months ending September 2016.
**Ongoing stability in core CPI inflation**

- The 12-month change in core CPI inflation was 2.2% in June, similar to the changes observed since the beginning of 2016.

- Core CPI goods prices continued to fall, in part due to the effects of earlier declines in non-oil import prices.
  - The 12-month change in core CPI goods prices was -0.6% in September, compared to a 0.5% decline in August.

- Core CPI services prices are less exposed to trade and continue to grow at a steady pace.
  - The 12-month change in core CPI services prices was 3.2% in September, the same as in August.
  - The shelter component of the CPI rose 3.4% from a year ago.

**The drop in import prices appears to be over**

- Import prices (excluding oil) were down less than 1% over the year in September.
  - The rate of decline has eased over the course of the year.

- Import prices for autos and consumer goods were unchanged over the year.
  - Most consumer goods prices have been essentially unchanged over the last few years, while there has been a steady decline in auto prices.

- Prices for industrial supplies were down 1%.
  - These prices reflect the stability of commodity prices this year.
US equity markets remain near all-time highs

- U.S. equity markets experienced a modest increase in volatility and declined slightly at the end of October into early November.
  - Valuations remain near all-time highs, supported by the low level of interest rates and economic news that is broadly in line with market expectations.
  - As of November 4th, the S&P 500 index is up 3.6% for the year.

- Option-implied stock market volatility, as measured by the VIX index, moved closer to its historical average.
  - The VIX index moved up into the low 20s in early November after averaging 14.6 in October.
  - This is slightly above the historical average of the index, but below the spike above 25 following the UK referendum and the observations in the mid 20s earlier this year.

Expected Federal Funds rate path unchanged

- The expected path for the Federal Funds rate (FFR) implied by rates on overnight index swaps (OIS) was largely unchanged over the past month.
  - After a small decrease prior to the November FOMC meeting, the implied path returned to its trajectory at the start of the month following the decision to hold the target range unchanged and the release of economic data, including payrolls, that were largely in line with expectations.

- The current market-implied path remains well below the median longer run path from the FOMC’s Summary of Economics Projections (SEP) and the NY Fed Primary Dealer Survey.
US Bank Equities Performance

- U.S. bank equities were up 5.5% as measured by the KBW index in October versus a 1.6% decline for the S&P 500 index.
  - The XLF financial sector ETF also outperformed the S&P 500 index by gaining 2.8%.

- Bank stocks benefited from third quarter earnings that beat expectations in part due to higher trading revenue compared to the previous year.
  - All of the banks in the S&P 500 index beat consensus earnings expectations by an average of roughly 10 percent, one of the largest positive earnings surprises for the banking sector in the past few years.

10-Year Treasury and Term Premium

- U.S. long-term Treasury yields inched higher prior to the November FOMC meeting and were largely unchanged after the meeting.
  - At 1.87 percent, the 10-year yield is slightly above the level recorded just prior to the June UK referendum, but remains 50 basis points lower than the level at the beginning of the year.

- Estimates of the Adrian-Crump-Moench term-structure model attribute the yield decline since the start of the year to a lower term premium rather than to a lower expected path for the short-term rate.
  - Estimates of the term premium on the 10-year Treasury yield increased slightly over the course of October, but remain in negative territory.
**Oil Prices Remain Volatile**

- Oil prices remain volatile, having increased over 15% in October relative to early September and then subsequently declining around 10% by early November.
  - Prices increased following OPEC's September 28th announcement of a production cut, with the next OPEC meeting scheduled for November 30th.

- Option-implied oil volatility, as measured by the OVX index, is higher than its historical average but lower than its peak earlier this year.
  - Implied volatility rose to the mid 40s as prices declined in late October. This is higher than the historical average which is in the low 30s, but below the peak when oil prices fell to the mid 20s earlier this year.

**5-10 Year Forward Decomposition**

- Market-implied TIPS-based measures of long-term inflation expectations (“breakevens”) increased modestly over the course of October, but remain near historical lows.
  - The five-to-ten year breakeven inflation rate stands at around 1.6 percent, which is 0.1 percentage point below its level at the beginning of the year.

- According to the Abrahams-Adrian-Crump-Moench model, variation in the breakeven inflation rate is largely driven by changes in the inflation risk premium, while expected inflation has remained stable.
  - The estimated five-to-ten year inflation risk premium increased by about 15 basis points over the course of October.

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SPECIAL TOPIC: OIL PRICE DECOMPOSITION

Cumulative Weekly Decomposition during 2016

Demand and supply have pushed up oil prices in 2016

- Using a statistical model and a large number of financial variables, weekly oil price changes can be decomposed into demand effects, supply effects and an unexplained part (“residual”).

- Year-to-date, oil prices are about 20% higher in 2016.
  - Early in 2016, deteriorating global demand expectations, primarily due to large price declines in Chinese equity markets, was the prominent driver of oil price movements.
  - Since March, oil prices have recovered due to both an improving global demand outlook and tighter supply conditions.

Cumulative Weekly Decomposition since July

Recent oil price trends reflect weakening demand

- Since the start of Q3, oil price weakness has reemerged and prices are down 10% in this period.

- Oil prices were lower mainly as a result of weakening, albeit volatile, global demand expectations.

- The recent oil price declines have occurred despite a renewed tightening of supply conditions following OPEC’s agreement on September 28 to cut production.