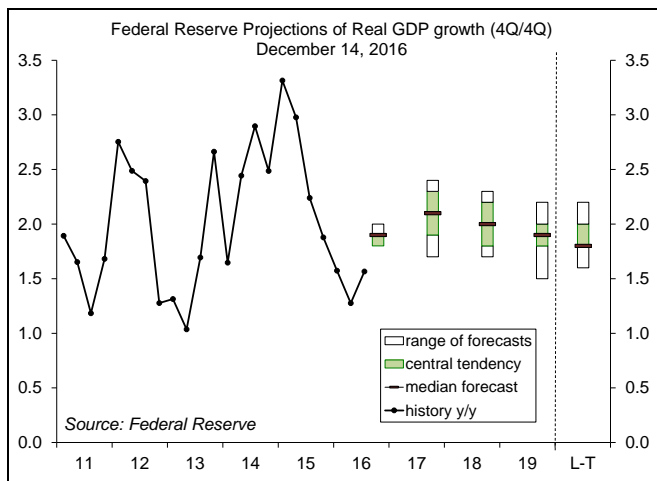


Economic Trends

The 2017 Economic Outlook

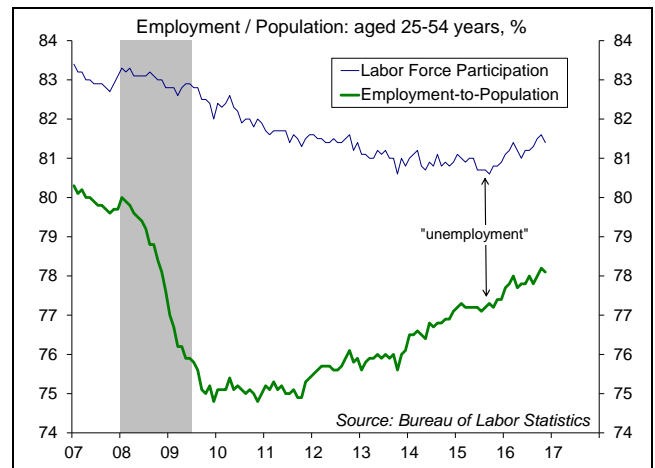
- The U.S. economy is closing out 2016 on a firm footing. The household sector is in good shape. Post-election optimism may contribute to a pickup in business fixed investment. The global outlook is a bit brighter, although challenges remain.
- Republicans control the White House and Congress, which should make it easier to get things done. However, there are likely to be some conflicts between the incoming administration and establishment Republicans in Congress. Power transitions are typically bumpy, with many unforeseen events.
- Monetary policy will remain data-dependent, but the Federal Reserve is still expected to raise short-term interest rates gradually. Expectations of a larger federal budget deficit have lifted long-term interest rates, but low rates abroad should prevent U.S. bond yields from rising too rapidly.

The rising stock market and improving sentiment gauges for consumers, homebuilders, manufacturers, and small business suggest a brighter growth outlook for 2017. However, surveys of economists show only a modest uptick in GDP growth expectations for 2017 and 2018. Economists often play Eeyore to the stock market's Tigger, but why so in the current situation? For one, the rollback in regulation, the increase in infrastructure spending, and the reduction in taxes are all sure to be less than what the market seems to be hoping for. Secondly, higher long-term interest rates are likely to check the improvement in consumer spending, housing, and business investment, and a strong dollar should hurt U.S. exporters. However, the biggest constraint is the job market. If close to full employment, fiscal stimulus would be more likely to show through to higher inflation or an asset price bubble.

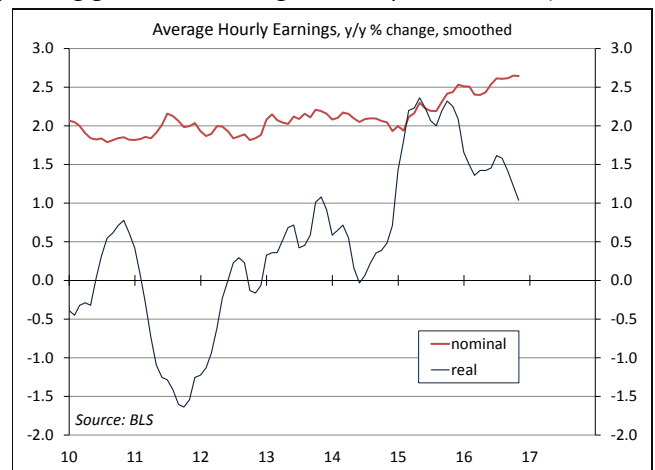


The unemployment rate was reported at 4.6% in November, down from 10% in the immediate aftermath of the Great Recession. The employment/population ratio remains

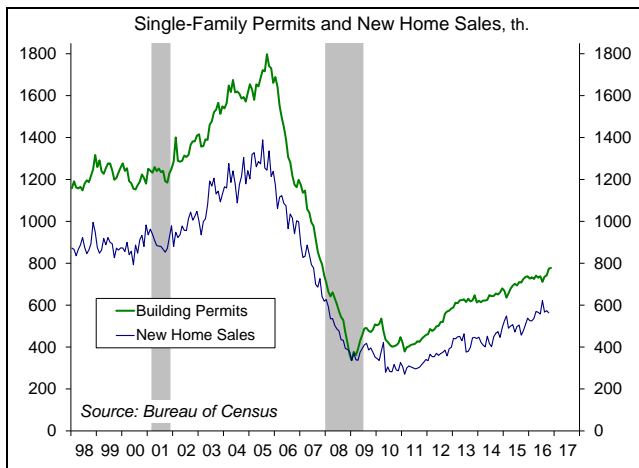
well below its pre-recession level, but labor force participation is rising for the key age cohort (those aged 25-54 years). In a typical labor cycle, improvement for teenagers and young adults will follow. Many measures, such as the number of people involuntarily working part-time, suggest that there is still some slack remaining in the job market. A tight job market should reveal itself through faster wage growth. Average hourly earnings are normally a bit choppy, but the trend is moderately higher (the three-month average for November was up 2.6% from a year earlier; it was up 2.4% y/y in November 2015). The job market has more room to run.



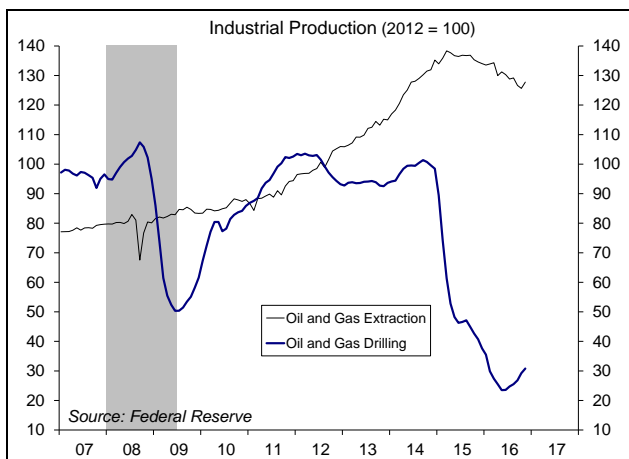
While nominal wage growth has been trending higher, growth in inflation-adjusted wages is slowing as the benefit of lower gasoline prices fades. The three-month average for real average hourly earnings rose 1.0% y/y in November (vs. +2.3% y/y in November 2015). That implies less fuel for consumer spending growth. Motor vehicle sales, a relatively steady contributor to the economic recovery, appear to have plateaued (hence, are unlikely to add much to consumer spending growth, on average, in the quarters ahead).



Consumer spending accounts for 69% of Gross Domestic Product. Even as the labor market continues to improve and nominal wages trend moderately higher, the upside for consumer spending growth (and hence, overall GDP growth) appears to be limited. The incoming administration and Congress should be able to reach an agreement on tax cuts. We may see a completed package by the middle of 2017 (tax cuts are almost always made retroactive to the beginning of the year). However, for the household sector, tax cuts are expected to be concentrated at the upper end of the income scale, where they are more likely to be saved, not spent.

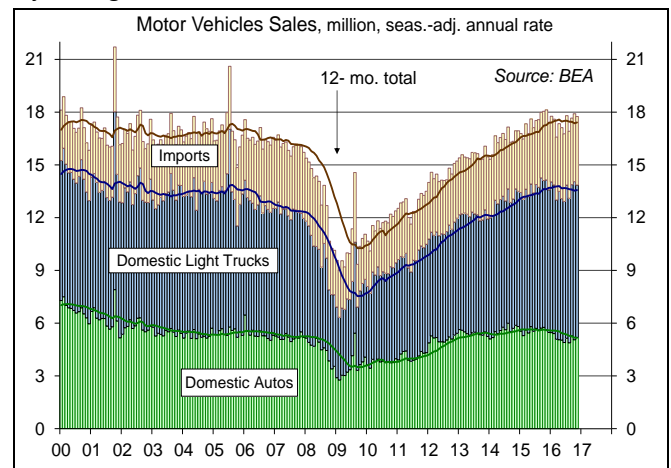


In a number of ways, the housing bust appears bigger than the boom. The housing recovery was always expected to take several years, but improvement has been even slower than anticipated. That's partly because the supply chain was crushed during the downturn. Building costs are high. There's been a shortage of skilled workers. Shell-shocked potential buyers were reluctant to return to the market or to move up. Millennials have been slow to settle down and start families. Banks have been reluctant to lend to first-time buyers. Rents have been outpacing overall inflation, which would normally encourage home buying, but home prices have also risen, freezing out potential buyers. Mortgage rates have risen since the election. However, as we saw following the Bush tax cuts, upper income households are likely to take some of their tax savings and buy second homes and vacation homes.

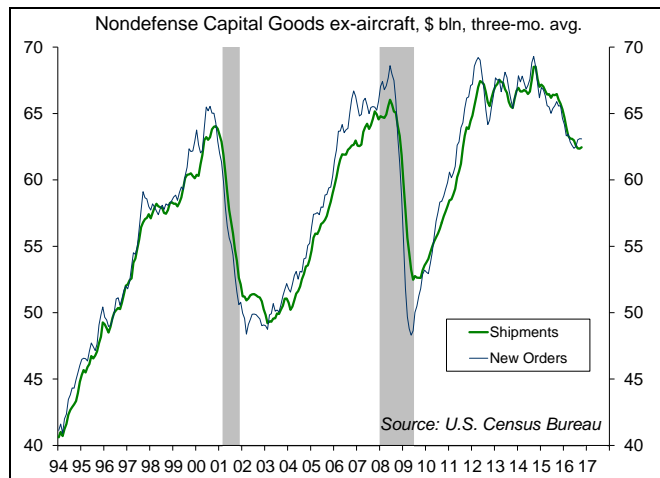


Energy remains an important factor in the U.S. economy. During the oil boom, job growth was rapid (roughly five times the pace of growth in total nonfarm payrolls), but the number of jobs remained relatively small compared to national employment. While locally devastating, job losses in energy were small on a national scale. In contrast, oil and gas well drilling is capital intensive – and capital investment in the energy sector fell sharply since late 2014. The energy contraction was a significant drag on business fixed investment. That contraction appears to have ended. While we may not see a sharp rebound, related capital spending will no longer be a drag on business fixed investment and overall GDP growth.

Manufacturing activity, while uneven from month to month, has been trending moderately higher, with strength concentrated in autos. During the housing boom, many households used extracted home equity to buy motor vehicles. During the bust, vehicle sales fell sharply. The recovery in sales was due to two key factors. Cars wear out and need to be replaced, and banks have been willing to make auto loans. Vehicle sales appear to have plateaued, which means that we're unlikely to see them adding as much to overall economic growth as they have in previous quarters. In addition, concerns about subprime auto lending have grown. The sector will be subject to greater downside risks should a recession occur.



Business fixed investment has been soft in recent quarters, but the drop has been more akin to a slow patch than a recession. Orders for nondefense capital goods ex-aircraft have decreased, partly reflecting the contraction in energy exploration. The soft global economy has also been a factor. Recent data suggests some pickup in the near term, as the energy contraction is behind us. More broadly, soft capital spending has been a global phenomenon. Borrowing costs have remained low, which normally provides a boost (eventually). Business tax cuts, expected to be achieved in 2017, will deliver more cash to corporate balance sheets, but firms have already had the cash and easy access to credit in order to expand. Firms won't want to expand unless they are confident that the demand for the goods and services that they produce will increase. Increased optimism ought to fuel growth in capital spending in early 2017.

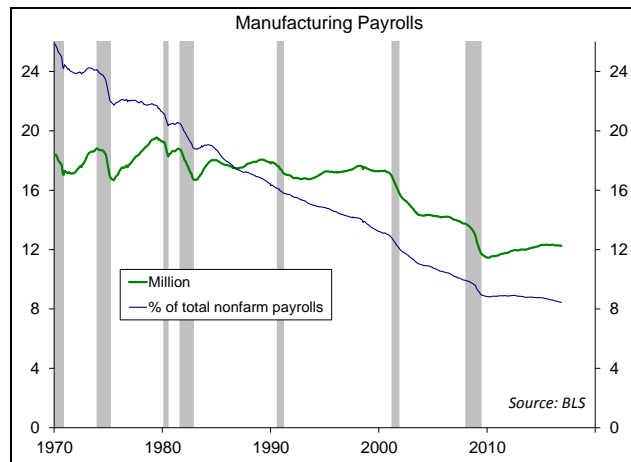


Small firms experienced an unprecedented credit crunch during the financial crisis. Bank lending to small business was very slow to recover. These firms account for much of the hiring during a typical economic expansion. They contributed significantly to the pickup in job growth in 2014 and 2015, but the pace slowed in 2016. Renewed optimism should lead to some improvement in early 2017.

A few decades ago, inventories played a big part in the business cycle, rising as the economy slowed, then falling as production dropped. However, inventory management has improved significantly over the years, reflecting the impact of technology and global trade. Slower inventory growth was a notable drag on GDP growth in the first half of the year. Normally, lean inventories signal an increase in production ahead. However, we are unlikely to see the amount of restocking of inventories that we have in the past.

The global economic outlook appears a little better in the near term, but there are challenges. The pain of Brexit is still ahead of us (a two-year period of negotiations is set to begin in March). China's economic transition is likely to remain bumpy. The dollar has strengthened since the election, which should contribute to a wider U.S. trade deficit. However, the strengthening of the dollar in 2015 did not have as much of an impact on real trade activity as anticipated.

The possibility of a trade war is one of the major economic risks for 2017. President-Elect Trump has called China a currency manipulator, but the country is trying to prevent its currency from weakening, not actively pushing it down. An official declaration of currency manipulation by the U.S. Treasury would automatically trigger tariffs on Chinese goods. China would likely retaliate against U.S. exports. While trade agreements require Congressional approval, the president can, by himself, pull the U.S. out of existing agreements. Renegotiating the North American Free Trade Agreement would be extraordinarily complex. U.S. manufacturing uses parts from around the world. There's a strong belief that cooler heads will prevail in the new administration, but should the election rhetoric turn into action, we would see significant supply chain disruptions and higher inflation in the U.S.



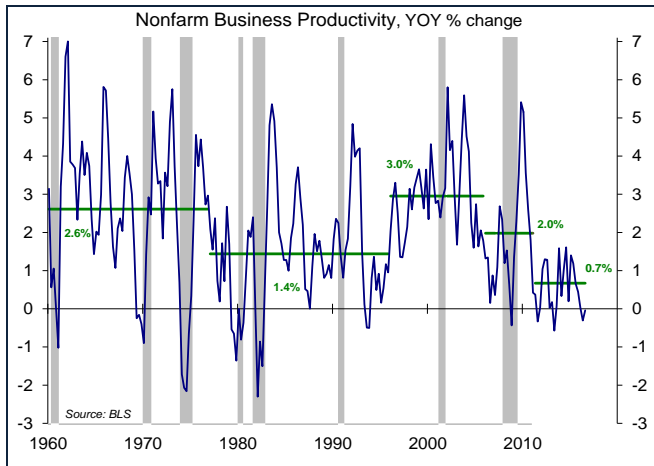
One of the main themes throughout the presidential campaign was the idea of bringing manufacturing jobs back, but those jobs won't be coming back. Globalization has been a factor, but about half of the factory jobs lost since the turn of the century have been due to technology improvements (automation). In the 1980s, the rule of thumb was that the U.S. would lose about 10% of our factory jobs each year, but new (more productive) factory jobs were created to take their place. The level of manufacturing employment was roughly steady between 1970 and 2000, while factory output rose 140%. Manufacturing in the U.S. has always been in a state of flux. The challenge is not to bring the jobs back. Efforts should be focused on creating new, better jobs for working people.

Whether due to globalization or technology, job losses can have devastating impacts on families and communities. We shouldn't turn a blind eye to that. Longer term, advances in artificial intelligence and robotics will have significant effects on the U.S. economy. Driverless cars and trucks are one example. Government efforts should concentrate on facilitating private-sector productivity-enhancing investments, which will be needed as the population growth slows. Government should also work to ease the transition for replaced workers, through relocation assistance and job training. None of that is going to be easy.

Prior to the election, the main economic story was demographics. The aging of the population in the U.S., and around the world, has put us in a new normal. Between 1960 and 2000, the U.S. labor force grew at an average pace of 1.8% per year, as the baby-boom generation entered the job market and women joined the labor force in greater percentages. Those trends are now well behind us. We should see further improvement in the job market in the near term, but the slowing in population growth will limit the underlying trend in labor force growth to about 0.5% per year. So, instead of GDP growing at 3.0-3.5% per year, we're looking at about a 2% pace.

Faster productivity growth would lift potential GDP growth, but the trend has been soft in recent years. For nonfarm business, output per worker rose +0.6% per year over the last five years. It averaged 1.4% per year for the nonfinancial corporate sector, which is seen as the preferred

measure. Slower productivity growth isn't unique to the U.S., partly reflecting softer global growth. Some of the slowing in productivity growth may be due to the weakness in capital spending during the recession and early recovery. However, there are some reasons to suspect that the slowdown in productivity growth may be longer-lasting. Technology gains should eventually bear fruit, but changes won't come quickly.



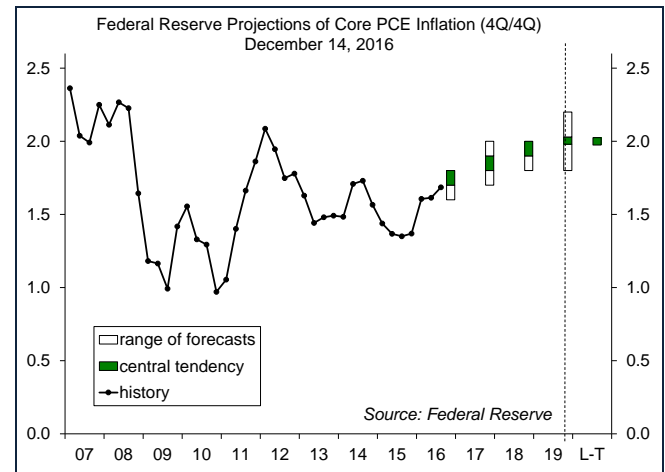
Productivity growth plays an important role in the inflation outlook and in long-term structural changes in the economy. If labor costs rise by 2% and productivity rises by 2%, there's no added labor expense per unit of output. Higher unit labor costs are either passed along through higher prices of finished goods and services or they eat into corporate profit margins. Bear in mind that productivity growth varies across industries and across individual firms. Should wage pressures continue to build, firms will eventually reallocate labor to its more efficient use, but the process is typically lengthy and far from smooth.

Over the last year, there have been growing calls for fiscal stimulus, government spending, and tax cuts to spur growth and take the place of monetary policy stimulus. Fiscal policy can be effective in a recession, as it was in limiting the damage from the financial crisis. However, it makes little sense when the economy is near full employment and government budgets are being strained by demographic changes.

There's widespread agreement that the country needs infrastructure improvement. Both presidential candidates called for it during the campaign. However, added spending is likely to be resisted in Congress. There's been some suggestion that infrastructure investment could be achieved through the private sector, which would amount to privatization, but that would fail to deliver funding to where it is needed most.

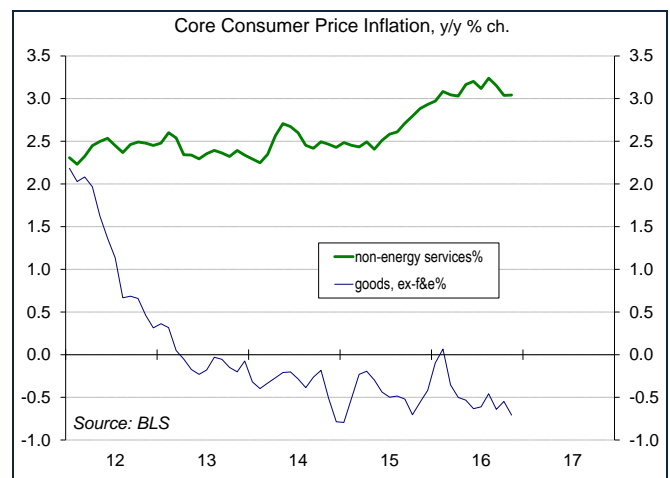
Tax cuts should be achievable, but they won't be offset by elimination of tax deductions. In the campaign, Trump's tax proposals were calculated to reduce federal receipts by about \$6 trillion over 10 years, with \$1 trillion in added interest payments on the national debt. It's standard knowledge in Washington that the deficit matters only when the other party is in the White House (despite the fact that Congress has a role in setting the budget). We're unlikely to see tax cuts on the scale that was proposed in the campaign, but we should see cuts.

Since the election, expectations of higher budget deficits have lifted long-term interest rates. They would have risen faster if not for the fact that long-term interest rates are low outside the U.S. In turn, higher long-term interest rates here put some upward pressure on foreign bond yields, complicating monetary policy effectiveness in Europe and elsewhere.



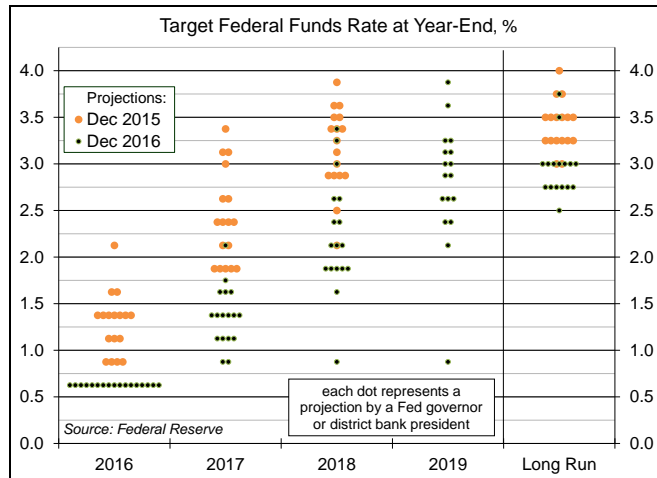
Rising long-term interest rates do not appear to be due to increased inflation expectations, although there is some fear that fiscal policy changes will add inflation pressure in the next few years. In the recent Summary of Economic Projections, Fed officials did not change their inflation forecasts for 2017 and 2018. Inflation, as measured by the PCE Price Index, is expected to move closer to the Fed's 2% goal (which is an important factor in the Fed's December 14 decision to resume policy normalization). In surveys, private-sector economists have also not boosted their expectations for inflation.

The outlook for inflation is mixed. Energy prices have firmed and food prices have been flat (lower for food at home, higher for food away from home). Ex-food & energy, inflation has been split. We're still seeing mild deflationary pressure in consumer goods, while shelter and healthcare costs have been outpacing overall inflation (pinching budgets of low- to mid-income households). A strong dollar will keep commodity price pressures in check. The tighter labor market will add to wage increases, but it's unclear whether that will be passed along.



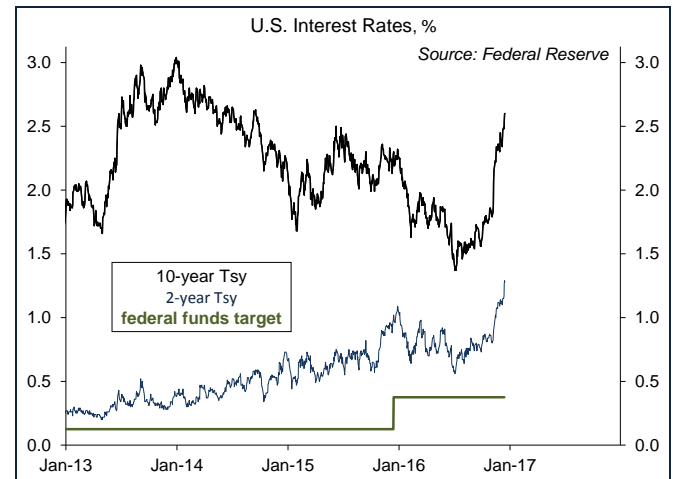


A year ago, senior Fed officials were divided on the likely pace of policy tightening in 2016, but the expectations were less diverse than they had been. Most expected two to four moves. Instead, we got one. Improvement in the labor market, while strong in 2016, slowed relative to 2015. Inflation pressures remained low. The latest dot plot, included in the December 14 Summary of Economic Projections, showed that most officials expect two or three hikes in 2017.



The dots in the dot plot are expectations of individual Fed officials. There is considerable uncertainty surrounding each dot, and not all of the officials get to vote on monetary policy. The correct answer to the question of future Fed actions is, "it depends." Policymakers remain focused on the job market and the outlook for inflation. Fiscal policy changes in 2017 are uncertain. The Fed will not try to guess, but will react to the economic implications of fiscal policy changes once they occur. Should the labor market pick up more than anticipated and inflation accelerate, the Fed could likely tighten faster. If labor market improvement fades, the Fed will move more slowly.

Fed officials are aware of certain risks relative to policy tightening. One is that some sectors of the financial industry may have grown to depend too much on low interest rates or taken excessive risk (such as insurance or pension funds leveraging up to boost yields). Another is possible adverse reactions abroad. As we saw with the taper tantrum in 2013 and the initial increase in the federal funds target rate a year ago, Fed policy changes can have a significant global impact. The Fed will not worry much about such reactions by themselves, but will take into account the impact on those reactions on the U.S. economy and financial stability here.



Janet Yellen's four-year term as Fed chair ends February 3, 2018 (she could stay on as a Fed governor until early 2024, but doubtful). Her presence should provide some stability as the new administration takes charge. However, by the end of the year, market attention will turn to her possible replacement. There is fear that Trump will appoint someone who will be less independent, softer on regulation and supervision, less pragmatic, and more hawkish.

|                            | 1Q16 | 2Q16 | 3Q16 | 4Q16 | 1Q17 | 2Q17 | 3Q17 | 4Q17 | 1Q18 | 2Q18 | 2016 | 2017 | 2018 |
|----------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| GDP (↓ contributions)      | 0.8  | 1.4  | 3.2  | 1.9  | 2.2  | 2.0  | 1.9  | 1.9  | 1.9  | 1.8  | 1.6  | 2.1  | 1.9  |
| consumer durables          | -0.1 | 0.7  | 0.8  | 0.5  | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.4  | 0.4  | 0.2  |
| nondurables & services     | 1.2  | 2.2  | 1.1  | 1.1  | 1.1  | 1.2  | 1.2  | 1.2  | 1.2  | 1.1  | 1.6  | 1.2  | 1.2  |
| bus. fixed investment      | -0.4 | 0.1  | 0.0  | 0.2  | 0.3  | 0.3  | 0.2  | 0.2  | 0.2  | 0.2  | -0.1 | 0.2  | 0.2  |
| residential investment     | 0.3  | -0.3 | -0.2 | 0.2  | 0.2  | 0.2  | 0.1  | 0.1  | 0.1  | 0.1  | 0.2  | 0.1  | 0.1  |
| Priv Dom Final Purchases   | 1.1  | 3.2  | 2.1  | 2.3  | 2.1  | 2.1  | 2.0  | 2.0  | 2.0  | 1.9  | 2.2  | 2.2  | 1.9  |
| government                 | 0.3  | -0.3 | 0.1  | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.1  | 0.2  | 0.2  |
| exports                    | -0.1 | 0.2  | 1.2  | -0.6 | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.0  | 0.1  | 0.2  |
| imports                    | 0.1  | 0.0  | -0.3 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.1 | -0.2 | -0.2 |
| Final Sales                | 1.2  | 2.6  | 2.7  | 1.4  | 2.0  | 1.9  | 1.9  | 1.9  | 1.9  | 1.8  | 2.0  | 2.0  | 1.9  |
| ch. in bus. inventories    | -0.4 | -1.2 | 0.5  | 0.5  | 0.2  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | -0.4 | 0.2  | 0.0  |
| Unemployment, %            | 4.9  | 4.9  | 4.9  | 4.7  | 4.7  | 4.6  | 4.6  | 4.6  | 4.5  | 4.5  | 4.9  | 4.6  | 4.5  |
| NF Payrolls, monthly, th.  | 196  | 146  | 206  | 160  | 150  | 145  | 140  | 135  | 135  | 135  | 179  | 138  | 118  |
| Cons. Price Index (q/q)    | -0.3 | 2.5  | 1.6  | 3.5  | 2.5  | 2.2  | 2.2  | 2.2  | 2.2  | 2.2  | 1.3  | 2.5  | 2.2  |
| excl. food & energy        | 2.7  | 2.1  | 1.9  | 1.9  | 1.9  | 1.9  | 2.0  | 2.0  | 2.1  | 2.1  | 2.2  | 1.9  | 2.0  |
| PCE Price Index (q/q)      | 0.2  | 2.0  | 1.4  | 2.6  | 2.3  | 2.0  | 2.0  | 2.1  | 2.1  | 2.1  | 1.1  | 2.1  | 2.1  |
| excl. food & energy        | 2.0  | 1.8  | 1.7  | 1.6  | 1.8  | 1.8  | 1.9  | 2.0  | 2.0  | 2.0  | 1.7  | 1.8  | 2.0  |
| Fed Funds Rate, %          | 0.36 | 0.37 | 0.40 | 0.44 | 0.63 | 0.65 | 0.88 | 0.92 | 1.13 | 1.23 | 0.39 | 0.77 | 1.27 |
| 3-month T-Bill, (bond-eq.) | 0.2  | 0.3  | 0.3  | 0.4  | 0.6  | 0.7  | 0.9  | 1.0  | 1.2  | 1.3  | 0.3  | 0.8  | 1.3  |
| 2-year Treasury Note       | 0.8  | 0.8  | 0.7  | 1.0  | 1.4  | 1.5  | 1.6  | 1.7  | 1.9  | 2.0  | 0.8  | 1.4  | 1.9  |
| 10-year Treasury Note      | 1.9  | 1.8  | 1.6  | 2.2  | 2.7  | 2.8  | 3.1  | 3.2  | 3.4  | 3.5  | 1.9  | 2.9  | 3.5  |