



Addendum 1: U.S. Economic Forecast
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Solid growth with higher inflation out of the gate: Fourth-quarter GDP growth was reported at 2.9 percent in Bureau of Economic Analysis' third estimate, revised up 0.4 percentage point from the second estimate, with notable upward revisions to personal consumption expenditures (PCE) and inventory investment. Over the final three quarters of last year, GDP rose at a robust 3.0 percent annual rate. While the economy surely had solid momentum heading into 2018, the incoming data point to a temporary slowdown in the first quarter. The main source of first-quarter weakness is PCE, which has slowed sharply early this year.

Following only 1.7 percent growth in the first quarter, we forecast GDP growth to pick up to 3.0 percent or better over the balance of 2018, followed by 2.9 percent next year and 2.1 percent over 2020, lowering the unemployment rate to 3.6 percent. This growth is aided by recently legislated tax cuts and new federal spending, and not at all derailed by new tariffs on imports of steel and aluminum, since the growing list of exemptions from these tariffs has mitigated their effect.

Core PCE inflation is picking up. Over the six months ended in February, the core PCE price index rose at a 2.3 percent annual rate. By this measure, we have already surpassed the Federal Reserve's 2.0 percent objective. We forecast core PCE inflation of 2.0 percent for this year, 2.2 percent over 2019, and 2.3 percent inflation over 2020. This prompts four Fed interest-rate hikes this year, followed by several more over 2019 and 2020.

Current quarter and one quarter ahead: The first two quarters of our forecast are marked by a temporary slowdown (and rebound) in GDP growth, a resumed downward drift in the unemployment rate, a step-up in inflation, and a continuation of gradual Fed rate hikes. GDP had solid momentum heading into 2018, with growth averaging a robust 3.0 percent annual rate over the second half of last year. In the first quarter, however, our baseline forecast shows a growth deceleration to only 1.7 percent. This slowdown is more than accounted for by PCE, which slows from 4.0 percent growth in the fourth quarter to only 1.2 percent growth in the first quarter. Part of this slowdown reflects cooling vehicle sales following an elevated pace last fall, when destructive hurricanes set in motion a wave of replacement sales. But even outside of vehicles, consumer spending on goods is softening.

GDP growth is forecast to rise to 3.0 percent in the second quarter, completely reversing the first-quarter slowdown. The acceleration is nearly accounted for by PCE, which picks up from 1.2 percent growth in the first quarter to 2.8 percent growth in the second. Solid fundamentals are at play here, including steady growth of employment and real disposable personal income, rapidly rising home prices, and elevated consumer sentiment.

Averaged over the first half, we forecast GDP growth at 2.3 percent, down from 3.0 percent growth over the second half of last year, but still above potential. As a result, payroll gains average about 200,000 per month over the next few months, and the unemployment rate, which has registered 4.1 percent over the last five months, resumes a downward drift and averages 4.0 percent in the second quarter.

Solid growth, tightening labor markets, recent increases in oil and import prices, and inflation expectations anchored at 2 percent are all conspiring to raise core PCE inflation. The 12-month increase in the core PCE price index during February was 1.6 percent, but this calculation includes a fluky 0.2 percent decline last March. Rates of increase over more recent horizons are more elevated. Over the six months ended in February, for example, the core PCE price index rose at a 2.3 percent annual rate. Looking ahead, we forecast core PCE inflation of 2.3 percent (annual rate) over the first half of this year.

Solid growth and rising inflation prompt the Fed to continue its campaign of gradual interest-rate hikes in our baseline forecast. The Fed has already tightened once this year (in March), and we forecast three more rate hikes before year-end, with the next one in June.



Consumer spending, income, and confidence: The third estimate of fourth-quarter real consumer spending growth was boosted by 0.2 percentage point to a 4.0 percent annual rate, the strongest since the fourth quarter of 2014. Our forecast for first-quarter real spending growth has been marked down by 0.7 percentage point to 1.2 percent due largely to weaker-than-expected February spending. Real disposable income growth likely accelerated in the first quarter, to a 4.3 percent annual rate—0.8 percentage point lower than in our last forecast—after increasing at a 1.1 percent rate in the fourth quarter. Real consumer spending growth should rebound in the second quarter to a 2.8 percent rate and moderate to a 2.5 percent rate by the final quarter of 2018.

Recent news on the consumer markets front has been mixed. Personal consumption was flat in February, although income gains were solid and broad-based, outpacing spending gains for the second month in a row and pushing the saving rate up to 3.4 percent—the highest since August 2017. Light-vehicle sales surged to a 17.4-million-unit pace in March, the best in three months. The University of Michigan's Consumer Sentiment Index and the Conference Board's Consumer Confidence Index remain near or at historical highs; while the confidence index slipped in March, the sentiment index sits at its highest monthly mark since January 2004.

Consumer spending growth will continue to support the economic expansion, underpinned by improving household finances, lower personal tax rates, and gains in employment, real disposable incomes, and home values. Real consumption growth is projected to decline 0.3 percentage point to 2.5 percent in 2018 and reach 2.7 percent in 2019. Real disposable income growth is expected to jump to 3.6 percent in 2019, from 2.6 percent in 2018.

Housing markets: Over the next 10 years, the Census Bureau projects the US resident population to increase by 22.8 million, or 2.6 million less than it previously projected in 2014, according to new projections released 13 March. Net migration accounted for the entire downgrade. As a result, we have lowered the housing forecast over the next 10 years. Cumulatively, we expect 14.95-million starts during 2018–28, down 900,000 from last month. In addition to single-family and multifamily starts, we have also lowered the forecasts for new and existing home sales.

Residential investment was solid in the fourth quarter, contributing 0.46 percentage point to GDP growth, and weak in the first quarter, estimated to deduct 0.20 percentage point. Averaging the two quarters better portrays the state of the housing market than focusing in on a particular quarter—the market continues to improve slowly but steadily, much as it has since 2010. Our preferred metric, the three-month average for single-family permits, suggests that the single-family new construction market continues to slowly advance, with almost all growth taking place in the West and South. Another metric we closely track, the FHFA home price indices, showed home prices rising in each of the country's 100 largest metropolitan areas, and in 49 states along with the District of Columbia (Mississippi was the lone outlier) at the end of 2017. Lean inventories (and not easy credit) are driving home prices up.

The 30-year mortgage rate, which tracks the 10-year Treasury rate, has held steady over the past five weeks, after climbing 55 basis points at the start of the year. We expect it to rise from 4.40 percent this week to 4.77 percent by the fourth quarter as the Federal Reserve raises interest rates. Despite rising mortgage rates and home prices, we expect home sales to exceed last year's level by nearly 3 percent.

Government: On 23 March, President Trump signed into law the \$1.4-trillion Consolidated Appropriations Act of 2018 (CAA18). While it generated adverse publicity, the act essentially allocated across federal agencies, and across accounts within agencies, spending totals for fiscal year (FY) 2018, previously authorized under the Bipartisan Budget Act of 2018 (BBA18). So, CAA18 was not a surprise, and had no implications for this month's forecast. In March, the president, citing national security concerns, also announced the imposition of tariffs on imports of steel (25 percent) and aluminum (10 percent). However, with exemptions likely for Canada, Mexico, Australia, and the European Union, we estimate the new tariffs will raise less than \$10 billion annually—a "rounding error" in our \$20-trillion economy. Hence, by themselves, the tariffs have little impact on the federal budget or the macroeconomic outlook. Our forecast does assume that the level of appropriations for FY 2019 prescribed under BBA18 is extended beyond then to prevent a sharp fiscal contraction (in an election year), otherwise required under the sequestration provision of the Budget Control Act of 2011. The forecast also reflects our analysis of the Tax Cuts and Jobs Act (TCJA), while assuming major entitlement programs remain on "autopilot." Under these assumptions, federal, state, and local fiscal



policies contribute roughly 0.8 percentage point to GDP growth over 2018–19; that contribution then dwindles to 0.4 percentage point in 2020. On 9 April, the Congressional Budget Office (CBO) will release its next Budget and Economic Outlook, the first to reflect both the TCJA and BBA18. We expect the CBO will show little revision to its projections of secular GDP growth, but substantial upward revisions to its projections of deficits through 2028.

Employment and inflation: Despite a “soft” gain in March payrolls—total nonfarm employment rose only 103,000—we continue to expect that generally solid gains in employment, driven by robust growth in production, will contribute to a further 0.5- percentage-point decline in the unemployment rate, to 3.6 percent, by early 2019. This further tightening in labor (and product) markets contributes to additional firming in both wage and price inflation, including a modest overshoot of the Federal Reserve’s explicit 2 percent inflation target.

Employment gains are expected to be relatively solid through 2019, averaging about 205,000 per month, or about 1.7 percent per year. Job growth is expected to build to an average around 250,000 per month over the second half of 2018, before gradually subsiding to around 90,000 per month in 2020. By then, these monthly gains would roughly match growth of the labor force and thus be consistent with a steady unemployment rate. Adding a wrinkle to the employment profile is an expected hiring of some 350,000 temporary Census workers for the 2020 Decennial Census over the first half of 2020, which then unwinds over the second half of the year.

Growth of hourly labor compensation is expected to accelerate because of the further tightening in labor markets. The rise in the employment cost index is expected to pick up from 2.5 percent in 2017 to 3.3 percent in 2019 and then 3.7 percent by 2021. Consumer price inflation—which we view as largely determined by well-anchored inflation expectations, recent past inflation, relative changes in energy and nonenergy import prices, and economic slack—is expected to increase as well. The personal consumption expenditure (PCE) price index excluding food and energy increased a tame 1.5 percent in 2017, but is expected to rise 2.0 percent in 2018, 2.2 percent in 2019, and 2.3 percent in 2020. The headline PCE index, which includes food and energy, will rise 2.4 percent in 2020, boosted by projected double-digit gains in energy prices.

Monetary policy and financial markets: The FOMC raised the target for the federal funds rate by 0.25 percentage point to a range of 1.50–1.75 percent at its policy meeting that concluded on 21 March. We expect additional rate hikes this year in June, September, and December. Beyond 2018, we see additional hikes that raise the upper end of the funds rate target range to 3.50 percent in 2020. Our forecasts for solid growth, tight labor markets, and firming inflation are consistent with our outlook on interest rates. Strong growth in demand, aided by fiscal stimulus, is projected to boost employment and lower the jobless rate, which is already more than 0.5 percentage point below our estimate of the non-accelerating inflation rate of unemployment (NAIRU)—4.7 percent. We expect core PCE inflation to rise, with annual measures moving modestly above 2 percent this year and averaging more than 2 percent in subsequent years, in response to strong demand, tight labor markets, and the dissipation of factors that temporarily restrained inflation in the recent past. We expect term Treasury yields to drift higher over the next few years, with the 10-year yield projected to reach roughly 3.70 percent in 2020. Federal Reserve interest-rate hikes, Fed balance-sheet shrinkage, and higher inflation premia will contribute to the upward drift in bond yields, reinforced by increases in foreign government bond yields. The Treasury yield curve will continue to flatten, as long-term rates rise by less than short- and intermediate-term rates. Overshooting of the long-run anchor for the funds rate to contain inflationary pressures will contribute to yield-curve flattening. Rising bond yields are a negative for equity valuations: we expect little cumulative gain in broad equity indexes over the next couple of years.