# The Economic Outlook

Tim Quinlan, Senior Economist
October 2018

Together we'll go far

---

Trade and the Economy

"We should beware of the demagogues who are ready to declare a trade war against our friends—weakening our economy, our national security, and the entire free world—all while cynically waving the American flag.

The expansion of the international economy is not a foreign invasion; it is an American triumph, one we worked hard to achieve, and something central to our vision of a peaceful and prosperous world of freedom."

**-President Ronald Reagan, 1988**

## Tariff Timeline

| Tariff Timeline | | | | | | |
|---|---|---|---|---|---|---|
| Date in Effect | Avg. Size | Value of Goods* (Billions ) | Goods Targeted | Country | % of Imports | % of Consumer Spending |
| Nov 2, 2017 | 21% | $5.9 | Softwood Lumber | Canada | 0.25% | 0.05% |
| Feb 7, 2018 | 20% | $1.8 | Washing Machines | Multiple | 0.08% | 0.02% |
| Feb 7, 2018 | 30% | $8.5 | Solar Panels | Multiple | 0.36% | 0.07% |
| Mar 23/Jun 1, 2018 | 25% | $23.4 | Steel | Multiple | 1.00% | 0.20% |
| Mar 23/Jun 1, 2018 | 10% | $16.4 | Aluminum | Multiple | 0.70% | 0.14% |
| Jul 6, 2018 | 25% | $34.0 | Variety Focus: Tech, Auto & Manuf. | China | 1.45% | 0.29% |
| Aug 23, 2018 | 25% | $16.0 | Variety | China | 0.68% | 0.13% |
| Sep 24, 2018 | 10% | $200.0 | Variety | China | 8.54% | 1.68% |
| **Enacted Total** | **14%** | **$305.9** | | | **13.06%** | **2.57%** |
| Proposed | 25% | $51.8 | Autos | E.U. | 2.21% | 0.44% |
| Proposed | 10% | $267.0 | Variety | China | 11.40% | 2.25% |
| **Proposed Total** | **12%** | **$318.8** | | | **13.61%** | **2.68%** |
| **Enacted + Proposed** | **13%** | **$624.7** | | | **26.67%** | **5.25%** |

*Values based on 2017 trade data

Source: U.S. Department of Commerce, Office of the United States Trade Representative, Pearson Institute for International Economics and Wells Fargo Securities
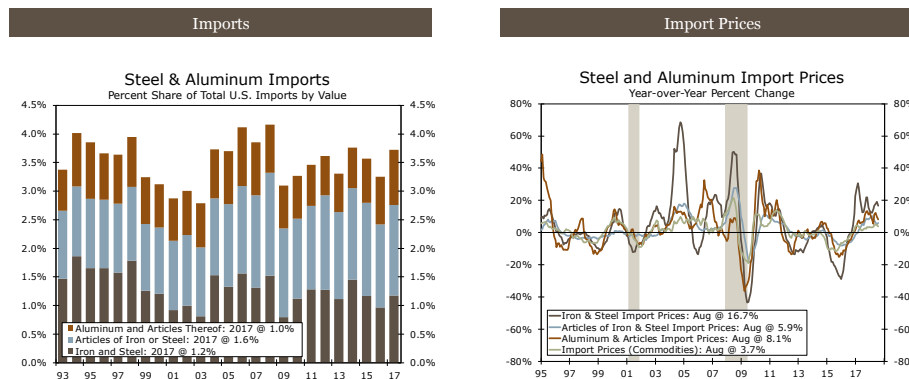
Economics
3
Wells Fargo Securities

---

## Steel and Aluminum Imports

The combined share of steel and aluminum hovers just below 4 percent of imports, which limits the degree to which price changes in these commodities affect overall U.S. import prices and inflation. There is a fair degree of correlation between the price of imported steel and aluminum and overall import price inflation.



Imports

Steel & Aluminum Imports
Percent Share of Total U.S. Imports by Value

Aluminum and Articles Thereof: 2017 @ 1.0%
Articles of Iron or Steel: 2017 @ 1.6%
Iron and Steel: 2017 @ 1.2%



Import Prices

Steel and Aluminum Import Prices
Year-over-Year Percent Change

Iron & Steel Import Prices: Aug @ 16.7%
Articles of Iron & Steel Import Prices: Aug @ 5.9%
Aluminum & Articles Import Prices: Aug @ 8.1%
Import Prices (Commodities): Aug @ 3.7%

Source: U.S. Department of Commerce, U.S. Department of Labor and Wells Fargo Securities
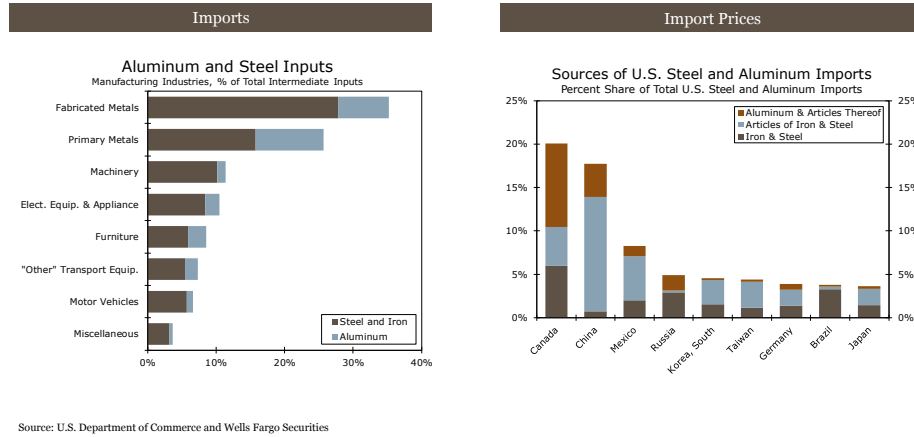
Economics
4
Wells Fargo Securities

## Steel and Aluminum Imports

Manufacturers that transform metals into intermediate or end products, or use steel and aluminum would see their production costs rise as the tariffs go into effect. Canada is the largest source of steel and aluminum imports, while Mexico is the third-largest exporter to the U.S. for both products.



Source: U.S. Department of Commerce and Wells Fargo Securities

Economics     5     Wells Fargo Securities

## Trade War and Pricing Impacts

Prior to the Trump administration's announcement, input prices for manufacturers were already rising at the fastest pace in nearly seven years. However, manufacturers' margins currently sit at a 17-year high, suggesting some scope to absorb higher input costs.
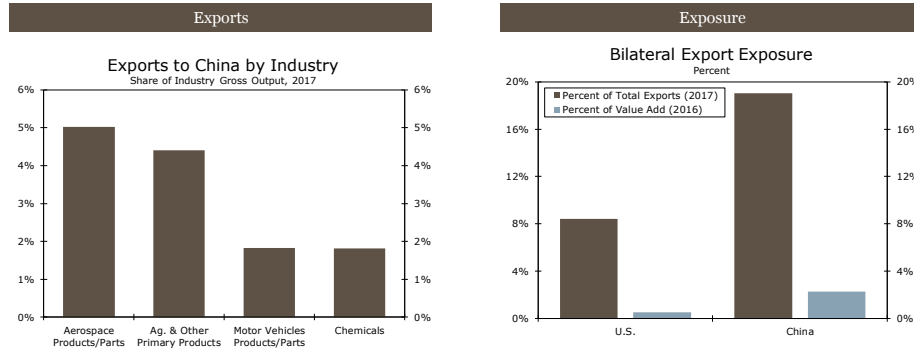


Source: Institute for Supply Management, U.S. Department of Commerce and Wells Fargo Securities
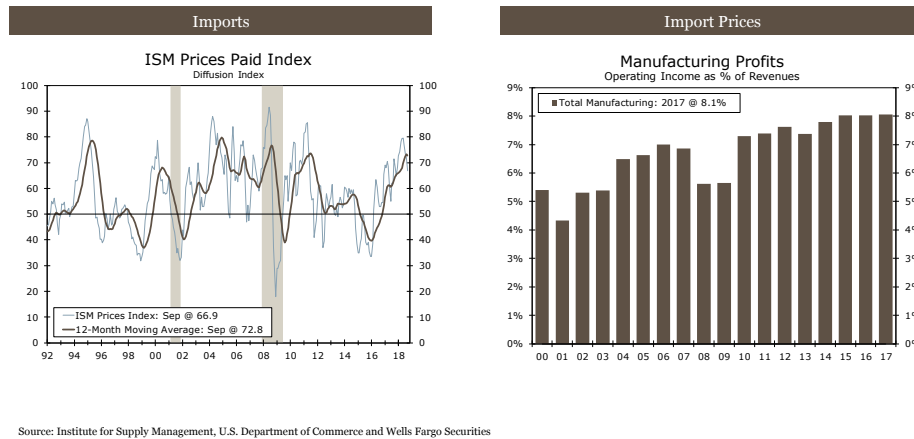
Economics     6     Wells Fargo Securities

## How Costly Would a Full-Blown Trade War Be?

While exports to China of the industries in question are sizeable, they represent a relatively small proportion of total industry output. We estimate that the value added that is embodied in American exports to China accounts for only 0.5 percent of total value added in the U.S. economy.

| Exports | Exposure |
|---|---|

**Exports to China by Industry**
Share of Industry Gross Output, 2017

**Bilateral Export Exposure**
Percent

- Percent of Total Exports (2017)
- Percent of Value Add (2016)

Source: International Monetary Fund, OECD, United Nations, U.S. Department of Commerce and Wells Fargo Securities

Economics          7          Wells Fargo Securities

---

## Trade and the U.S. Economy

At the risk of sounding complacent...

Of the **C**+**I**+**G**+**NX**, the **NX** is often the least consequential factor.

**Contributions to U.S. Real GDP**
Percentage Points at Annual Rate

- All Other Components: Q2 @ 2.93%
- Net Exports: Q2 @ 1.22%
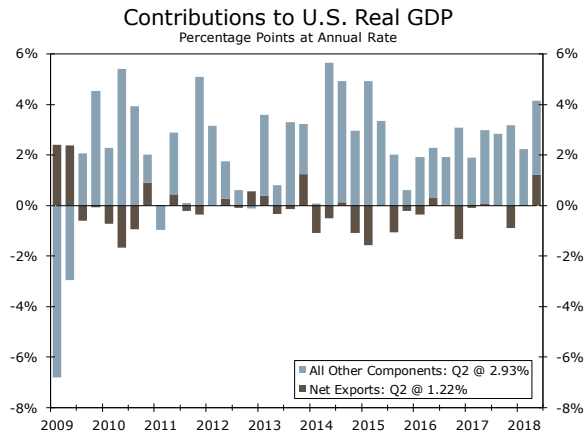
Source: U.S. Department of Commerce and Wells Fargo Securities

Economics          8          Wells Fargo Securities

## Tariff Timeline

| Retaliatory Tariff Timeline | | | | | |
| --- | --- | --- | --- | --- | --- |
| Date in Effect | Size | Value of Goods* (Billions) | Goods Targeted | Country | % of Exports |
| Apr 2, 2018 | 15% - 25% | $3.0 | Variety | China | 0.19% |
| Jun 5/Jul 5, 2018 | 7% - 25% | $3.6 | Variety | Mexico | 0.23% |
| Jun 21, 2018 | 4% - 70% | $1.8 | Variety | Turkey | 0.12% |
| Jun 22, 2018 | 25% | $3.2 | Variety | EU | 0.21% |
| Jul 1, 2018 | 10% - 25% | $12.7 | Variety | Canada | 0.82% |
| Jun 6, 2018 | 25% | $34.0 | Variety | China | 2.20% |
| Jul 6, 2018 | 25% - 40% | - | Variety | Russia | - |
| Aug 23, 2018 | 25% | $16.0 | Variety | China | 1.03% |
| Sep 24, 2018 | 5% - 10% | $60.0 | Variety | China | 3.88% |
| **Enacted Total** | **-** | **$134.3** | | | **8.69%** |
| | | | | | |
| Proposed | 5% - 50% | $0.2 | Variety | India | 0.02% |
| **Proposed Total** | **-** | **$0.2** | | | **0.02%** |
| | | | | | |
| **Enacted + Proposed** | **-** | **$134.5** | | | **8.70%** |

*Values based on 2017 trade data

Source: Office of the United States Trade Representative, U.S. Department of Commerce, Pearson Institute for International Economics, Washington Post, Reuters, Ministry of Economic Development of the Russian Federation and Wells Fargo Securities

Economics     9     Wells Fargo Securities

---

## Trade and the U.S. Economy

"In the House of Representatives, in an effort to alleviate the effects of ….Anyone? Anyone? ..the Great Depression

The House passed the…Anyone.. Anyone? The Smoot-Hawley Tariff Act, Which *raised* or *lowered*?

It *raised* tariffs in an effort to collect more government revenue.

Did it work? Anyone know the effects? Anyone?

It did not work and the United States sank deeper into the Depression"

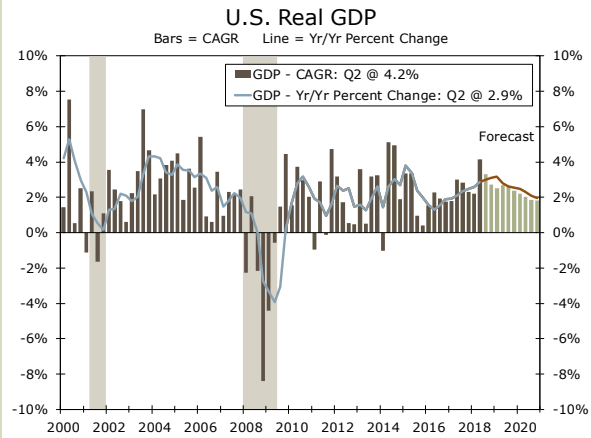**-Economics Teacher as played by Ben Stein,**
*Ferris Bueller's Day Off,* **1986**

Economics     10     Wells Fargo Securities

## Domestic Outlook

---

### Real GDP Forecast

Near-term outlook is for trend-like growth to continue.

**U.S. Real GDP**
Bars = CAGR     Line = Yr/Yr Percent Change

- GDP - CAGR: Q2 @ 4.2%
- GDP - Yr/Yr Percent Change: Q2 @ 2.9%

Forecast

Source: U.S. Department of Commerce and Wells Fargo Securities

Economics                    12                    Wells Fargo Securities

Forecasting Outside the Consensus

- The Trump administration has repeatedly stated its goal of achieving real economic growth of 3-4 percent.
- In the president's FY 2018 budget, the administration assumed real GDP growth of 3 percent over the long-run.
- This is well above that of other forecasters. Why?

### Real GDP Growth Estimates
Year-over-Year Percent Change, Data as of March 2018
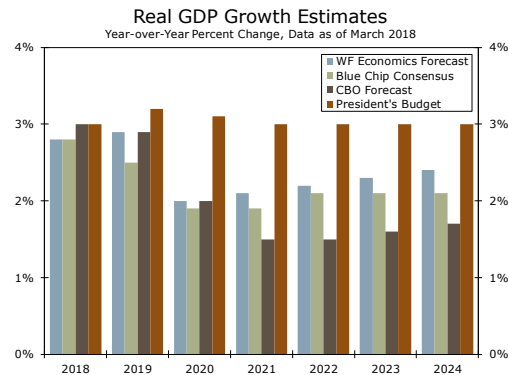


Source: Blue Chip, Congressional Budget Office (CBO), Office of Management and Budget and Wells Fargo Securities

Economics    13    Wells Fargo Securities

---

Why Is Potential Growth So Slow?

- The Congressional Budget Office (CBO) produces the gold standard for potential GDP estimates.
- By its projections, the sustainable pace of growth is a bit shy of 2 percent.
- Why? Primarily because of slower growth in the working-age population, but also because of somewhat slower capital and productivity growth.

Potential GDP Growth Has Fallen     Both Aging and Productivity to Blame
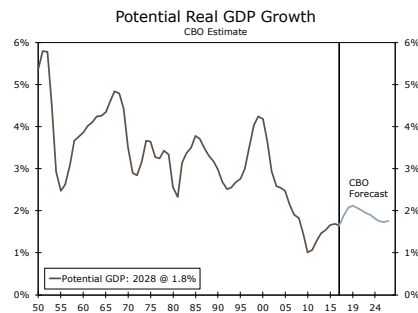
### Potential Real GDP Growth
CBO Estimate

### Potential GDP Decomposed
CBO Estimates of Contributions to GDP Growth
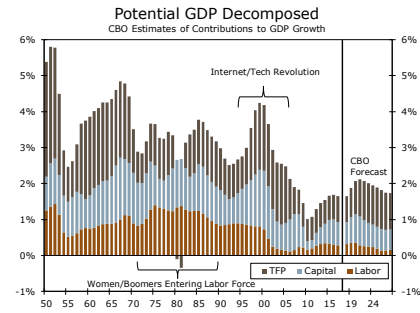


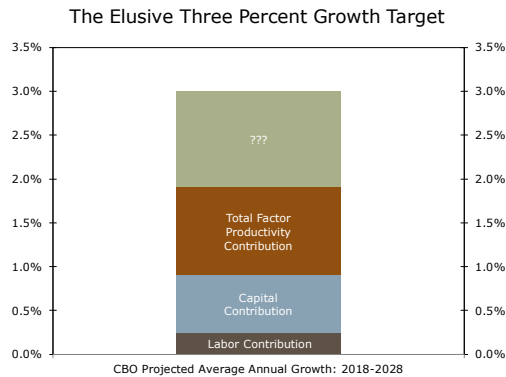Source: Congressional Budget Office (CBO) and Wells Fargo Securities

Economics    14    Wells Fargo Securities

## What Would It Take to Get to 3 Percent Growth?

- Let's say the CBO baseline proves to be too pessimistic.
- Given a potential GDP estimate of about 1.9 percent, how much faster would growth need to be in the three key inputs (labor, capital and total factor productivity) to reach 3 percent plus?

**The Elusive Three Percent Growth Target**

CBO Projected Average Annual Growth: 2018-2028

Source: Congressional Budget Office (CBO) and Wells Fargo Securities

Economics 15 Wells Fargo Securities

## Capital Spending

Cap-ex has been surprising on the upside, but as the "bounce effect" fades, will the pace of growth moderate?

**Real Equipment Investment**
Bars = CAGR      Line = Yr/Yr Percent Change

Forecast

Equipment Investment - CAGR: Q2 @ 4.6%
Equipment Investment - Yr/Yr Percent Change: Q2 @ 8.2%
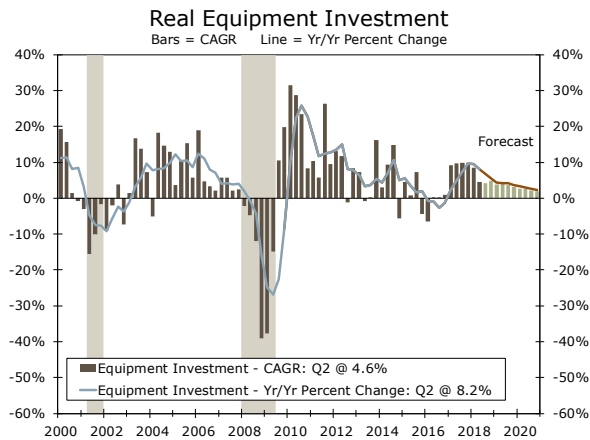
Source: U.S. Department of Commerce and Wells Fargo Securities

Economics 16 Wells Fargo Securities

## The Energy Dynamic

The rebound in energy prices and more specifically oil prices
is starting to boost business investment.
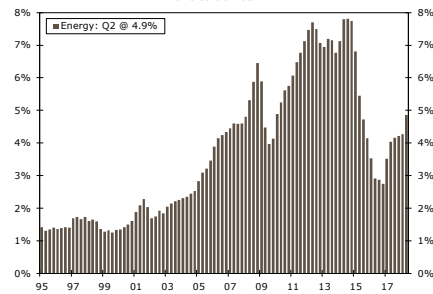
| Business Investment Ex-Mining | Energy Share of Investment |
|---|---|

### Real Business Fixed Investment
Year-over-Year Percent Change

- BFI Ex-Mining: Q2 @ 6.0%
- BFI: Q2 @ 7.0%

### Fixed Investment Spending on Energy
As Percent of Total BFI

- Energy: Q2 @ 4.9%

Source: U.S. Department of Commerce and Wells Fargo Securities

Economics       17       Wells Fargo Securities

---

## Impact of Tax Cuts & Job Act on Cap-ex Spending

Roughly two-thirds of respondents to the November Survey of Business Executives indicated
that tax reform has not caused them to alter 2018 investment plans. If anything, the February
survey revealed that firms have revised down expectations for this year.
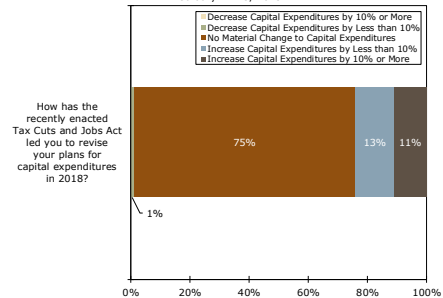
| November 2017 Survey | February 2018 Survey |
|---|---|

### Survey of Business Executives
November 13-24, 2017

- Decrease Capital Expenditures by 10% or More
- Decrease Capital Expenditures by Less than 10%
- No Material Change to Capital Expenditures
- Increase Capital Expenditures by Less than 10%
- Increase Capital Expenditures by 10% or More

If passed in its current form, how would the Tax Cuts and Jobs Act affect your capital expenditures in 2018?

63%   15%   19%
1%
1%

### Survey of Business Executives
February 12-23, 2018

- Decrease Capital Expenditures by 10% or More
- Decrease Capital Expenditures by Less than 10%
- No Material Change to Capital Expenditures
- Increase Capital Expenditures by Less than 10%
- Increase Capital Expenditures by 10% or More

How has the recently enacted Tax Cuts and Jobs Act led you to revise your plans for capital expenditures in 2018?

75%   13%   11%
1%

Source: Federal Reserve Bank of Atlanta, Survey of Business Executives (SBE), Stanford University, University of Chicago and Wells Fargo Securities
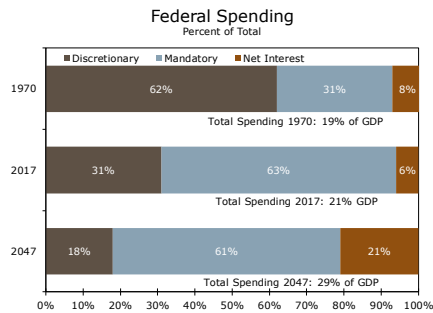
Economics       18       Wells Fargo Securities

## Federal Fiscal Policy – Long Run Debt Problem

The composition of federal spending has shifted dramatically.
The CBO projects that the debt-to-GDP ratio will surpass 96 percent by 2028.

### Composition of Federal Spending

**Federal Spending**
Percent of Total

■ Discretionary ■ Mandatory ■ Net Interest

| Year | Discretionary | Mandatory | Net Interest |
|---|---|---|---|
| 1970 | 62% | 31% | 8% |
| 2017 | 31% | 63% | 6% |
| 2047 | 18% | 61% | 21% |

Total Spending 1970: 19% of GDP
Total Spending 2017: 21% GDP
Total Spending 2047: 29% of GDP

### Federal Debt Continues to Rise

**U.S. Debt Held By The Public**
CBO Baseline Projections Begin in 2018, Percent of GDP

Baseline Debt: 2028 @ 96.2%

Source: Congressional Budget Office (CBO) and Wells Fargo Securities

Economics    19    Wells Fargo Securities

## The Deteriorating Budget Dynamic

Expansions have traditionally been associated with balanced budgets and low unemployment. However, since 2016, that has changed. What does this new deteriorating federal budget dynamic mean for the next recession?

### Budget as Percent of GDP

**Federal Budget: Deteriorating in an Expansion**
4-Quarter Moving Sum, Percent of GDP, Wells Fargo Forecast in Blue

Federal Budget Balance: Q2 @ -3.7%

### Budget Compared to Unemployment

**Unemployment Rate & Federal Budget Balance**
Inverted, Annual Surplus/Deficit, Wells Fargo Forecast in Orange

Unemployment Rate: 2017 @ 4.4% (Left Axis)
Federal Budget: FY 2017 @ -$665.8B (Right Axis)
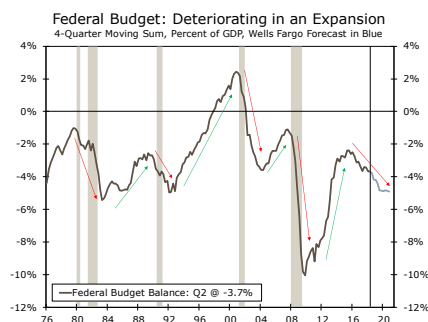
Source: U.S. Department of Commerce, U.S. Department of Labor, U.S. Department of Treasury and Wells Fargo Securities
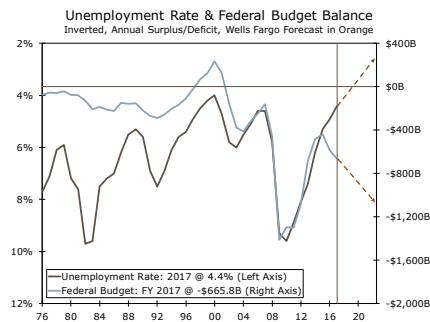
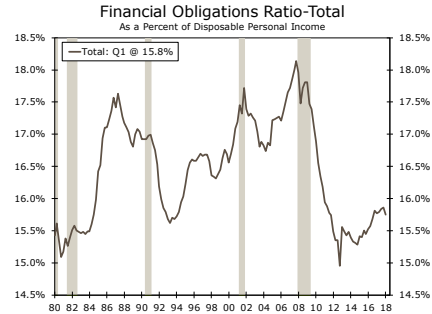Economics    20    Wells Fargo Securities

## Household Balance Sheets

Consumer deleveraging may be nearing an end, but monthly debt and other financial obligation payments remain near historic lows.

| Household Debt | Financial Obligations Ratio |
|---|---|
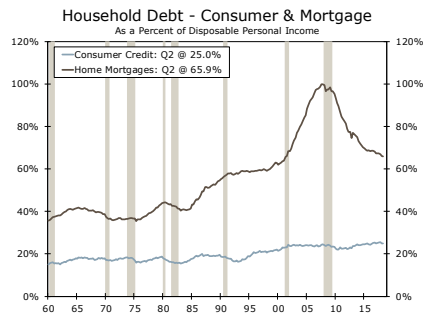
### Household Debt - Consumer & Mortgage
As a Percent of Disposable Personal Income

- Consumer Credit: Q2 @ 25.0%
- Home Mortgages: Q2 @ 65.9%

### Financial Obligations Ratio-Total
As a Percent of Disposable Personal Income

- Total: Q1 @ 15.8%

Source: Federal Reserve Board and Wells Fargo Securities

Economics 21 Wells Fargo Securities

## Consumer Confidence: Near a 16-Year High

Consumer confidence has jumped post-election. Will more upbeat sentiment translate into an acceleration in personal consumption?

### Consumer Confidence Index
Conference Board

- Confidence Yr/Yr % Chg: Sep @ 14.8%
- Confidence: Sep @ 138.4
- 12-Month Moving Average: Sep @ 128.5
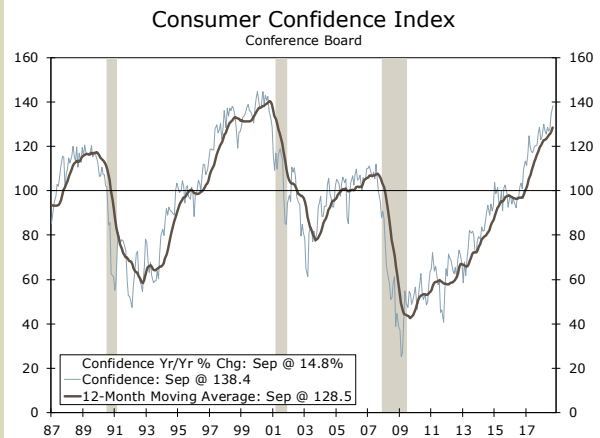
Source: The Conference Board and Wells Fargo Securities

Economics 22 Wells Fargo Securities

## Real PCE Forecast

Consumer spending growth is set to moderate but remain positive throughout the forecast horizon.

### Real Personal Consumption Expenditures
Bars = CAGR    Line = Yr/Yr Percent Change

Forecast

PCE - CAGR: Q2 @ 3.8%
PCE - Yr/Yr Percent Change: Q2 @ 2.6%

Source: U.S. Department of Commerce and Wells Fargo Securities
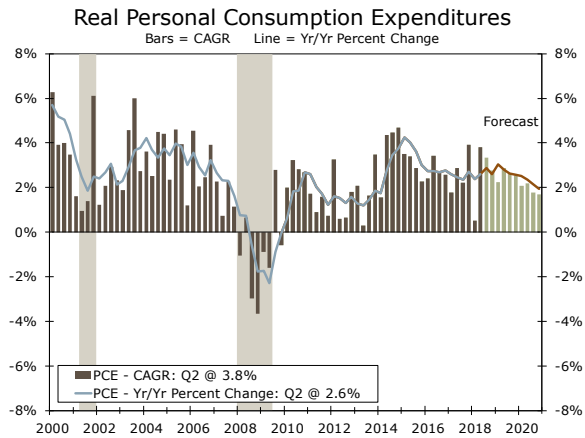
Economics                    23                    Wells Fargo Securities

## Housing

After a very slow start, we see single-family homebuilding steadily gaining momentum over the next few years.

Apartment construction is showing signs of topping out but should remain near recent levels.

### Housing Starts
Millions of Units

Multifamily Forecast
Single-Family Forecast
Multifamily Starts
Single-Family Starts

Forecast

Source: U.S. Department of Commerce and Wells Fargo Securities
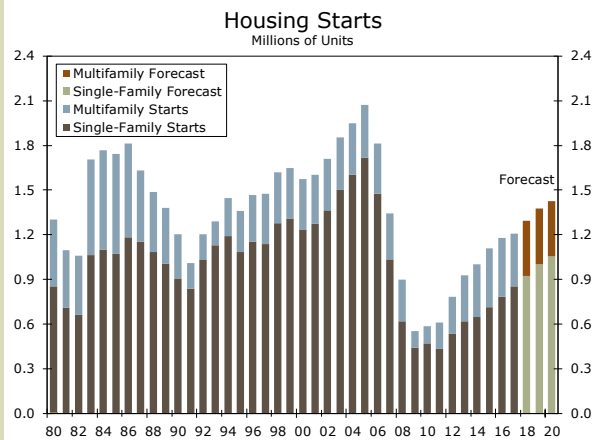
Economics                    24                    Wells Fargo Securities

U.S. Homeownership Rate at Multi-Decade Low

## U.S. Homeownership Rate
### Percent

The long slide in the homeownership rate may have finally ended. The recovery in homeownership is likely to be protracted due to a combination of cyclical and structural factors.

Homeownership Rate: Q2 @ 64.3%
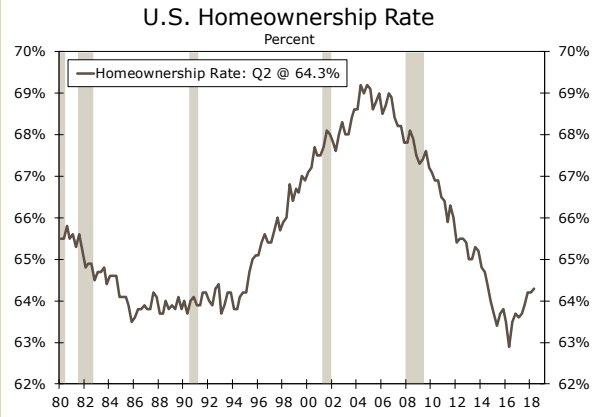
Source: U.S. Department of Commerce and Wells Fargo Securities

Economics

25

Wells Fargo Securities

# Monetary Policy & Rates

## Pace of Policy Firming

The FOMC is closing in on its neutral rate for fed funds.

With most dots clustered around 3.00 – 3.25% in the longer run how many rate hikes are left to go in the current cycle?

### Appropriate Pace of Policy Firming
Target Federal Funds Rate at Year-End

September 2018
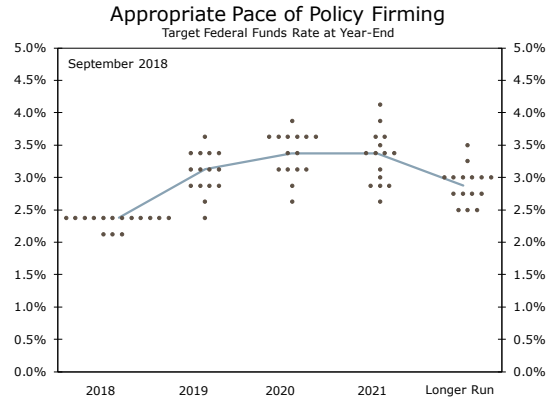
Source: Bloomberg LP, Federal Reserve Board and Wells Fargo Securities

Economics     27     Wells Fargo Securities

## Unemployment

The labor market is steadily firming.

The unemployment rate is currently at 3.9 percent, which is well-below the FOMC's central tendency target.

### U.S. Unemployment Rate
Seasonally Adjusted

- FOMC Central Tendency for Longer Run
- Unemployment Rate: Sep @ 3.7%
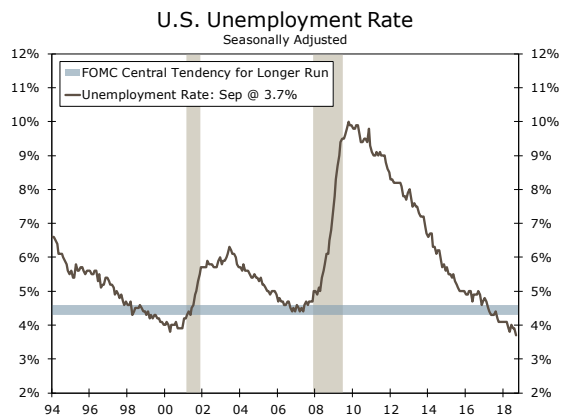
Source: Federal Reserve Board, U.S. Department of Labor and Wells Fargo Securities

Economics     28     Wells Fargo Securities

## Labor Turnover

Job openings remain near a record high, while quits are higher than levels last seen in 2001.
Has such labor conditions translated to wage growth?

| Openings | Separations |
|---|---|

**Job Openings**
Millions of Openings, Seasonally Adjusted

Total Job Openings: Jul @ 6.94M
Three-Month Moving Average: Jul @ 6.81M

**Quits vs. Layoffs**
Millions of Workers, SA

Quits: Jul @ 3.58M
Layoffs: Jul @ 1.60M

Source: U.S. Department of Labor and Wells Fargo Securities
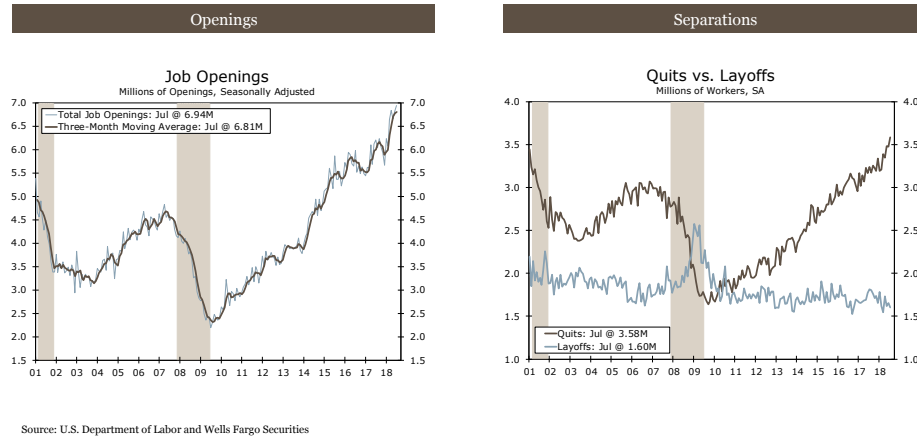
Economics 29 Wells Fargo Securities

## Average Hourly Earnings

Wage growth has picked up modestly but remains limited by lower-skilled workers entering the workforce and Baby Boomers beginning to retire.

**Average Hourly Earnings**
vs. Atlanta Fed Wage Growth Tracker; 3-MMA of YoY % Chg.

Atlanta Fed Wage Growth Tracker: Jul @ 3.3%
Average Hourly Earnings (Prod. & Supervisory): Jul @ 2.7%
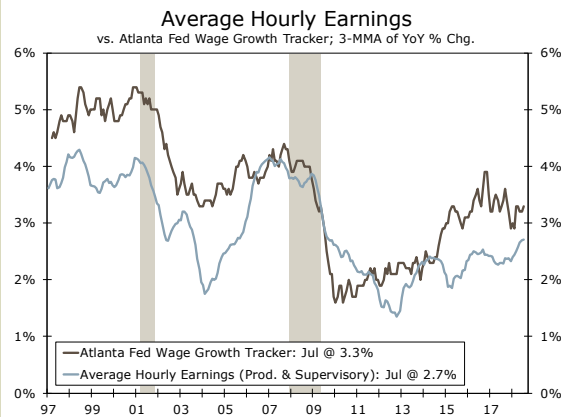
Source: Federal Reserve Bank of Atlanta, U.S. Department of Labor and Wells Fargo Securities

Economics 30 Wells Fargo Securities

## Inflation

Rising material and labor costs have pushed inflation back up to the Fed's 2 percent target.

### PCE Deflator vs. Core PCE Deflator
Year-over-Year Percent Change

PCE Deflator: Aug @ 2.2%
"Core" PCE Deflator: Aug @ 2.0%
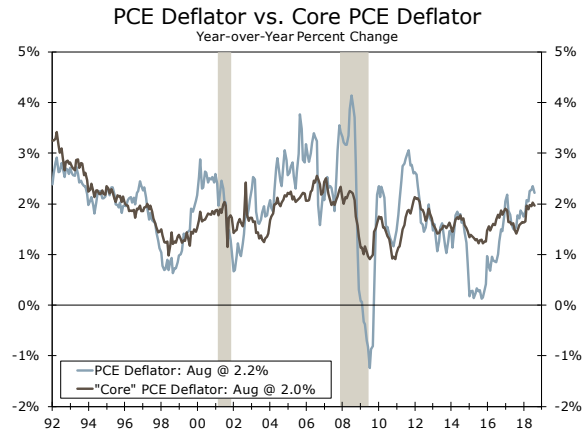
Source: U.S. Department of Commerce and Wells Fargo Securities

Economics    31    Wells Fargo Securities

## Yield Curve: Flatter and Higher, At Least in the Near Term

The yield curve is expected to flatten in the near-term as the Fed continues to raise short-term interest rates.

Further out, the curve will steepen after the Fed eventually takes back one of the rate hikes, even as longer term rates remain more or less anchored.

### Wells Fargo Rates Forecast
Through 2020

Q4 2020
Q4 2019
Q4 2018
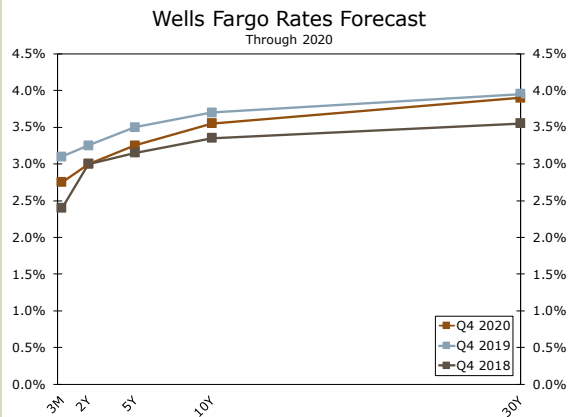
Source: IHS Markit and Wells Fargo Securities

Economics    32    Wells Fargo Securities

## "Don't Cross the Streams" The Yield Curve and Recession Predictions

The yield curve inverted before each of the past seven recessions (with a range of 8-23 months).

However, the yield curve did not invert during the 1954-1965 period and missed two recessions.

It also gave false signals in 1966, 1986 and 1998.

### Yield Curve Spread
10-Year Yield Less Effective Fed Funds Rate, Basis Points

10Y-Fed Funds: Sep @ 105.0 bps

Source: Wells Fargo Securities
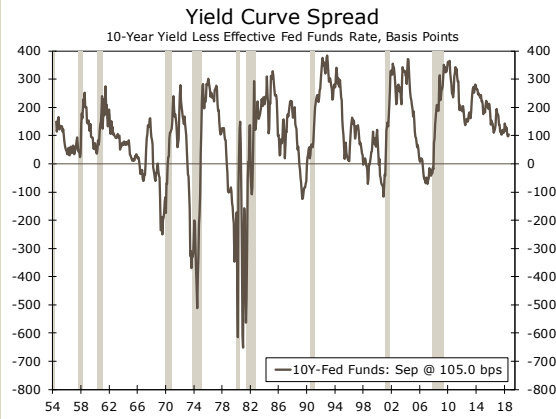
Economics — 33 — Wells Fargo Securities

---

## "It's easier to get into something than to get out of it" – Donald Rumsfeld

- Prior to the 2008, Fed's holdings were about $900 of mostly Treasuries.
- Balance sheet briefly held a diverse selection of financial instruments, such as commercial paper and currency swaps, to help mitigate the liquidity challenges in the financial system.
- Current size is roughly $4.2 trillion, comprised mostly of Treasuries and mortgage-backed securities (MBS).

### Federal Reserve Balance Sheet
Trillions

- Other: Sep-19 @ $158.7B
- Foreign Swaps: Oct-10 @ $0.1B
- Repos & Dis. Window: Oct-10 @ $0.2B
- Agencies & MBS: Oct-10 @ $1,684.2B
- Treasuries: Oct-10 @ $2,294.2B

Source: Federal Reserve System and Wells Fargo Securities
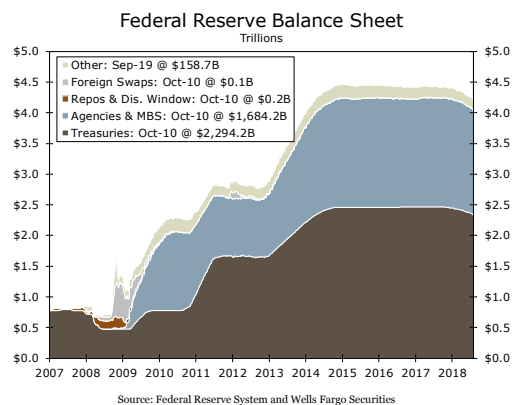
Economics — 34 — Wells Fargo Securities

## Where Fiscal and Monetary Policy Are Intertwined

- Like it or not, Fed's large holdings currently help reduce the budget deficit.
- With rising deficits and trouble finding the funding for policy proposals, reduced remittances to the Treasury cannot be ignored.
- Fed earnings remitted to the Treasury in the past year add up to roughly $80 billion.
- Without it, last year's fiscal budget deficit would have been 16 percent larger.



Source: Congressional Budget Office (CBO), U.S. Department of the Treasury and Wells Fargo Securities
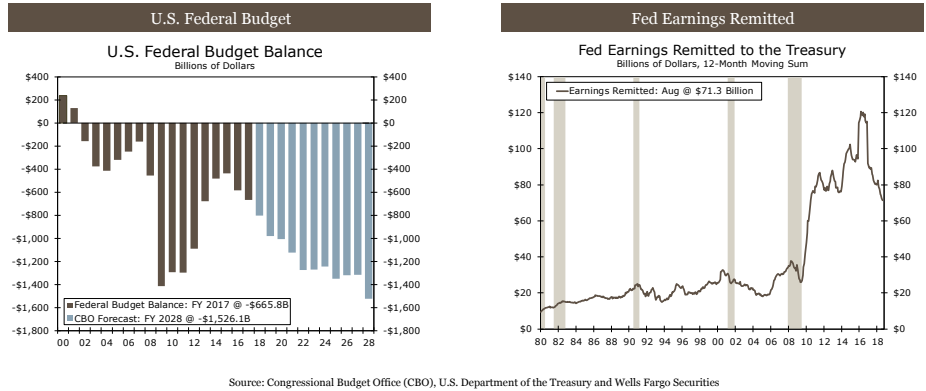
Economics — 35 — Wells Fargo Securities

## Demand for U.S. Treasuries

Foreign ownership of U.S. Treasuries has begun to decline.
Who will become the next marginal buyer of U.S. Treasuries?
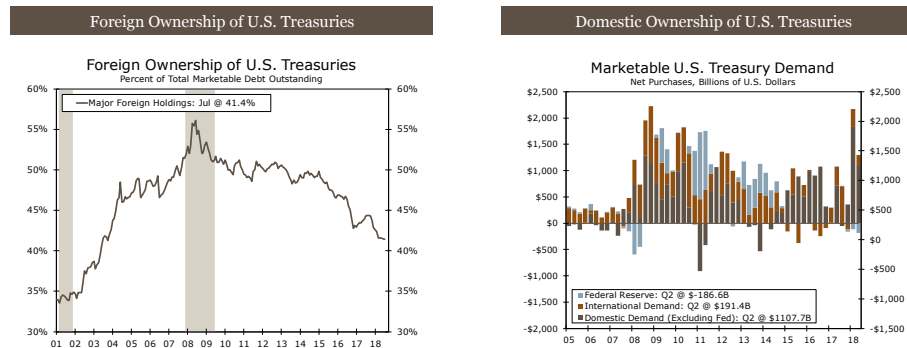


Source: Bloomberg LP, Federal Reserve Board, U.S. Department of the Treasury and Wells Fargo Securities

Economics — 36 — Wells Fargo Securities

## U.S. Forecast

| Wells Fargo U.S. Economic Forecast | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Actual | | | | Forecast | | | | Actual | | Forecast | | | |
| | 2018 | | | | 2019 | | | | 2016 | 2017 | 2018 | 2019 | 2020 | |
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | | | |
| Real Gross Domestic Product [1] | 2.2 | 4.2 | 3.3 | 2.7 | 2.5 | 2.7 | 2.6 | 2.4 | 1.6 | 2.2 | 2.9 | 2.8 | 2.2 | |
| Personal Consumption | 0.5 | 3.8 | 3.4 | 2.8 | 2.2 | 2.9 | 2.6 | 2.5 | 2.7 | 2.5 | 2.6 | 2.8 | 2.2 | |
| Inflation Indicators [2] | | | | | | | | | | | | | | |
| PCE Deflator | 1.9 | 2.2 | 2.2 | 2.2 | 2.4 | 2.5 | 2.7 | 2.6 | 1.1 | 1.8 | 2.1 | 2.5 | 2.4 | |
| Consumer Price Index | 2.3 | 2.6 | 2.7 | 2.6 | 2.6 | 2.8 | 3.0 | 2.9 | 1.3 | 2.1 | 2.5 | 2.8 | 2.6 | |
| Industrial Production [1] | 2.5 | 5.1 | 3.4 | 3.7 | 2.4 | 4.2 | 1.2 | 4.0 | -1.9 | 1.6 | 3.8 | 3.2 | 2.8 | |
| Corporate Profits Before Taxes [2] | 5.9 | 7.3 | 8.0 | 6.2 | 5.6 | 1.8 | 0.5 | -0.8 | -1.1 | 3.2 | 6.9 | 1.7 | -2.4 | |
| Trade Weighted Dollar Index [3] | 86.3 | 90.0 | 90.1 | 90.5 | 89.8 | 88.5 | 87.3 | 86.3 | 91.5 | 91.1 | 89.2 | 87.9 | 83.3 | |
| Unemployment Rate | 4.1 | 3.9 | 3.8 | 3.8 | 3.7 | 3.6 | 3.6 | 3.5 | 4.9 | 4.4 | 3.9 | 3.6 | 3.3 | |
| Housing Starts [4] | 1.32 | 1.26 | 1.25 | 1.33 | 1.34 | 1.36 | 1.36 | 1.38 | 1.17 | 1.20 | 1.29 | 1.36 | 1.41 | |
| Quarter-End Interest Rates [5] | | | | | | | | | | | | | | |
| Federal Funds Target Rate | 1.75 | 2.00 | 2.25 | 2.50 | 2.75 | 3.00 | 3.25 | 3.25 | 0.52 | 1.13 | 2.13 | 3.06 | 3.19 | |
| Conventional Mortgage Rate | 4.44 | 4.57 | 4.63 | 4.95 | 5.05 | 5.15 | 5.25 | 5.30 | 3.65 | 3.99 | 4.65 | 5.19 | 5.23 | |
| 10 Year Note | 2.74 | 2.85 | 3.05 | 3.35 | 3.45 | 3.55 | 3.65 | 3.70 | 1.84 | 2.33 | 3.00 | 3.59 | 3.63 | |

Forecast as of: October 10, 2018
[1] Compound Annual Growth Rate Quarter-over-Quarter
[2] Year-over-Year Percentage Change
[3] Federal Reserve Major Currency Index, 1973=100 - Quarter End
[4] Millions of Units
[5] Annual Numbers Represent Averages

Source: Federal Reserve Board, U.S. Department of Commerce, U.S. Department of Labor and Wells Fargo Securities

Economics  37  Wells Fargo Securities

## Regional Developments: Asheville, NC

## Year-over-Year Percent Change in GDP by State, Q1-2018

The West Coast is growing solidly, led by the gains in the tech sector and a rebound in homebuilding.

The Southeast continues to benefit from an influx of new businesses and residents.

Economic conditions are rebounding in the energy producing states.
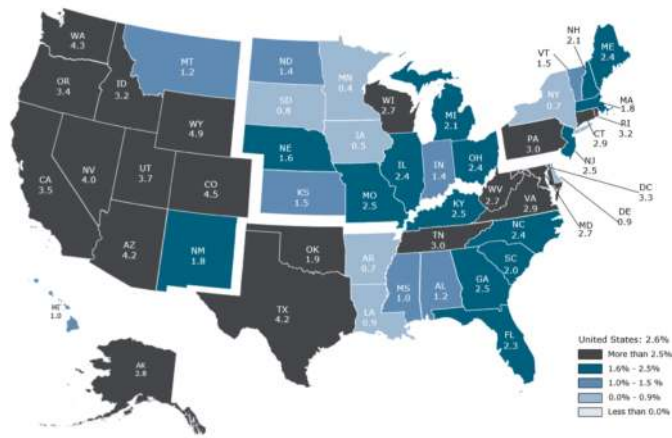


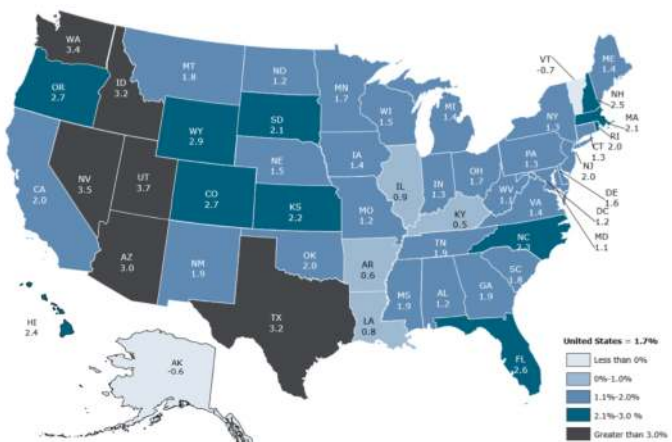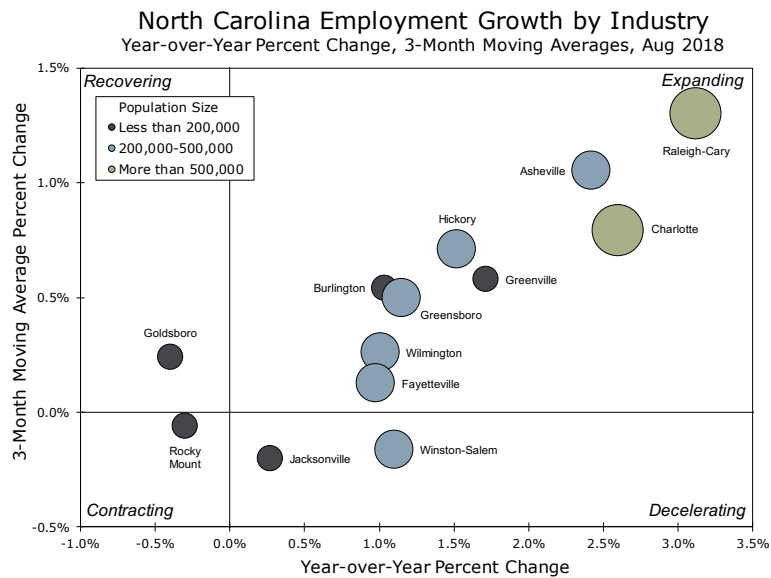Source: U.S. Department of Commerce and Wells Fargo Securities

Economics

39

Wells Fargo Securities

## Year-over-Year Employment Growth by State, August 2018

Job growth has been strongest in the Pacific Northwest and Southeast.



Source: U.S. Department of Labor and Wells Fargo Securities

Economics

40

Wells Fargo Securities

## Employment Growth

Employment growth has been spread across the nation.

### Metro Area Employment Growth: Top 10
Annualized Growth from 2011-2017, Year-over-Year in 2017



Legend: 2011-2017, 2016-2017
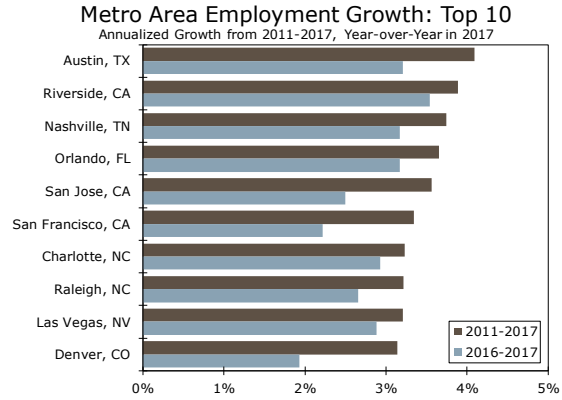
Source: U.S. Department of Labor and Wells Fargo Securities

Economics    41    Wells Fargo Securities

## GDP Growth

Economic growth has been concentrated in tech-driven metro areas.

**Fastest Growing**
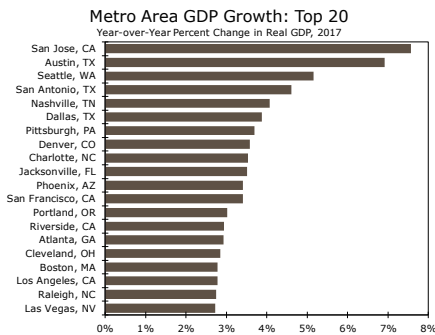
### Metro Area GDP Growth: Top 20
Year-over-Year Percent Change in Real GDP, 2017



**Largest Contributions**

### Contributions to U.S. Real GDP Growth by MSA
Top 20 Metro Areas, Contribution to Growth From 2011 to 2017
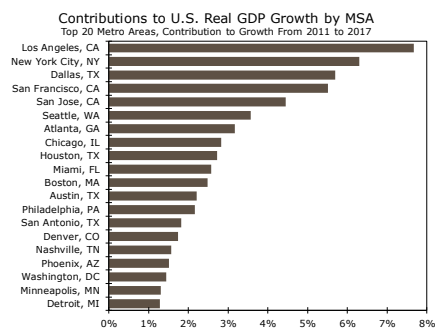


Source: U.S. Department of Commerce and Wells Fargo Securities

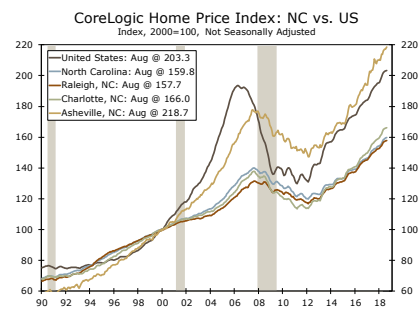Economics    42    Wells Fargo Securities

North Carolina Population Growth by MSA

### North Carolina Population Growth
Year-over-Year Percent Change, 2017

North Carolina continues to see large population gains, with Asheville slightly outpacing the state average.
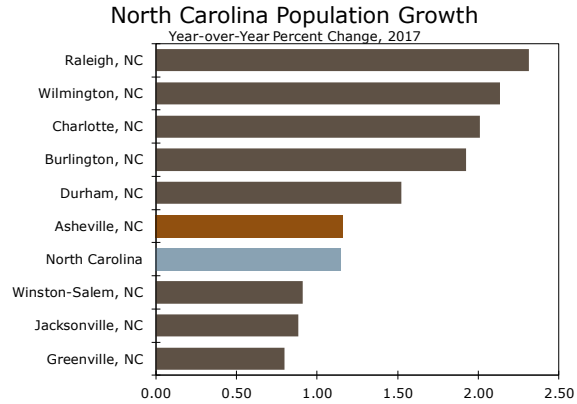


Source: U.S. Department of Commerce and Wells Fargo Securities

Economics                    43            Wells Fargo Securities

North Carolina Employment Growth by MSA: August 2018

### North Carolina Employment Growth by Industry
Year-over-Year Percent Change, 3-Month Moving Averages, Aug 2018



Source: U.S. Department of Labor and Wells Fargo Securities

Economics                    43            Wells Fargo Securities

## North Carolina Employment Growth by Industry: August 2018



**North Carolina Employment Growth by Industry**
Year-over-Year Percent Change, 3-Month Moving Averages, Aug 2018

Source: U.S. Department of Labor and Wells Fargo Securities

Economics          44          Wells Fargo Securities
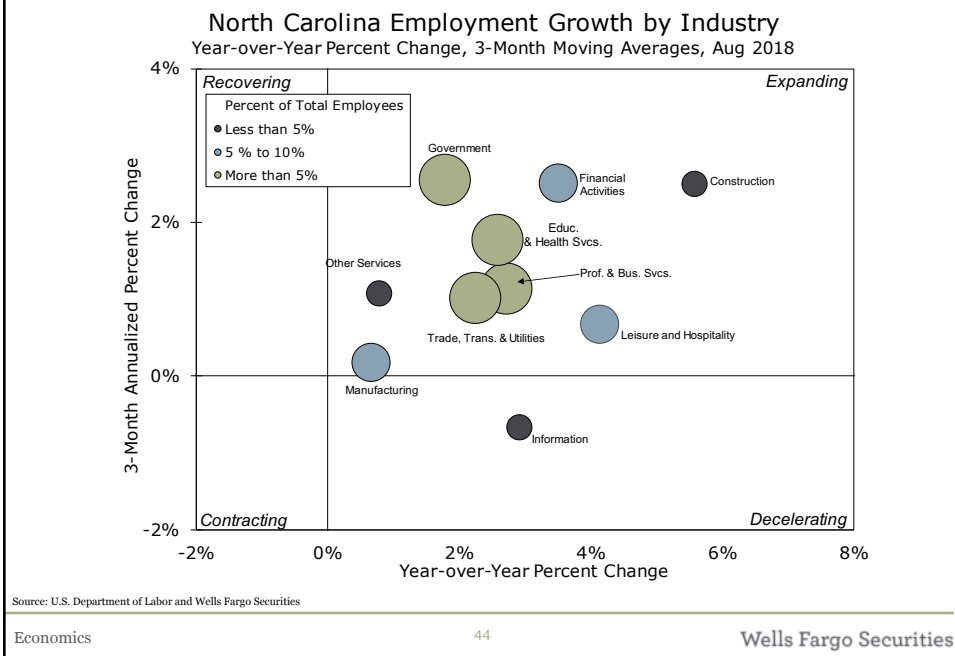
## North Carolina Employment

North Carolina continues to see a sustained pace of job growth, ahead of the national average. The state has seen solid payroll gains, with particularly strong growth in the leisure and hospitality and manufacturing sectors.



Source: U.S. Department of Labor and Wells Fargo Securities
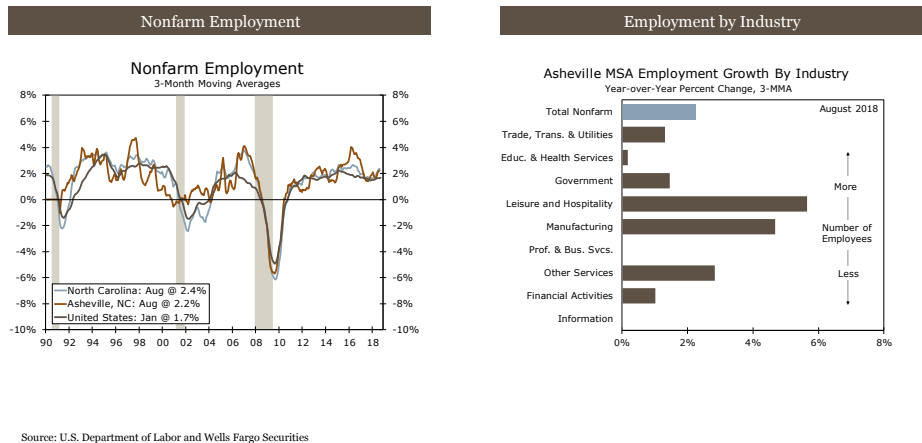
Economics          46          Wells Fargo Securities

## North Carolina Employment Growth by MSA

**North Carolina has seen employment gains across the state.**

### North Carolina Employment by MSA
Year-over-Year Percent Change, August 2018
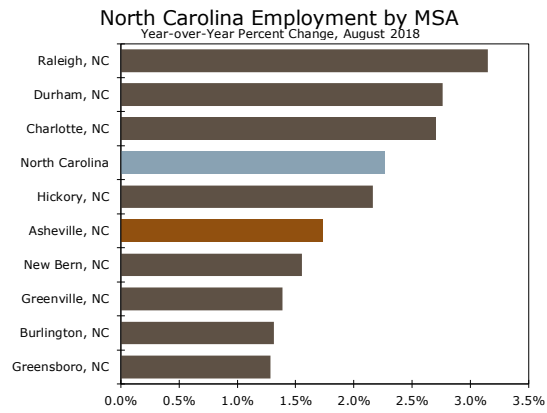


Source: U.S. Department of Commerce and Wells Fargo Securities

Economics
47
Wells Fargo Securities

## North Carolina Housing Market

Residential construction activity continues to sustain momentum in Asheville, NC.
Home prices continue to increase in North Carolina, but remain below the national average.
Prices in Asheville, however, continue to outpace the nation.

**Housing Permits**

### Asheville MSA Housing Permits
Thousands of Permits, Seasonally Adjusted Annual Rate

- Single-Family: Aug @ 1,992
- Single-Family, 12-MMA: Aug @ 1,897
- Multifamily, 12-MMA: Aug @ 1,085
- Single-Family Average (1998-2003): 2,388



**Home Prices**

### CoreLogic Home Price Index: NC vs. US
Index, 2000=100, Not Seasonally Adjusted

- United States: Aug @ 203.3
- North Carolina: Aug @ 159.8
- Raleigh, NC: Aug @ 157.7
- Charlotte, NC: Aug @ 166.0
- Asheville, NC: Aug @ 218.7



Source: U.S. Department of Commerce , CoreLogic, Inc. and Wells Fargo Securities

Economics
48
Wells Fargo Securities

International Outlook

---

**Global Exports**

Global trade has stabilized over the past year.

### Global Export Volume
Year-over-Year Percent Change

| Legend |
|---|
| —— Real Exports: Jul @ 3.8% |
| ····· Average 1992-Present: 5.1% |

Source: IHS Markit and Wells Fargo Securities

Economics

50

Wells Fargo Securities

## Global GDP Growth

2017 marked the fastest year for the global economy since 2011.

We expect to see trend-like growth in coming years.

### Real Global GDP Growth
Year-over-Year Percent Change, PPP Weights

Legend:
- Global GDP: 2017 @ 3.7%
- Average 1980-Present: 3.5%

Period Average

WF Forecast

Source: International Monetary Fund (IMF) and Wells Fargo
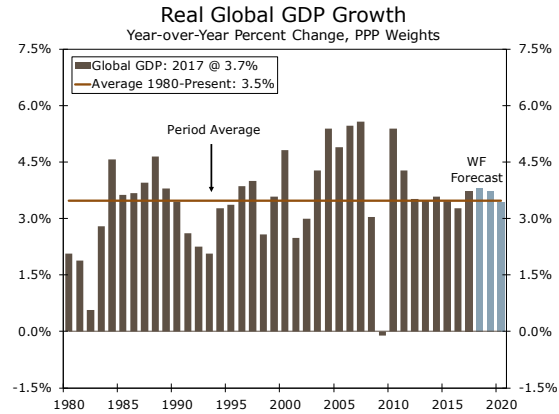
Economics 51 Wells Fargo Securities

---

## Global Forecast

| Wells Fargo International Economic Forecast | | | | | | |
|---|---|---|---|---|---|---|
| (Year-over-Year Percent Change) | | | | | | |
| | GDP | | | CPI | | |
| | 2018 | 2019 | 2020 | 2018 | 2019 | 2020 |
| Global (PPP Weights) | 3.8% | 3.7% | 3.4% | 3.6% | 3.8% | 3.7% |
| | | | | | | |
| Advanced Economies[1] | 2.5% | 2.5% | 2.0% | 2.2% | 2.4% | 2.4% |
| United States | 2.9% | 2.8% | 2.2% | 2.5% | 2.8% | 2.6% |
| Eurozone | 2.0% | 2.1% | 1.7% | 1.8% | 1.9% | 1.8% |
| United Kingdom | 1.2% | 1.5% | 1.5% | 2.4% | 2.1% | 2.0% |
| Japan | 1.2% | 1.2% | 0.5% | 1.0% | 1.2% | 2.0% |
| Canada | 2.2% | 2.2% | 1.7% | 2.5% | 2.2% | 2.0% |
| | | | | | | |
| Developing Economies[1] | 4.7% | 4.6% | 4.5% | 4.5% | 4.8% | 4.7% |
| China | 6.6% | 6.3% | 6.1% | 2.1% | 2.3% | 2.3% |
| India | 7.7% | 7.5% | 7.3% | 4.9% | 5.1% | 4.8% |
| Mexico | 2.0% | 2.4% | 2.3% | 4.8% | 4.0% | 3.7% |

Forecast as of: October 10, 2018
[1]Aggregated Using PPP Weights

Source: International Monetary Fund and Wells Fargo Securities

Economics 52 Wells Fargo Securities

## Wells Fargo Securities Economics Group

| Global Head of Research, Economics & Strategy | |
| --- | --- |
| Diane Schumaker-Krieg | diane.schumaker@wellsfargo.com |
| *Global Head of Research, Economics & Strategy* | |

| Economists | |
| --- | --- |
| Charlie Dougherty, Economist | charles.dougherty@wellsfargo.com |
| Erik Nelson, Currency Strategist | erik.f.nelson@wellsfargo.com |
| Michael Pugliese, Economist | michael.d.pugliese@wellsfargo.com |

| Senior Economists | |
| --- | --- |
| Jay H. Bryson, Global Economist | jay.bryson@wellsfargo.com |
| Mark Vitner, Senior Economist | mark.vitner@wellsfargo.com |
| Sam Bullard, Senior Economist | sam.bullard@wellsfargo.com |
| Nick Bennenbroek, Currency Strategist | nicholas.bennenbroek@wellsfargo.com |
| Azhar Iqbal, Econometrician | azhar.iqbal@wellsfargo.com |
| Tim Quinlan, Senior Economist | tim.quinlan@wellsfargo.com |
| Sarah House, Senior Economist | sarah.house@wellsfargo.com |

| Economic Analysts | |
| --- | --- |
| Abigail Kinnaman, Economic Analyst | abigail.kinnaman@wellsfargo.com |
| Shannon Seery, Economic Analyst | shannon.seery@wellsfargo.com |
| Matthew Honnold, Economic Analyst | matthew.honnold@wellsfargo.com |

| Administrative Assistants | |
| --- | --- |
| Donna LaFleur, Executive Assistant | donna.lafleur@wellsfargo.com |
| Dawne Howes, Administrative Assistant | dawne.howes@wellsfargo.com |