

**WELLS  
FARGO**

**SECURITIES**

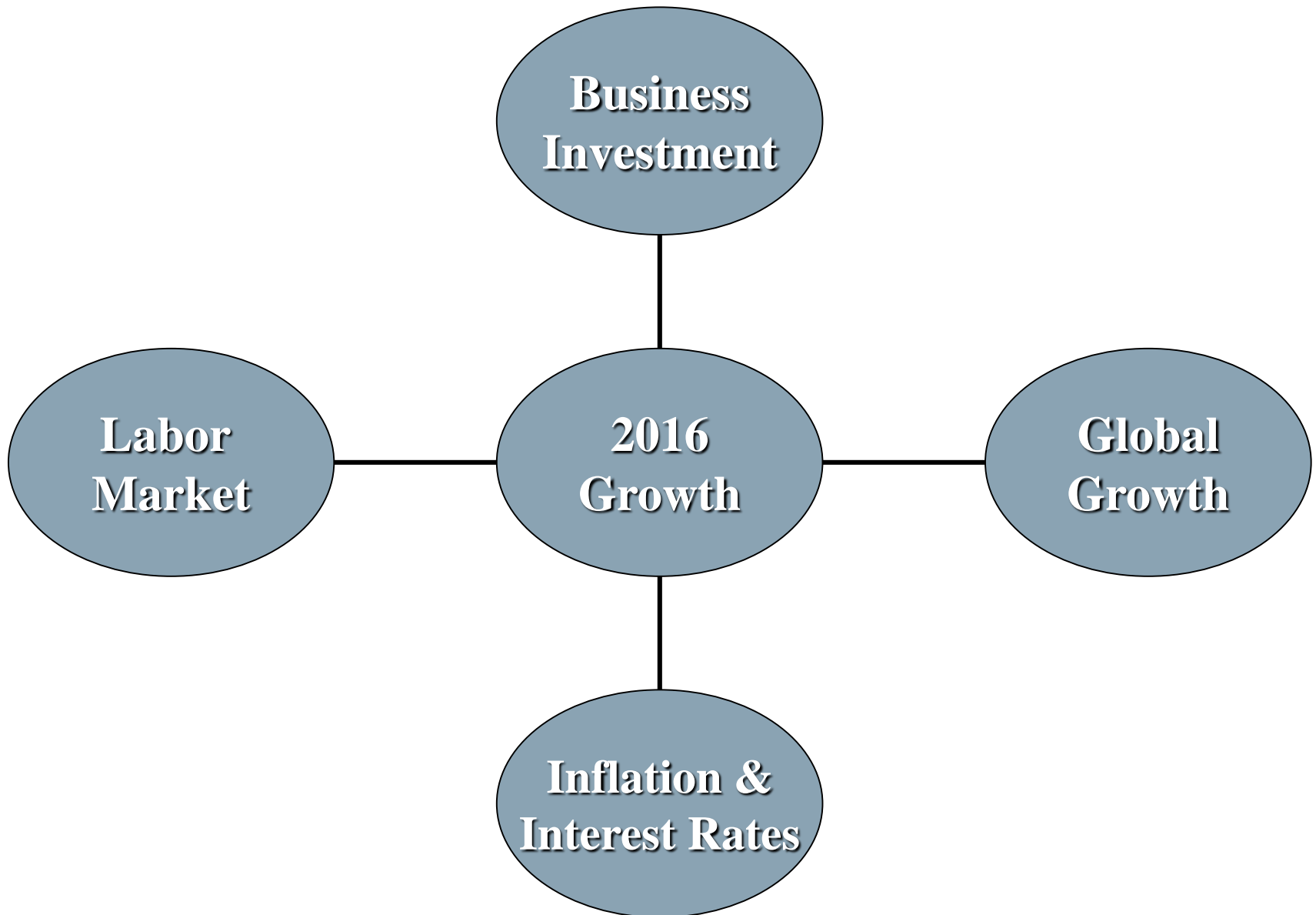
# Economic Outlook for 2016 and Beyond

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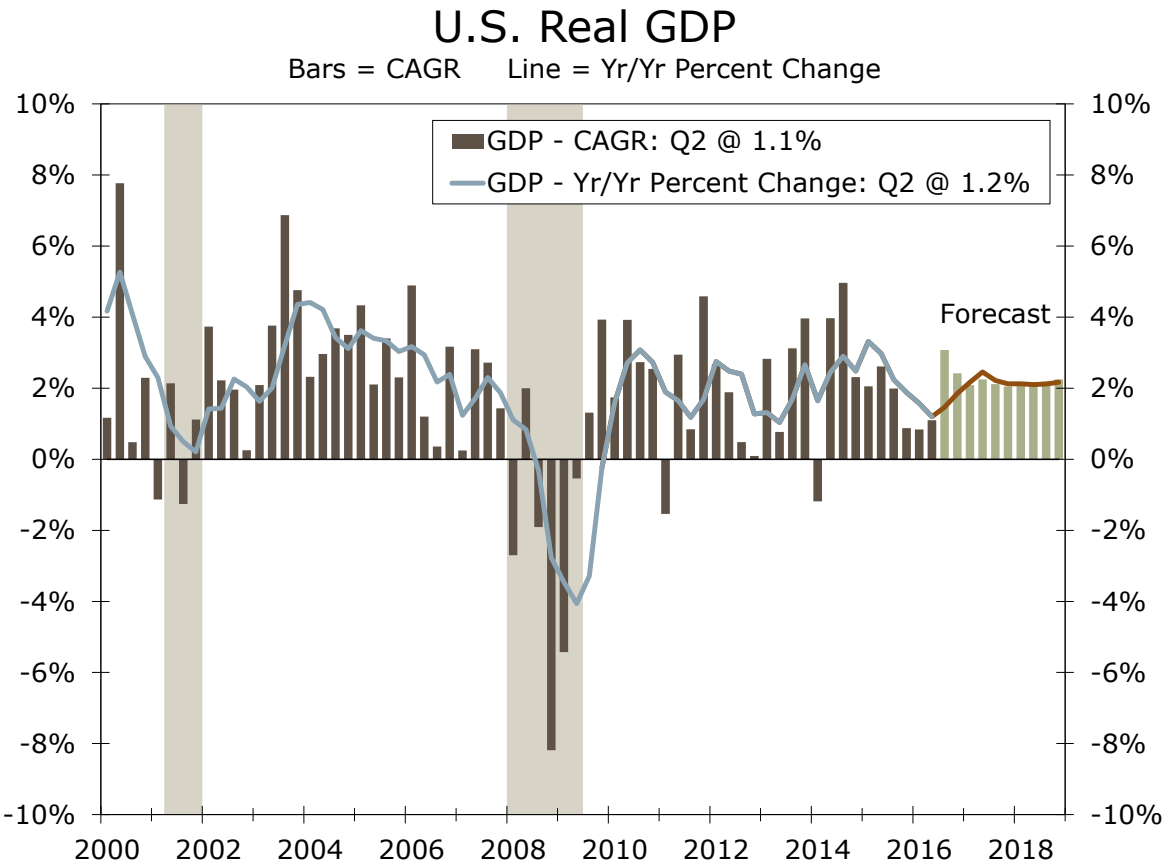
**Michael A. Brown, Economist**

September 22, 2016





Economic growth should continue at a modest pace over the coming quarters

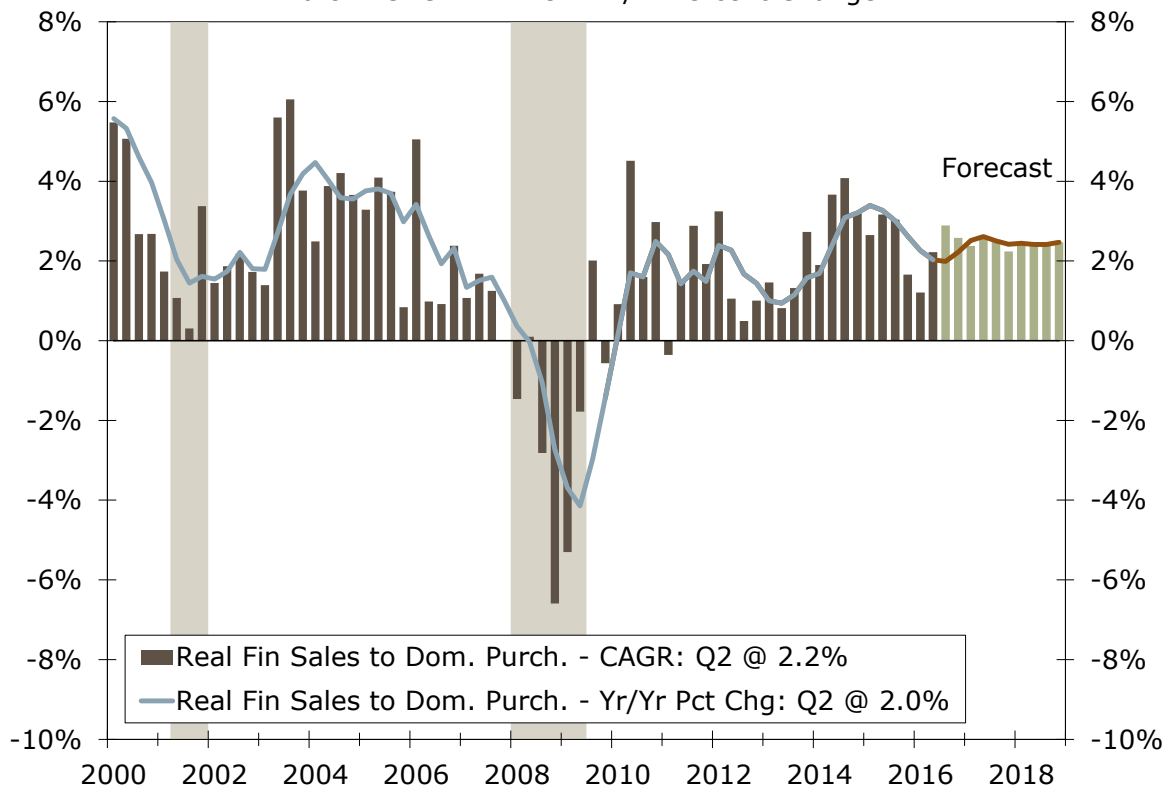


Source: U.S. Department of Commerce and Wells Fargo Securities

Growth in domestic spending is expected to average around 2 percent

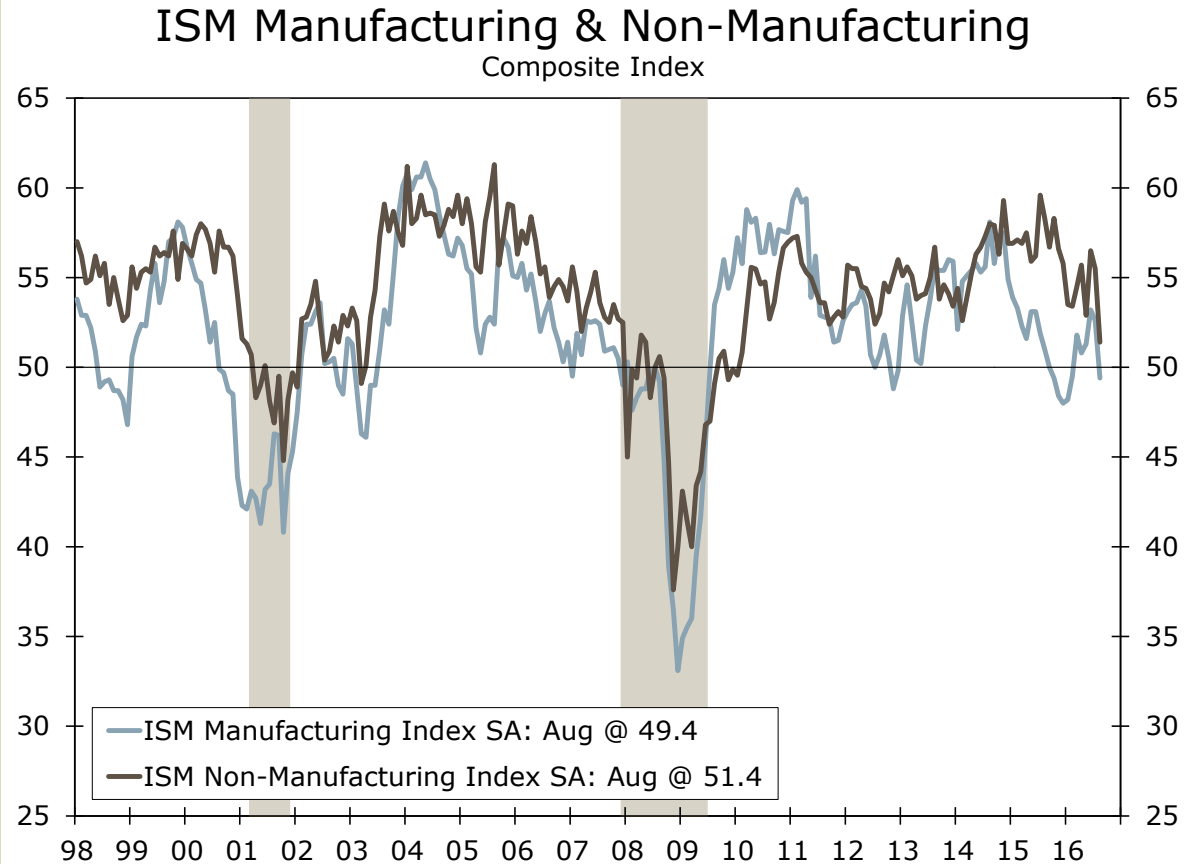
### Real Final Sales to Domestic Purchasers

Bars = CAGR    Line = Yr/Yr Percent Change



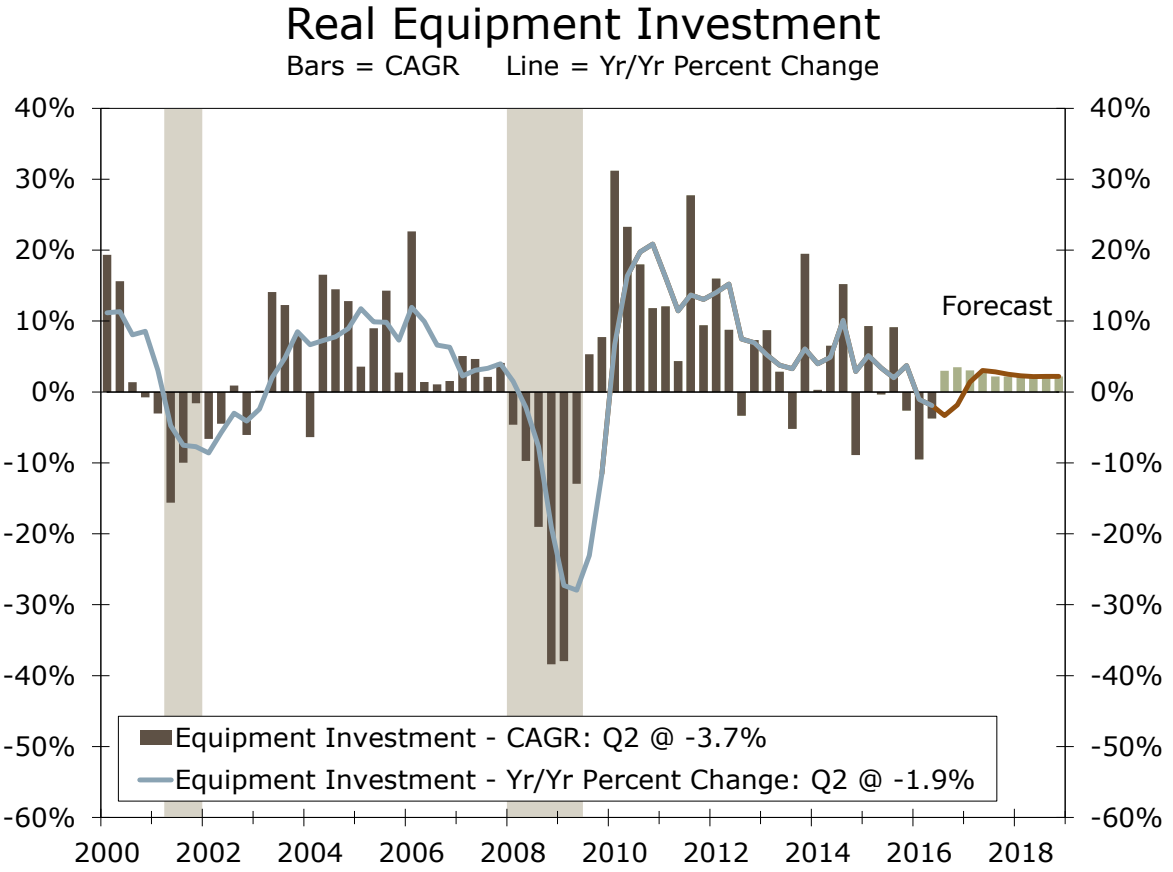
Source: U.S. Department of Commerce and Wells Fargo Securities

Indices on business activity suggest a moderating near-term outlook for services while manufacturing continues to show signs of softness



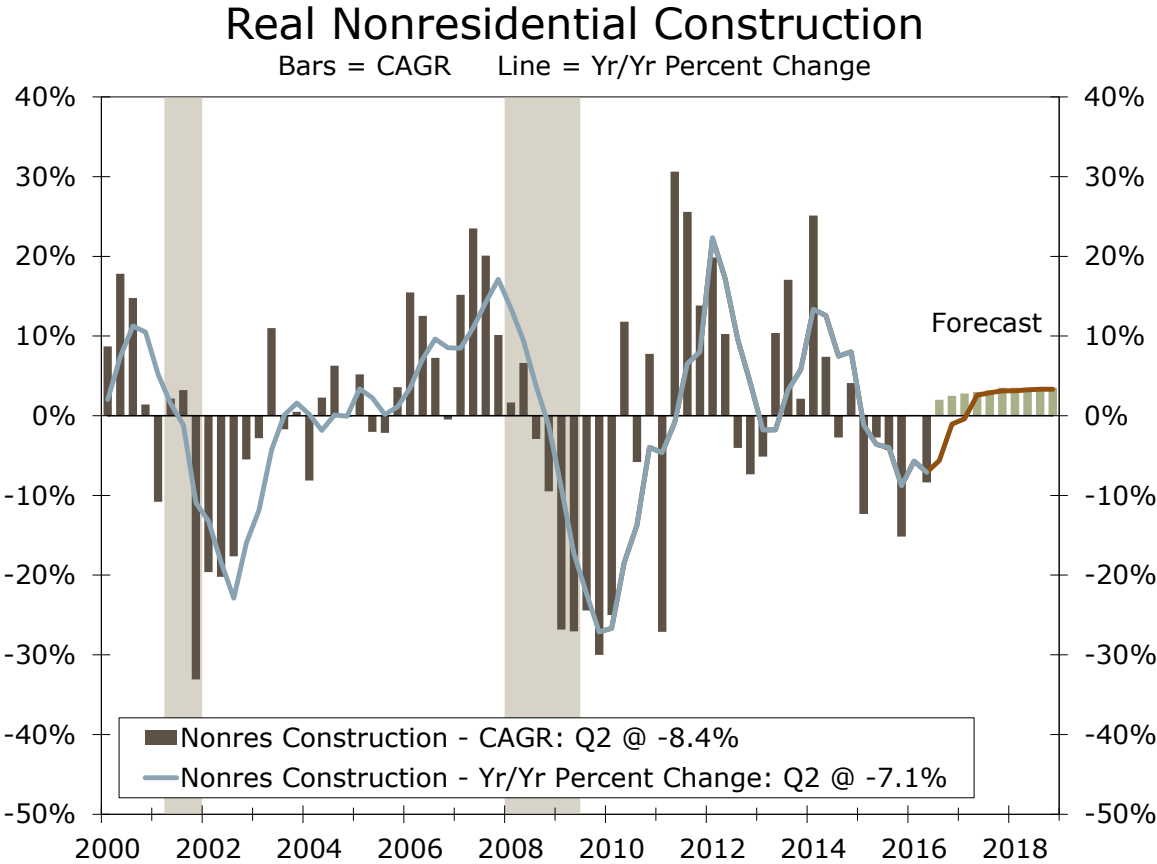
Source: Institute for Supply Management and Wells Fargo Securities

Growth in equipment spending will remain modest



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

The drag from oil and gas on, commercial construction is beginning to diminish

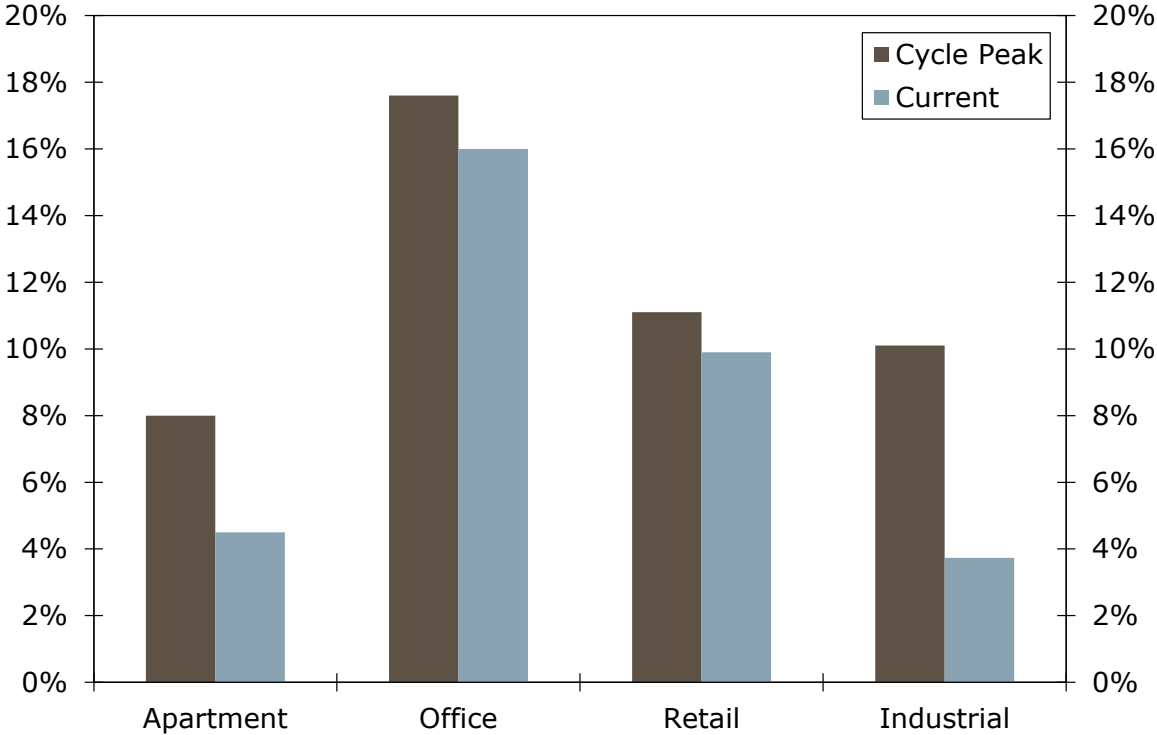


Source: U.S. Department of Commerce and Wells Fargo Securities

Apartment and industrial have seen the largest drops in vacancy rates

### Commercial Real Estate Vacancy Rates

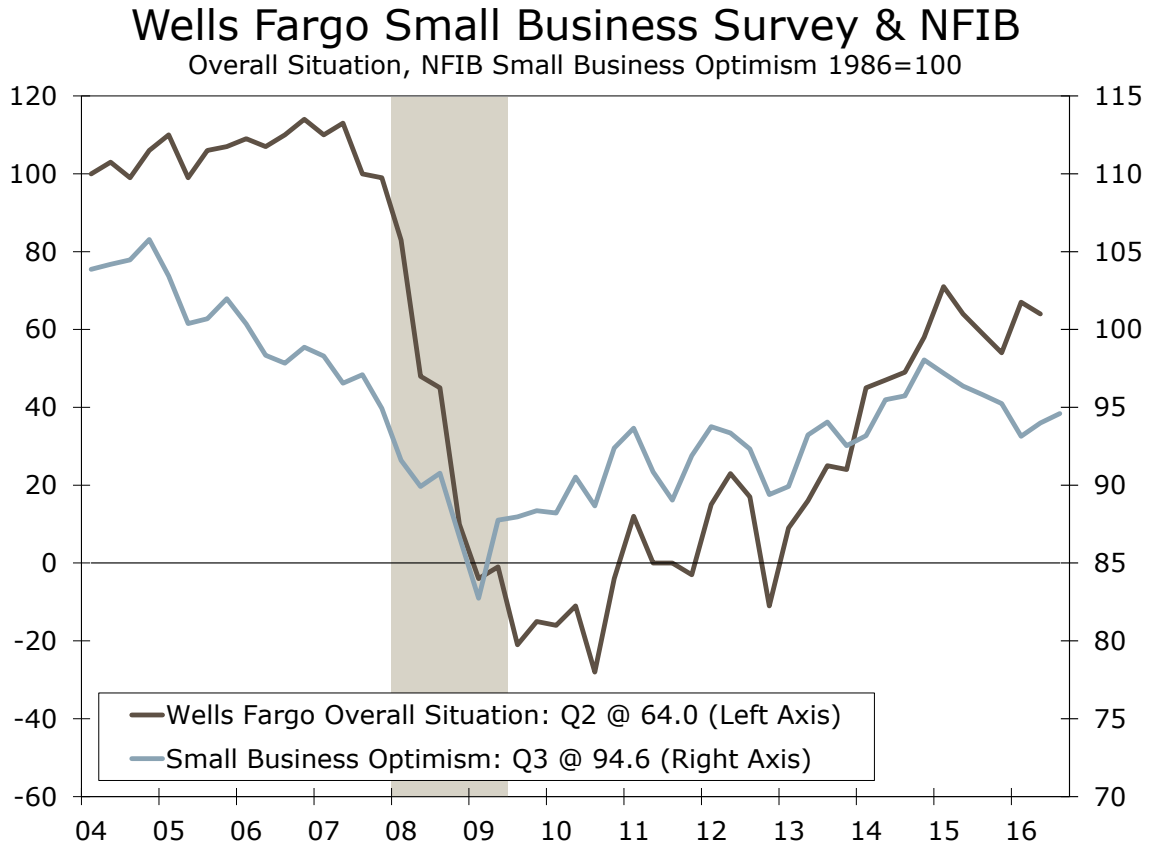
Percent



Source: Reis, Inc., CoStar Realty Information, Inc. and Wells Fargo Securities



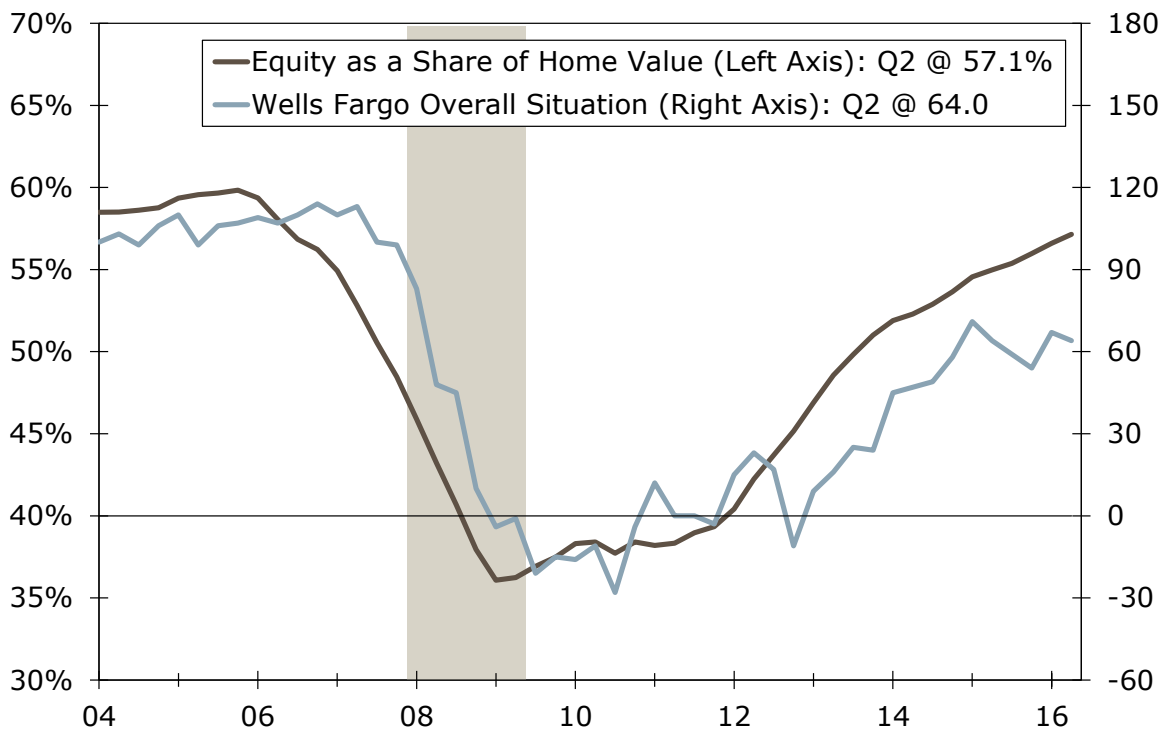
Small business optimism has finally turned around



Source: National Federation of Independent Businesses, Gallup, Wells Fargo Bank and Wells Fargo Securities

Recovery in home equity values has supported small business activity

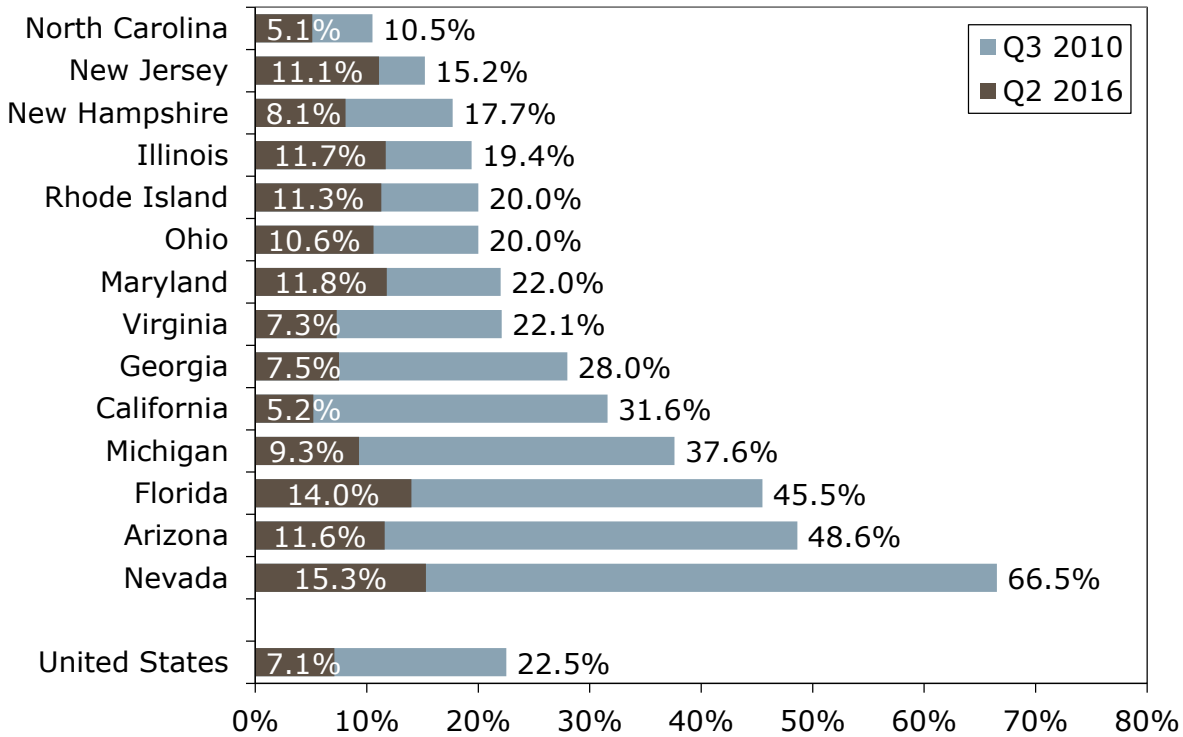
Homeowners' Equity vs. WF Small Business Survey  
Percent Share of Home Values, Index



Source: Federal Reserve Board, Wells Fargo Bank, Gallup and Wells Fargo Securities

The rise in home prices has helped bring down the share of owners who owe more on their home than their home is worth

Negative Equity by State  
Percent of Mortgages Outstanding

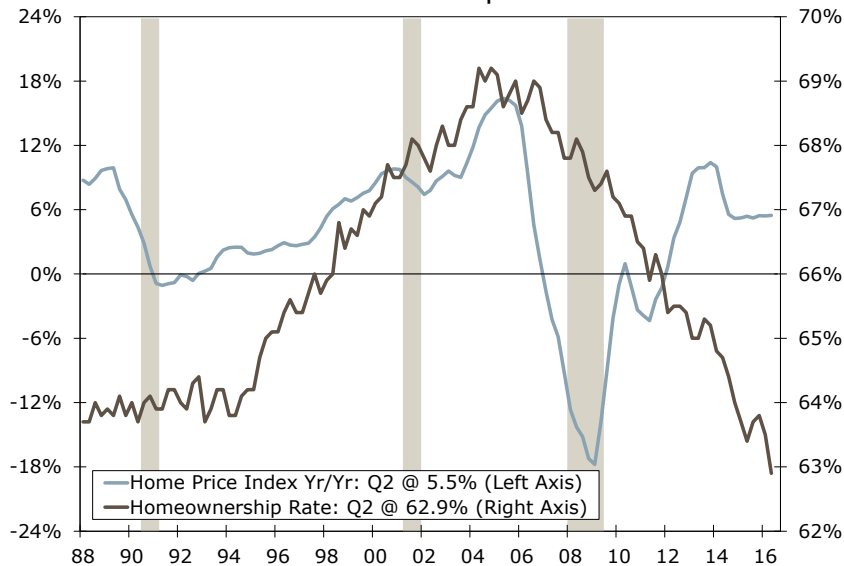


Source: CoreLogic and Wells Fargo Securities

Despite some recent setbacks, we continue to look for a gradual recovery in homebuilding. The homeownership rate is now at its lowest level since the 1960s.

## Homeownership

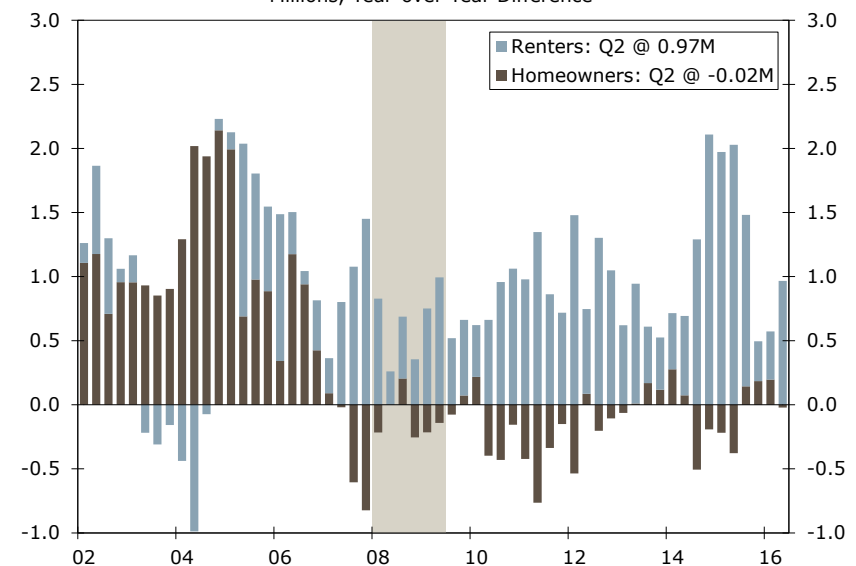
CoreLogic National Home Price Index vs. Homeownership Rate



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

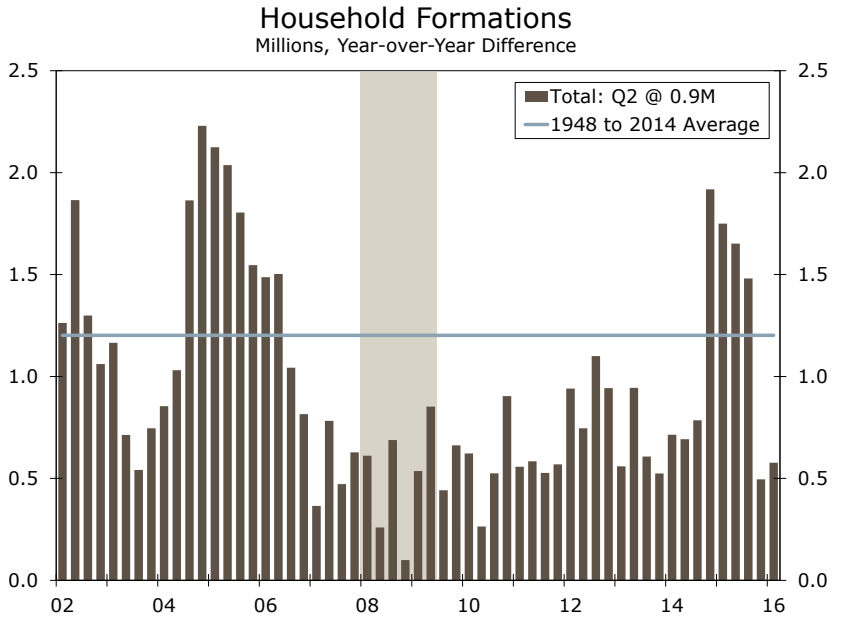
## Owners vs. Renters

Household Formations  
Millions, Year-over-Year Difference

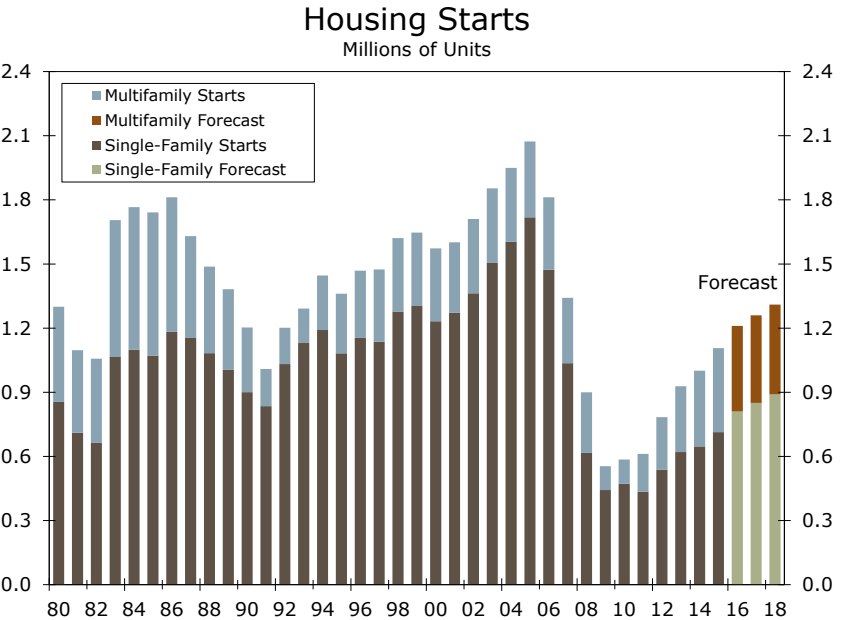


Household formations are rising, albeit slowly, however a larger share of new households are becoming renters rather than traditional homeowners

Household Formation



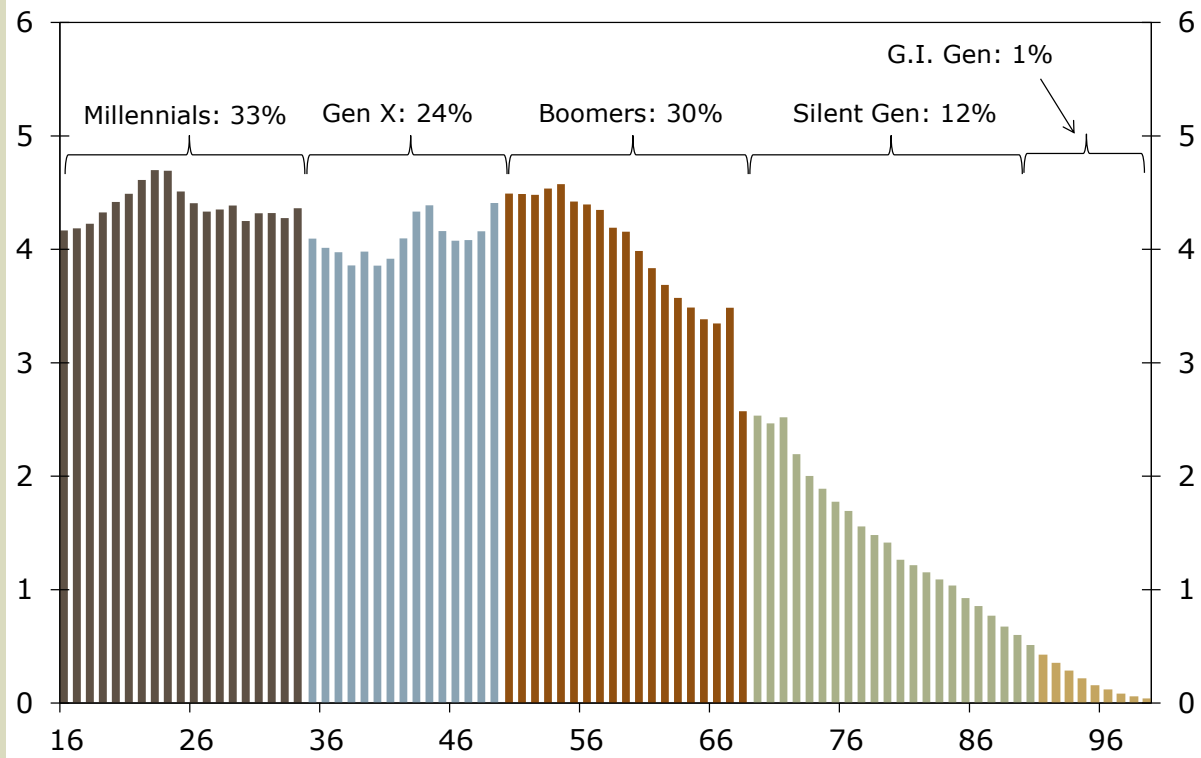
Housing Starts



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

Millennials are now the country's largest and most diverse generation

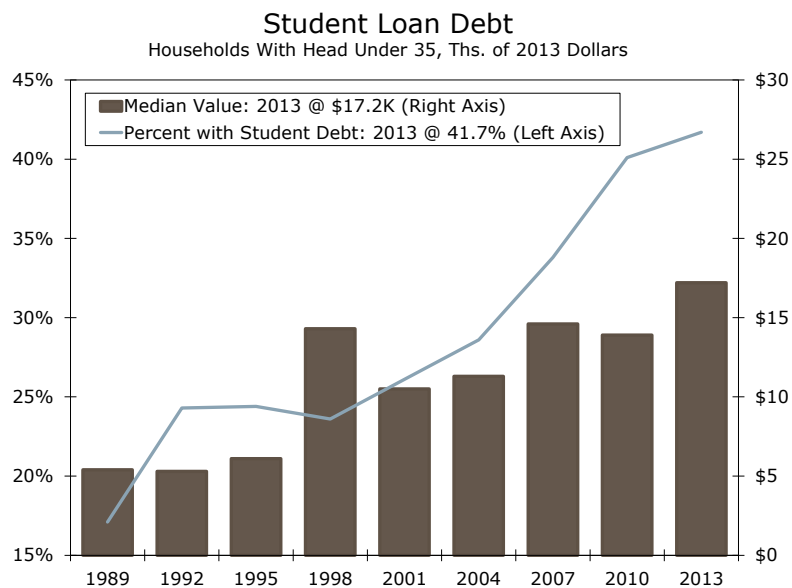
**U.S. Working-Age Population Distribution**  
Millions of Persons in Age Group, 2014



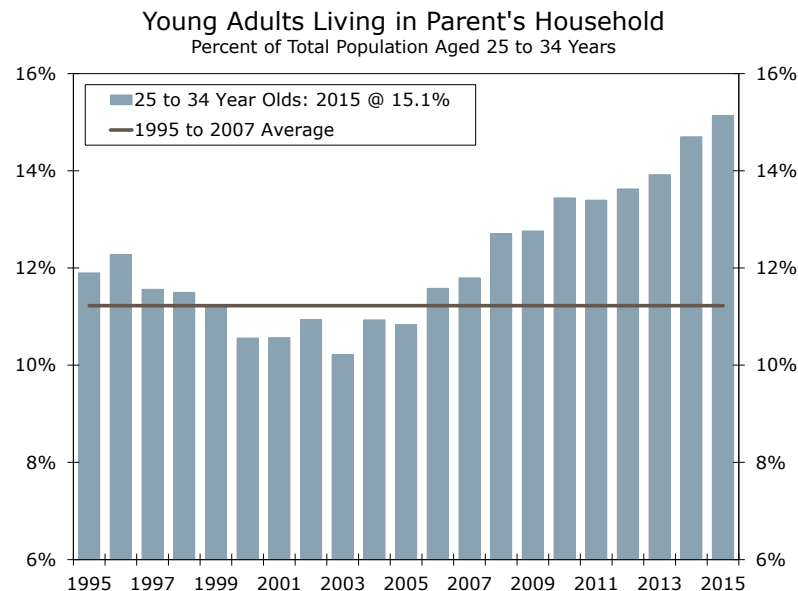
Source: U.S. Department of Commerce and Wells Fargo Securities

Higher student debt burdens are hindering young adults' ability to form new households

## Student Loans



## Household Formation

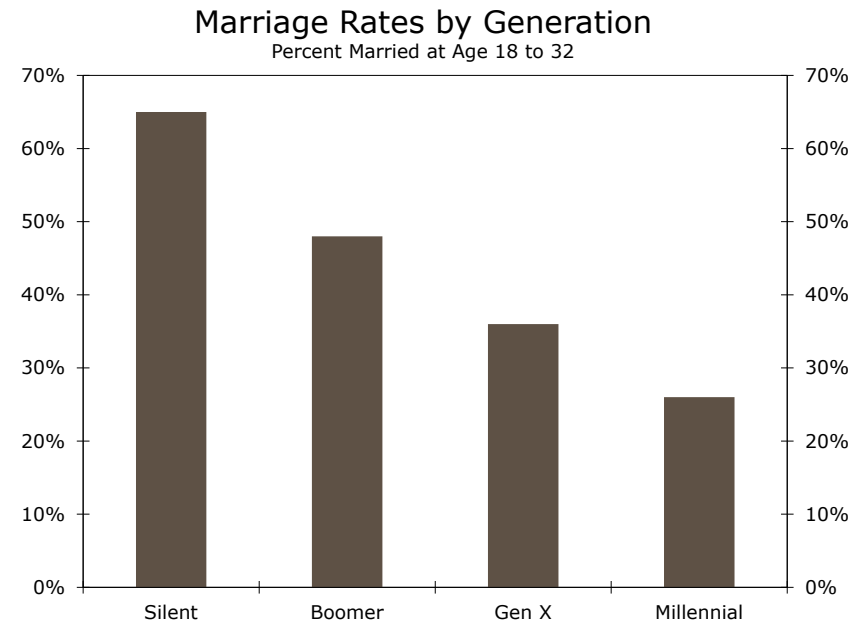
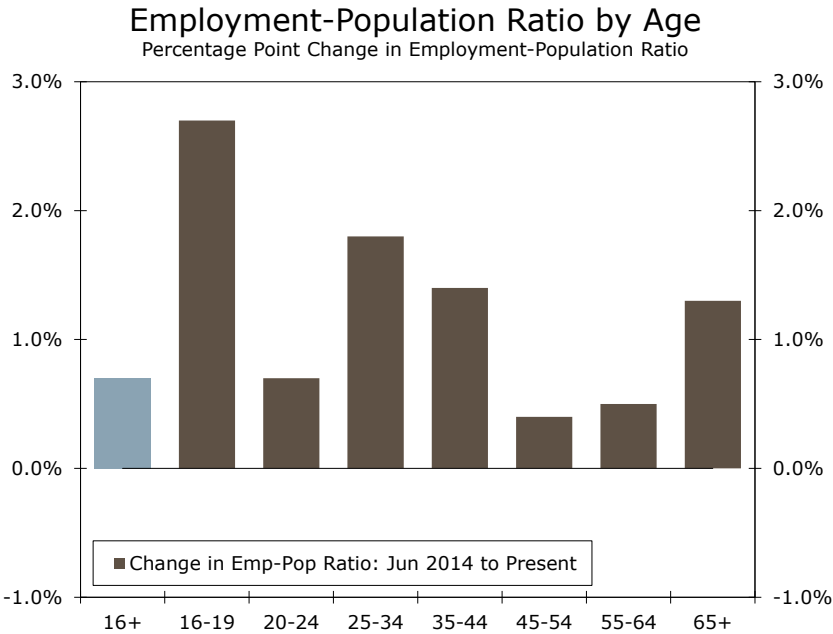


Source: Federal Reserve Board, U.S. Department of Commerce and Wells Fargo Securities

A greater share of millennials are participating in the labor market.  
Fewer millennials getting married implies slower or delayed growth in household formations.

## Employment-Population Growth by Age

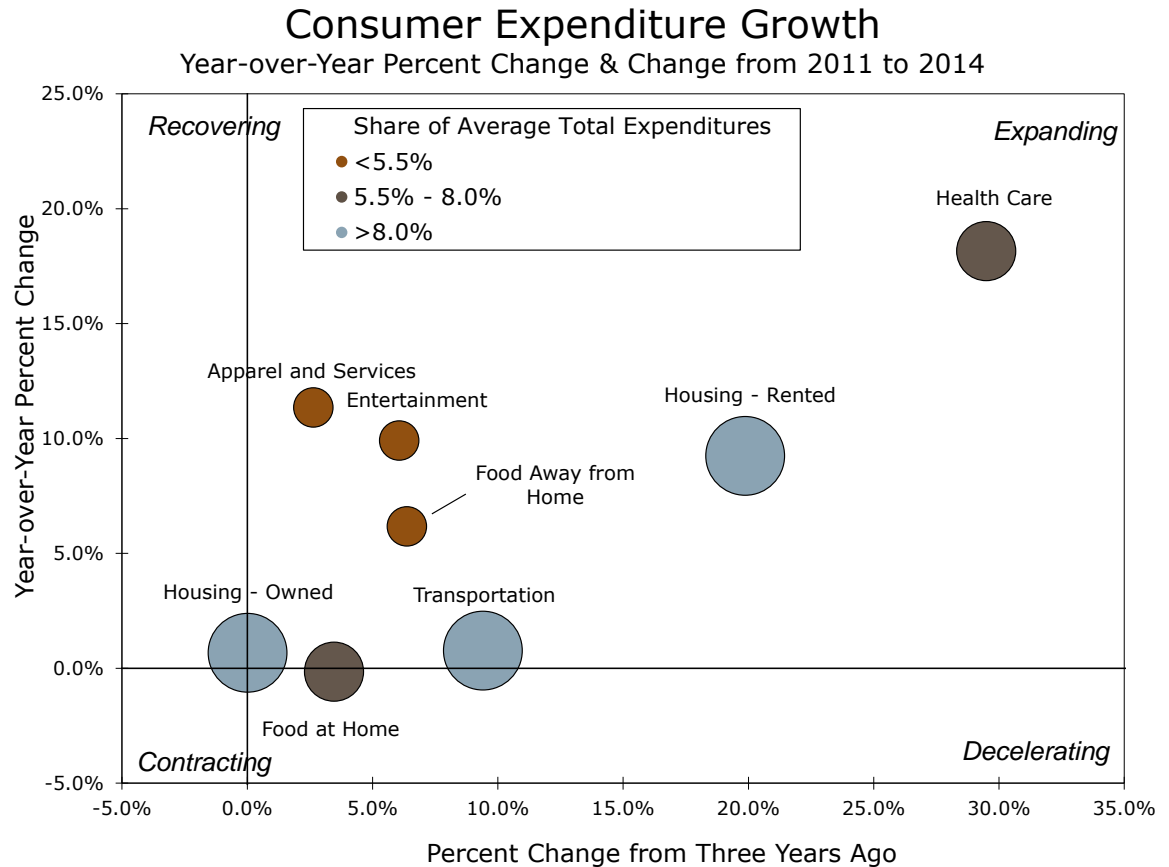
## Marriage Rates by Generation



Sources: U.S. Department of Labor and Wells Fargo Securities  
Pew Research Center . (March 2014). "Millennials in Adulthood: Detached from Institutions, Networked with Friends."

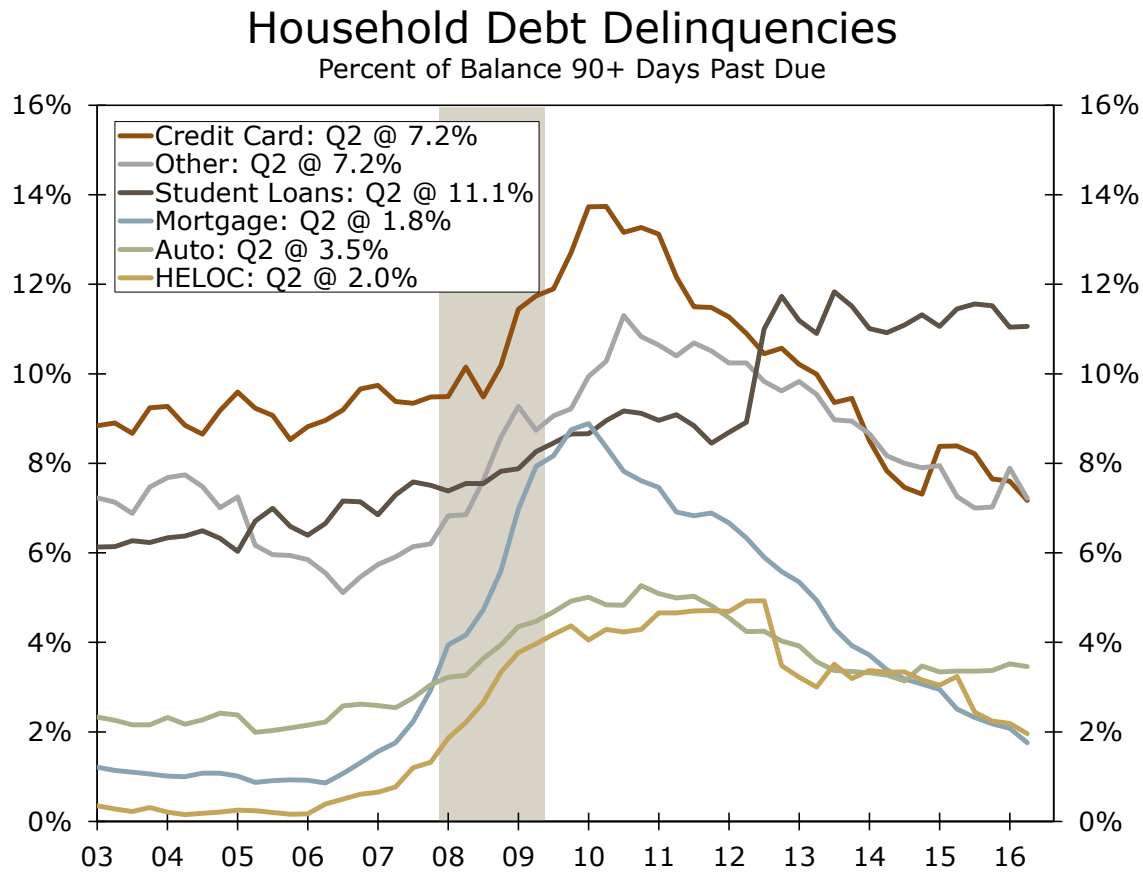


Food away from home, entertainment, and apparel spending have improved over the past year as the economy has picked up



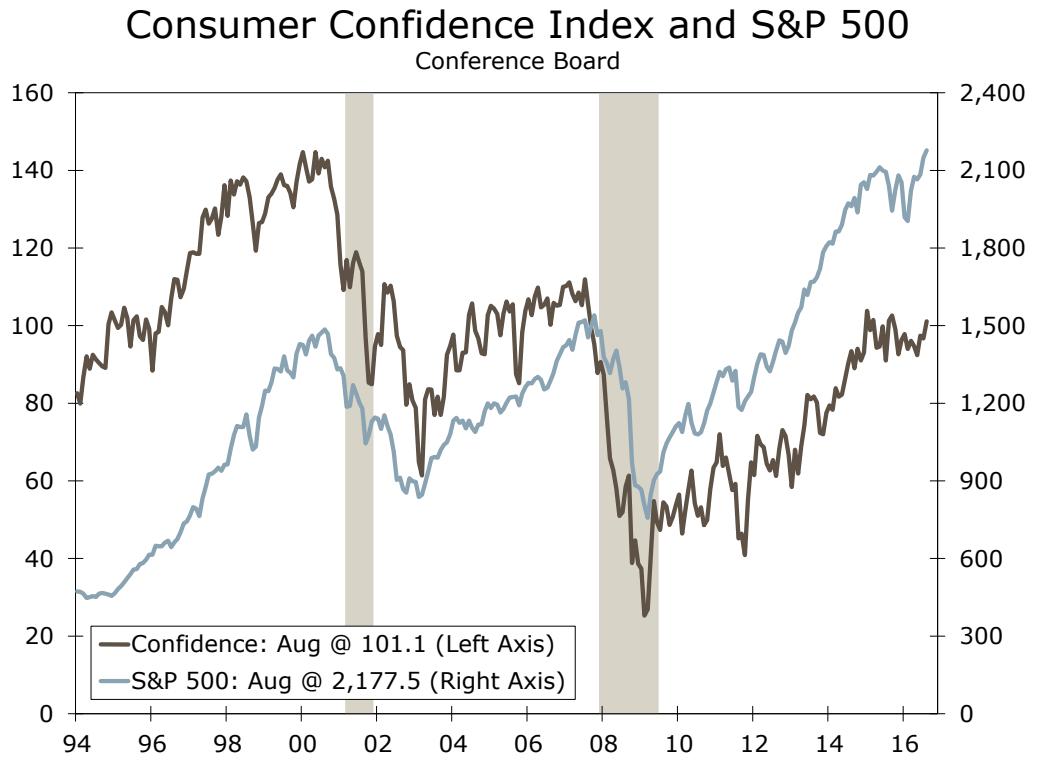
Source: U.S. Department of Labor and Wells Fargo Securities

Tighter credit standards and a strengthening economy have helped to improve the credit position of households over the past 3 years



Source: Federal Reserve Bank of New York and Wells Fargo Securities

“The Only Thing We Have to Fear Is Fear Itself” – Franklin D. Roosevelt

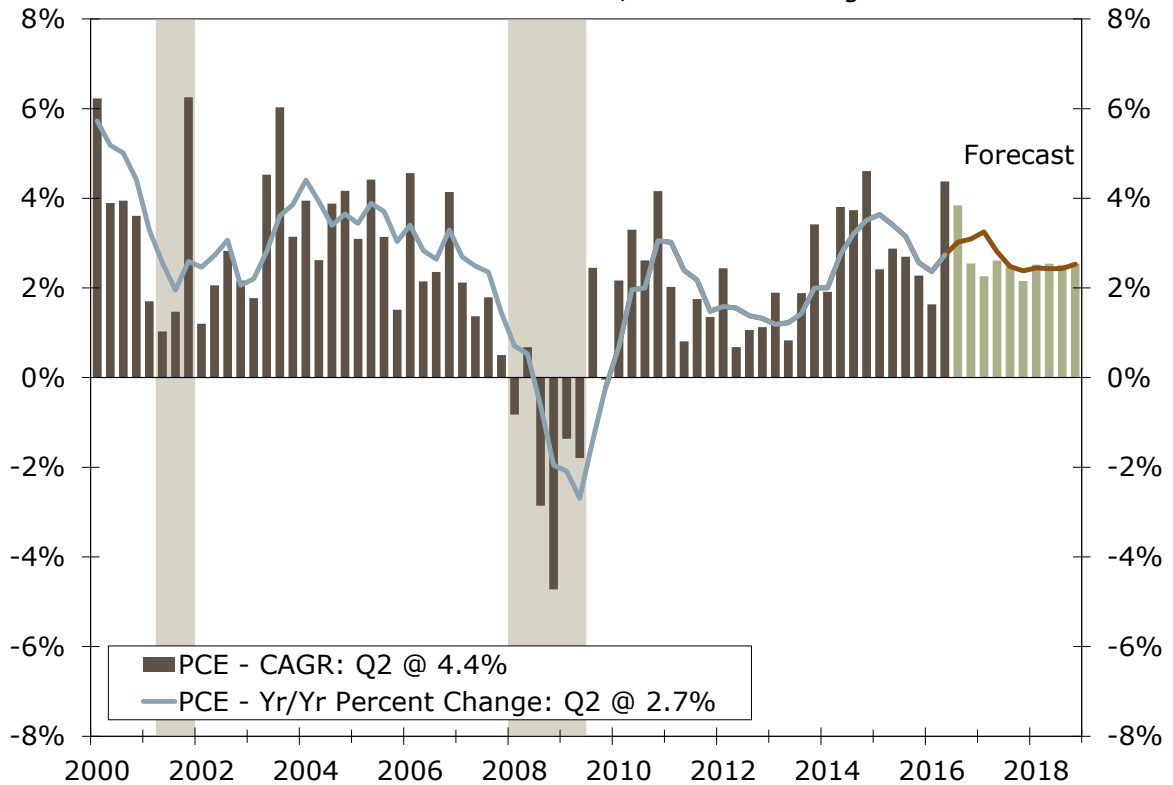


Source: The Conference Board, IHS Global Insight and Wells Fargo Securities

Consumer spending growth will continue to average around 2.5 percent

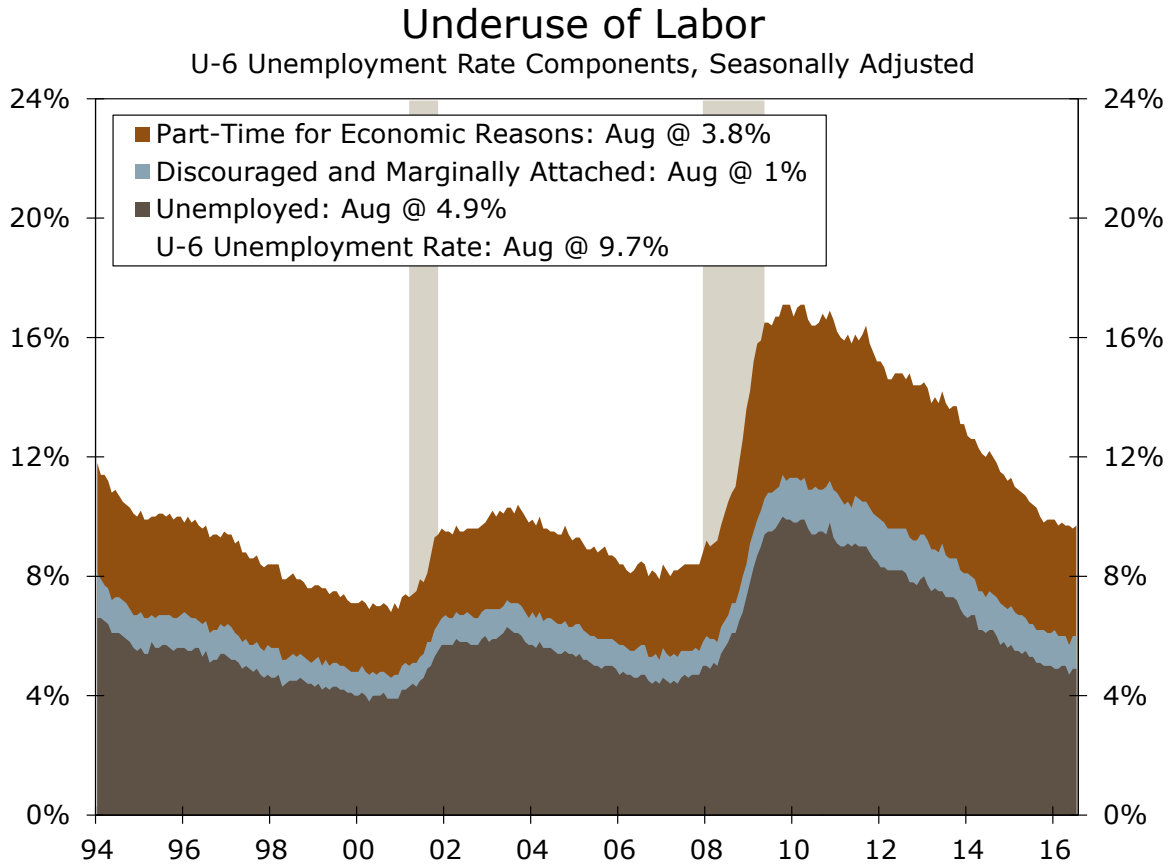
### Real Personal Consumption Expenditures

Bars = CAGR Line = Yr/Yr Percent Change



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

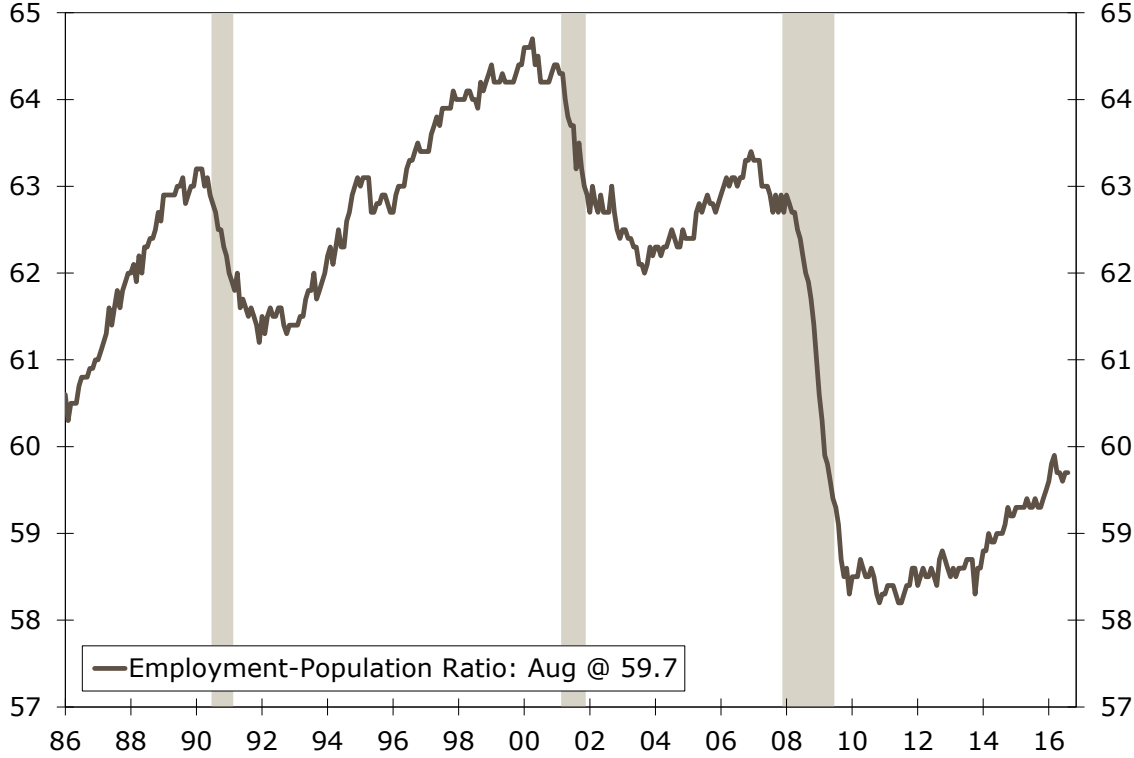
Alternative measures of unemployment show a high level of underemployment



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

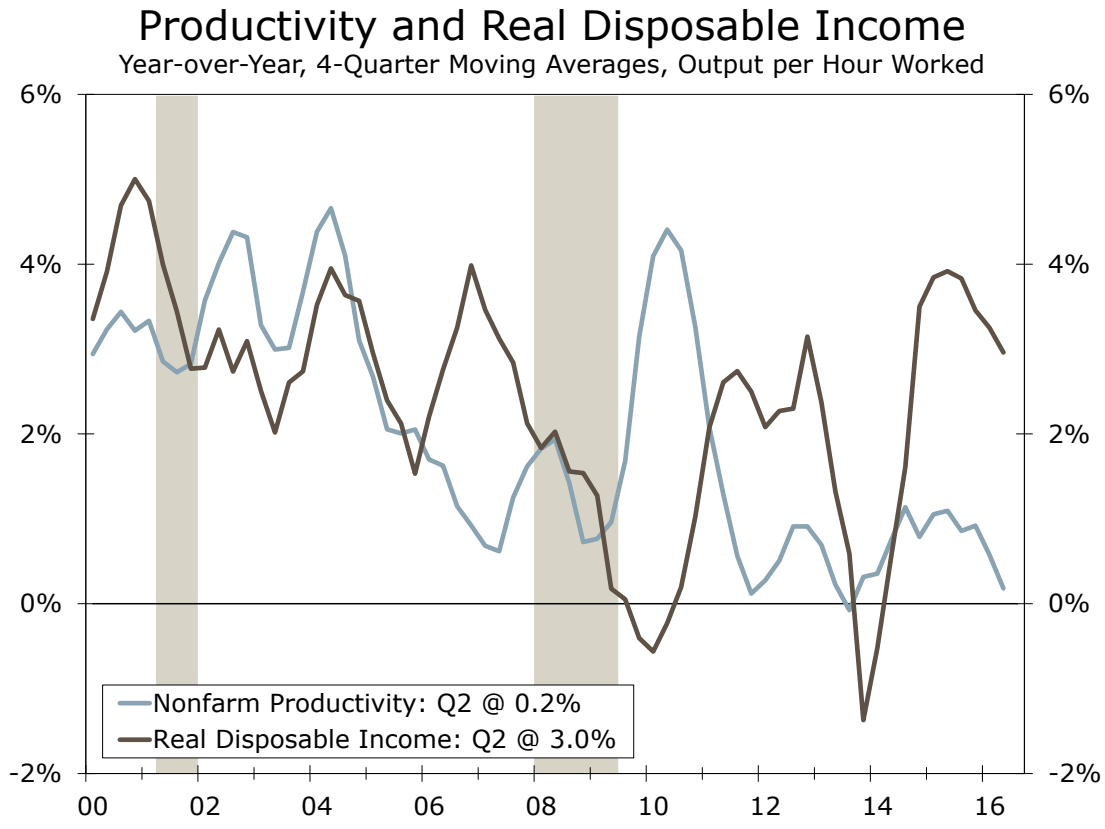
Slower growth in the workforce population combined with lower labor force participation will limit potential GDP growth

### Employment-Population Ratio 16 Years and Over, Seasonally Adjusted



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

Low productivity growth is limiting wage growth and potential GDP

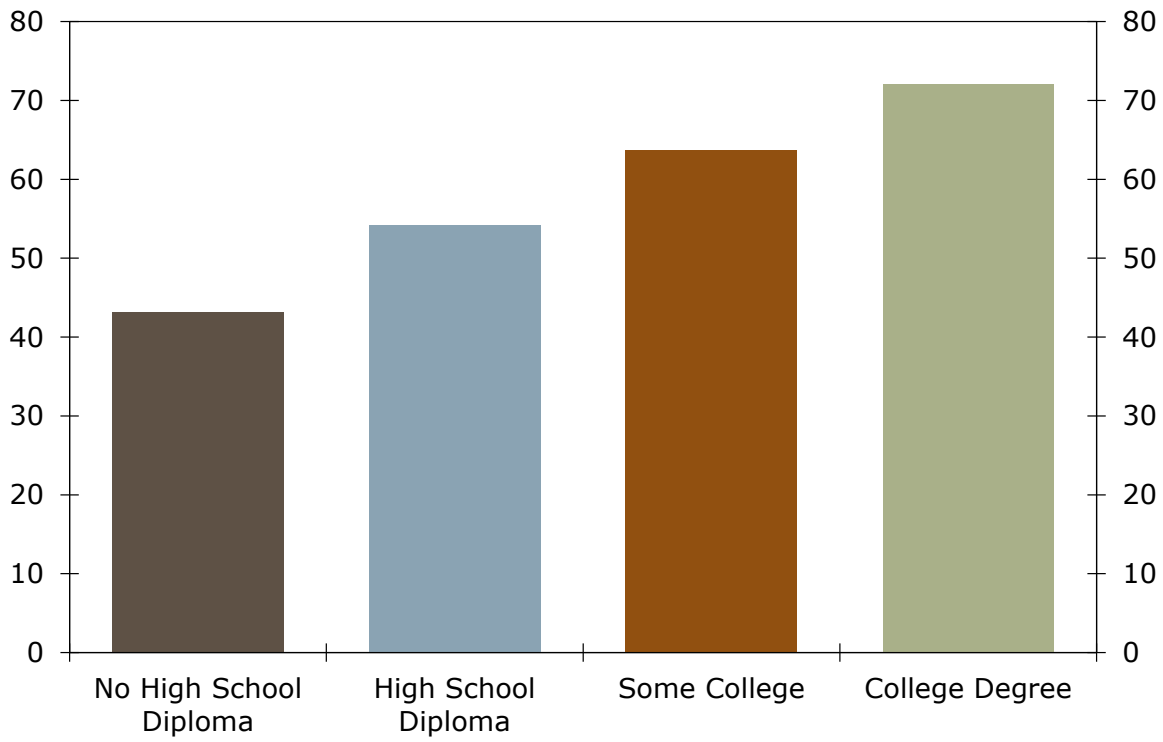


Source: U.S. Department of Labor, U.S. Department of Commerce and Wells Fargo Securities

The employment picture is mixed across different levels of education

## Employment-Population Ratio by Education

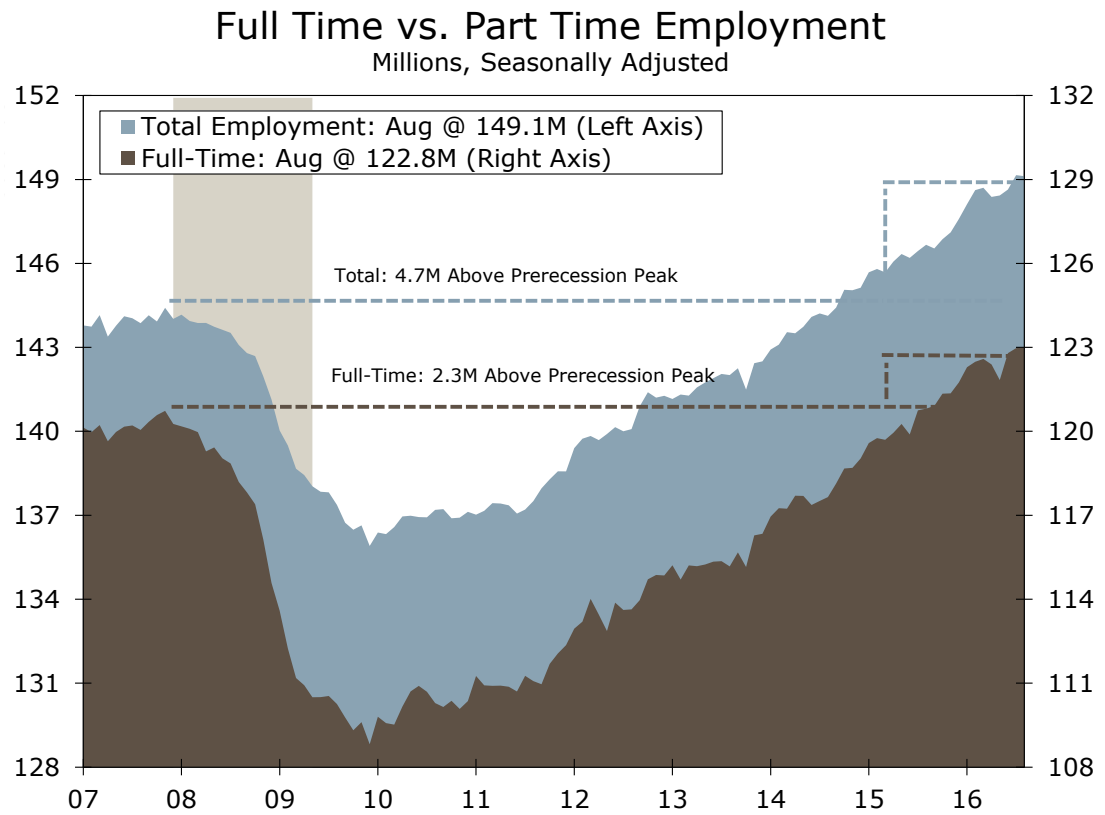
August 2016



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



A large proportion of the jobs created over the past four years have been part-time, which has weighed on wage & salary growth

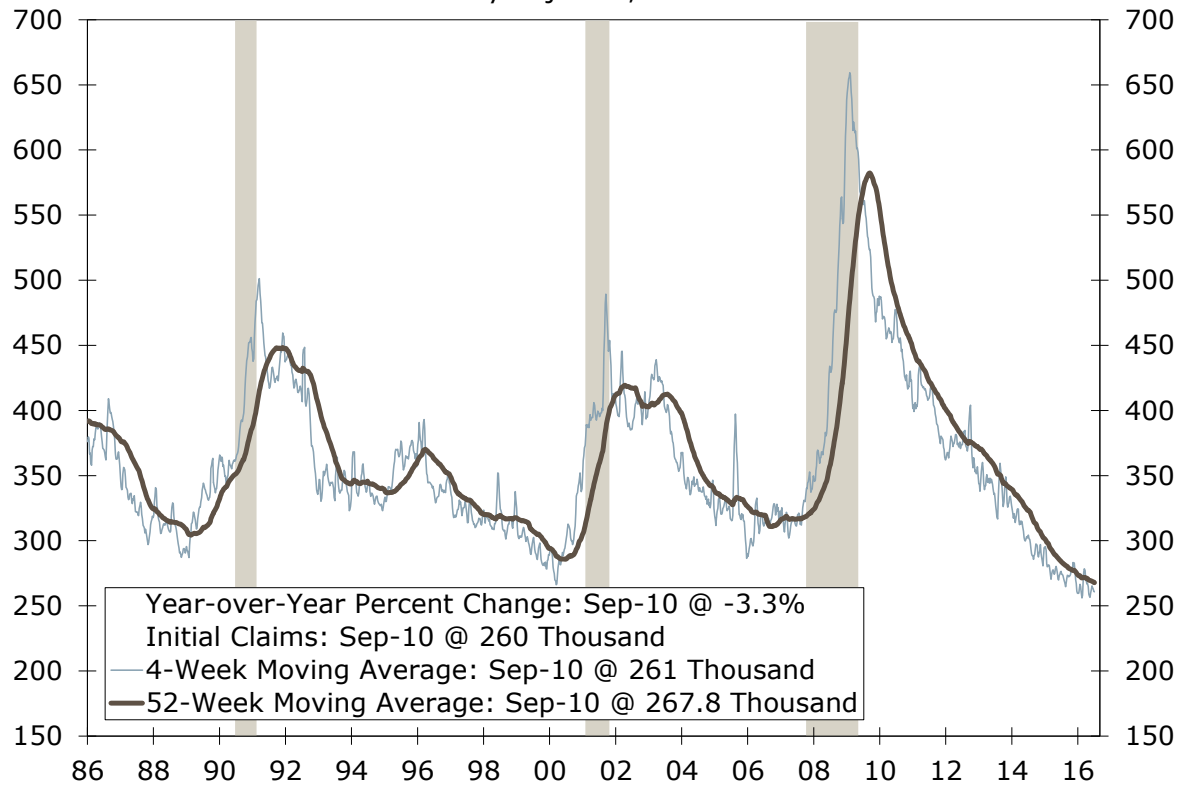


Source: U.S. Department of Labor and Wells Fargo Securities

Initial jobless claims remain near historic lows but have shown recent signs of bottoming

## Initial Claims for Unemployment

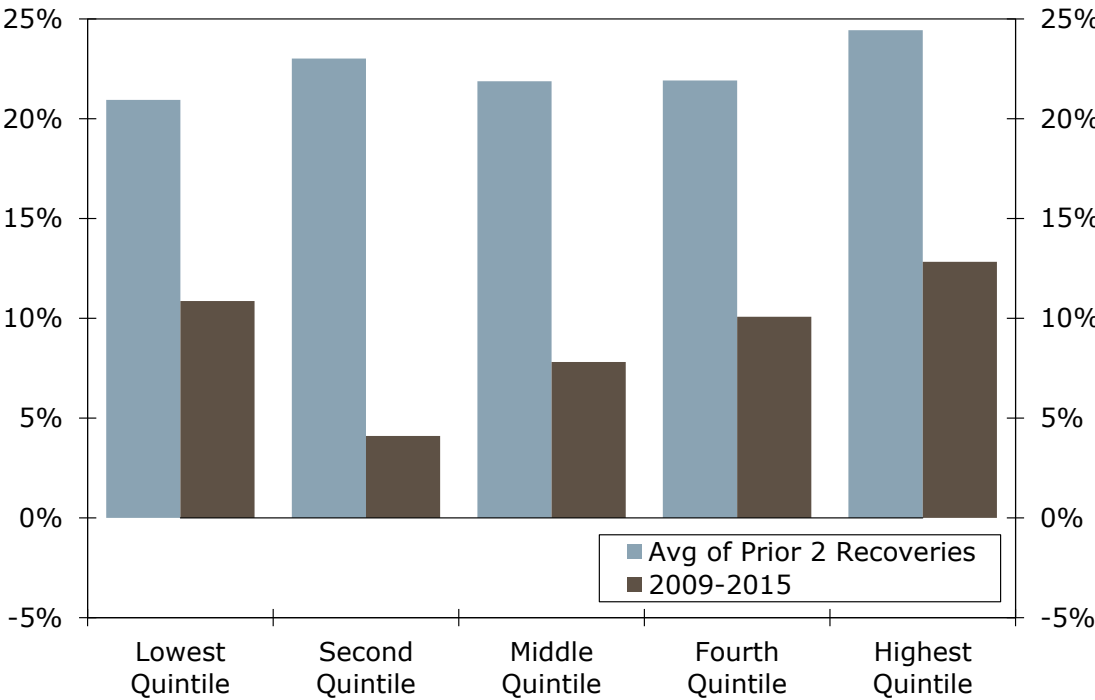
Seasonally Adjusted, In Thousands



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

Income growth has finally begun to turn around but still lags prior recoveries

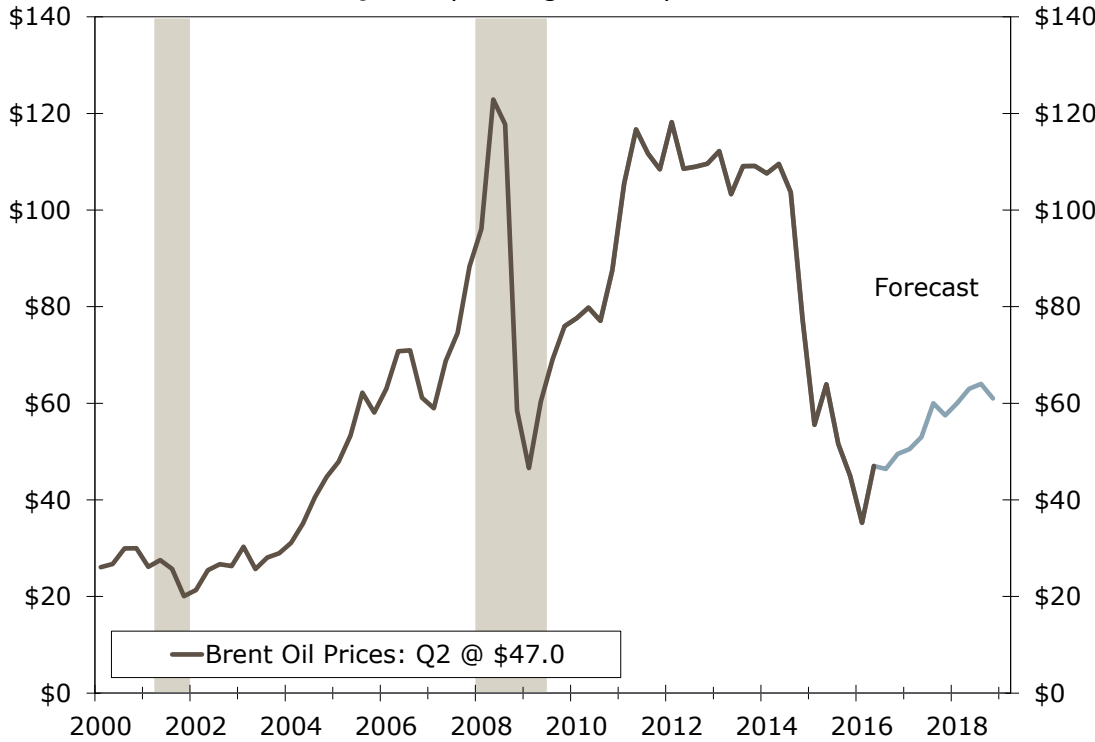
Income Growth During Economic Recoveries  
Percent Change 6 Years After Recession End, Before-Tax Income



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

Oil prices have continued to slump

Brent Oil Front Contract Price Forecast  
Quarterly Average of Daily Close

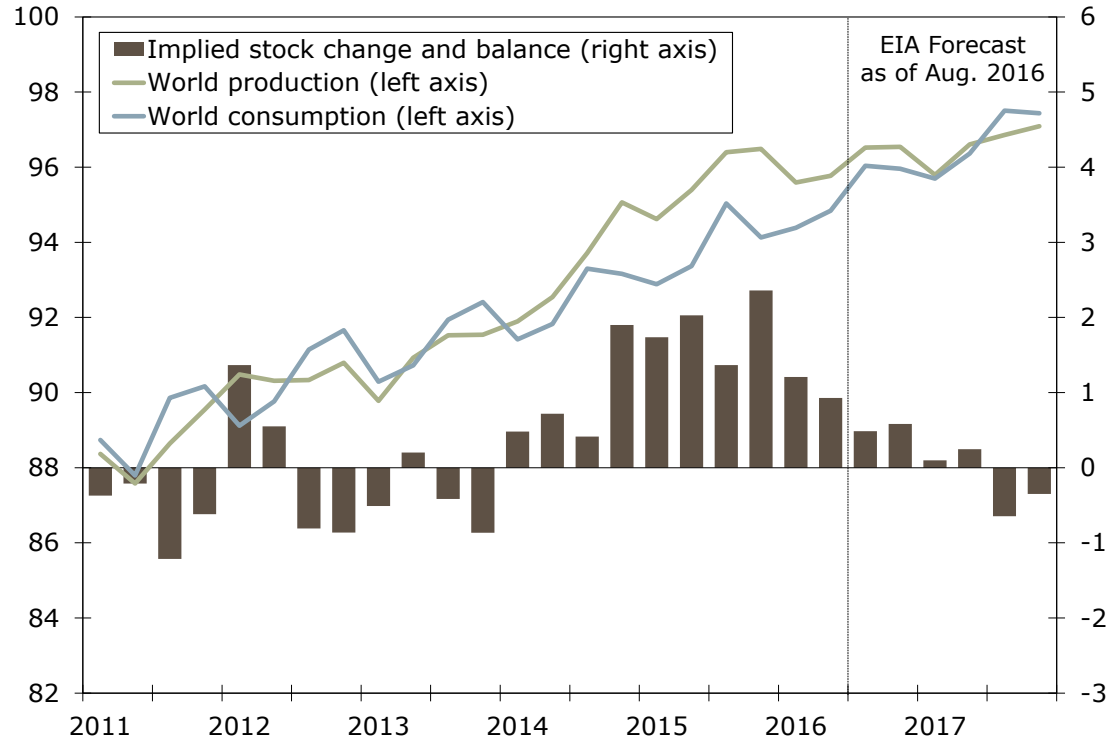


— Brent Oil Prices: Q2 @ \$47.0

Source: IHS Global Insight and Wells Fargo Securities

The implied supply & demand imbalance is expected to come down in the third quarter

World Fuel Production and Consumption Balance  
Liquid Fuels, Millions of Barrels Per Day

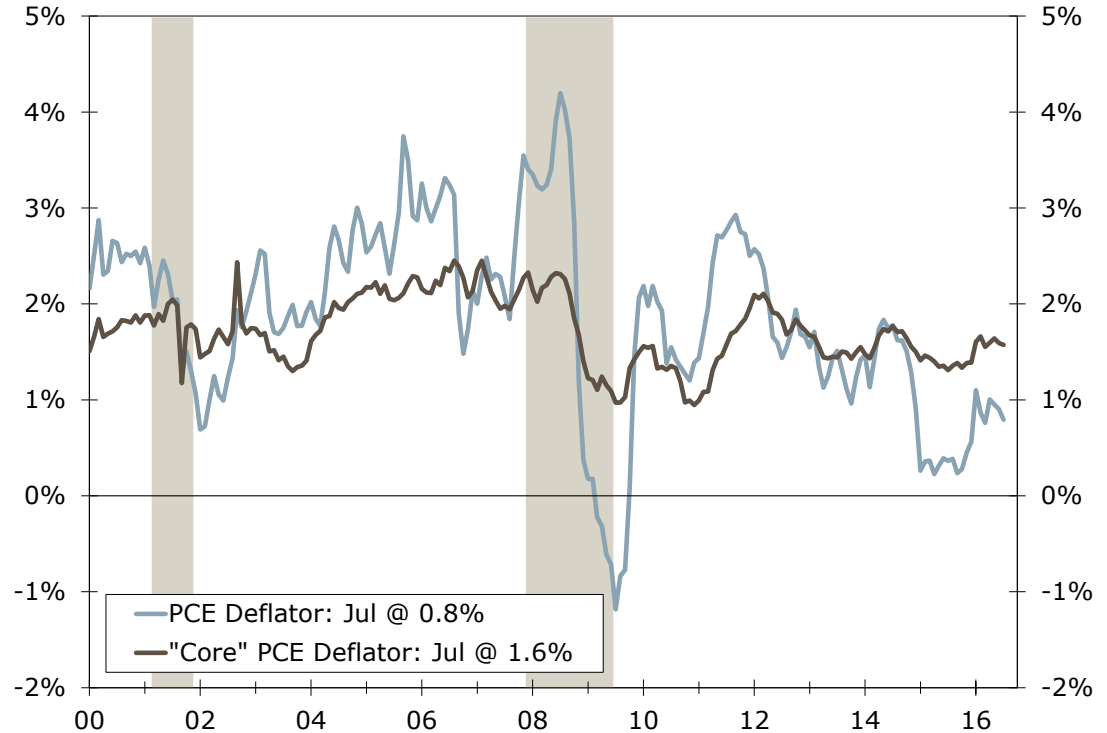


Source: Energy Information Administration and Wells Fargo Securities

Inflation remains in check

## PCE Deflator vs. "Core" PCE Deflator

Year-over-Year Percent Change

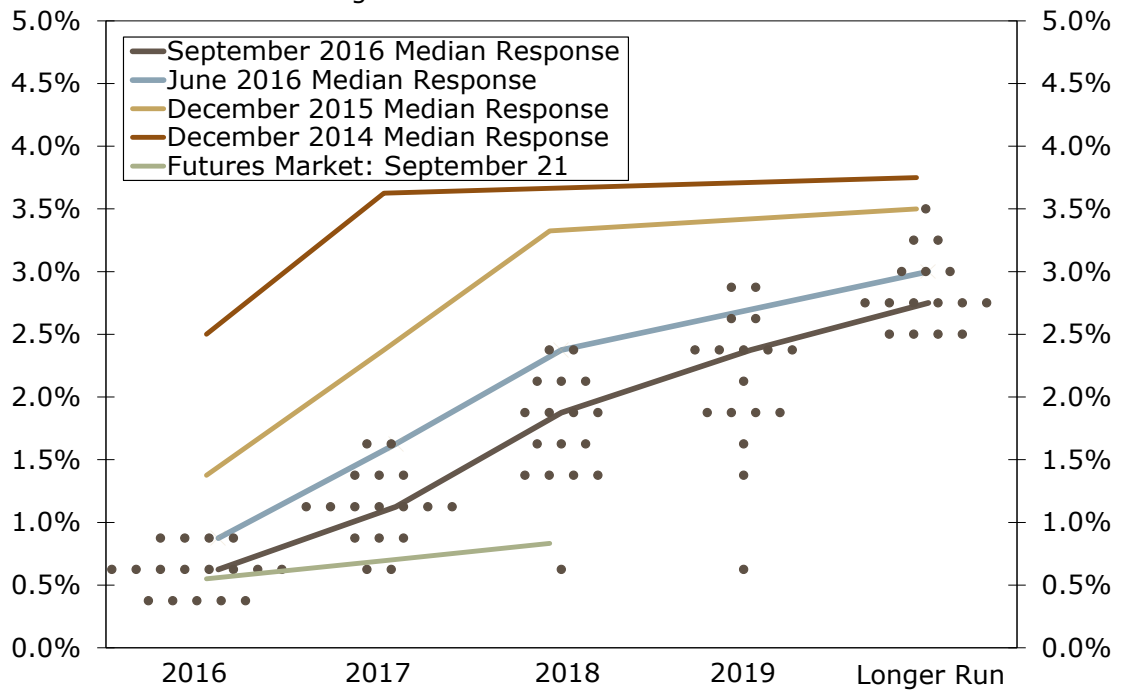


Source: U.S. Department of Commerce and Wells Fargo Securities

The tightening cycle has finally commenced, but the pace of tightening has been repeatedly revised down.

### Appropriate Pace of Policy Firming

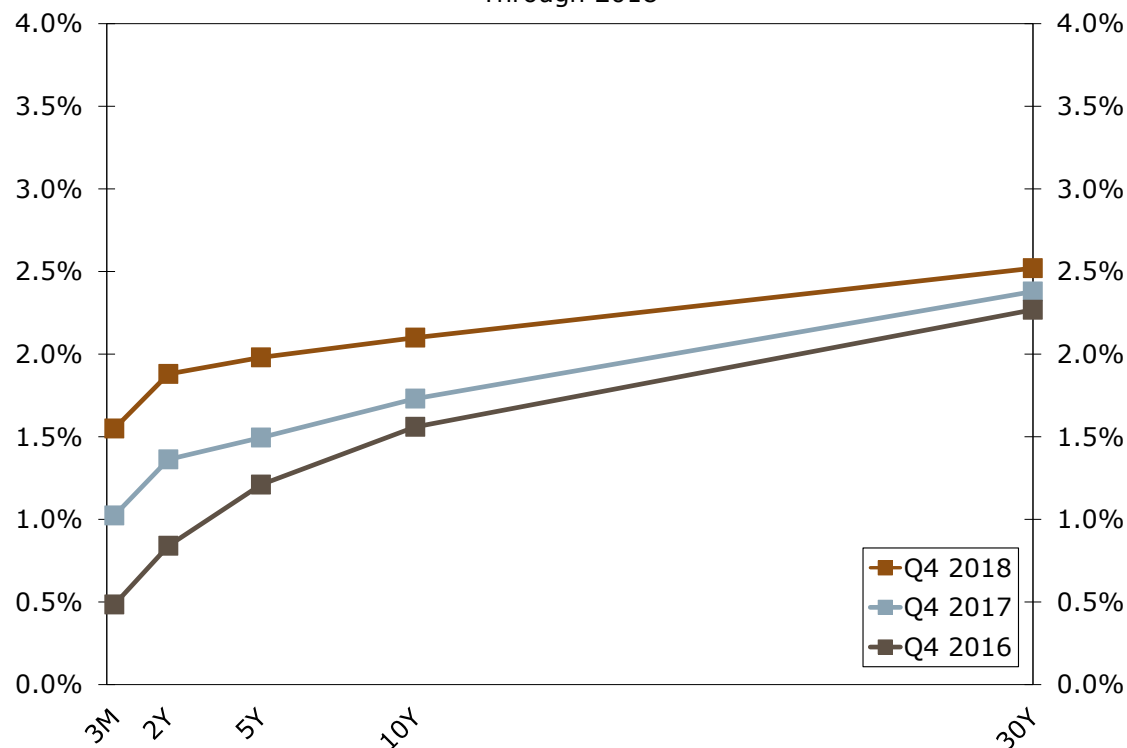
Target Federal Funds Rate at Year-End



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

The yield curve is expected to flatten further as the Fed raises short-term interest rates

### Wells Fargo Rates Forecast Through 2018

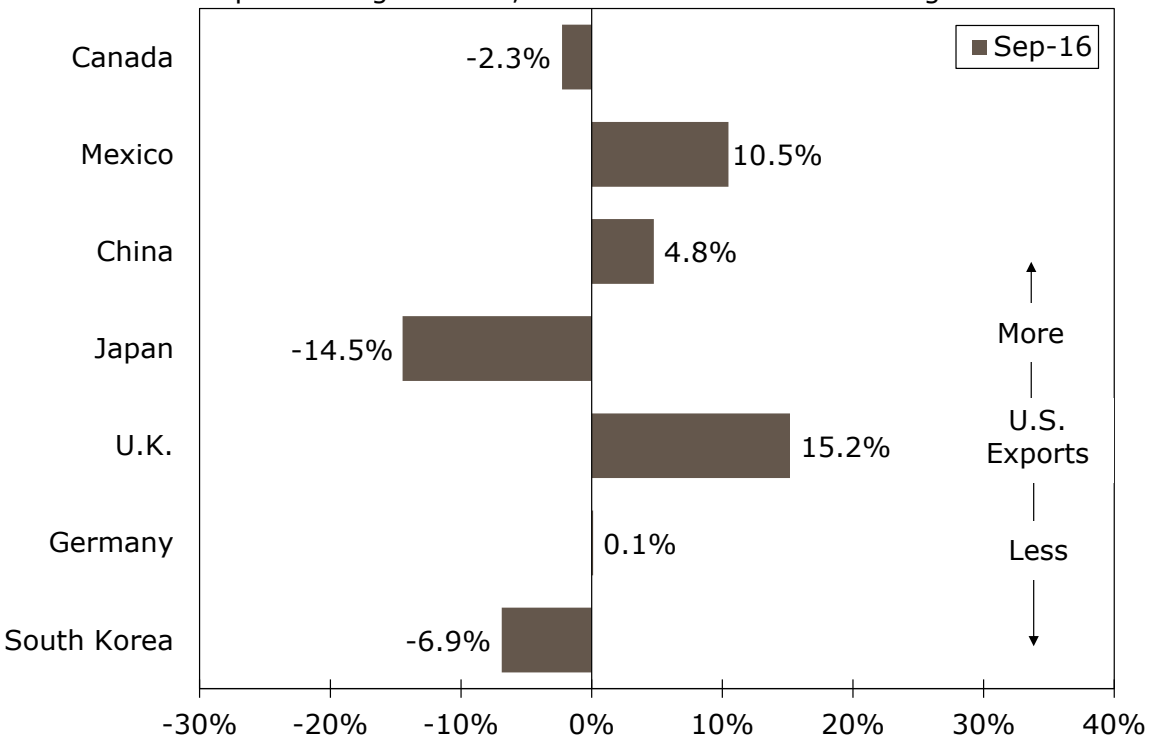


Source: IHS Global Insight and Wells Fargo Securities



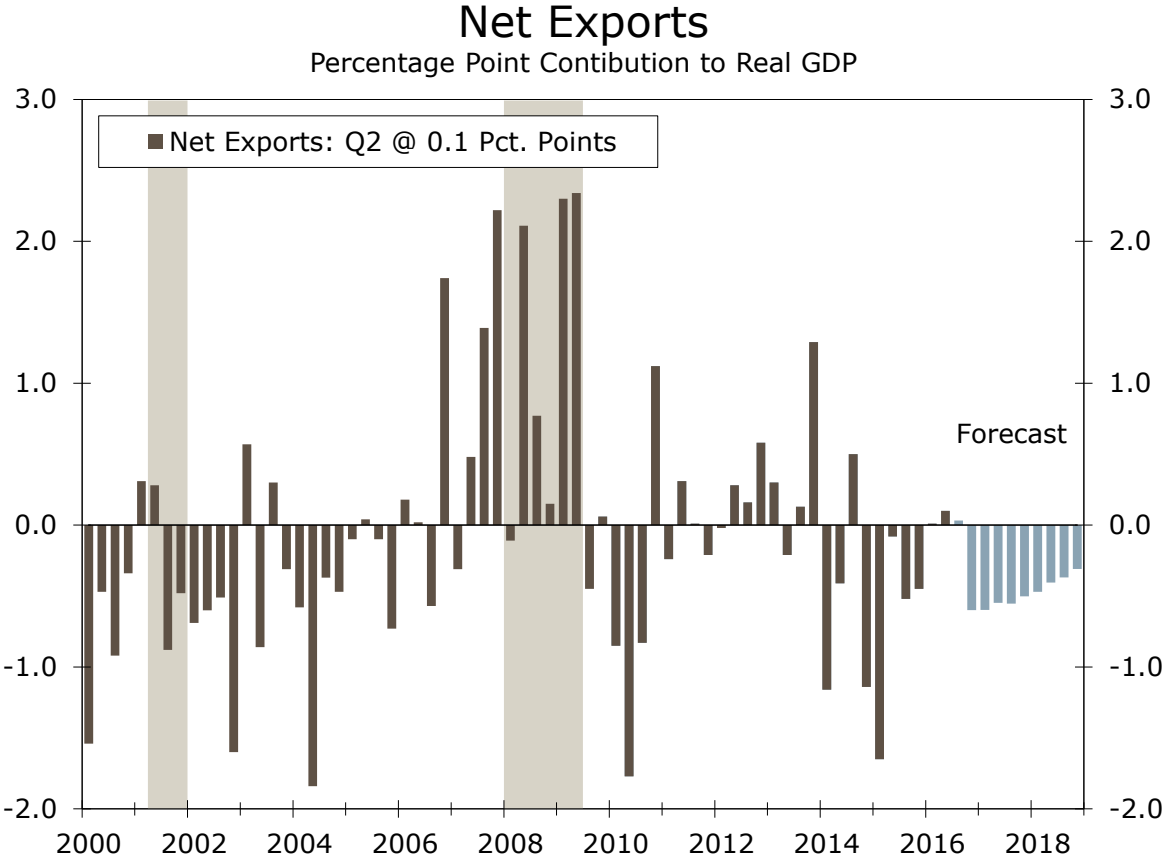
The dollar has strengthened relative to the currencies of our major trading partners

### U.S. Dollar Appreciation vs. Top Export Destinations Top 7 Trading Partners, Year-over-Year Percent Change



Source: Bloomberg LP and Wells Fargo Securities

The stronger U.S. dollar, slower global growth and stronger domestic demand will result in trade weighing on growth

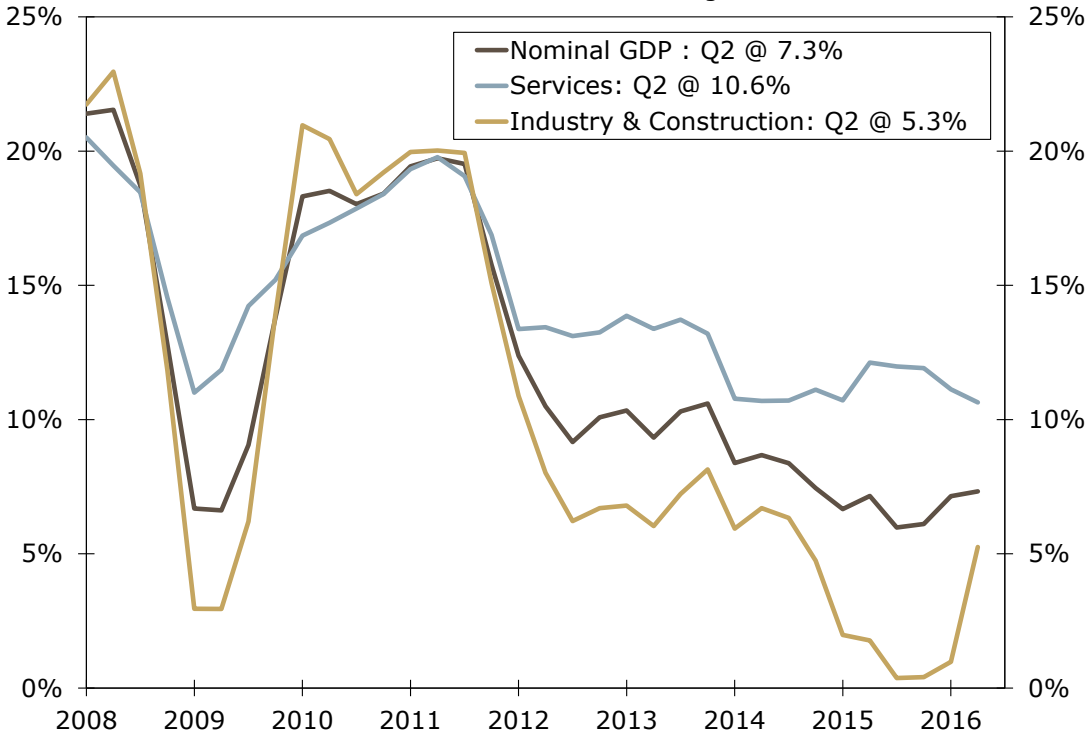


Source: U.S. Department of Commerce and Wells Fargo Securities

Chinese authorities hope to rebalance growth toward the service sector

### Nominal Value-Added in China

Year-over-Year Percent Change

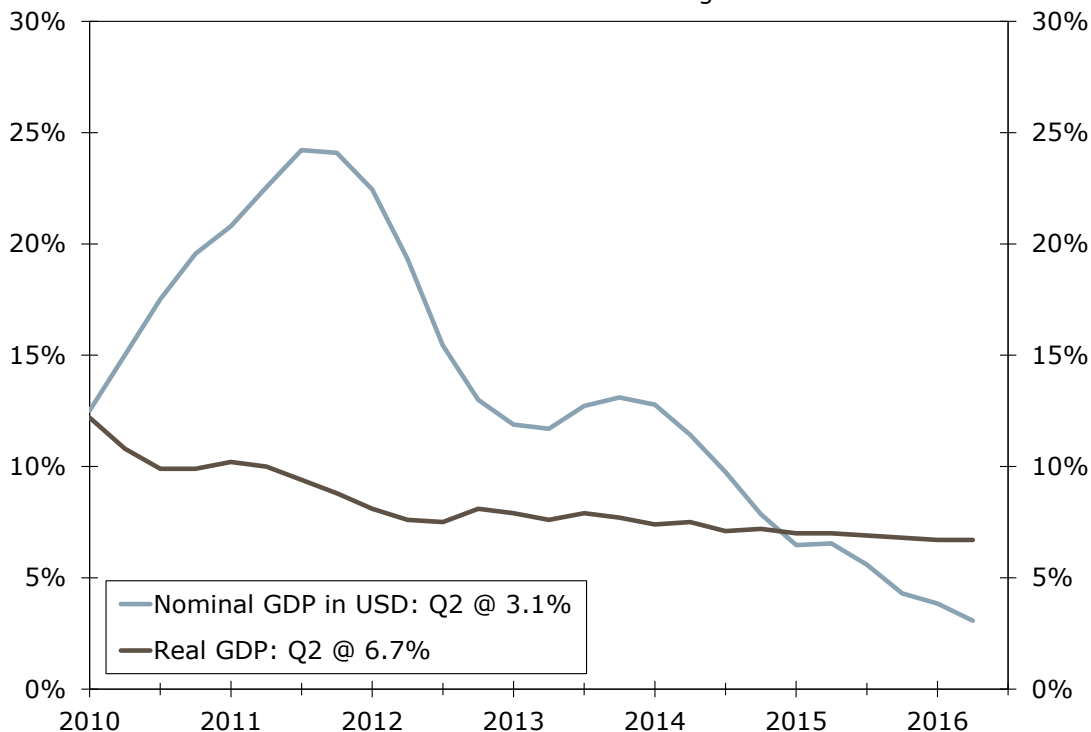


Source: CEIC and Wells Fargo Securities

Chinese growth appears slower to U.S. market participants due, in part, to the strength of the U.S. dollar relative to the renminbi

## Chinese GDP Growth

Year-over-Year Percent Change

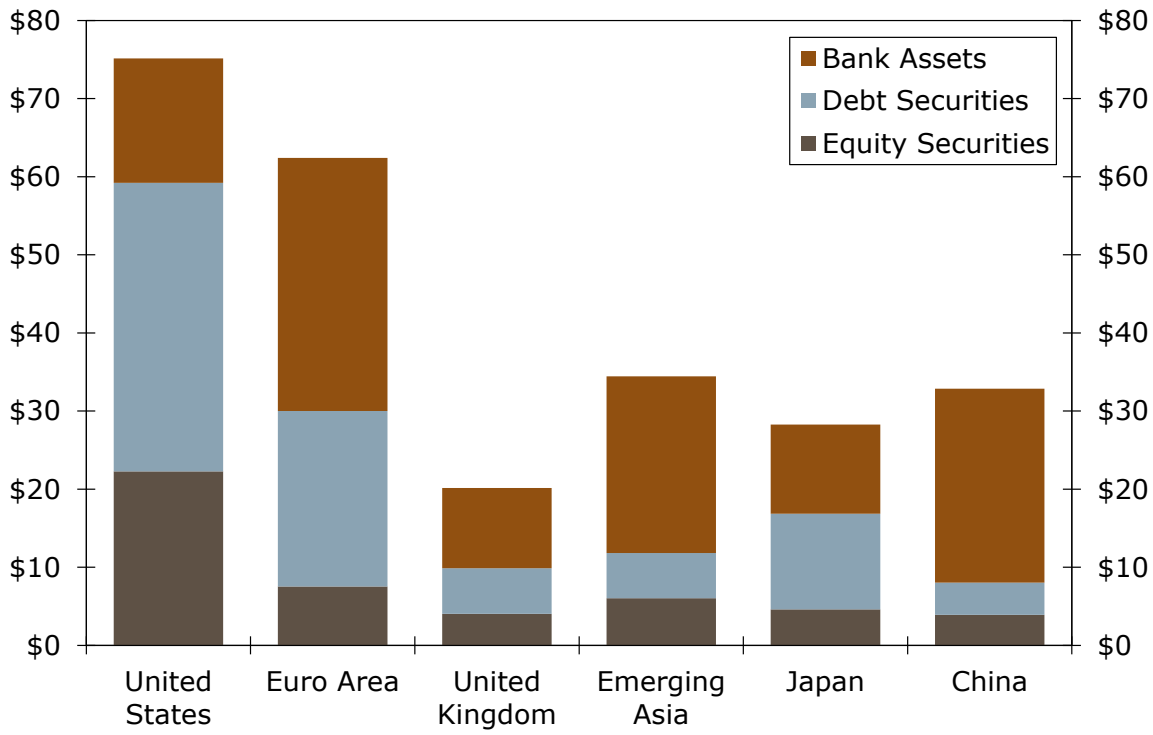


Source: Bloomberg LP and Wells Fargo Securities

Bank lending is the primary means of financing for Chinese companies—not equities

### Size of Financial Markets

Trillions of USD, 2013

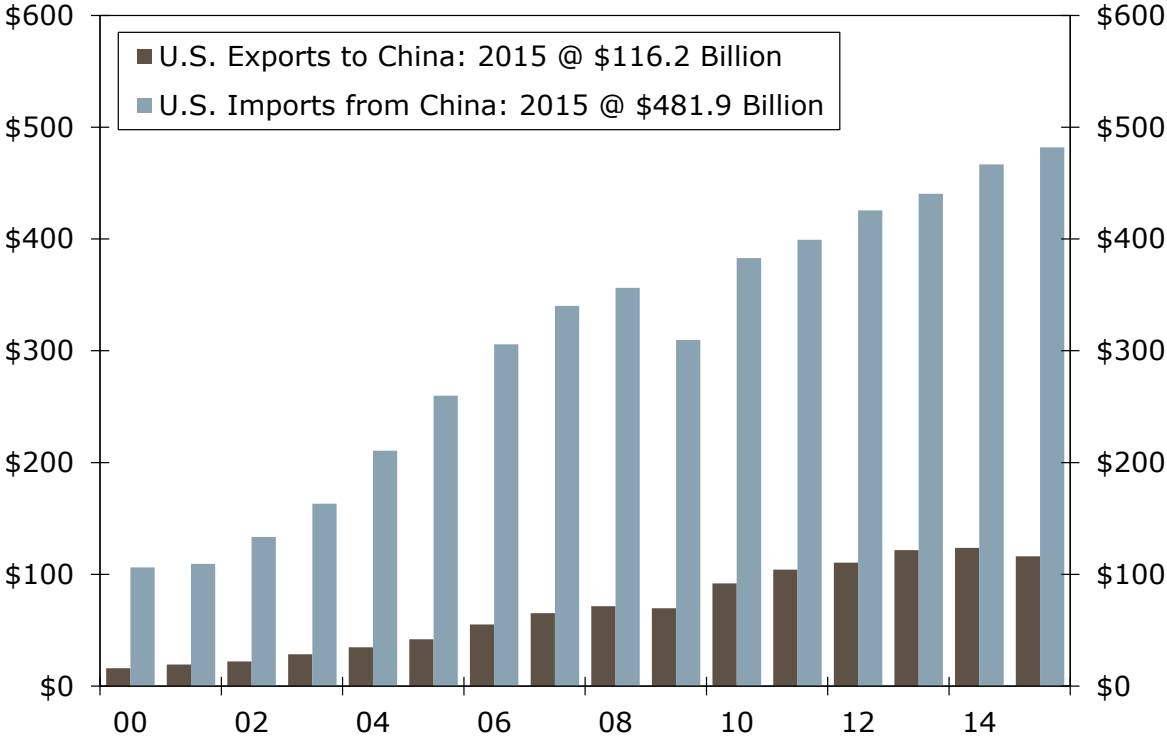


Source: International Monetary Fund and Wells Fargo Securities

China accounts for 7 percent of American exports and less than 1 percent of GDP

### U.S. Trade With China

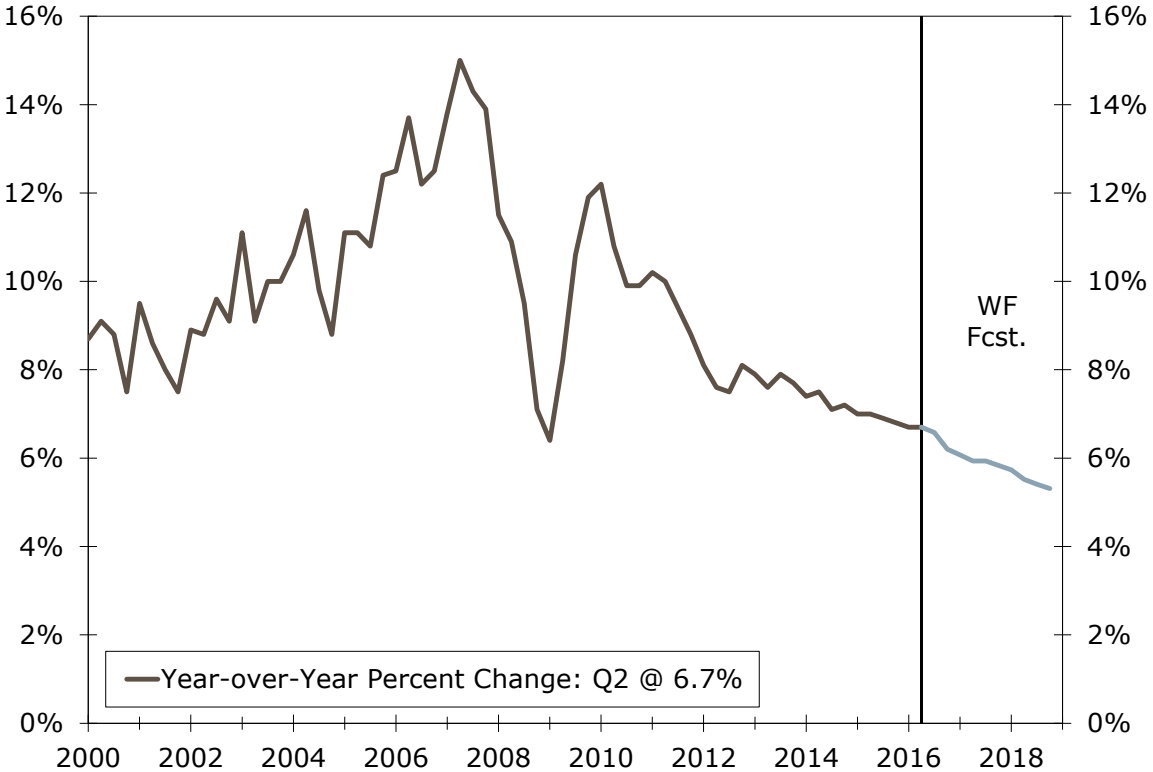
Billions of Dollars



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

Growth in China will likely continue to downshift to a more sustainable pace

Chinese Real GDP Forecast  
Year-over-Year Percent Change



Source: Bloomberg LP and Wells Fargo Securities

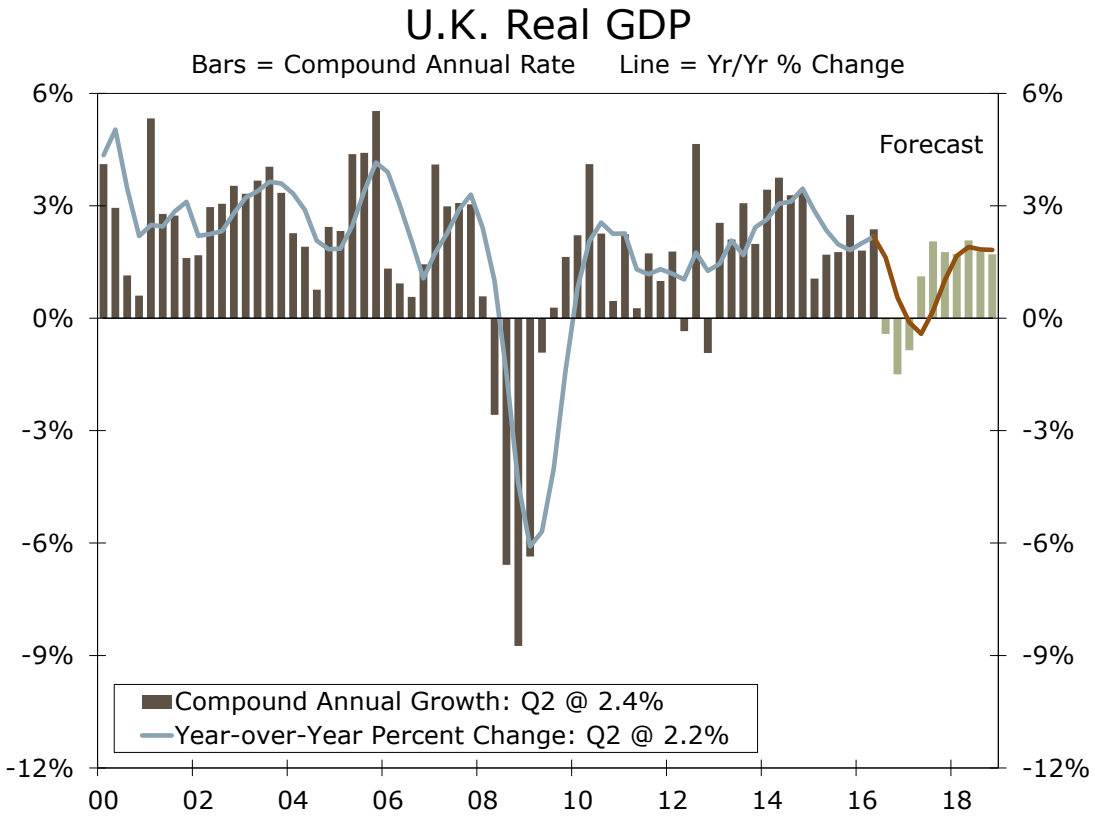
Brexit...what's next?

## Key Points

- The U.K. needs to formally notify Brussels that they are leaving the European Union by triggering Article 50 of the Lisbon Treaty
- The mechanics of the Brexit need to be negotiated with the EU, which could take as long as 2 years
- The U.K. will remain a member of the EU until the exit is negotiated
- The two biggest issues for the U.K. to address:
  - Renegotiate trade agreements with the EU
  - Determine immigration rules, including the status of EU-27 citizens currently residing in the U.K.
- We now expect a mild recession in the U.K. beginning in later this year and into 2017

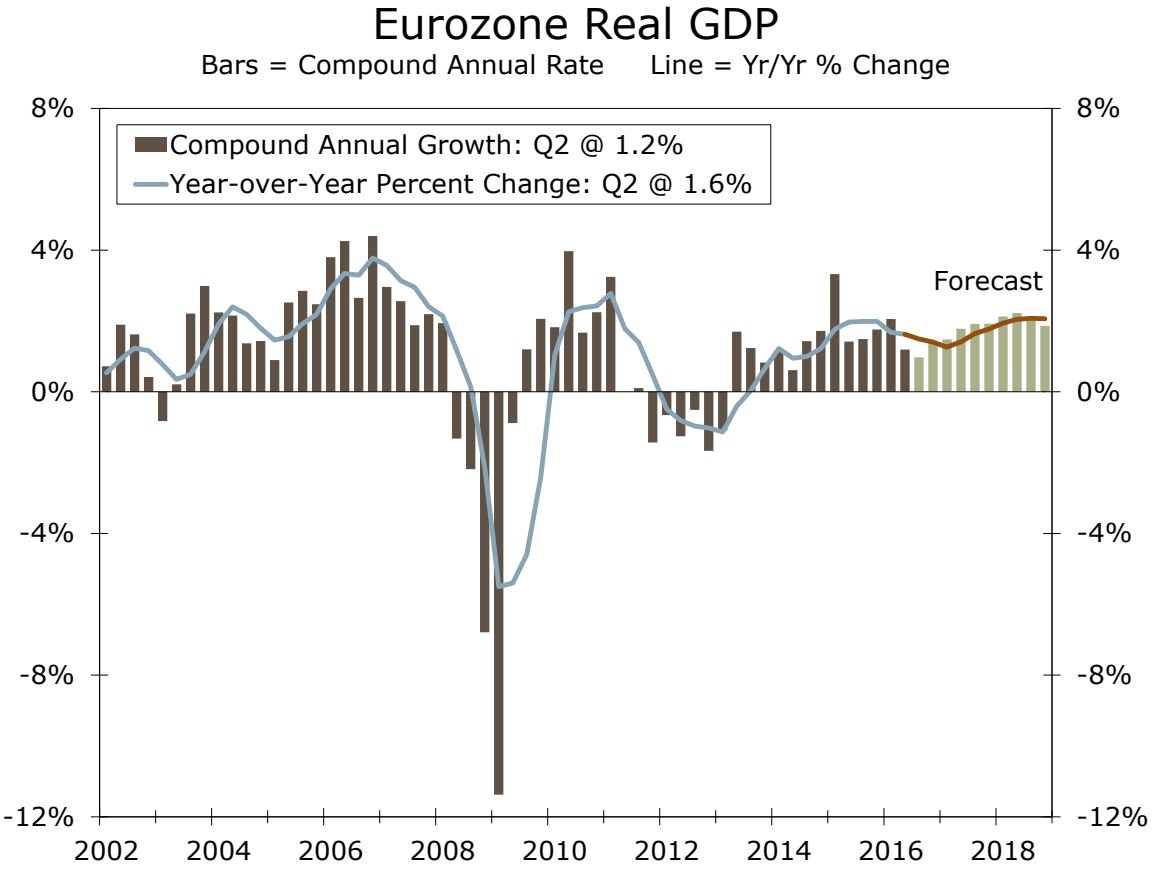


In our view, the uncertainty created by Brexit will lead to a modest U.K. recession in the near term



Source: IHS Global Insight and Wells Fargo Securities, August 2016

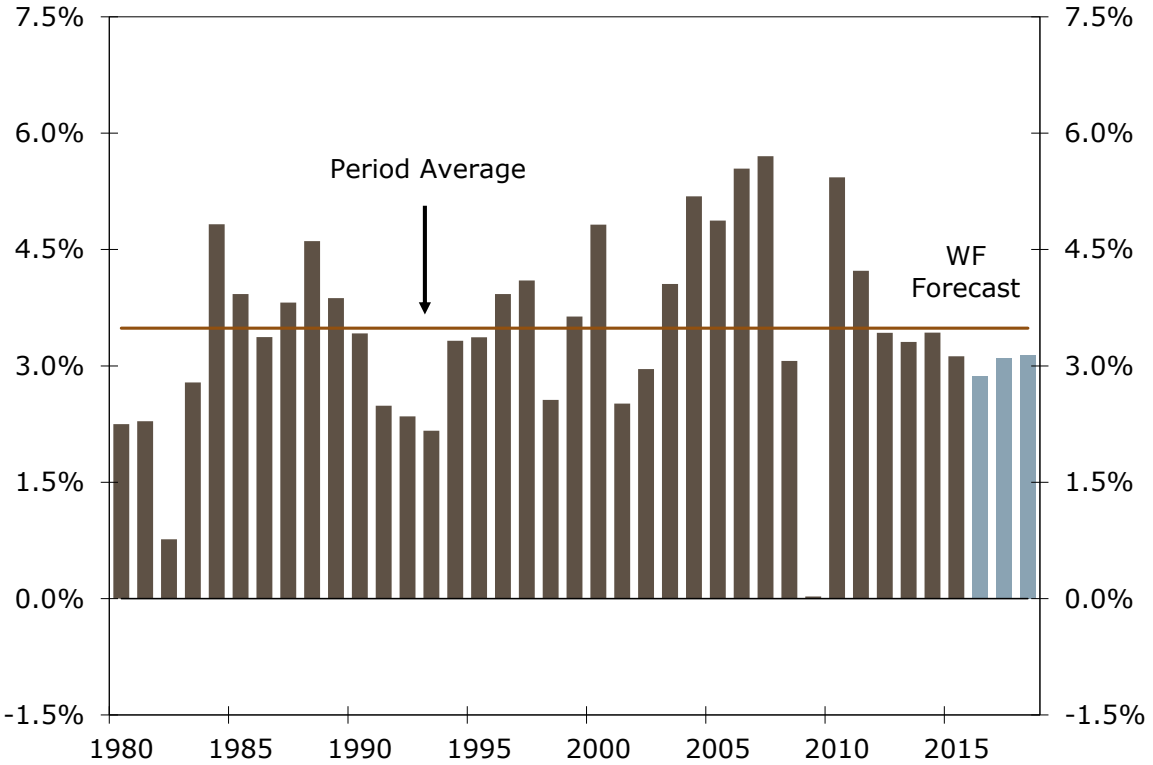
The Eurozone will see some improvement in the year ahead



Source: IHS Global Insight and Wells Fargo Securities

Growth in the global economy remains below its long-run average

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

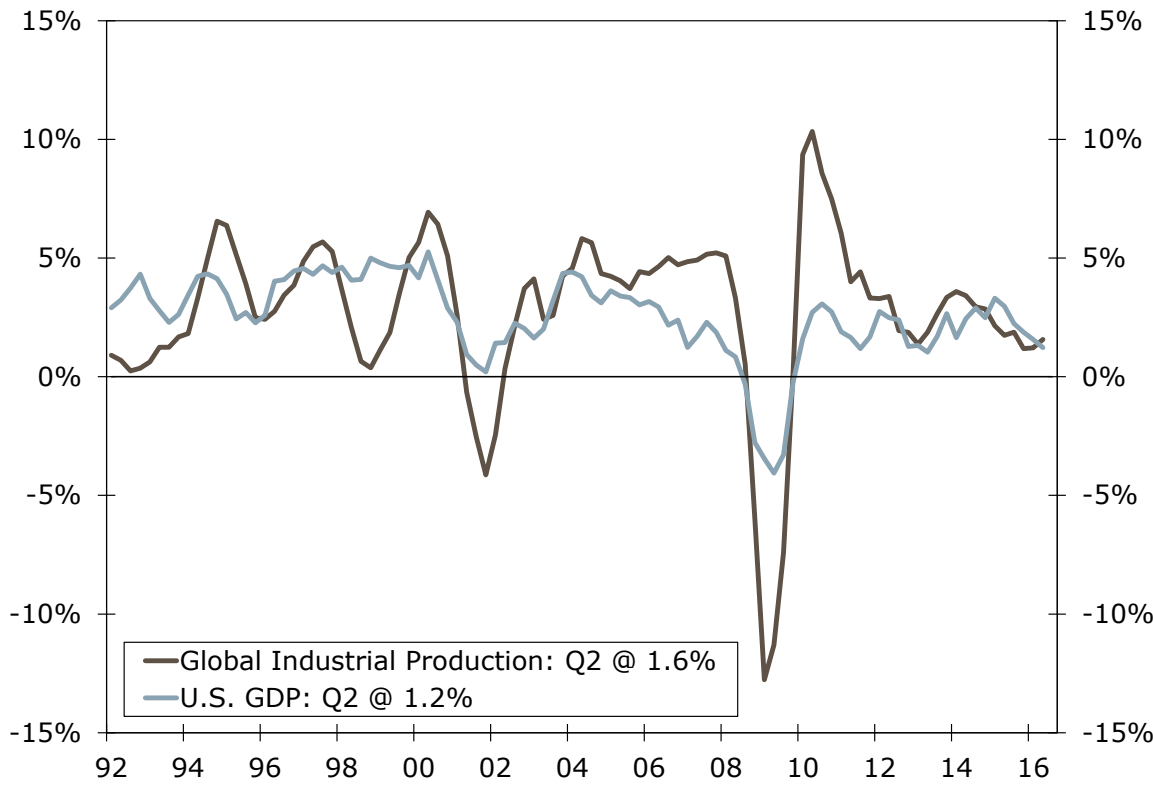


Source: International Monetary Fund and Wells Fargo Securities

It would take a sharp downturn in the rest of the world to have a meaningful effect on U.S. economic growth

### Global Economic Indicators

Year-over-Year Percent Change



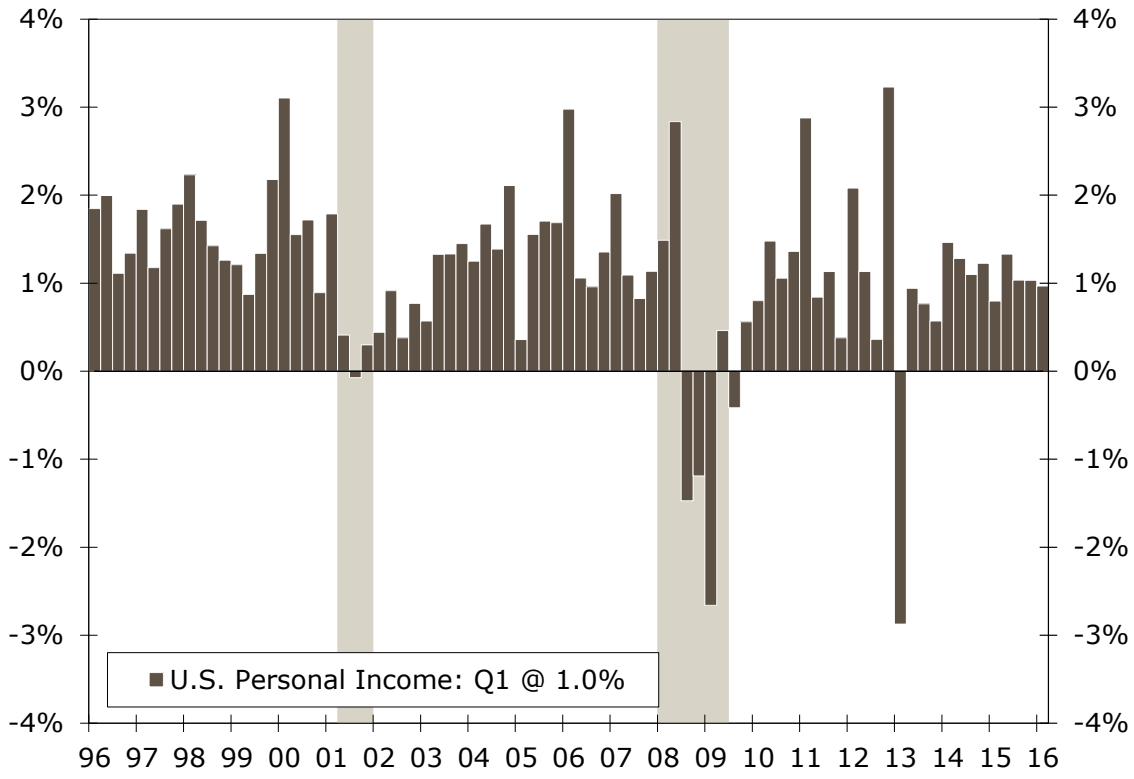
Source: IHS Global Insight and Wells Fargo Securities

# State Revenue Outlook

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Personal income growth has been stable in recent quarters

### U.S. Average State Personal Income Quarter-over-Quarter Percent Change

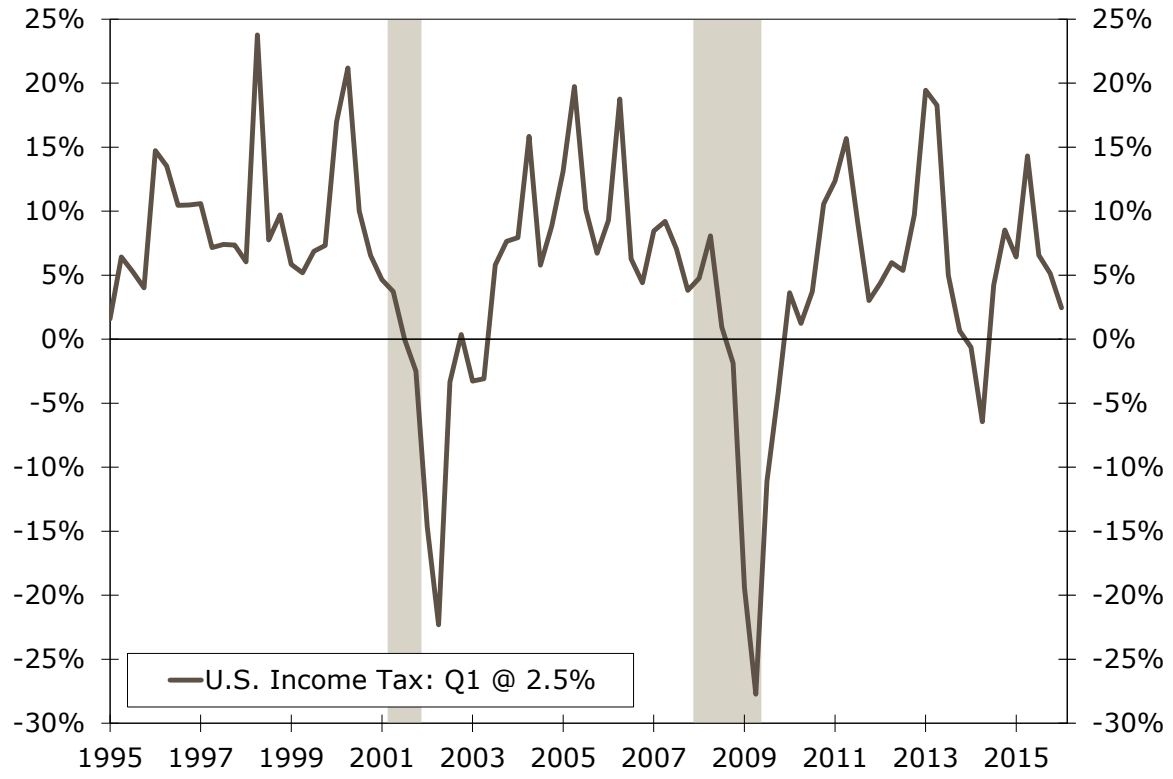


Source: U.S. Department of Commerce and Wells Fargo Securities

Income tax revenues have begun to decelerate

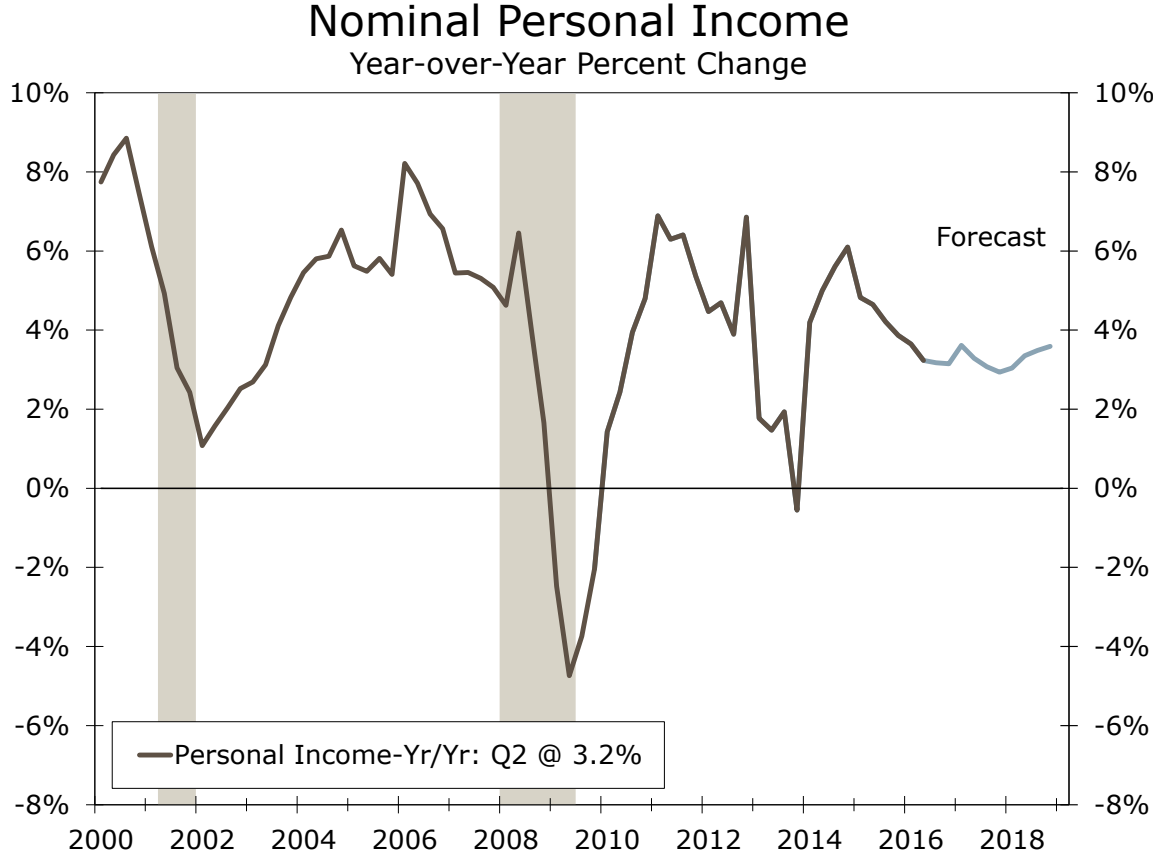
### U.S. State Income Tax Receipts

Year-over-Year Percent Change



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

Personal income growth has been moderating in recent quarters



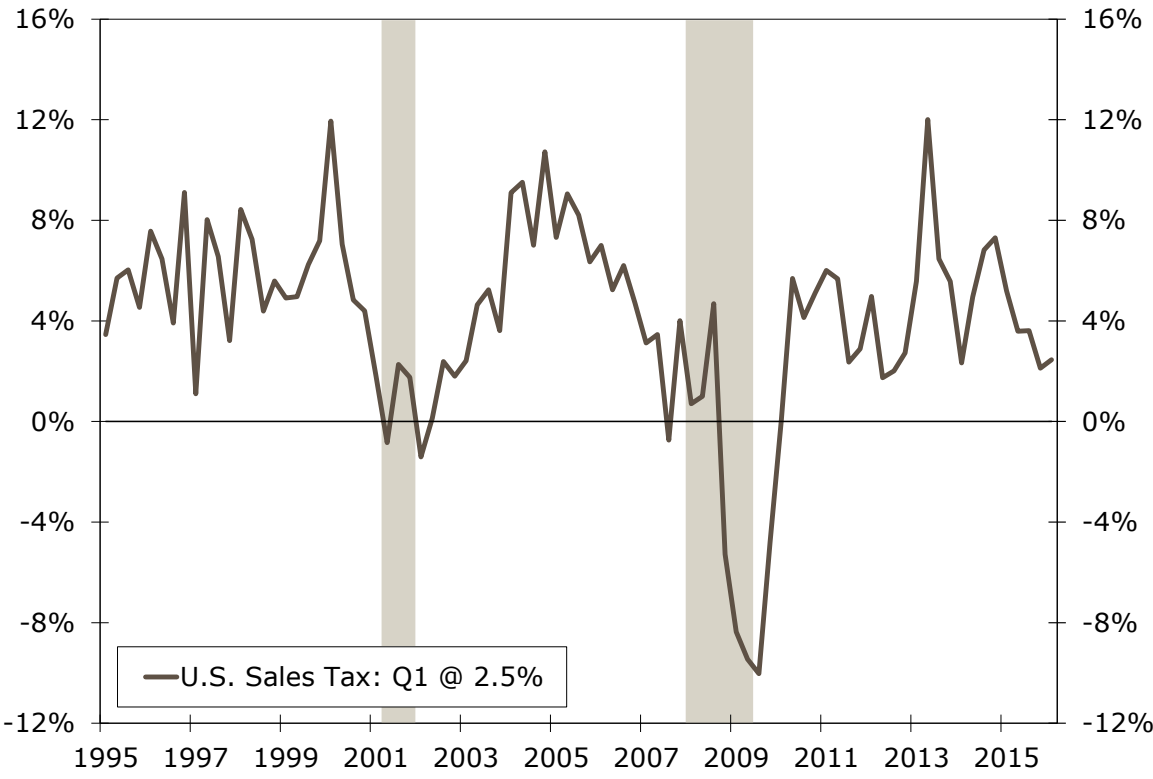
Source: U.S. Department of Commerce and Wells Fargo Securities



State sales tax collections growth has been weaker in this cycle than in previous recoveries

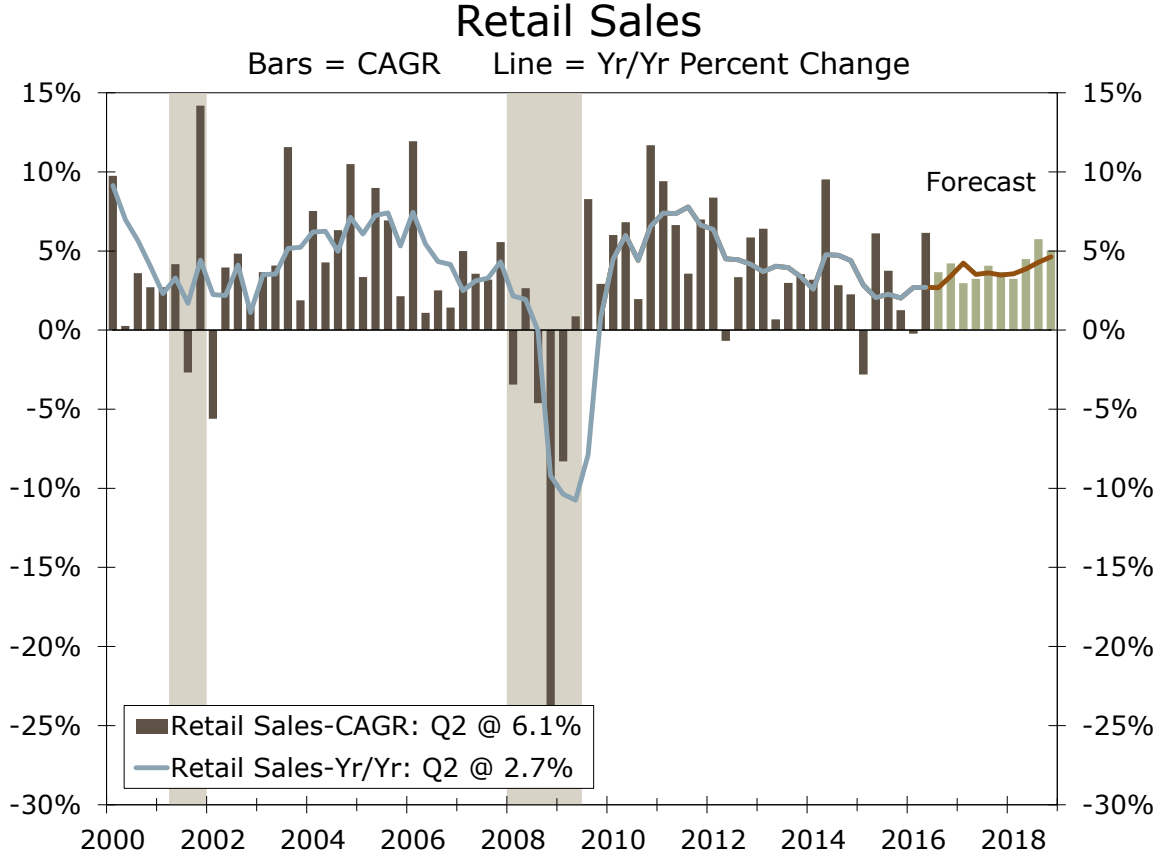
## U.S. State Sales Tax Receipts

Year-over-Year Percent Change



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

Continued job and income growth should help support greater retail sales growth

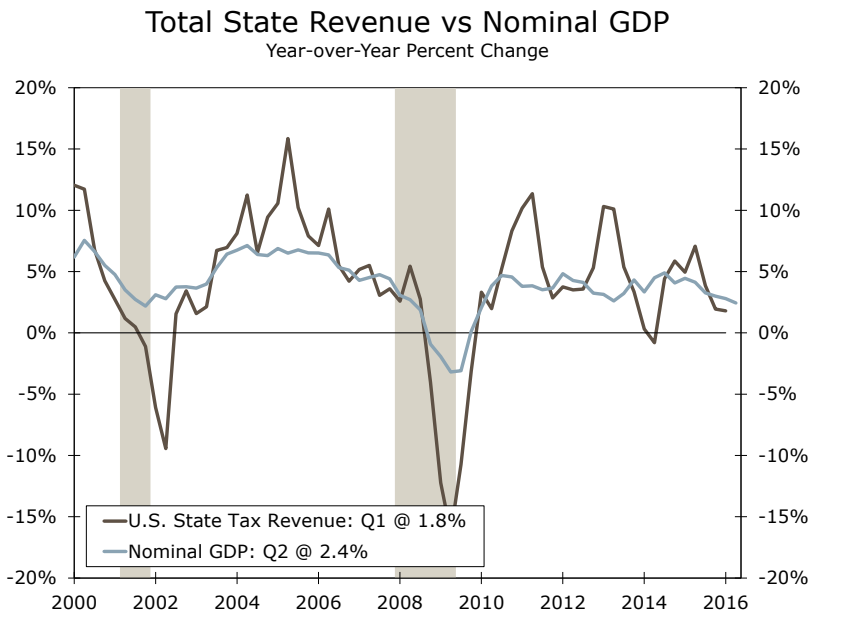


Source: U.S. Department of Commerce and Wells Fargo Securities

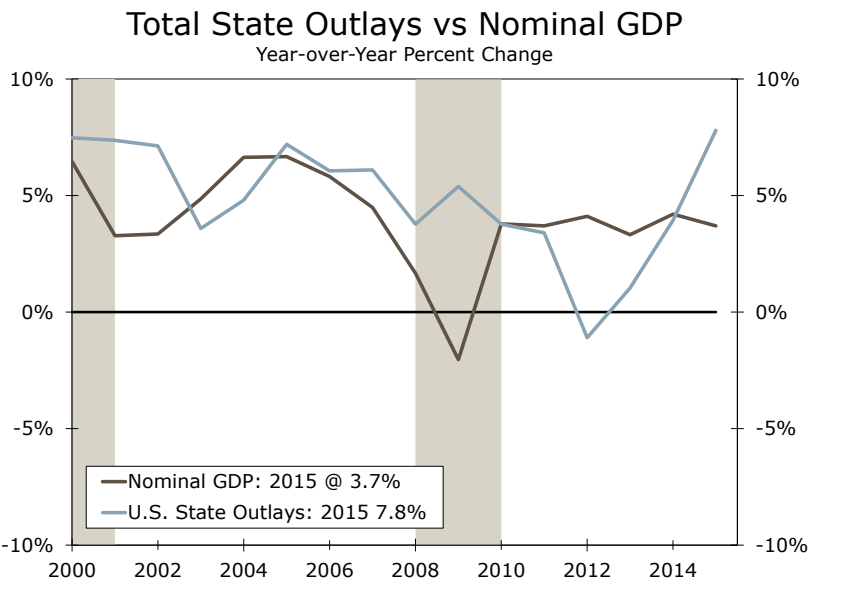
# State Revenue and Outlays vs Nominal GDP

The best predictor of state revenue growth is nominal GDP growth. It is difficult for revenues and outlays to grow faster than the rate of NGDP for a sustained period of time.

## State Revenue vs Nominal GDP

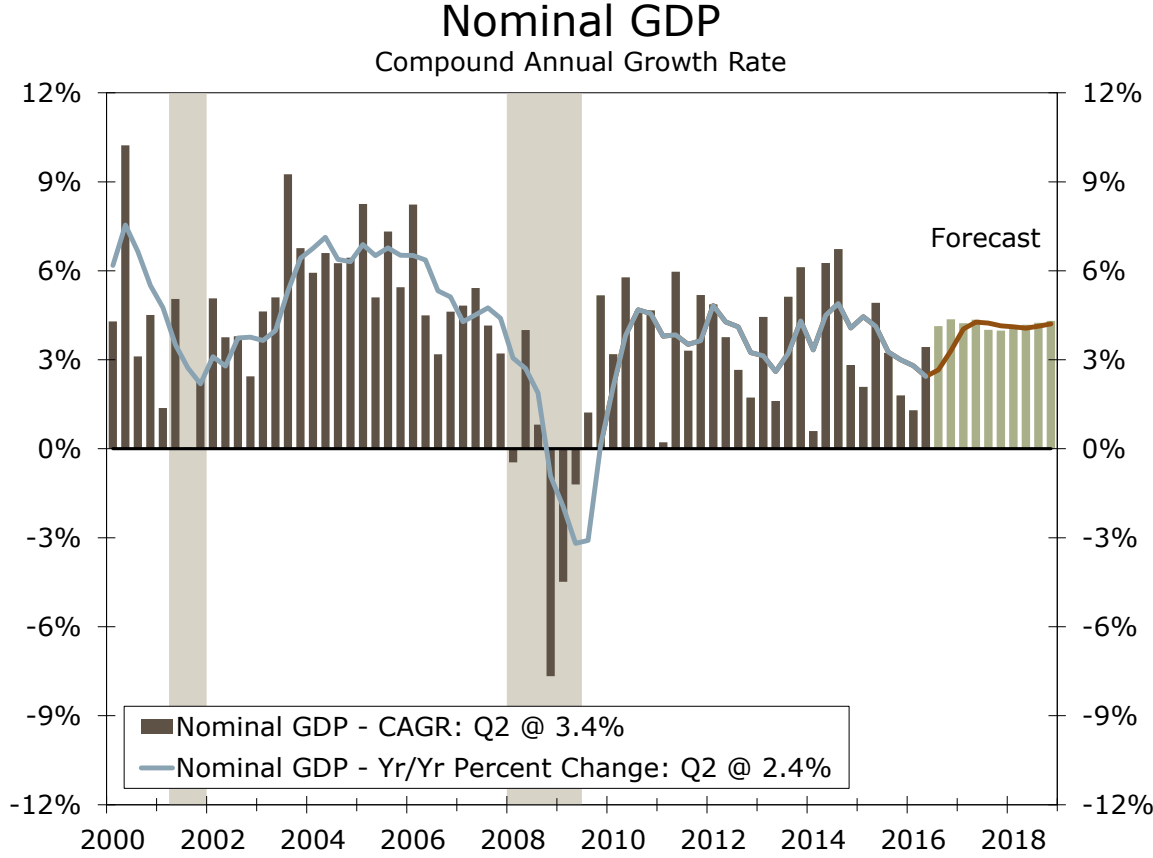


## State Outlays vs Nominal GDP



Source: U.S. Department of Commerce, The National Association of State Budget Officers and Wells Fargo Securities

We expect nominal GDP growth to average around 4 percent over the next couple of years

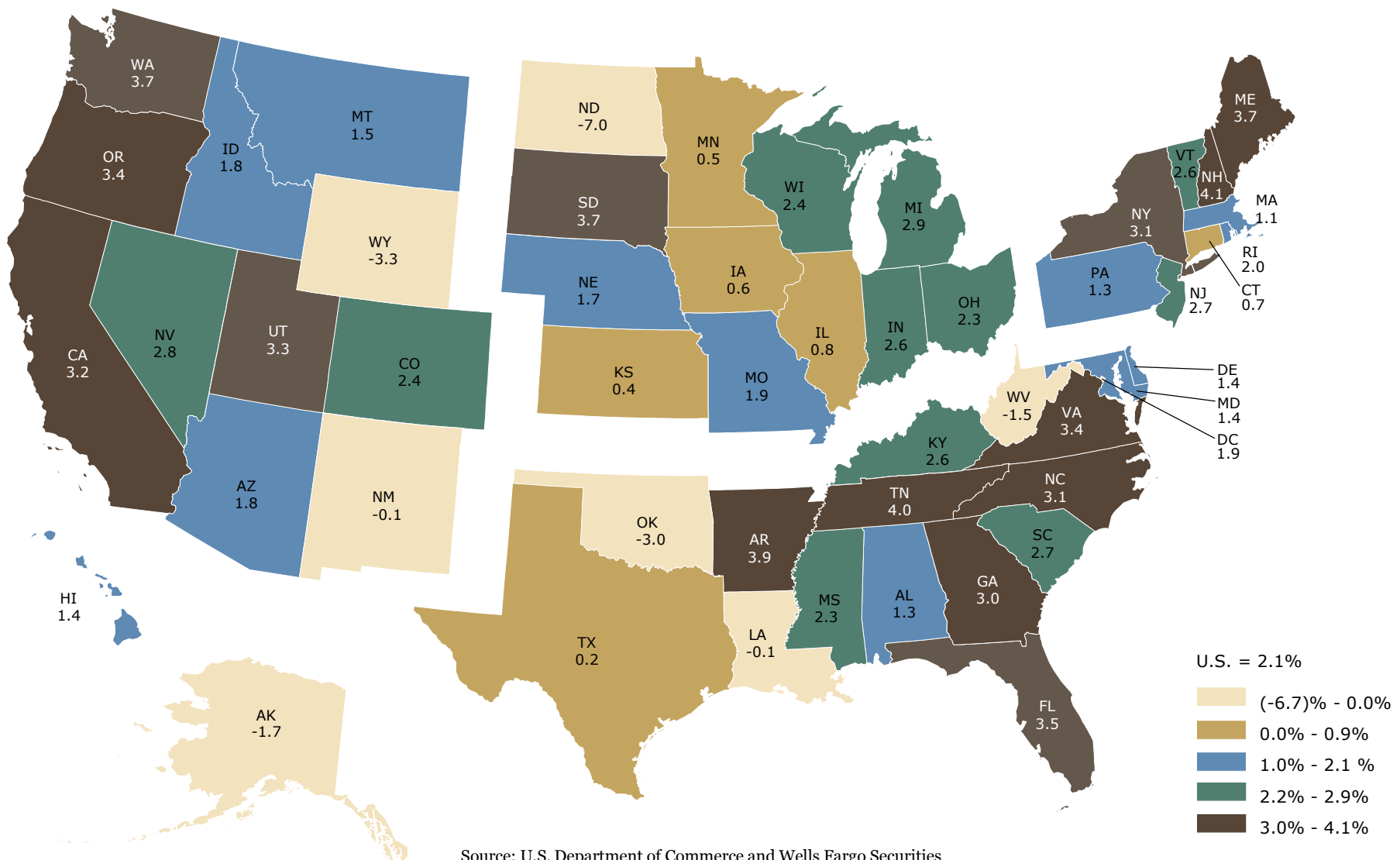


Source: U.S. Department of Commerce and Wells Fargo Securities

# Regional Economic Data

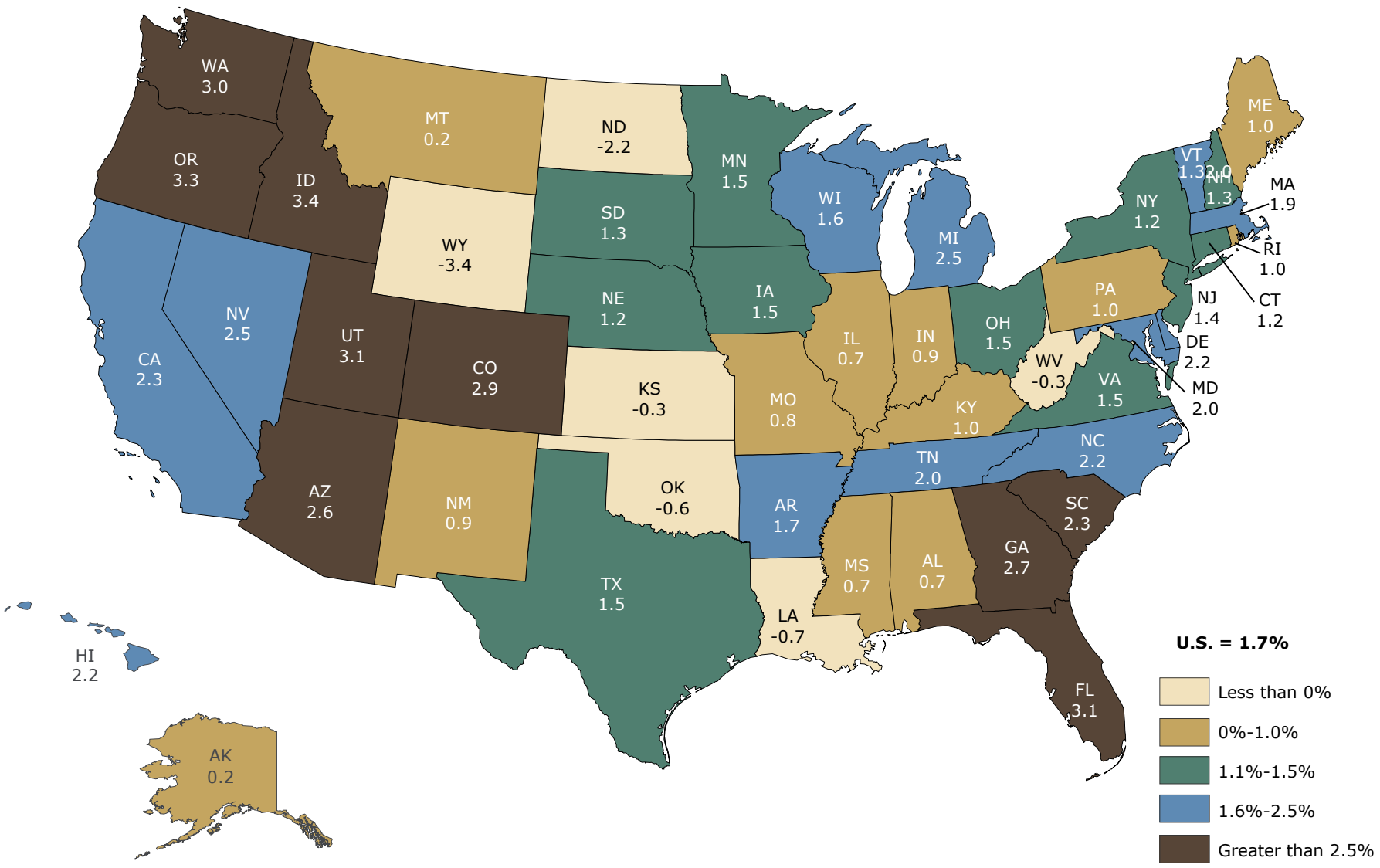
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# Year-over-Year Percent Change in Real GDP by State (Q1 2016)



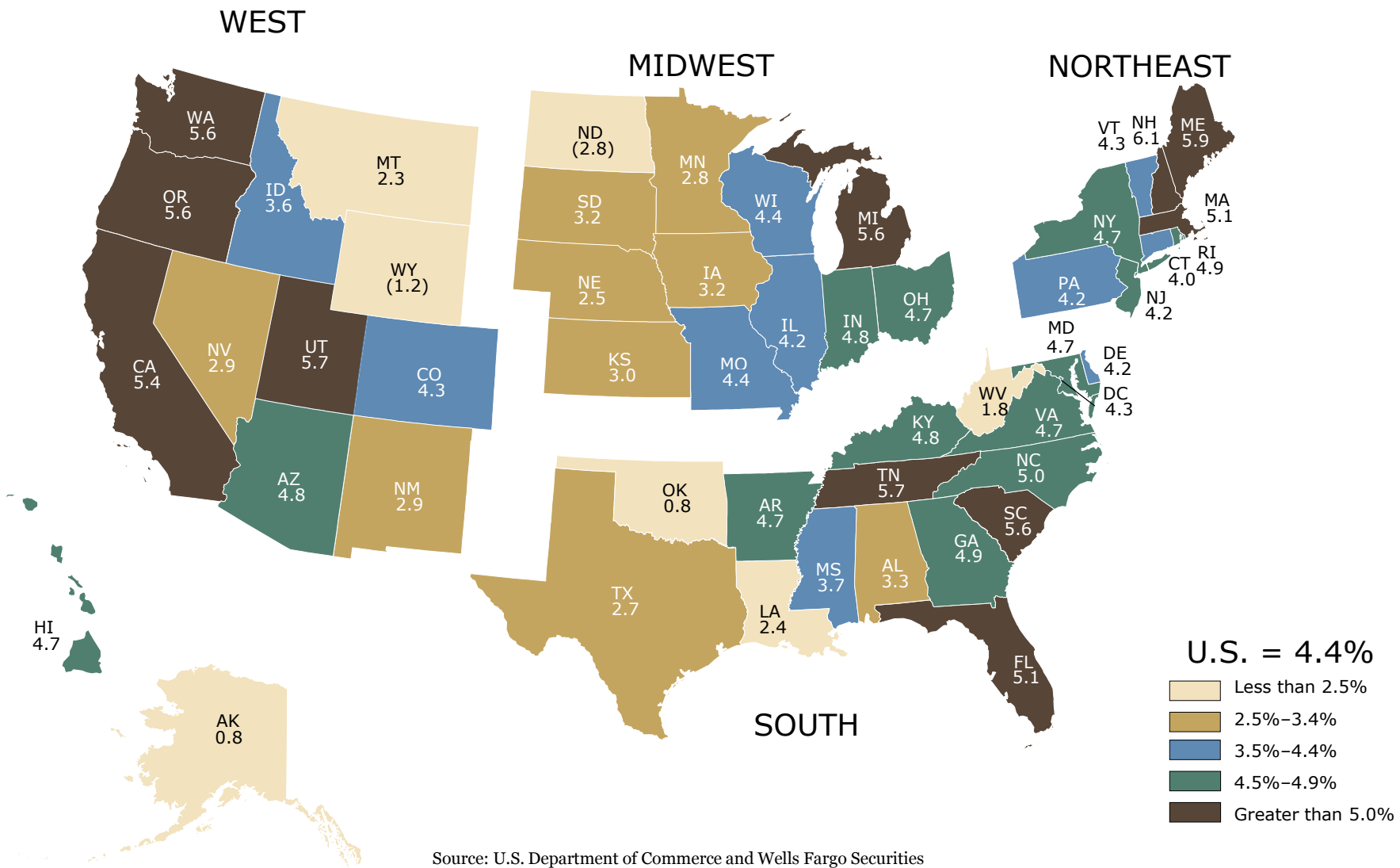
Source: U.S. Department of Commerce and Wells Fargo Securities

# Year-over-Year Employment Growth: July 2016



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

# Year-over-Year Percent Change in Personal Income by State – Q1 2016



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



### Economic Outlook

- Headwinds from overseas will weigh on growth, but the U.S. economy should weather the storm. Look for real GDP to rise 1.5 percent in 2016.
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### The Mix of Growth Is Shifting Toward Consumption

- Weak global growth and the strong dollar are keeping sectors tied closely to global markets, such as manufacturing, energy and agriculture, under pressure.
- 

### The Housing Recovery Will Gain Momentum

- Demand for single-family homes remains sluggish as the home ownership rate continues to fall. Apartment construction is close to peaking.
- 

### Interest Rates and the Federal Reserve

- The Fed has begun the process of raising short-term rates from record lows, but uncertainty remains surrounding the path of future rate hikes.
- 

### Global Growth Will Be Below Average In 2016

- China's growth will downshift but we do not expect a hard landing. Eurozone growth should begin to firm later this year.

## Wells Fargo U.S. Economic Forecast

	Actual		Forecast											Actual		Forecast		
	2016				2017				2018				2014	2015	2016	2017	2018	
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q						
Real Gross Domestic Product <sup>1</sup>	0.8	1.1	3.1	2.4	2.1	2.2	2.1	2.0	2.1	2.2	2.2	2.2	2.4	2.6	1.5	2.2	2.1	
Personal Consumption	1.6	4.4	3.8	2.5	2.3	2.6	2.5	2.2	2.5	2.5	2.5	2.5	2.9	3.2	2.8	2.7	2.5	
Business Fixed Investment	-3.4	-0.9	3.2	3.3	3.2	3.3	3.0	3.1	2.9	3.1	3.2	3.0	6.0	2.1	-0.5	2.9	3.0	
Equipment	-9.5	-3.7	3.0	3.5	3.0	2.7	2.2	2.2	2.1	2.2	2.3	2.2	5.4	3.5	-2.0	2.4	2.2	
Intellectual Property Products	3.8	8.6	4.3	3.5	3.7	4.3	4.0	4.2	4.2	4.1	4.2	4.0	3.9	4.8	4.9	4.2	4.1	
Structures	0.1	-8.4	2.0	2.5	2.8	3.0	3.2	3.5	3.5	3.5	3.5	3.5	10.3	-4.4	-4.9	2.0	3.3	
Residential Construction	7.8	-7.7	0.0	7.5	7.5	7.5	7.0	7.0	6.0	6.0	6.0	6.0	3.5	11.7	5.3	5.4	6.4	
Government Purchases	1.6	-1.5	0.9	1.2	1.2	1.0	1.0	0.9	1.2	1.0	0.9	0.9	-0.9	1.8	0.9	0.9	1.0	
Net Exports <sup>2</sup>	0.0	0.1	0.0	-0.6	-0.6	-0.5	-0.6	-0.5	-0.5	-0.4	-0.4	-0.3	-0.1	-0.7	-0.2	-0.5	-0.5	
Inventories <sup>2</sup>	-0.4	-1.3	0.3	0.4	0.2	0.1	0.1	0.2	0.0	0.0	0.0	0.0	-0.1	0.2	-0.4	0.1	0.1	
Nonfarm Payroll Change <sup>3</sup>	196	146	200	170	165	160	155	150	150	145	145	140	251	229	178	158	145	
Unemployment Rate	4.9	4.9	4.9	4.7	4.7	4.6	4.6	4.5	4.4	4.4	4.3	4.3	6.2	5.3	4.8	4.6	4.4	
PCE Deflator <sup>4</sup>	0.9	1.0	0.9	1.3	1.7	1.8	2.0	2.0	1.9	1.9	2.0	2.0	1.5	0.3	1.0	1.9	2.0	
Quarter-End Interest Rates <sup>5</sup>																		
Federal Funds Target Rate	0.50	0.50	0.50	0.75	0.75	1.00	1.00	1.25	1.25	1.50	1.50	1.75	0.25	0.27	0.56	1.00	1.50	
3 Month LIBOR	0.63	0.65	0.80	0.95	0.95	1.20	1.20	1.45	1.45	1.70	1.70	1.95	0.23	0.32	0.76	1.20	1.70	
Prime Rate	3.50	3.50	3.50	3.75	3.75	4.00	4.00	4.25	4.25	4.50	4.50	4.75	3.25	3.27	3.56	4.00	4.50	
Conventional Mortgage Rate	3.69	3.57	3.58	3.59	3.61	3.62	3.66	3.69	3.73	3.82	3.85	4.02	4.17	3.85	3.61	3.65	3.86	
3 Month Bill	0.21	0.26	0.30	0.49	0.57	0.78	0.84	1.02	1.10	1.25	1.30	1.55	0.03	0.05	0.31	0.80	1.30	
6 Month Bill	0.39	0.36	0.43	0.60	0.67	0.88	0.94	1.12	1.20	1.35	1.40	1.65	0.06	0.17	0.44	0.90	1.40	
1 Year Bill	0.59	0.45	0.54	0.69	0.75	0.96	1.02	1.22	1.30	1.45	1.50	1.75	0.12	0.32	0.57	0.99	1.50	
2 Year Note	0.73	0.58	0.74	0.84	0.93	1.13	1.20	1.36	1.44	1.59	1.64	1.88	0.46	0.69	0.72	1.16	1.64	
5 Year Note	1.21	1.01	1.13	1.21	1.25	1.36	1.41	1.50	1.58	1.71	1.75	1.98	1.64	1.53	1.14	1.38	1.76	
10 Year Note	1.78	1.49	1.53	1.56	1.59	1.62	1.68	1.73	1.78	1.88	1.92	2.10	2.54	2.14	1.59	1.66	1.92	
30 Year Bond	2.61	2.30	2.24	2.27	2.30	2.33	2.35	2.38	2.41	2.44	2.47	2.52	3.34	2.84	2.35	2.34	2.46	

Forecast as of: September 7, 2016

<sup>1</sup> Compound Annual Growth Rate Quarter-over-Quarter

<sup>2</sup> Percentage Point Contribution to GDP

<sup>3</sup> Average Monthly Change

<sup>4</sup> Year-over-Year Percentage Change

<sup>5</sup> Annual Numbers Represent Averages

Source: IHS Global Insight and Wells Fargo Securities

## Wells Fargo International Economic Forecast

(Year-over-Year Percent Change)

	GDP			CPI	
	2016	2017	2018	2016	2017
Global (PPP Weights)	2.9%	3.1%	3.1%	3.2%	3.4%
Global (Market Exchange Rates)	2.6%	2.8%	2.9%	3.2%	3.4%
Advanced Economies <sup>1</sup>	1.6%	1.8%	2.1%	0.6%	1.6%
United States	1.5%	2.2%	2.1%	1.2%	2.2%
Eurozone	1.6%	1.5%	2.0%	0.1%	0.9%
United Kingdom	1.6%	0.2%	1.8%	0.8%	2.2%
Japan	0.5%	0.5%	0.7%	-0.3%	0.5%
Korea	2.8%	2.8%	2.3%	0.8%	1.7%
Canada	1.0%	1.6%	1.8%	1.5%	1.4%
Developing Economies <sup>1</sup>	4.1%	4.3%	4.2%	5.7%	5.3%
China	6.5%	5.9%	5.5%	2.1%	1.9%
India <sup>2</sup>	7.6%	7.5%	7.4%	5.8%	5.6%
Mexico	2.4%	2.5%	2.5%	2.7%	3.1%
Brazil	-3.4%	1.0%	2.0%	9.0%	6.2%
Russia	0.0%	1.8%	2.1%	7.2%	5.9%

Forecast as of: September 07, 2016

<sup>1</sup>Aggregated Using PPP Weights

<sup>2</sup>Forecasts Refer to Fiscal Year

Source: International Monetary Fund and Wells Fargo Securities

## Wells Fargo Bank Currency Strategy Group Forecast

(End of Quarter Rates)

	2016		2017		
	Q3	Q4	Q1	Q2	Q3
<b>Major Currencies</b>					
Euro (\$/€)	1.11	1.09	1.07	1.05	1.03
U.K. (\$/£)	1.29	1.27	1.25	1.23	1.21
U.K. (£/€)	0.86	0.86	0.86	0.85	0.85
Japan (¥/\$)	101	102	104	105	106
Canada (C\$/US\$)	1.31	1.32	1.34	1.36	1.38
Australia (US\$/A\$)	0.77	0.76	0.75	0.74	0.73
Switzerland (CHF/\$)	0.98	0.99	1.01	1.04	1.06
<b>Other Currencies</b>					
China (CNY/\$)	6.65	6.67	6.70	6.72	6.74
South Korea (KRW/\$)	1097	1090	1093	1103	1113
Singapore (SGD/\$)	1.34	1.35	1.38	1.40	1.41
Taiwan (TWD/\$)	31.30	31.33	31.58	31.83	32.08
India (INR/\$)	66.81	66.83	67.08	67.33	67.58
Mexico (MXN/\$)	18.35	18.47	18.60	18.53	18.30
Brazil (BRL/\$)	3.12	3.10	3.15	3.20	3.25
Colombia (COP/\$)	2936	2967	3017	3067	3117

Forecast as of: September 09, 2016

Source: Wells Fargo Securities

# Appendix

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A Sampling of Our Recent Special, Regional & Industry Commentary

**Recent Special Commentary**

<b>Date</b>	<b>Title</b>	<b>Authors</b>
<b>U.S. Macro</b>		
August-30	What's a Good Print for Payrolls?	Silvia, Iqbal & House
August-29	Are Grocery Store Sales Making a Comeback?	Alemán
August-24	Global Influences on U.S. Growth and Employment	Bryson & House
August-18	Will U.S. Export Growth Strengthen Anew	Bryson & Pershing
August-17	Dragging Anchor	Quinlan & House
<b>U.S. Regional</b>		
August-30	New Jersey Economic Outlook: August 2016	Vitner, Feik
August-26	Washington, D.C. Looks to Leverage Its Global Ties	Vitner & Batcheller
August-24	Global Influences Help Fuel Orange County's Growth	Vitner & Batcheller
August-24	Global Economic Headwinds Slow Colorado's Exports	Vitner & Batcheller
August-23	Kansas City Strives to Expand Its Global Reach	Vitner & Batcheller
<b>Global Economy</b>		
September-09	Global Chartbook: September 2016	Byrson, House, Causey & Pershing
September-07	RBA on Hold as Aussie GDP Growth Slows Slightly	Quinlan & Causey
September-07	Chile's Economic Weakness Persists in July	Alemán
September-06	Brazilian Economic Prospects Improve a Bit	Alemán
September-06	Strong Swiss GDP Growth, Weak Fundamentals	Bryson & Pershing
<b>Interest Rates/Credit Market</b>		
September-07	Is the Fed Hogging All the Treasuries	Silvia & Pugliese
August-31	All Growth Can Be Divided into Three Parts	Silvia & Iqbal
August-24	If Not Normal, Where Are We in the Cycle? Late	Silvia
August-17	Normal as an Evolving Target	Silvia
August-10	Managing Expectations to Avoid Another Tantrum	Silvia & Vitner
<b>Real Estate</b>		
August-11	Commercial Real Estate Chartbook: Q2	Khan, Causey & Tysinger
July-06	International Home Buying: 2016	Vitner, Khan & Batcheller
June-28	Brexit Vote Could Pump More Dollars into U.S. CRE	Khan
June-01	Housing Chartbook: June 2016	Vitner, Khan & Batcheller
May-20	Commercial Real Estate Chartbook: Q1	Khan & Causey

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