

The background of the slide features a close-up, low-angle view of several large, fluted marble columns. The columns are made of light-colored marble with subtle veining and are arranged in a perspective that leads the eye towards the right. The lighting is soft, highlighting the texture and curves of the columns.

Powering Thru the Worry Vortex

The State of the Global Economy
February 2, 2016

STATE OF THE ECONOMIC RECOVERY (7th Inning, Chance of Extra Innings)

Three Focal Points

GROWTH gives a heads-up about SLACK (but ...)

Metrics aren't perfect

Price measurement

Moore's Law and business I-T investment

The mobile arena

Evolving retail trends in energy consumption (Costco, Walmart, etc.)

Innovation

E-commerce (Amazon Prime)

Potential growth is slower (it defines the hurdle rate)

Demographics and labor force growth

Labor productivity

SLACK gives a heads-up about INFLATION (but ...)

Evolving labor supply dynamics (and hidden unemployment)

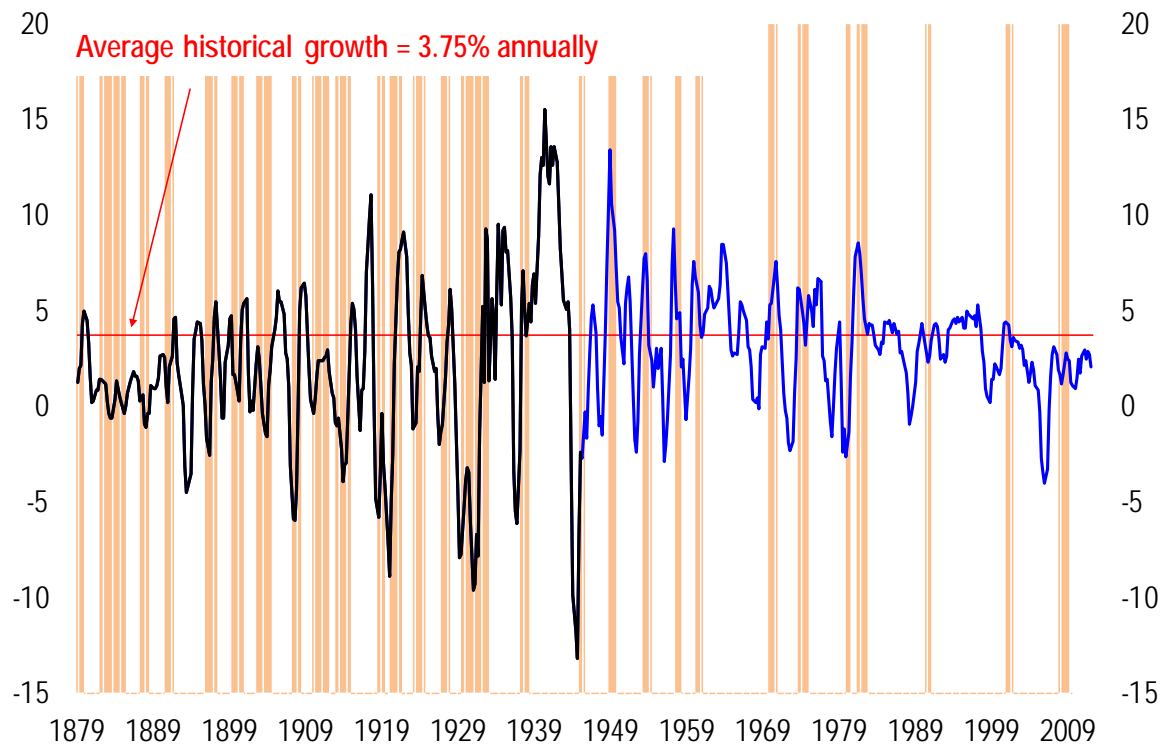
The Nairu (what defines the Fed's dual mandate)

INFLATION has the final say (and is why the Fed has a precise 2% target)

Growth

Seven Years of Slow

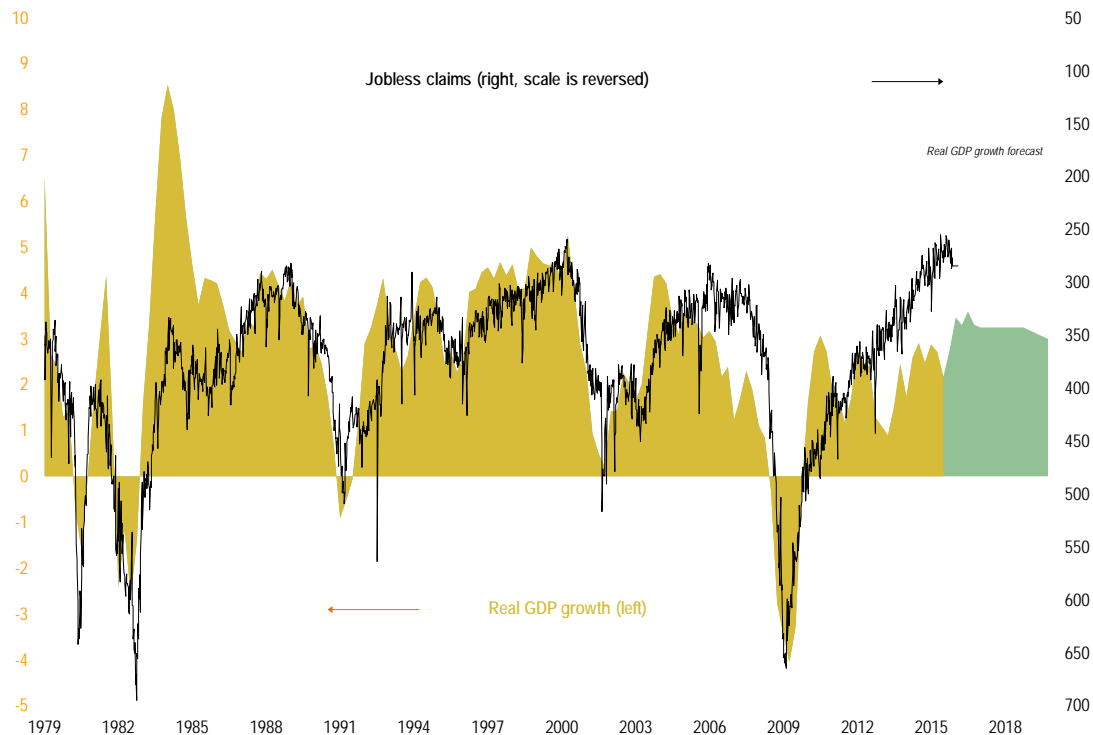
Real U.S. GDP growth (percent change from four quarters earlier)



Sources: Haver Analytics; U.S. Dep of Commerce; NBER Macroeconomic database. Updated through 2015 Q3.

Seven Years of Normal ... Jobless Claims

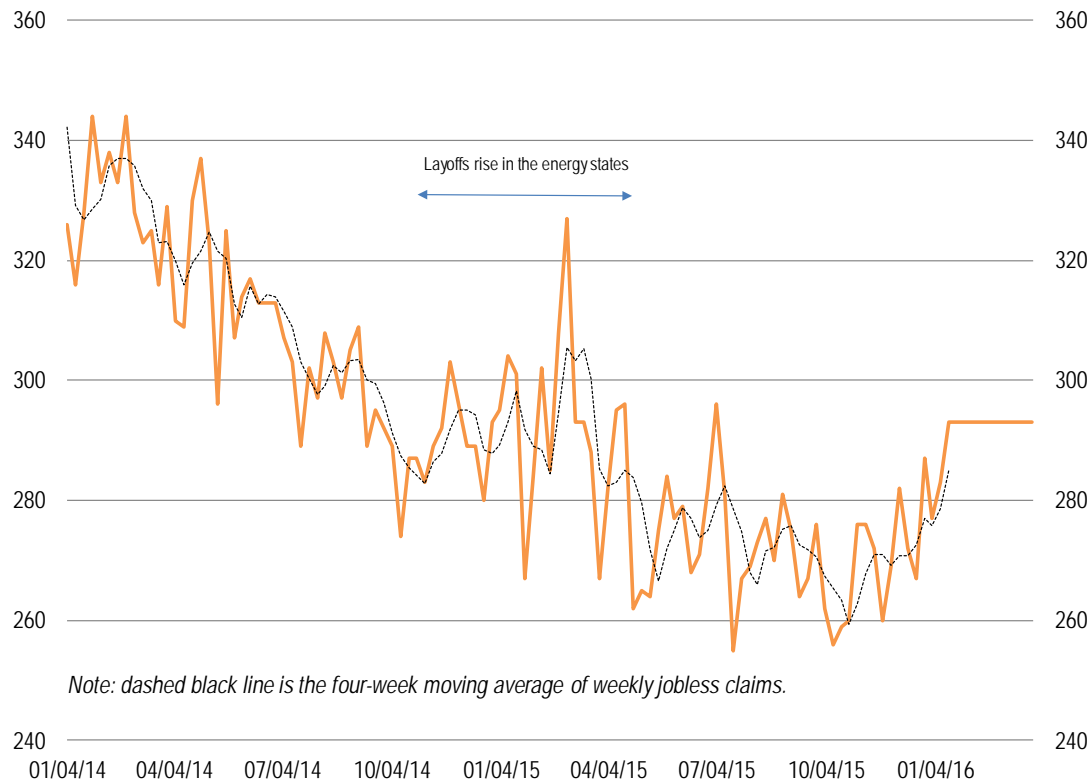
Real GDP (% ch. from 4 quarters earlier) Jobless claims ('000 weekly, scale reversed)



Sources: U.S. Deps. of Labor and Com. Updated through 2015 Q3 (GDP) and January 9, 2016 (claims).

Recent Upticks Mostly About California ...

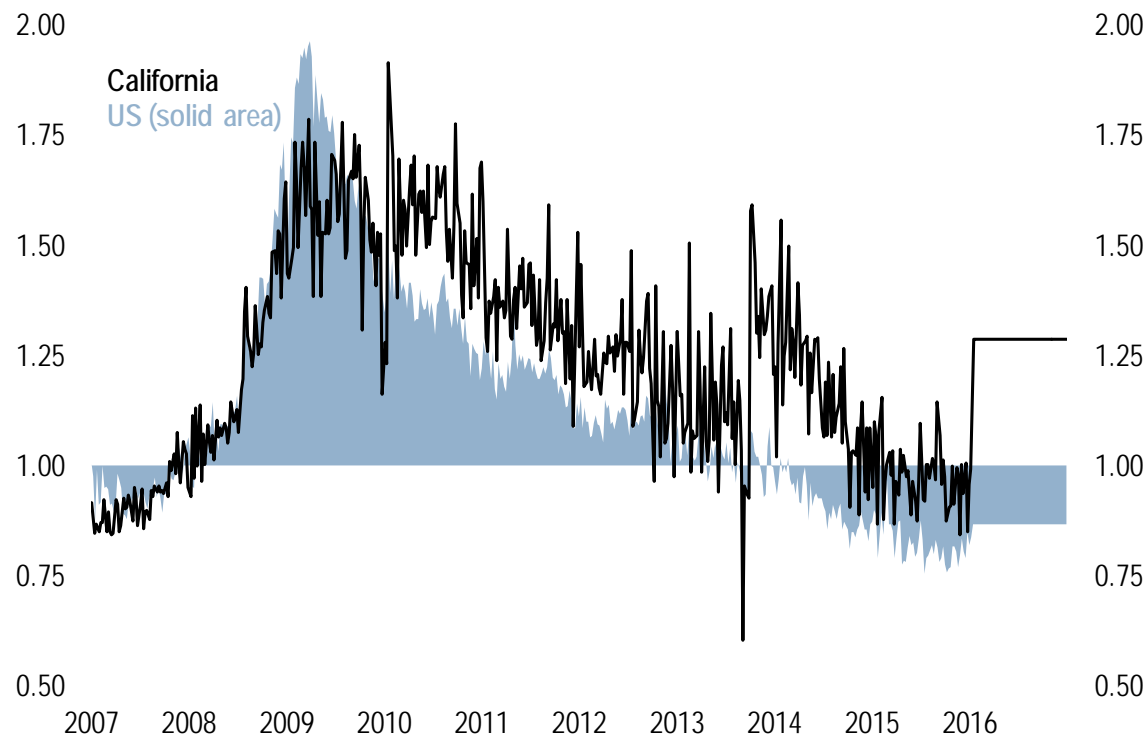
Jobless claims (thousands weekly)



Sources: Haver Analytics; U.S. Department of Labor. Updated through January 16, 2016.

... Which Are Noisy Week to Week

Jobless claims (ratio to 2007 Q4 level)

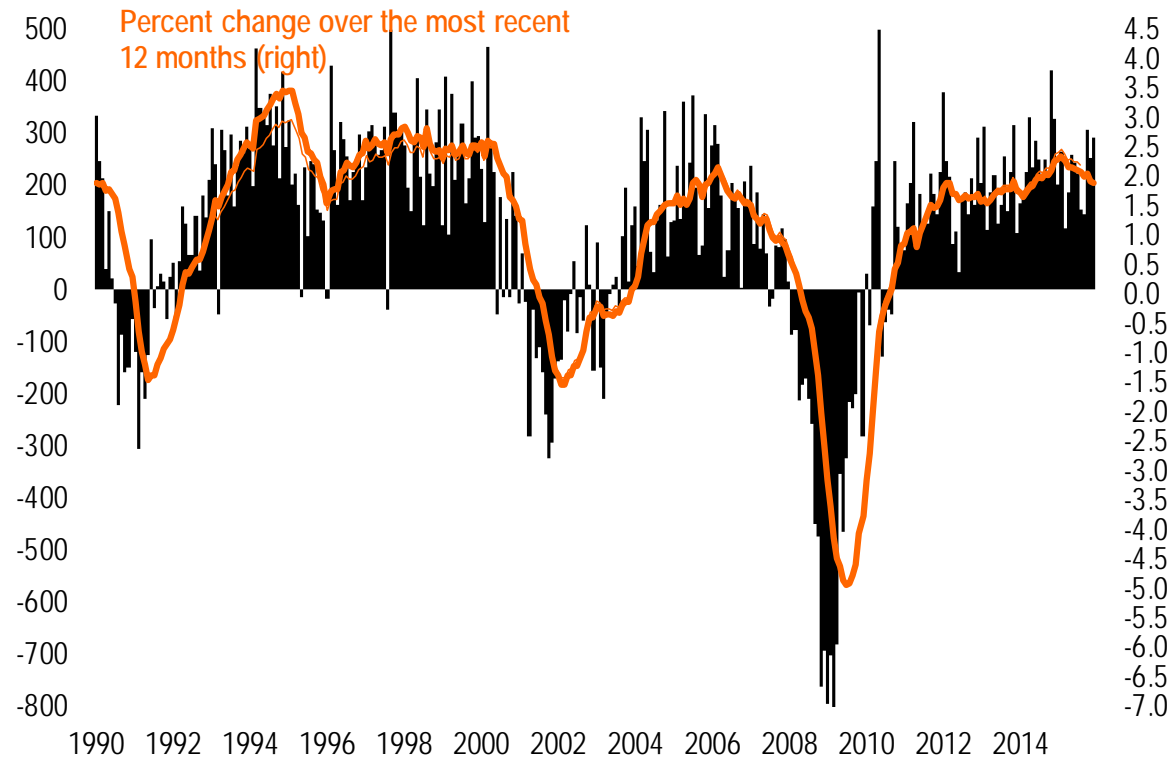


Sources: Haver Analytics; U.S. Department of Labor. Updated through January 16, 2016.

Normal Job Growth

Nonfarm payrolls (monthly change in thousands)

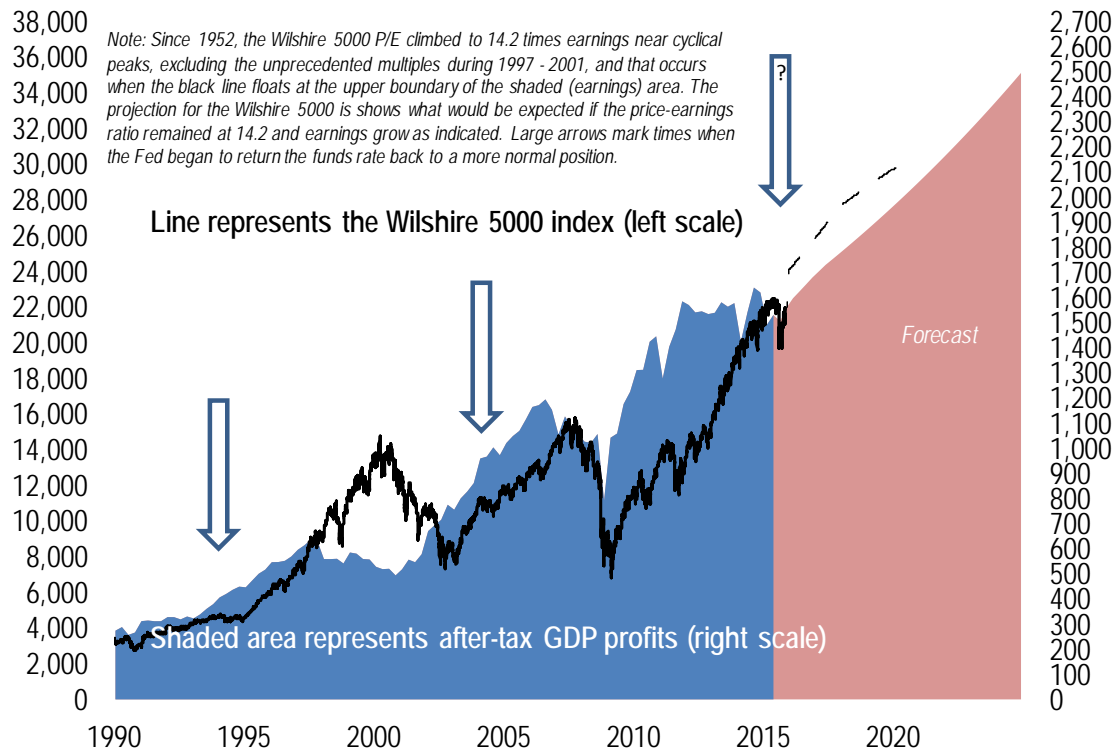
(annualized percent change)



Source: U.S. Department of Labor. Updated through December 2015.

Normal Stock Market Recovery ...

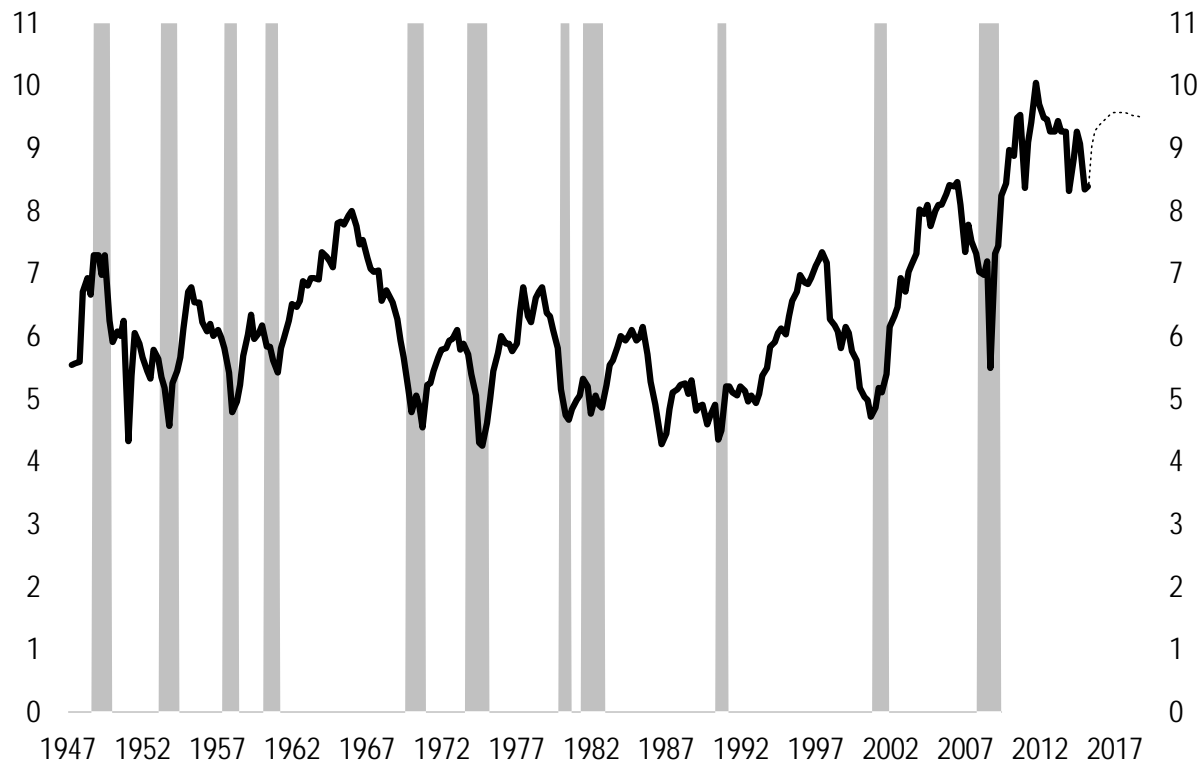
Wilshire 5000 (December 31, 1970 = 830.27) After-tax GDP profits (billions of dollars)



Sources: Haver Analytics; US Department of Commerce; Wilshire Associates. Updated through 2015 Q2 (profits) and October 16, 2015 (stocks).

... Owing to Earnings, Not the Fed's Zero

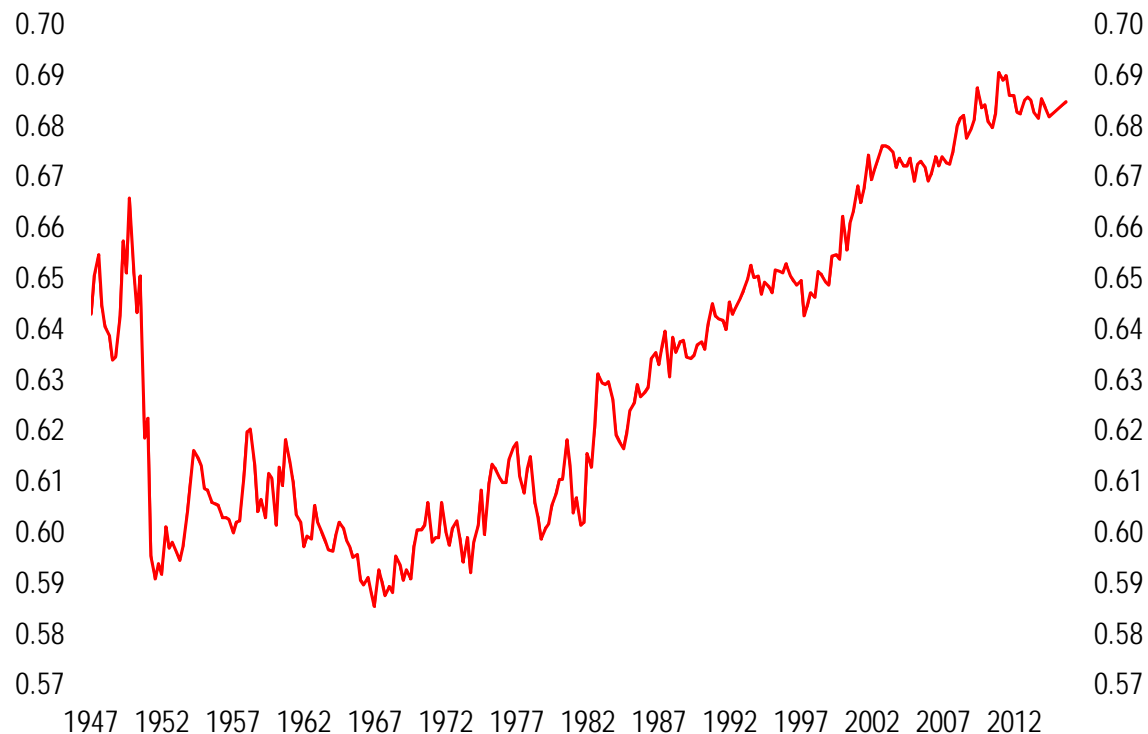
After-tax GDP profits of all U.S. businesses (percent of nominal Gross Domestic Income)



Sources: NBER-designated recession bars; U.S. Department of Commerce. Updated through 2014 Q3.

Normal Consumer Behavior

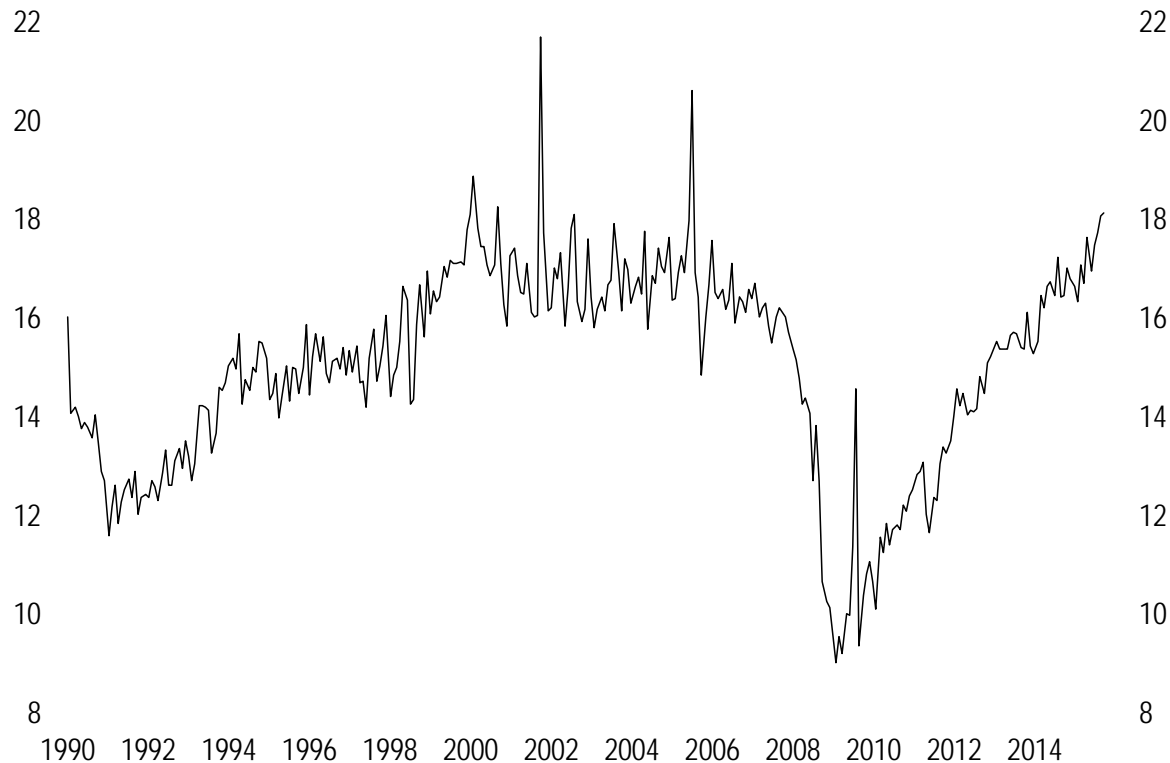
U.S. nominal consumer spending (ratio to nominal GDP)



Sources: Haver Analytics; U.S. Department of Commerce. Updated through 2015 Q2.

Normal Consumer “Investment”

Light vehicle sales (millions at an annual rate)

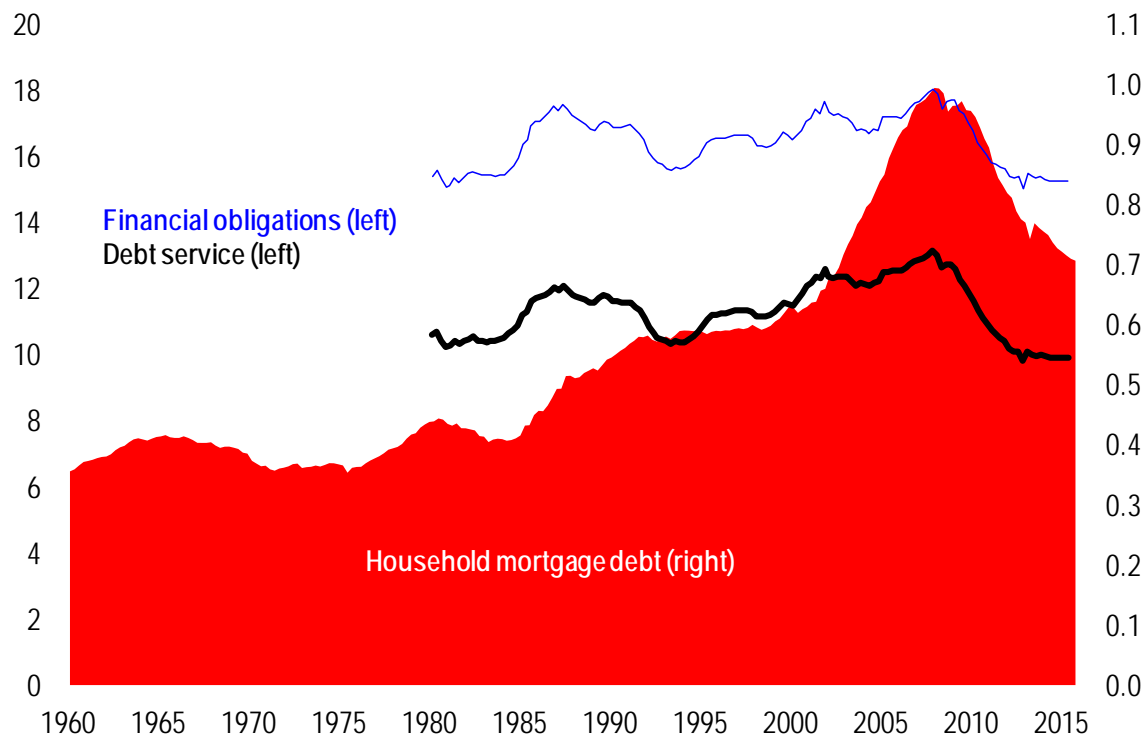


Sources: Haver Analytics; U.S. Department of Commerce. Updated through October 2015.

Beyond Normal Debt Service Trends

Debt service burden (percent of income)

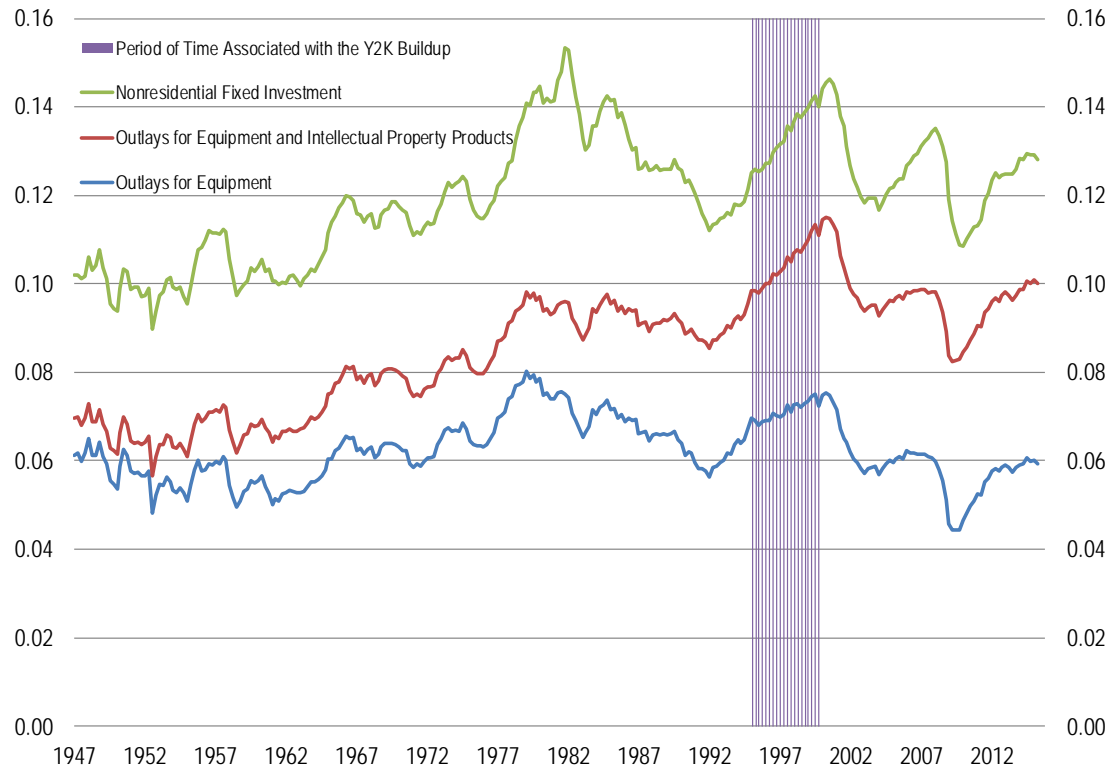
Debt burden (ratio to disposable income)



Sources: Haver Analytics; Federal Reserve Board. Updated through 2015 Q2.

Normal Cap Ex Ratios

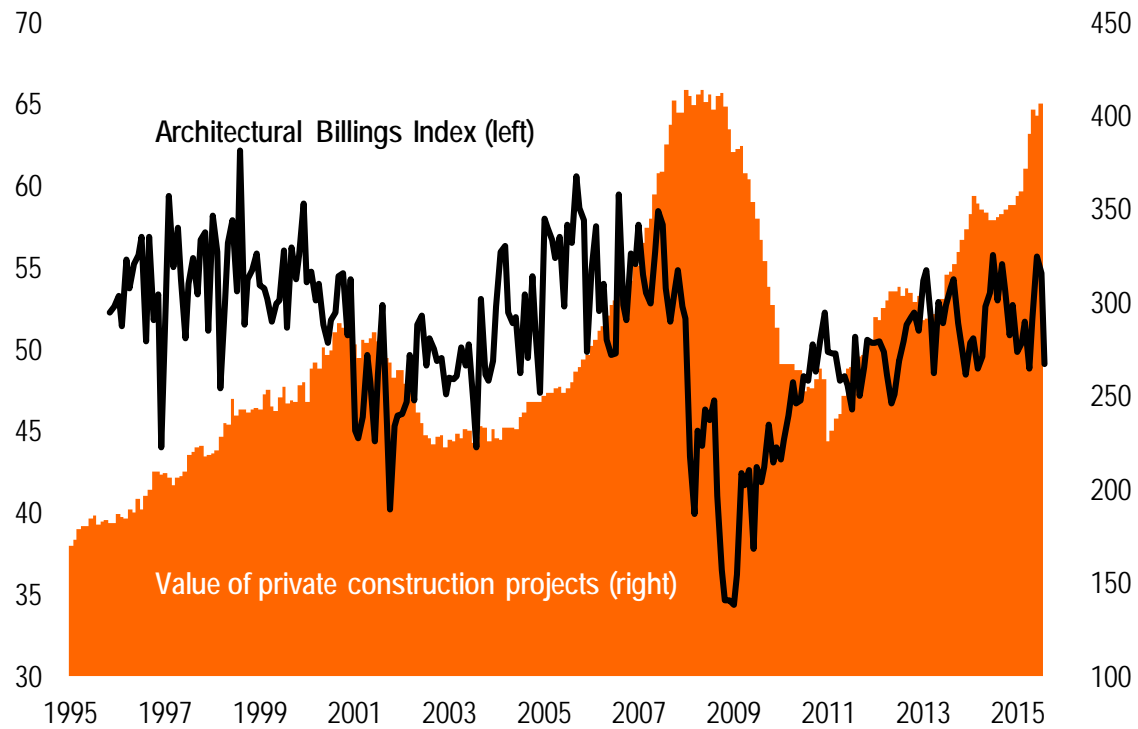
Business investment ratios (percentage of nominal GDP)



Sources: Haver Analytics; NBER-designated recession bars; U.S. Department of Commerce. Updated through 2015 Q2.

Normal Construction Recovery

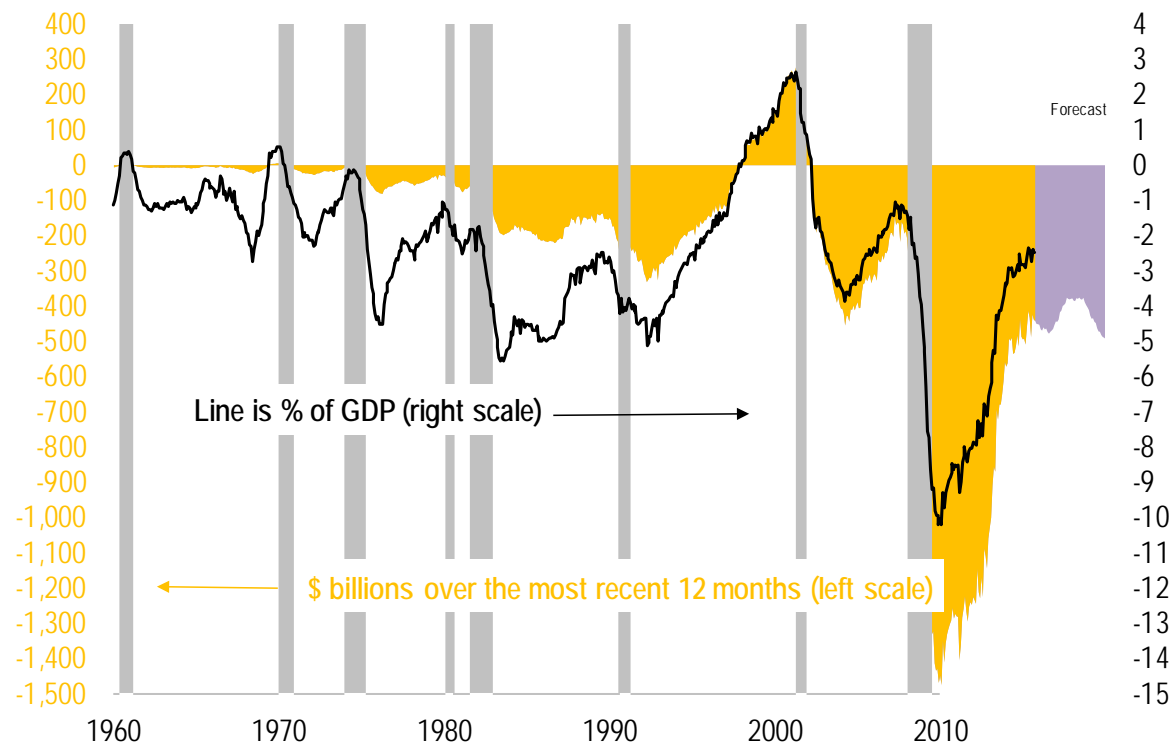
AIA billings index (>50 means expanding) Construction put in place (billions of dollars)



Sources: Haver Analytics; U.S. Department of Commerce; AIA. Updated through August 2015.

Normal Fiscal Trends

The federal deficit (billions of dollars over the most recent 12 months) (percent of nominal GDP)

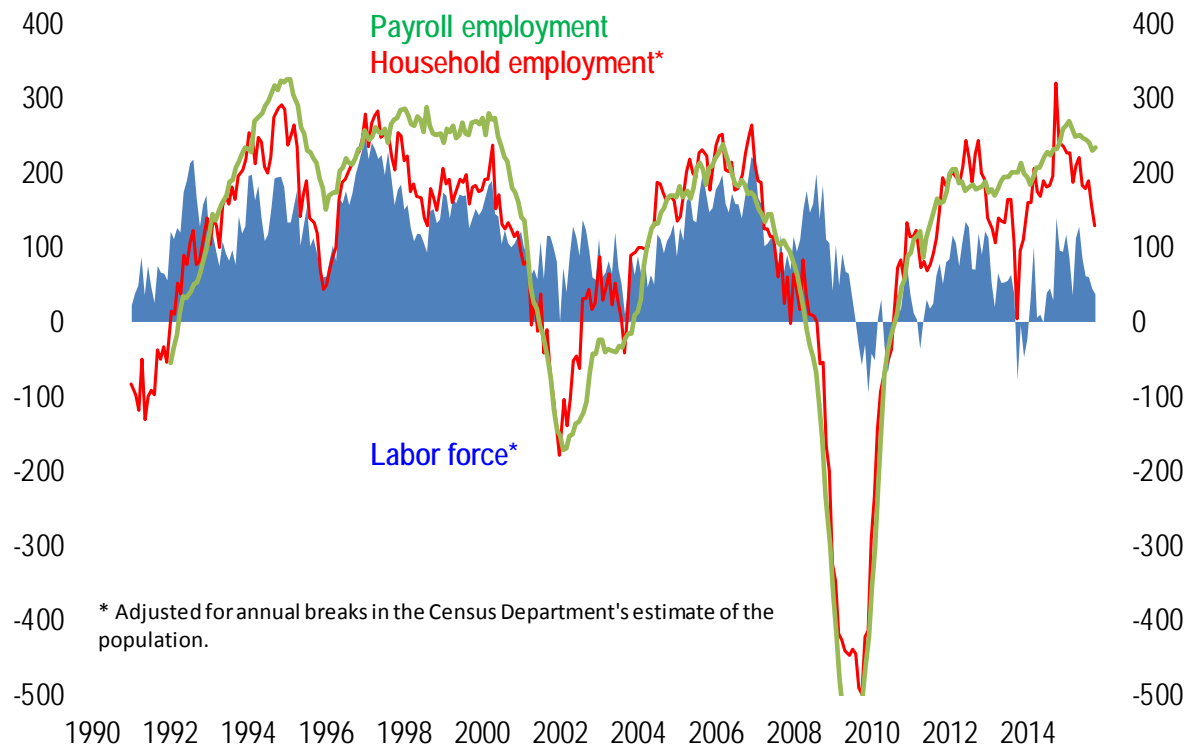


Sources: Haver Analytics; U.S. Department of Commerce; CBO. Updated through September 2015.

Connecting the Dots ...

(1) The Labor Supply Hurdle Rate Is Down ...

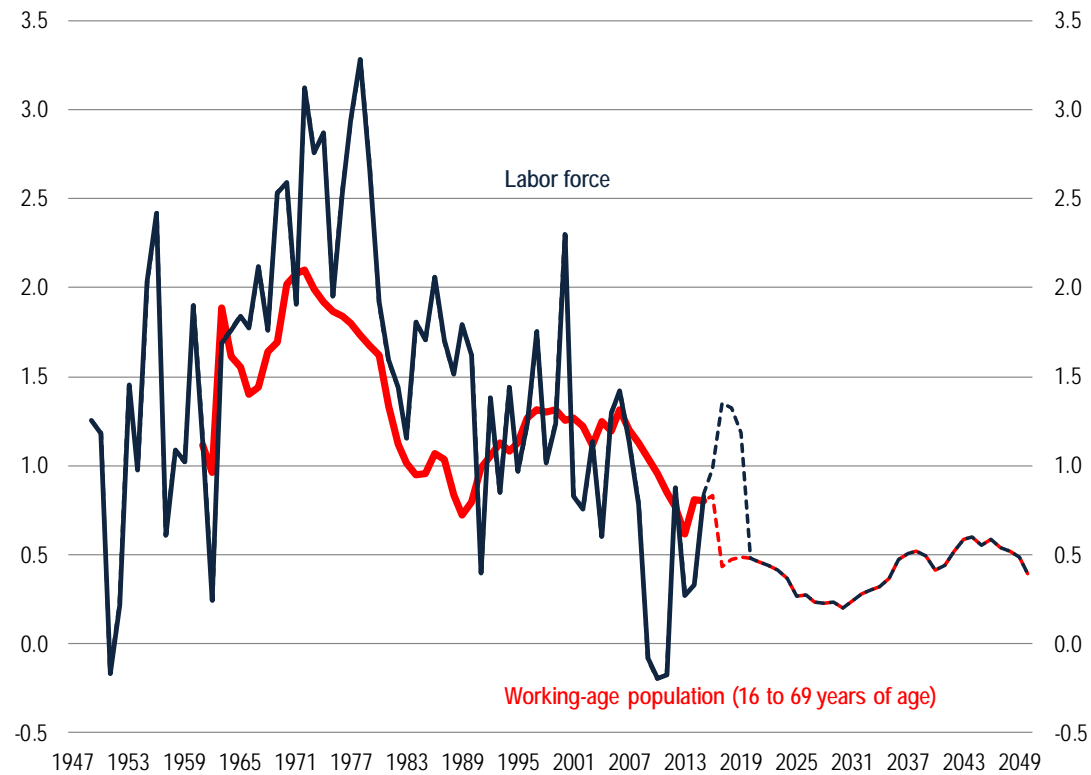
Employment and the labor force (percent change from 12 months earlier)



Sources: Haver Analytics; U.S. Department of Labor. Updated through September 2015.

... Cyclical and Structural Factors at Work

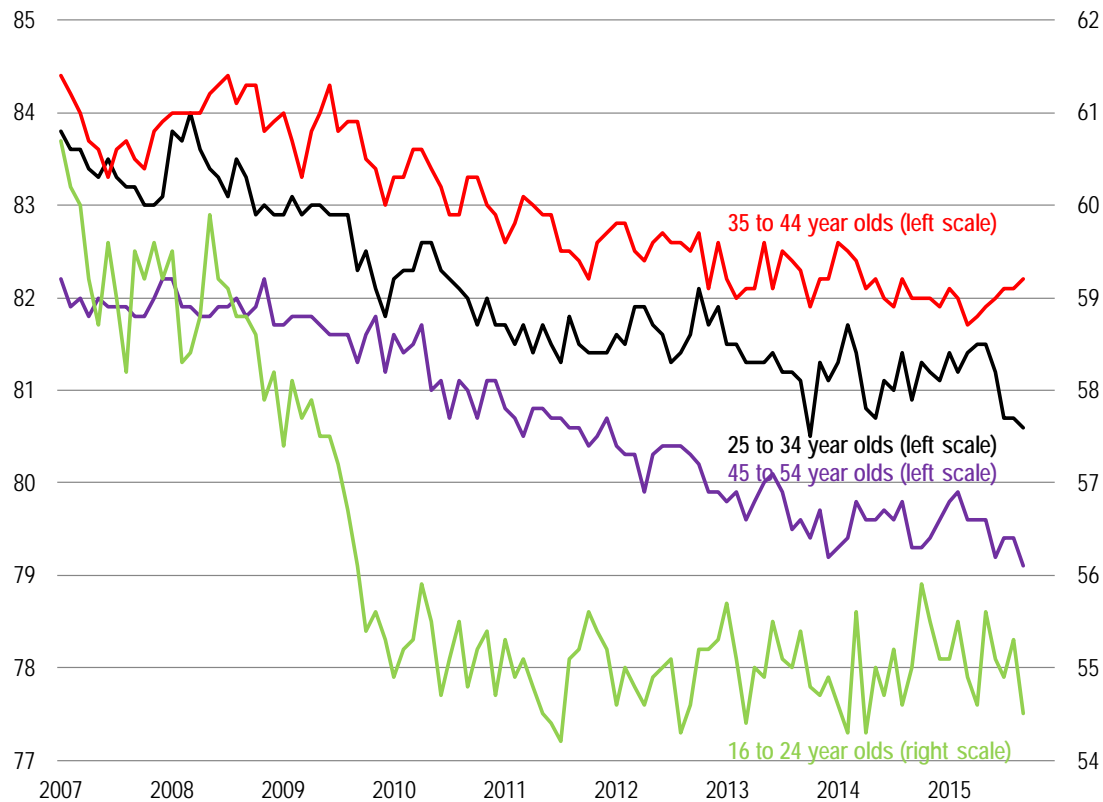
Labor force and the working age population (percent change annually)



Sources: Haver Analytics; Federal Reserve Board; U.S. Treasury. Updated through September 2015.

Cyclical Is About Young Adults ...

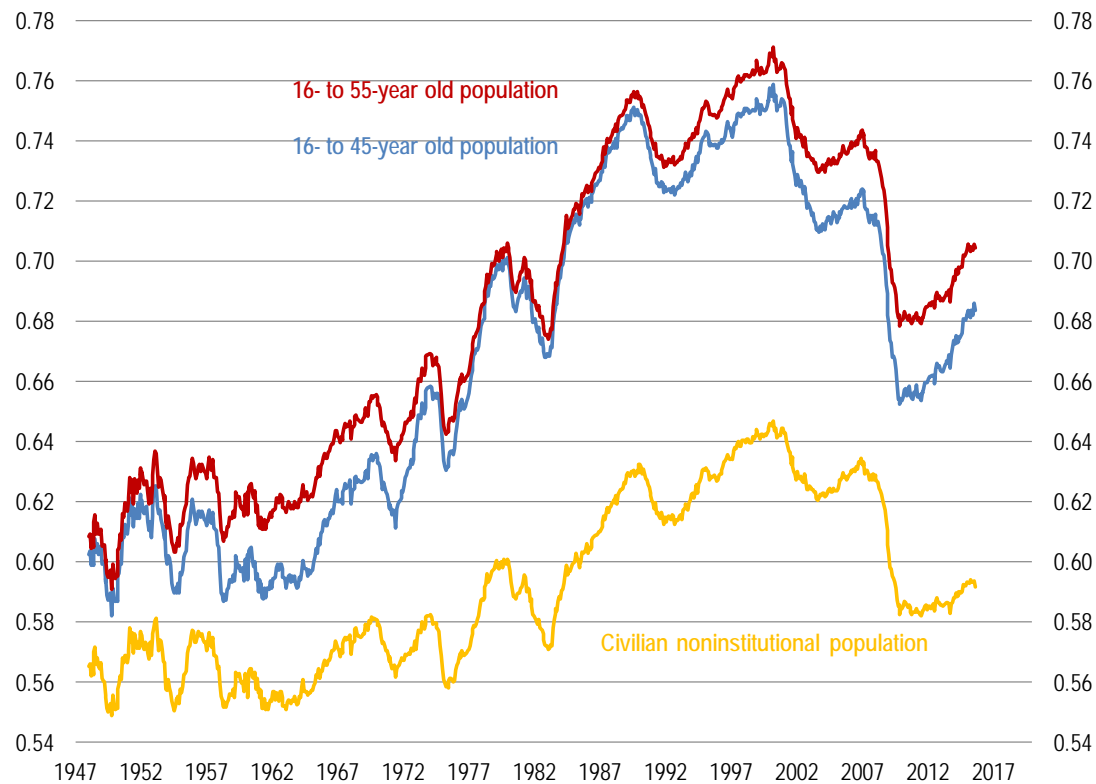
Participation rate for selected age groups (percent of the respective population)



Source: U.S. Department of Labor. Updated through October 2015.

... the 3m Who Temporarily Exited

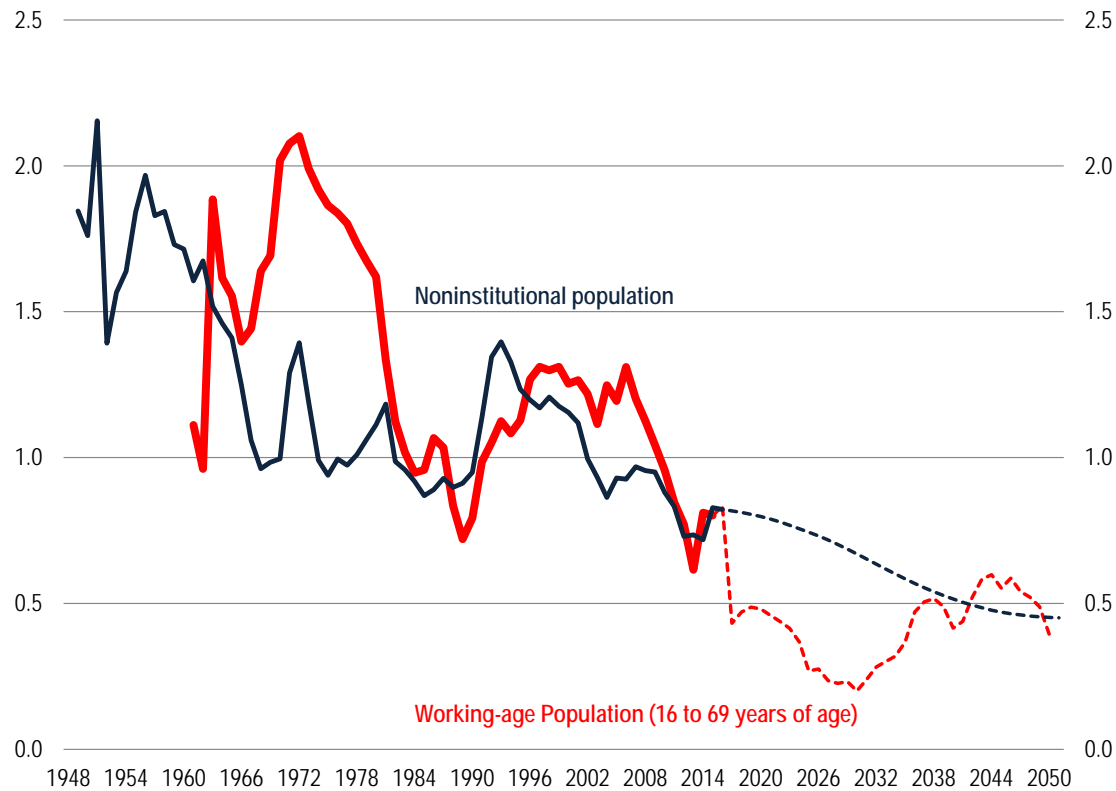
Status of working-age populations (percent of the respective population that is employed)



Sources: NBER-designated recession bars; U.S. Department of Labor. Updated through October 2015.

Structural Is About Demographics ...

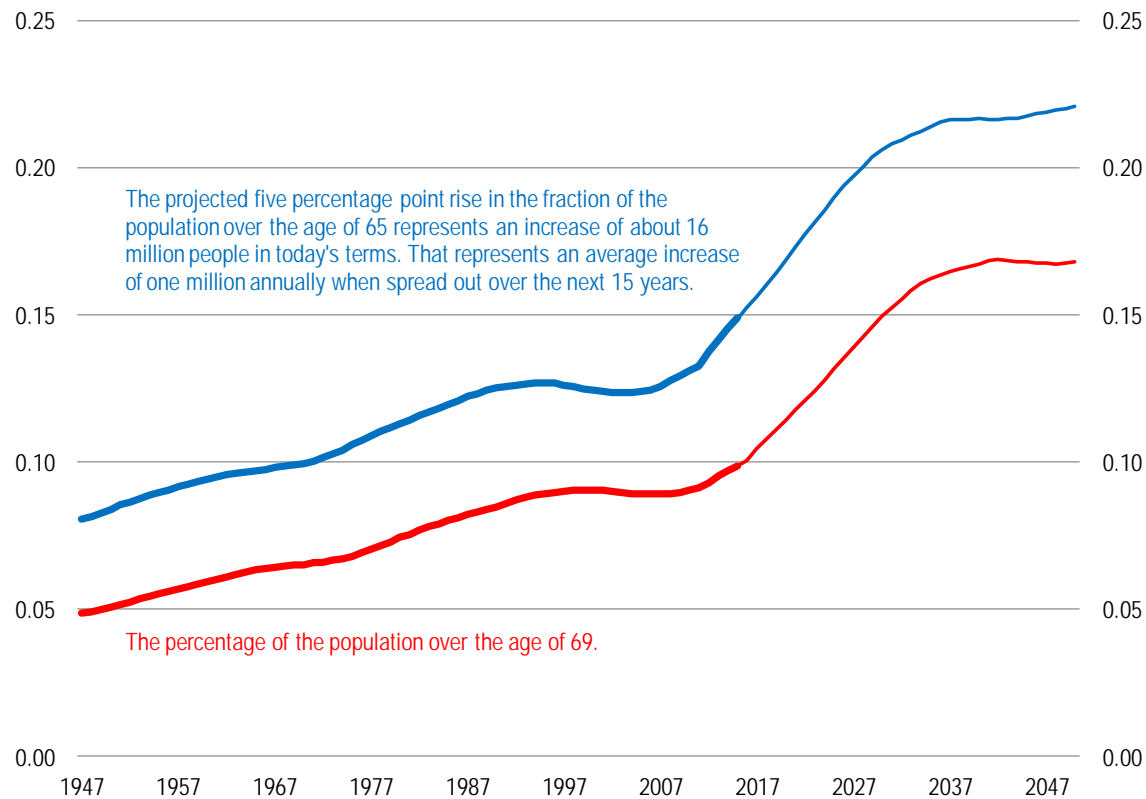
Noninstitutional population and the working age population (percent change annually)



Sources: Haver Analytics; Federal Reserve Board; U.S. Treasury. Updated through June 2015.

... a Well-Known Story

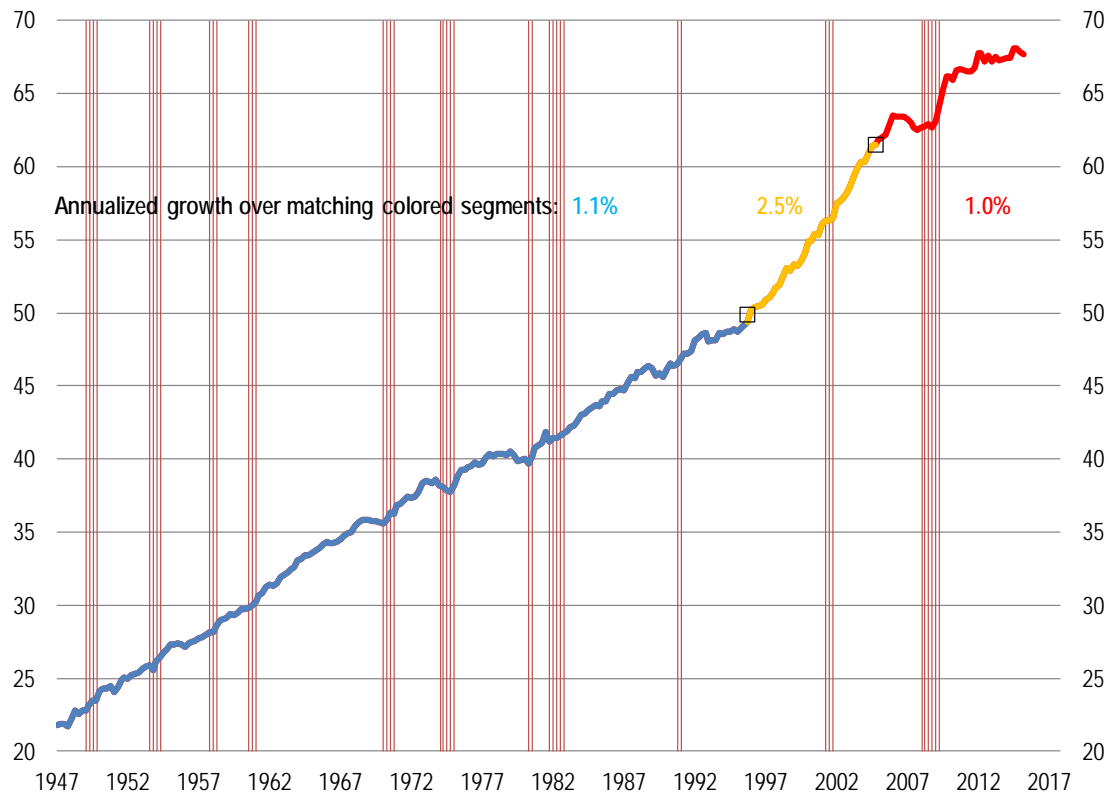
Selected elderly populations (percent of the population)



Source: U.S. Department of Labor. Updated through January 2015.

(2) Productivity Stall Probably Temporary

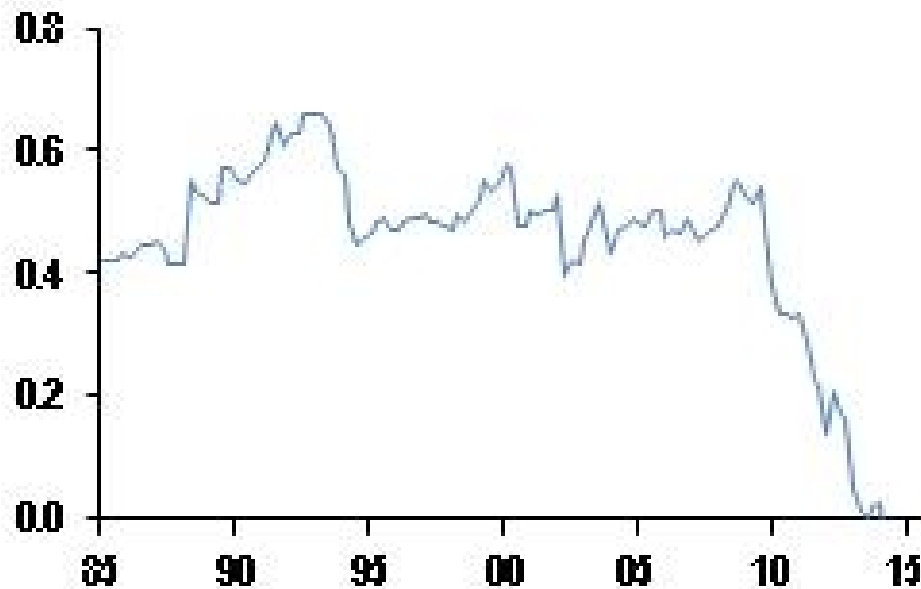
Real GDI per hour (2009 dollars)



Sources: Haver Analytics; NBER-designated recession bars; U.S. Department of Commerce; U.S. Department of Labor. Updated through 2015 Q2.

(3) Potential Metric Shortcomings

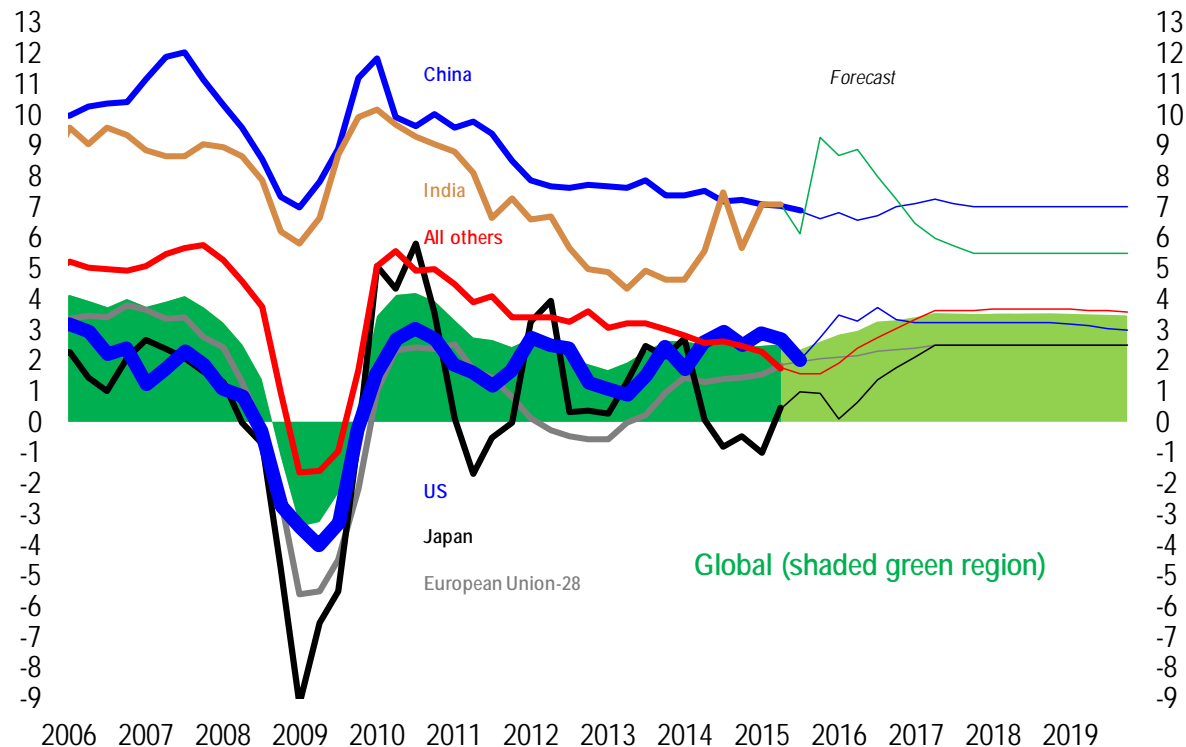
US: GDP correlation with next quarter's job growth
correlation over rolling 10-year windows, excl recessions



Source: BEA, BLS, J.P. Morgan

Anyway, Fairer Skies Ahead for Many

Real GDP in selected regions (percent change from four quarters earlier)



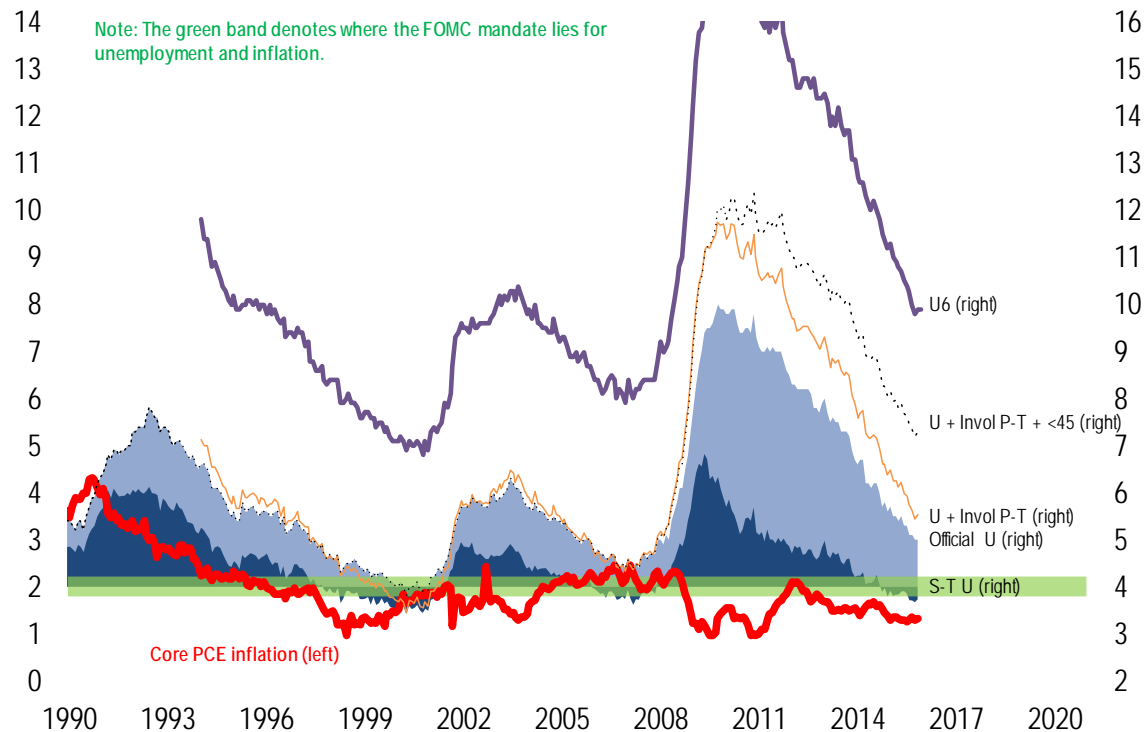
Sources: World Bank; U.S. Dep. of Commerce; JPMorgan Chase & Co. Updated through 2015 Q3 (China, Singapore, U.S.) and 2015 Q2 (others).

Slack

There's More than We See

Inflation (%)

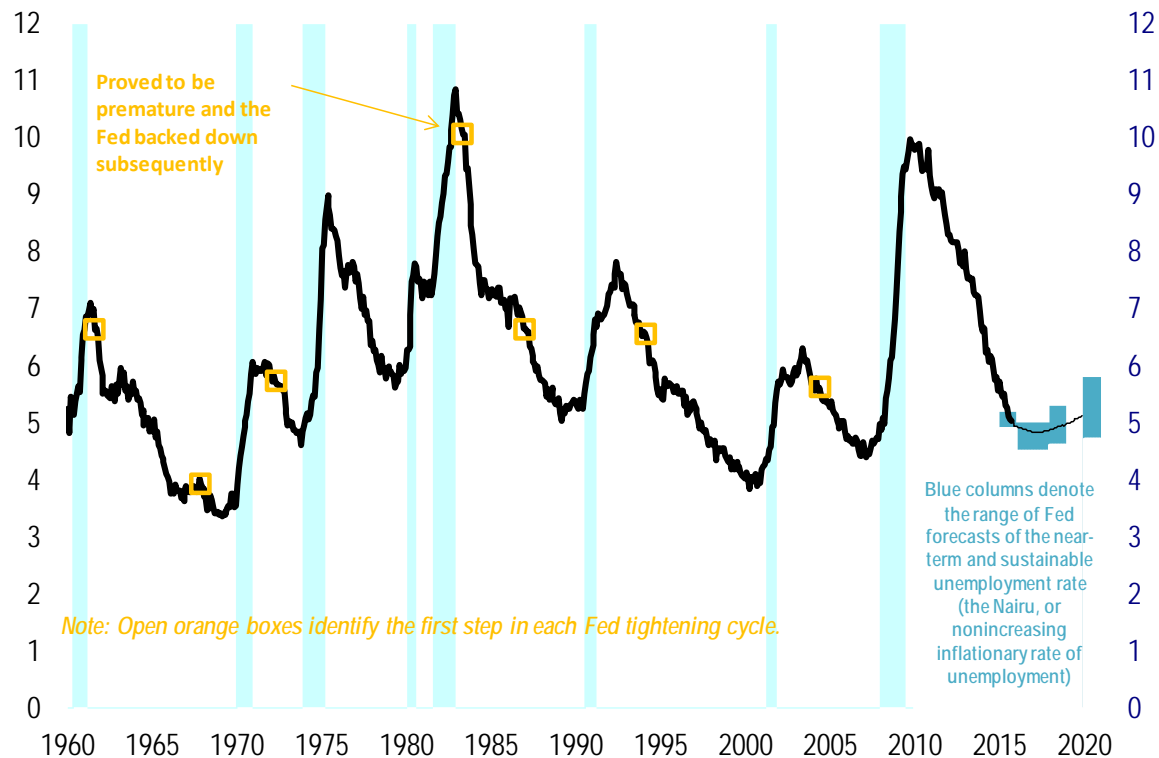
Selected unemployment metrics (percent of the labor force)



Sources: NBER-designated recession bars; U.S. Department of Labor. Updated through December 2015.

What We See—in Official Metrics—Good ...

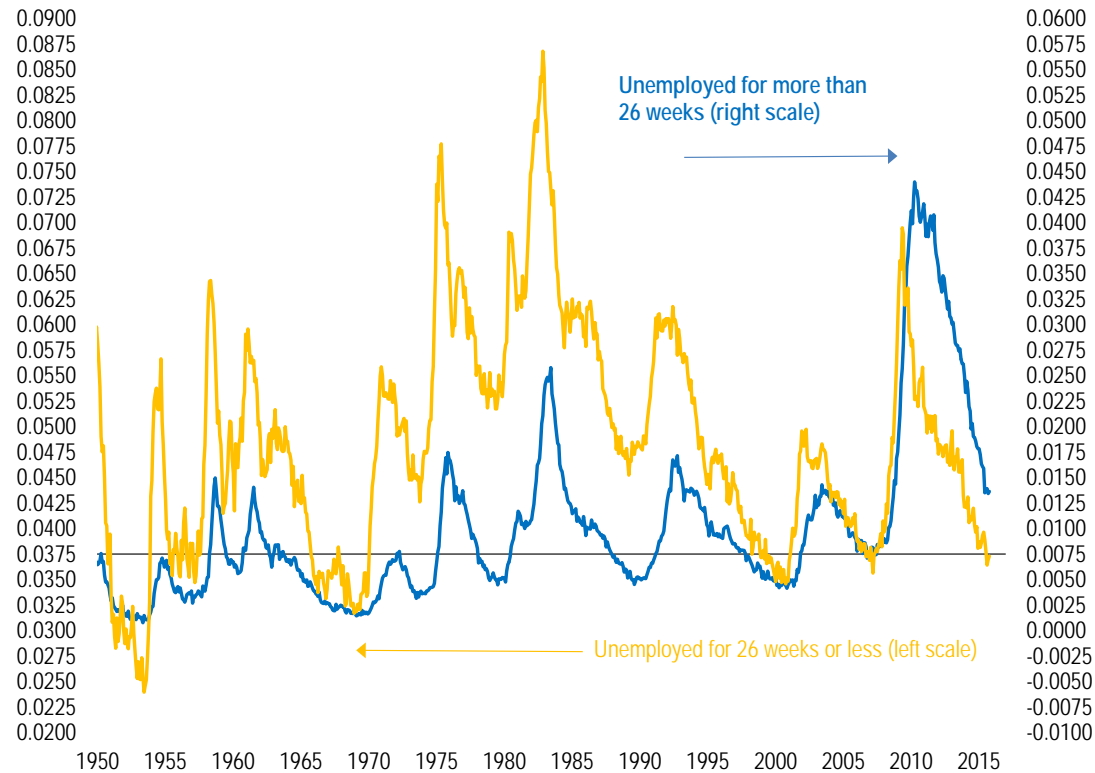
Unemployment rate (percent)



Sources: Vertical bars denote recessions and are designated by the NBER; U.S. Department of Labor. Updated through October 2015 (unemployment) and September 17, 2015 (FOMC forecast).

... For Everyone

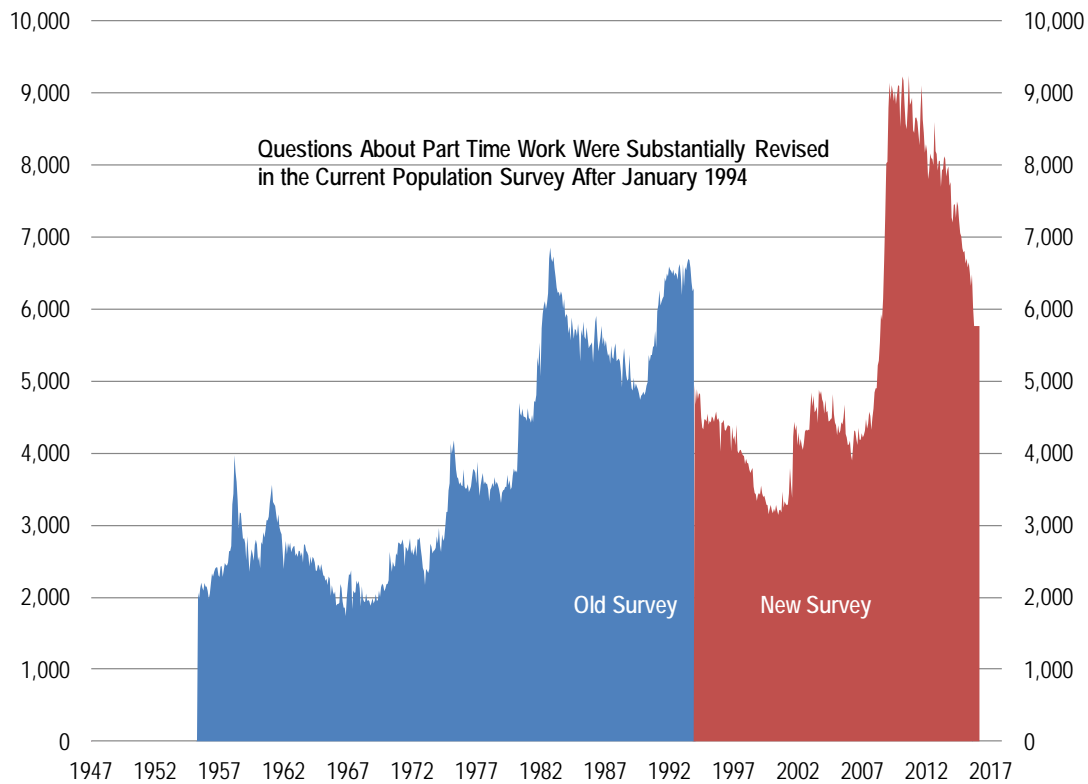
Unemployment rate by duration of unemployment spell (percent)



Sources: Haver Analytics; U.S. Department of Labor. Updated through October 2015.

Those Put On Part-Time Schedules ...

Involuntary part-time (thousands)



Source: U.S. Department of Labor. Updated through October 2015.

... Are Wrongly Counted As Fully Employed

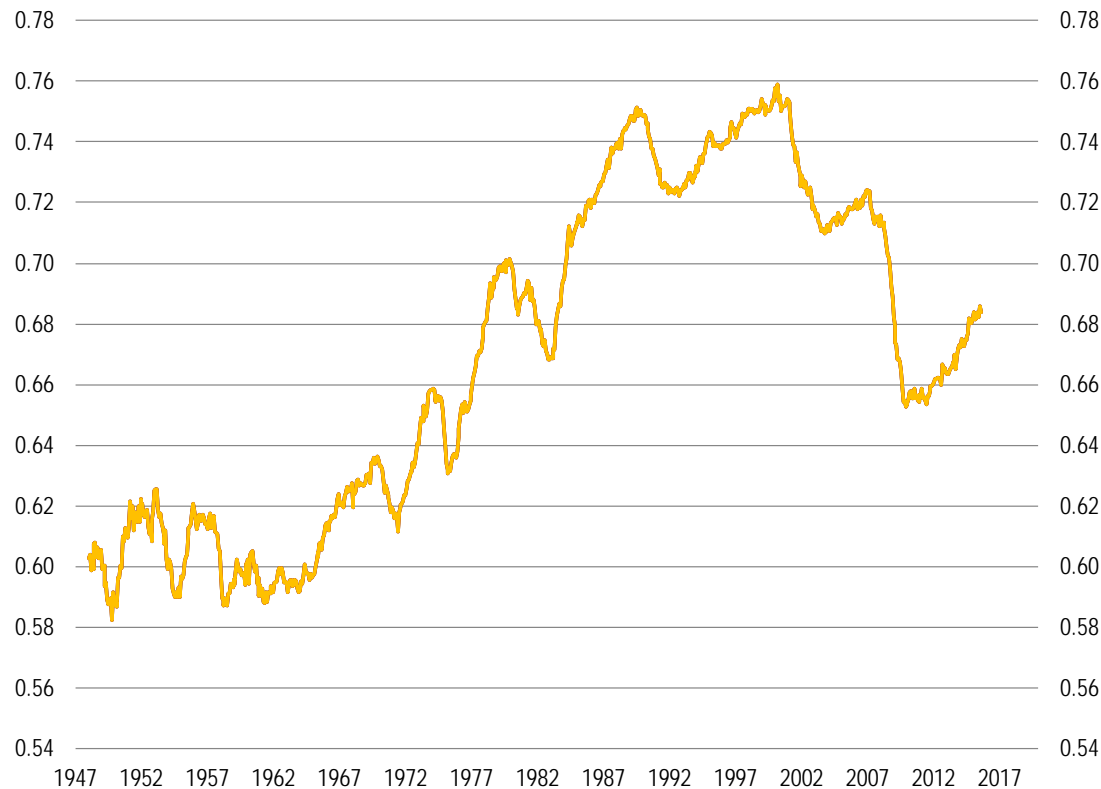
Involuntary part-time (percent of the labor force)



Source: U.S. Department of Labor. Updated through October 2015.

Young Adults Who Gave Up Disappear

Status of people under 45 years of age (% of the under-45 population that is employed)



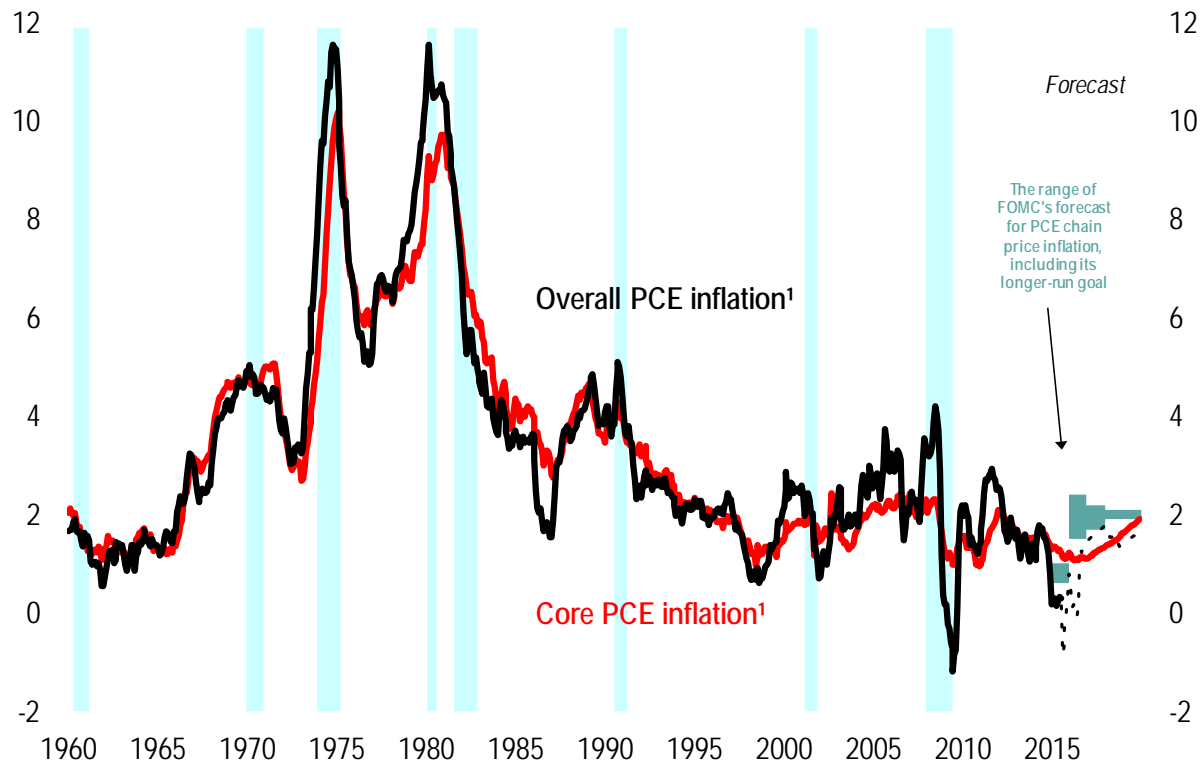
*4.4 million
fewer employed
under the age
of 45 years
since 2007*

Sources: NBER-designated recession bars; U.S. Department of Labor. Updated through December 2015.

Inflation

Inflation's Too Low

Chain PCE price indexes (percent change from 12 months earlier)

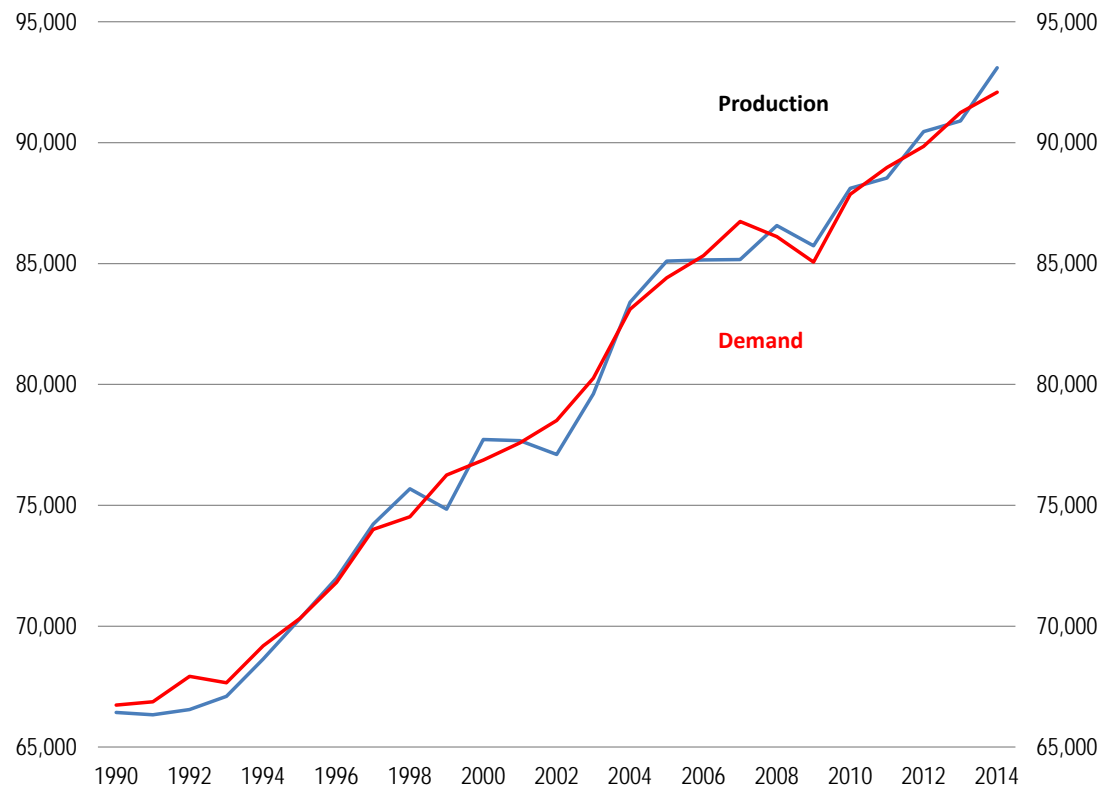


Sources: Vertical bars denote recessions and are designated by the NBER; U.S. Department of Commerce. Updated through July 2015 (inflation) and June 17, 2015 (FOMC forecast).

THE OIL SHOCK

A Global Supply Glut ...

Global demand and supply of petroleum (thousands of barrels daily)

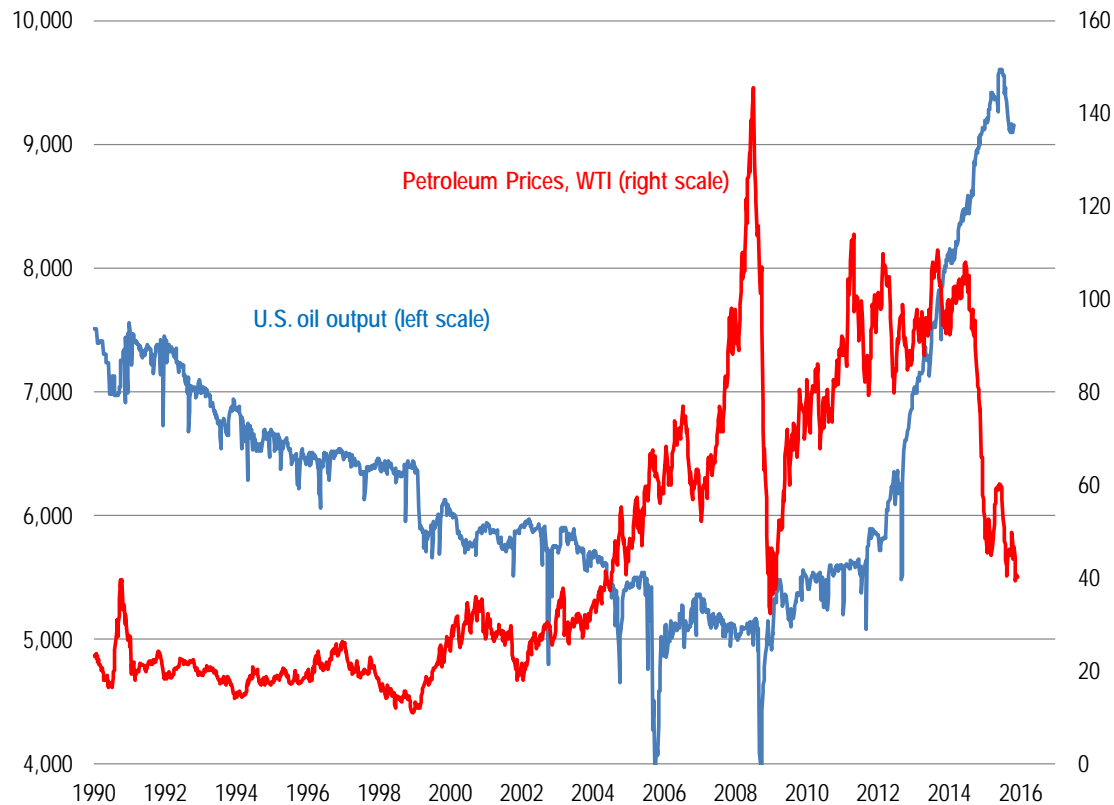


Sources: Haver Analytics; Oil & Gas Journal; IEA. Updated through 2014.

... Forced Prices Down ...

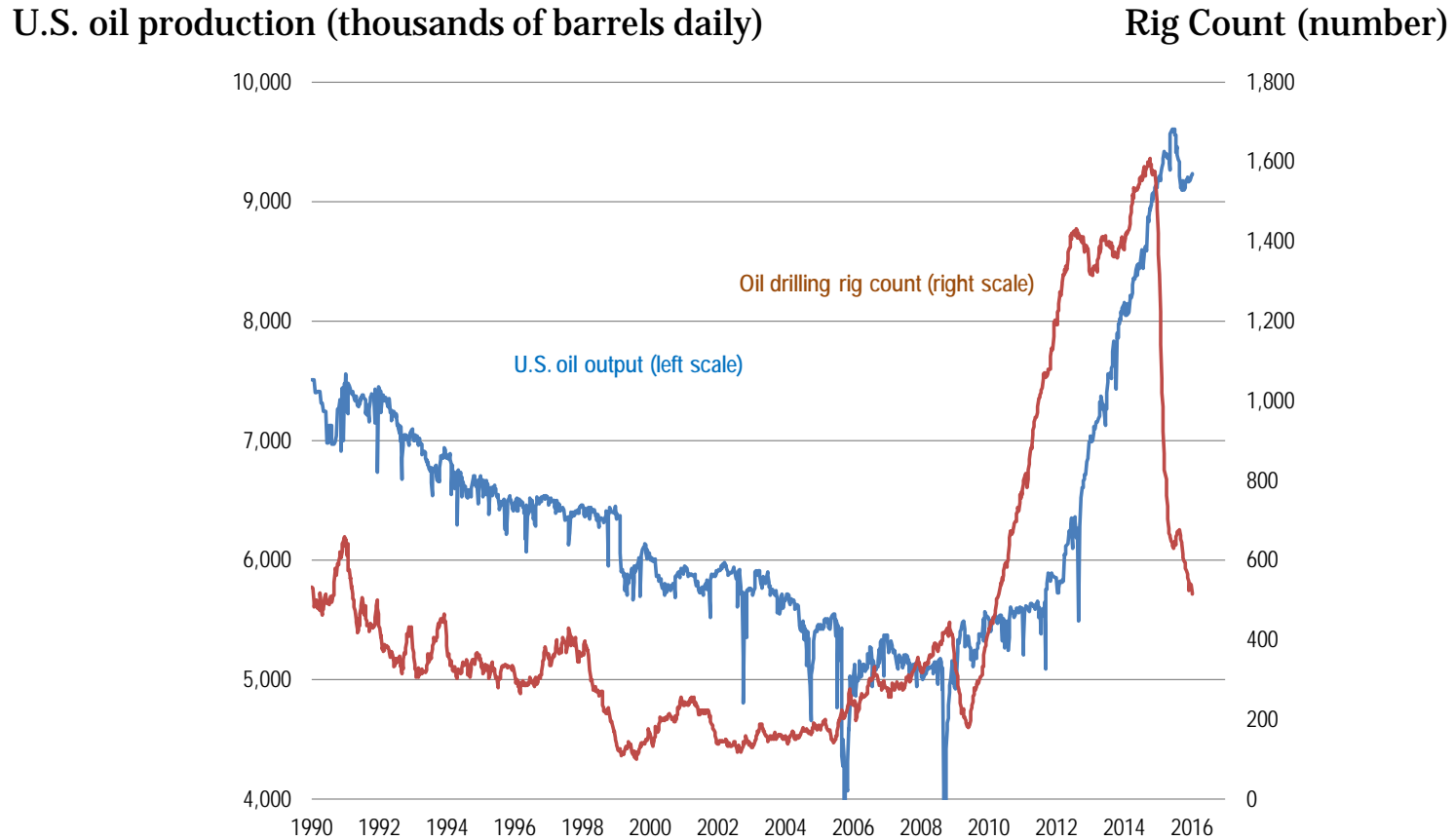
U.S. oil production (thousands of barrels daily)

WTI (dollars per barrel)



Source: U.S. Department of Energy; International Energy Agency. Updated through January 15, 2016.

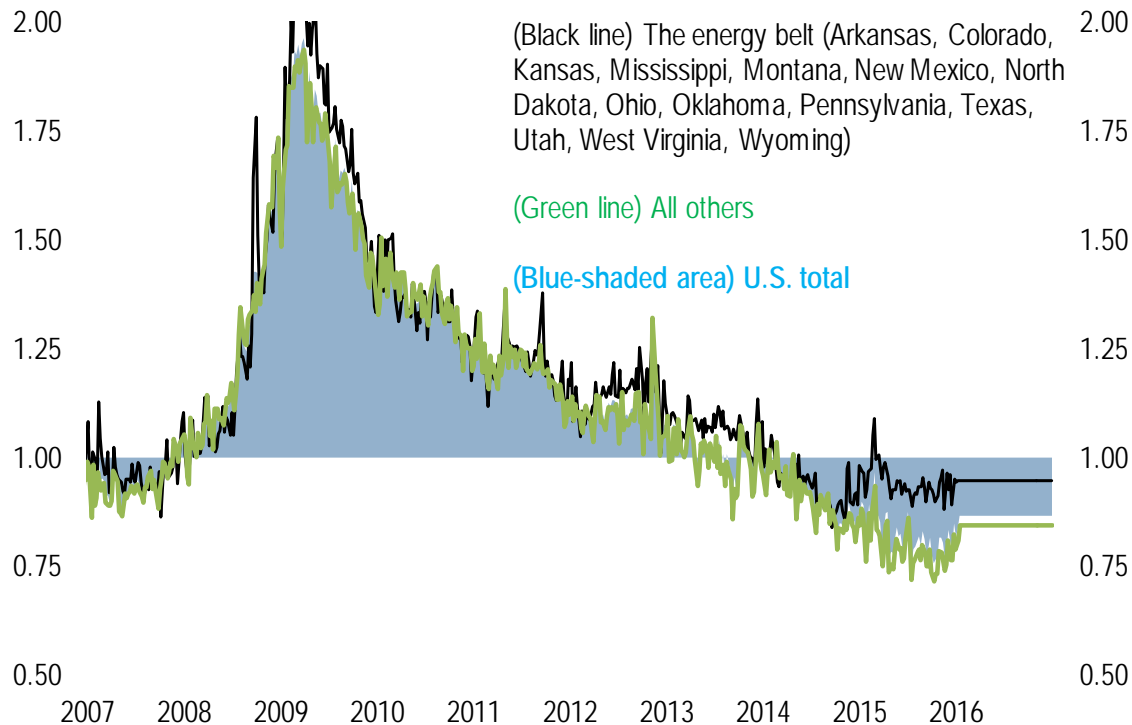
... and Shuttered Exploration Projects



Source: U.S. Department of Energy; International Energy Agency; Baker Hughes. Updated through January 15, 2016.

Business Reacted Quickly ... Layoffs ...

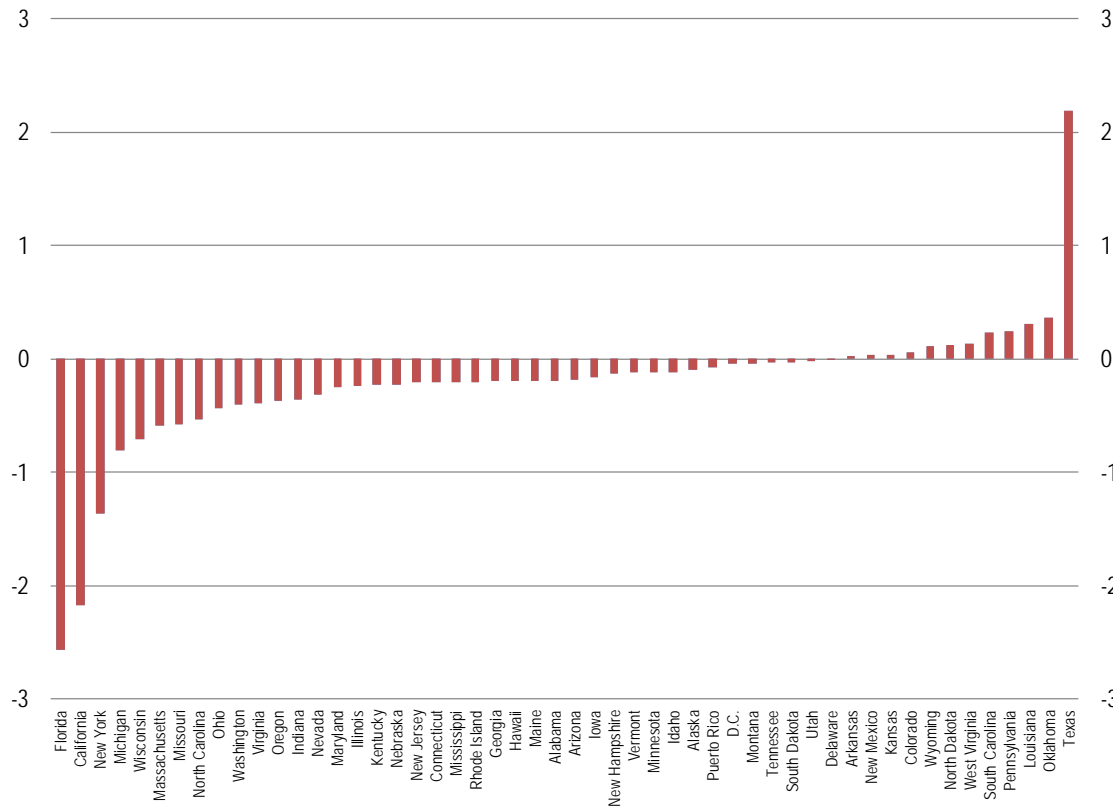
Jobless claims in “energy” states versus others (ratio to 2007 Q4 level)



Source: U.S. Department of Labor. Updated through January 16, 2016.

... Bigger in the Energy Belt ...

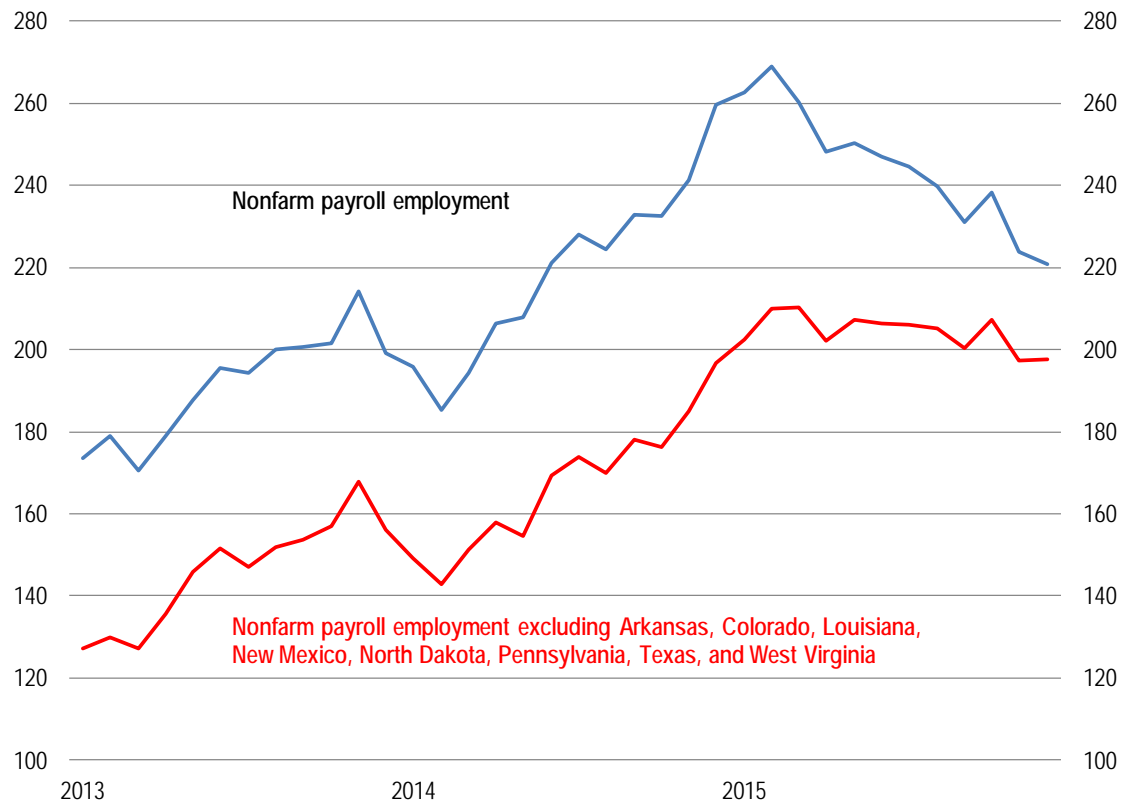
Change in jobless claims in 2015 versus 2014 (average weekly change in thousands)



Source: U.S. Department of Labor. Updated through January 16, 2016.

... Employment ...

Nonfarm payrolls (monthly change in thousands over the most recent 12 months)

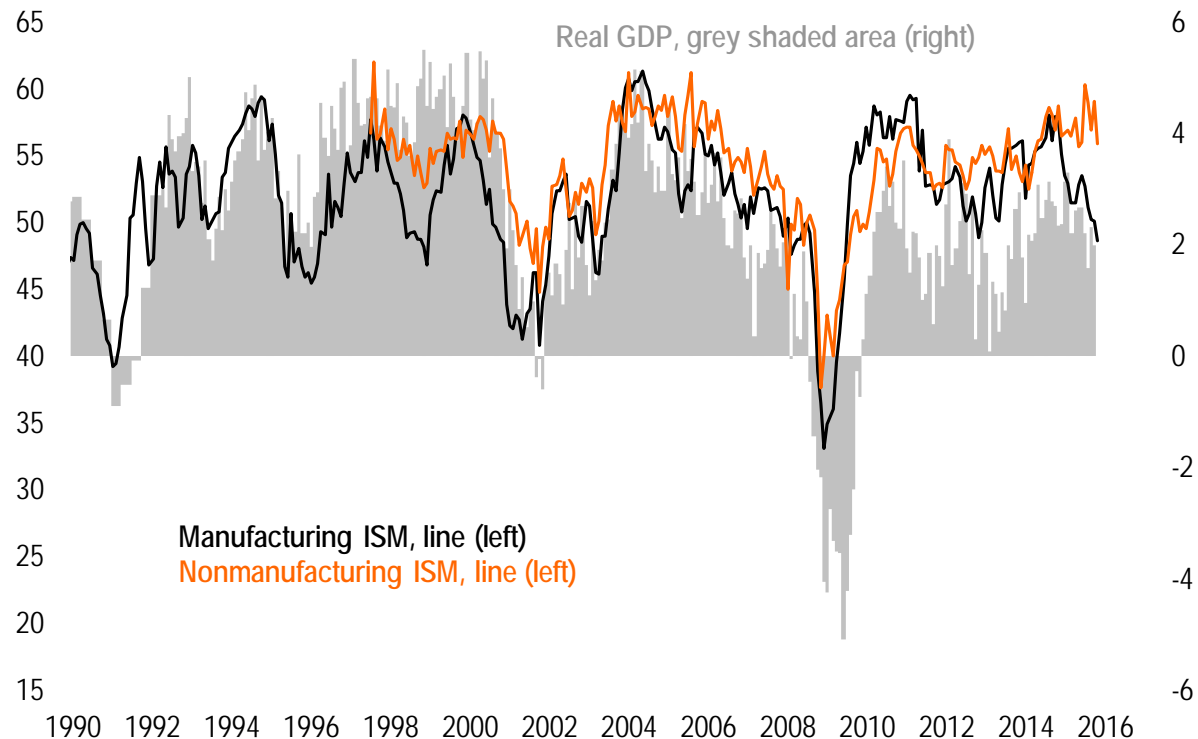


Source: U.S. Department of Labor. Updated through November 2015 (states) and December 2015 (U.S.).

... Manufacturing vs Nonmanufacturing ...

ISM indexes (50+ = increasing)

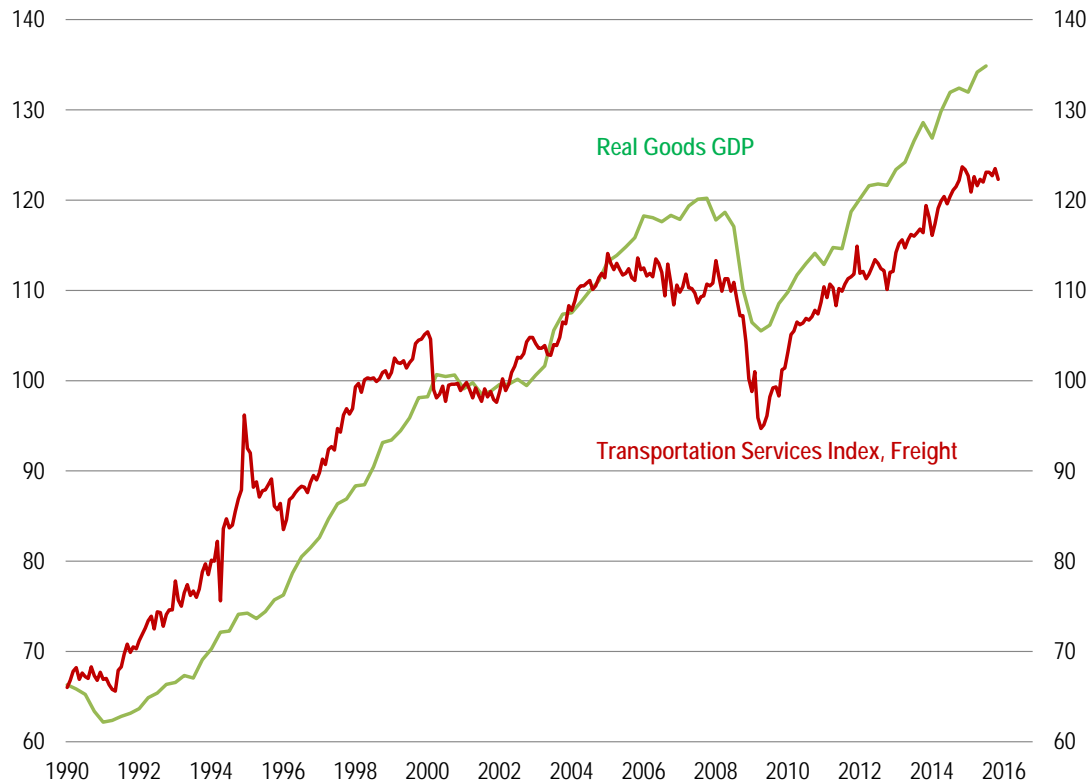
Real GDP (percent change from 12 months earlier)



Sources: Haver Analytics; Macroeconomic Advisers; ISM. Updated through November 2015 (GDP) and December 2015 (ISM).

... Transport Services Too

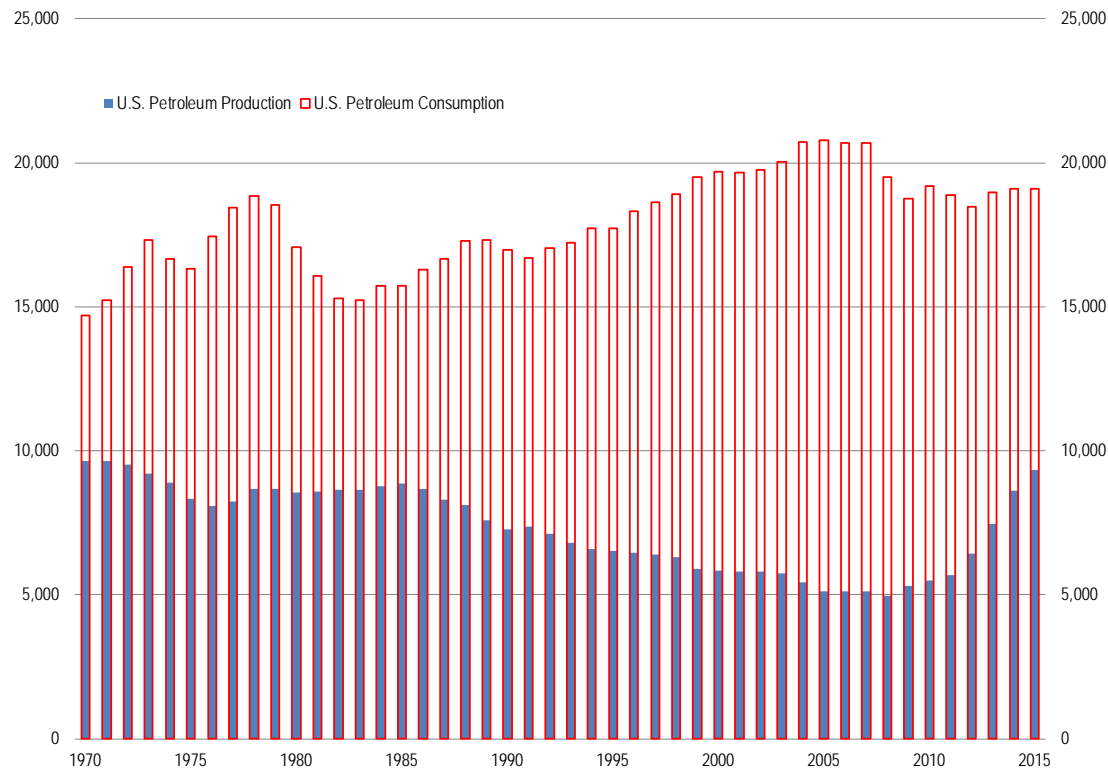
Real goods GDP and Transportation Services Index (2000 = 100)



Sources: Haver Analytics; U.S. Department of Commerce; Bureau of Transportation Statistics. Updated through November 2015.

But Here's Why We Know Most Benefit

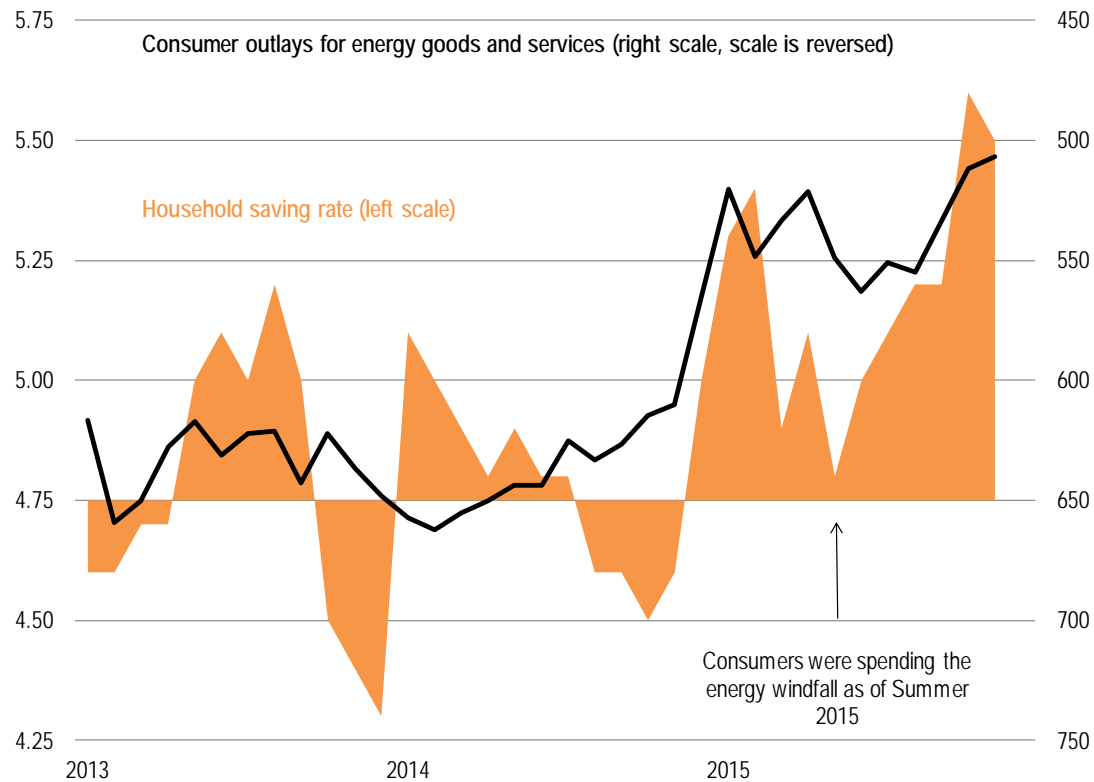
U.S. petroleum demand and supply (thousands of barrels daily)



Sources: Haver Analytics; Oil & Gas Journal. Updated through October 2015.

Those Who Benefit Respond More Slowly

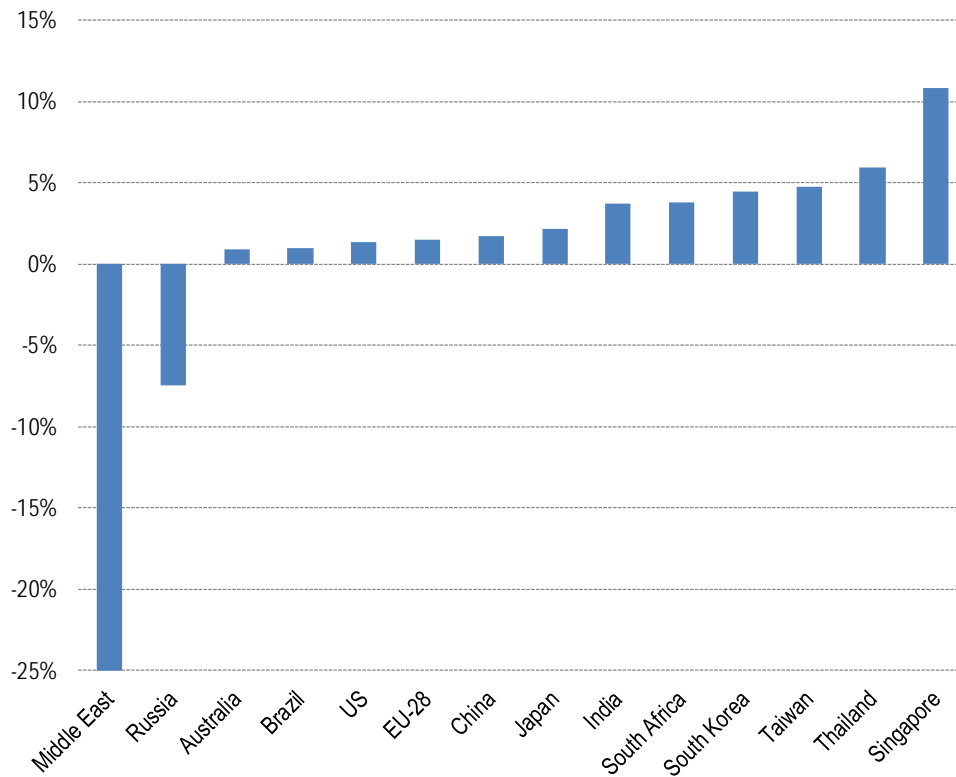
Saving (percent of income) Energy outlays (\$ billions over the most recent 4 quarters)



Sources: Haver Analytics; U.S. Department of Commerce. Updated through November 2015.

The Global Impact

Annual decline in the national oil bill (percent of nominal GDP)



The \$2 1/2 trillion petrodollar shift.

92 million barrels per day consumed globally

× 365 days

× \$65 per barrel drop in oil prices

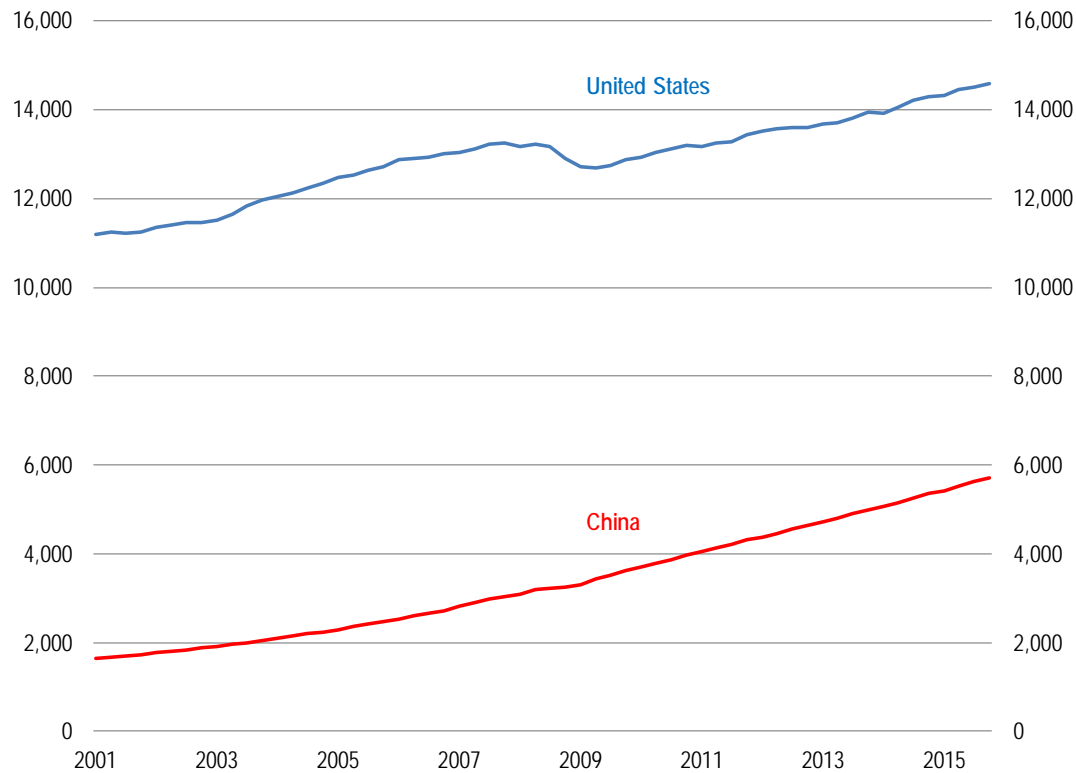
Sources: Haver Analytics; Oil & Gas Journal; International Energy Agency. Updated through October 2015.

CHINA'S ABOUT CHINA

(Not the Global Economy)

China's Global Impact Isn't About Her GDP

Real GDP (2009 dollars)



U.S. consumers are 70% of GDP

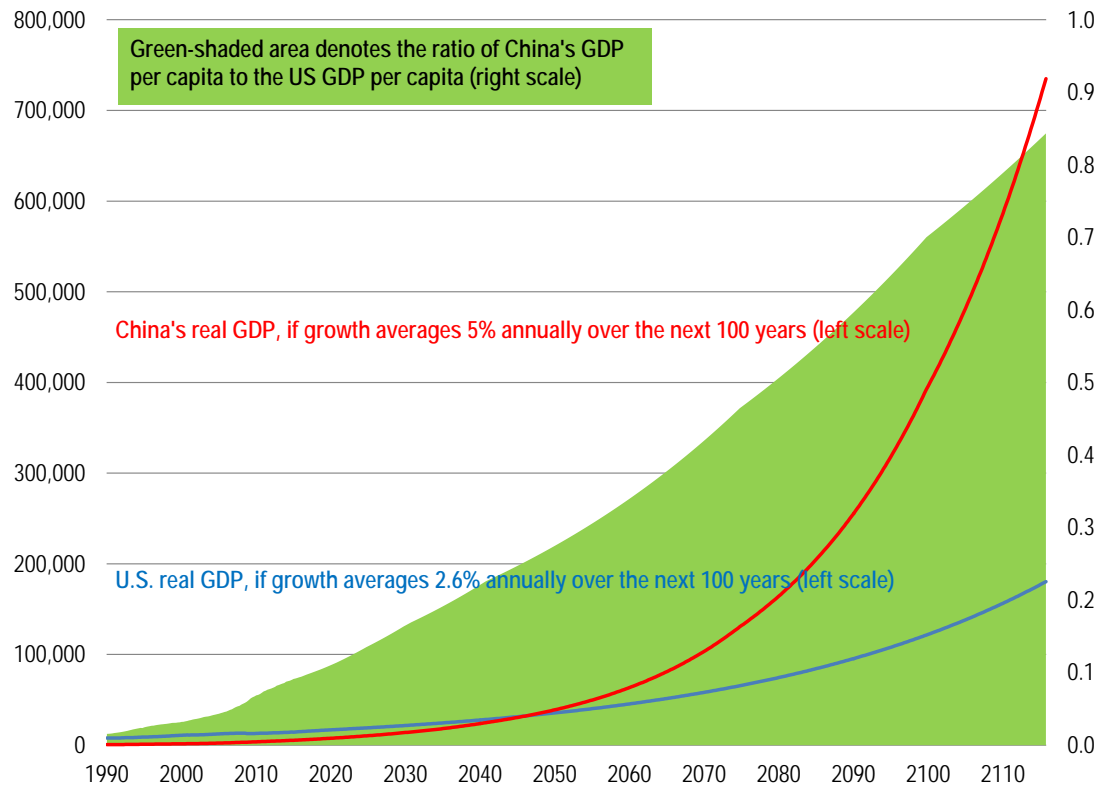
Chinese consumers are 33% of GDP

Sources: Haver Analytics; U.S. Department of Commerce; World Bank. Updated through 2015 Q3.

China's Writing a Bigger Story

Real GDP (2009 dollars)

Ratio to U.S. real GDP per capita

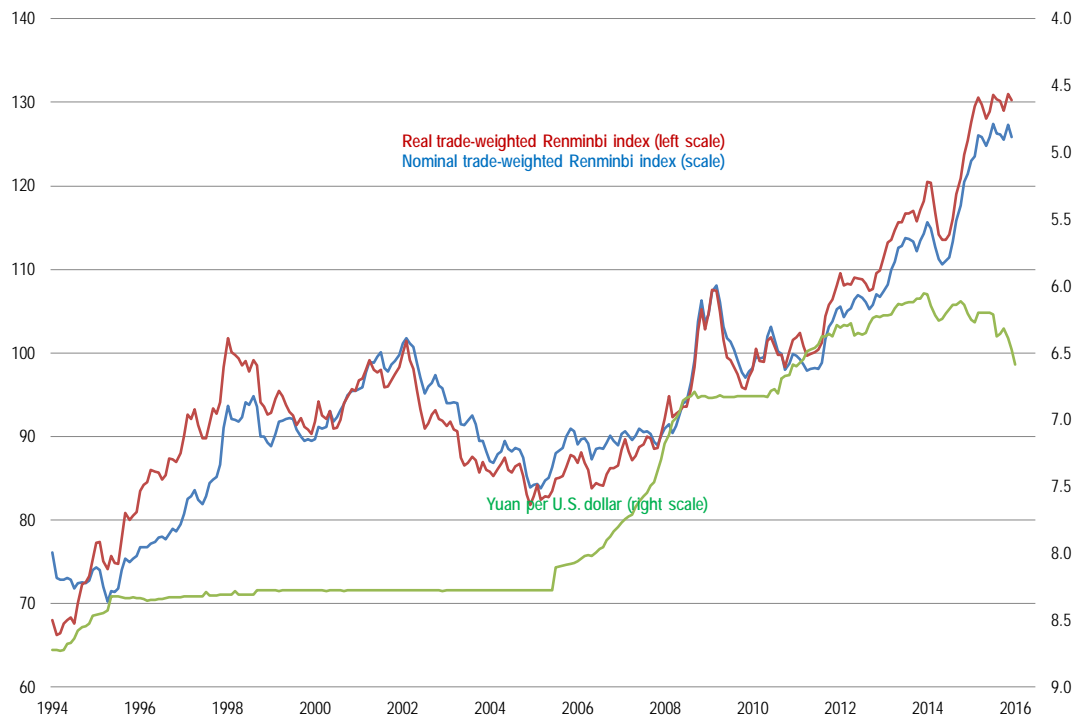


Sources: U.S. Department of Commerce; JPMorgan Chase & Co. Updated through 2015 Q3.

Challenges But Not Hard Landing Themes

Nominal and real trade weighted yuan indexes (2010 = 100)

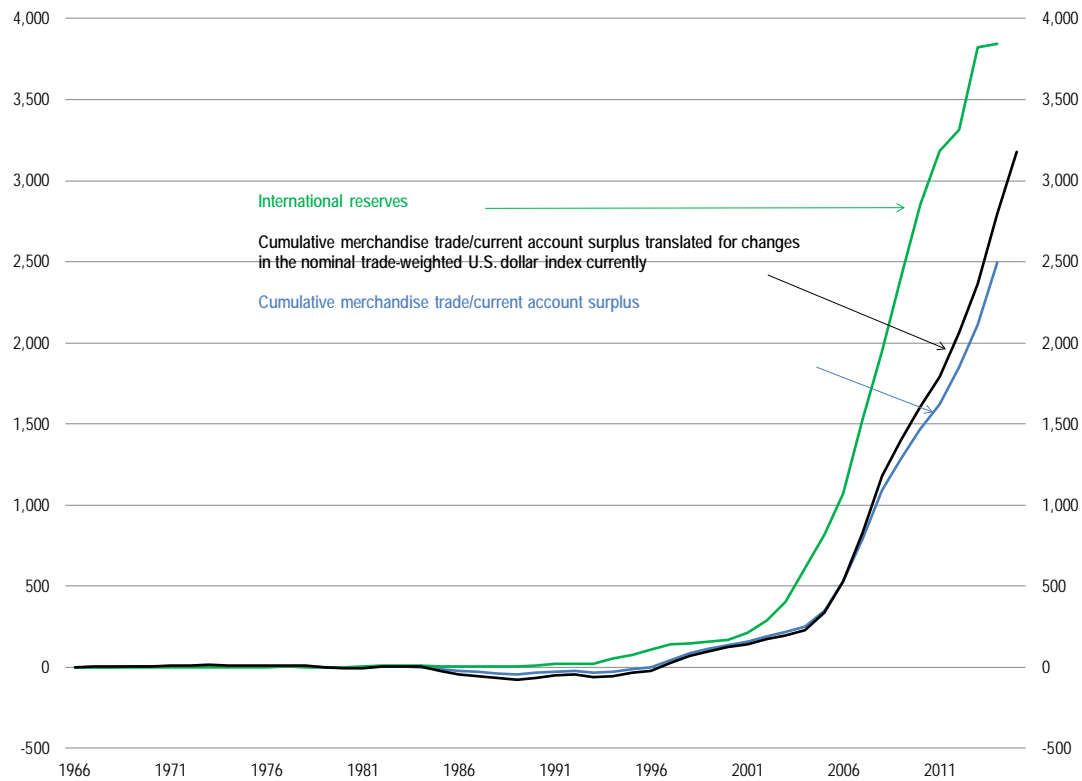
Yuan per U.S. dollar



Sources: Haver Analytics; Federal Reserve Board; Bank for International Settlements. Updated through November 2015 (BIS indexes) and January 8, 2016 (yuan).

Capital Flight Is Not the Danger

China's international reserves and cumulative trade surplus (billions of U.S. dollars)



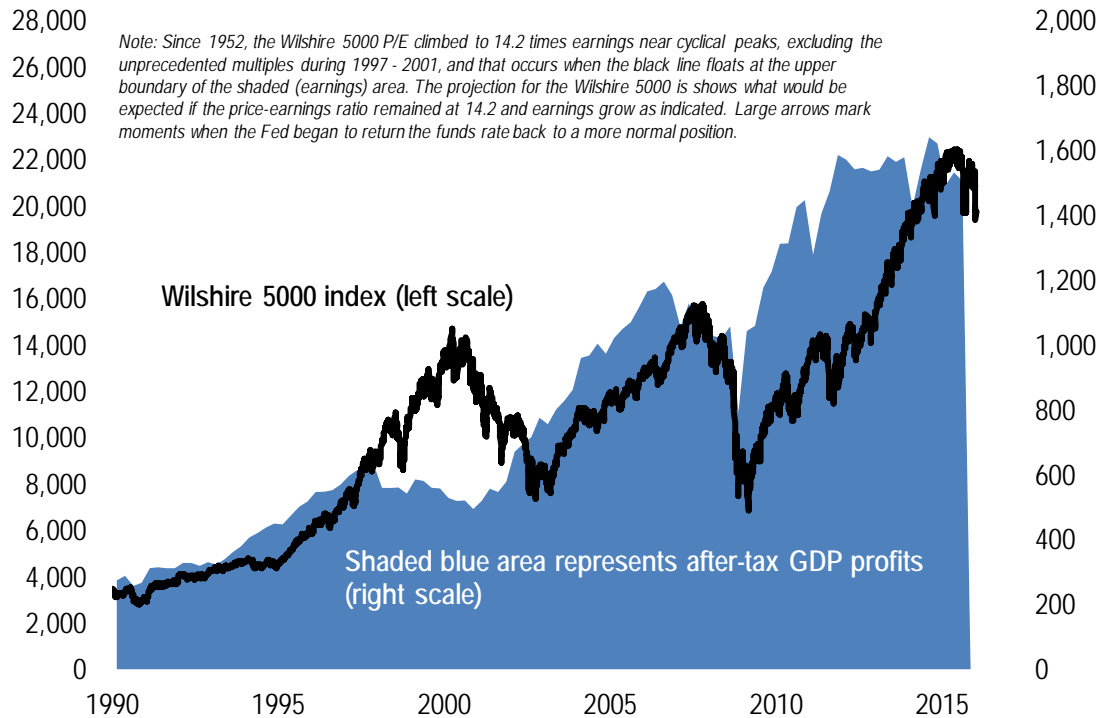
Sources: Haver Analytics; World Bank; U.S. Department of Commerce. Updated through November 2015.

THE STOCK MARKET DOESN'T KNOW EVERYTHING

Worries Should Build the Higher We Go ...

Wilshire 5000 (Dec 31, 1970 = 830.27)

After-tax GDP profits (billions of dollars)

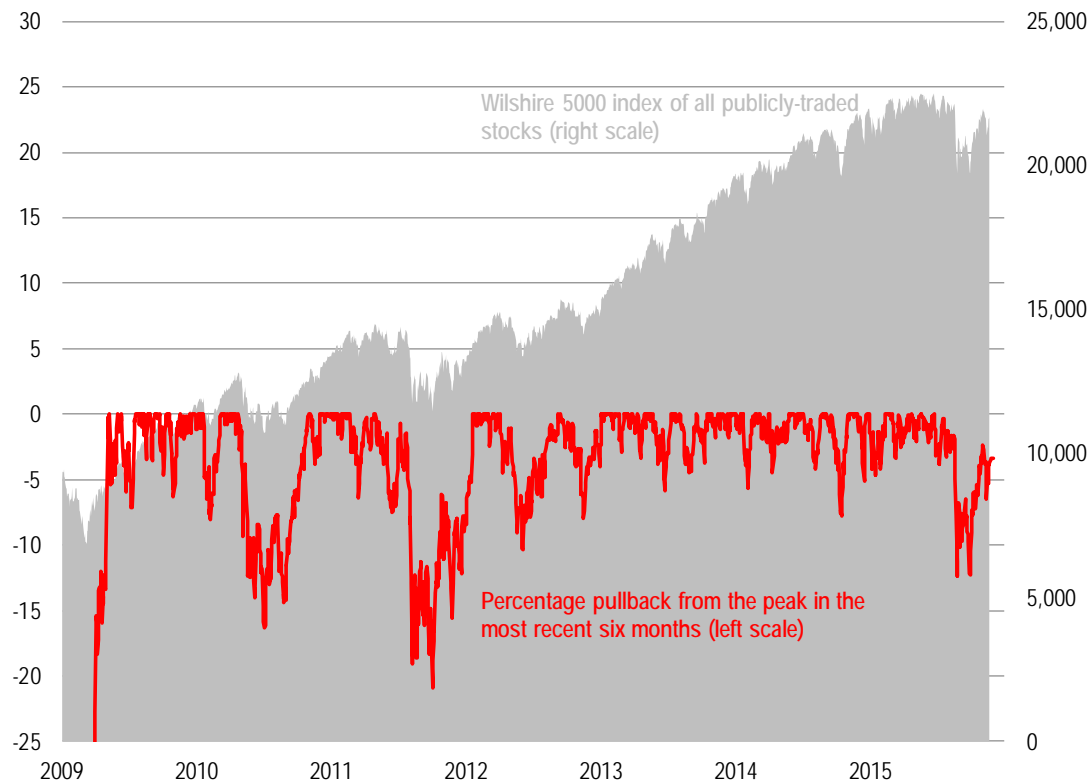


Note: scales aligned to reflect the historical P/E of 11 times ex. the multiples of 1997 through 2001.

Sources: U.S. Department of Commerce; Dow Jones. Updated through 2015 Q3 (profits) and Jan. 14, 2016.

... but Until This Year Weren't

% ch from the local (most recent 6-month) peak **Wilshire 5000 (Dec 1970 =830.27)**

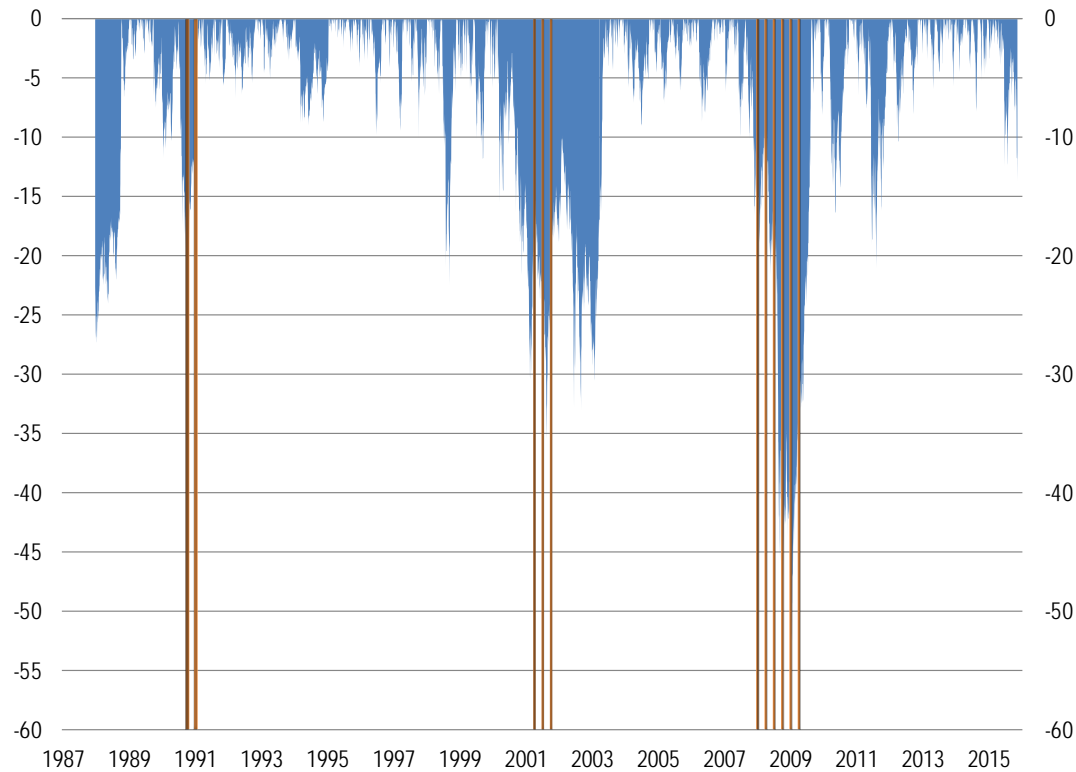


Sources: Haver Analytics; Dow Jones. Updated through January 15, 2016.

Markets See Many Phantoms & Miss Much

% ch from the local (most recent 6-month) peak

Wilshire 5000 (Dec 1970 = 830.27)

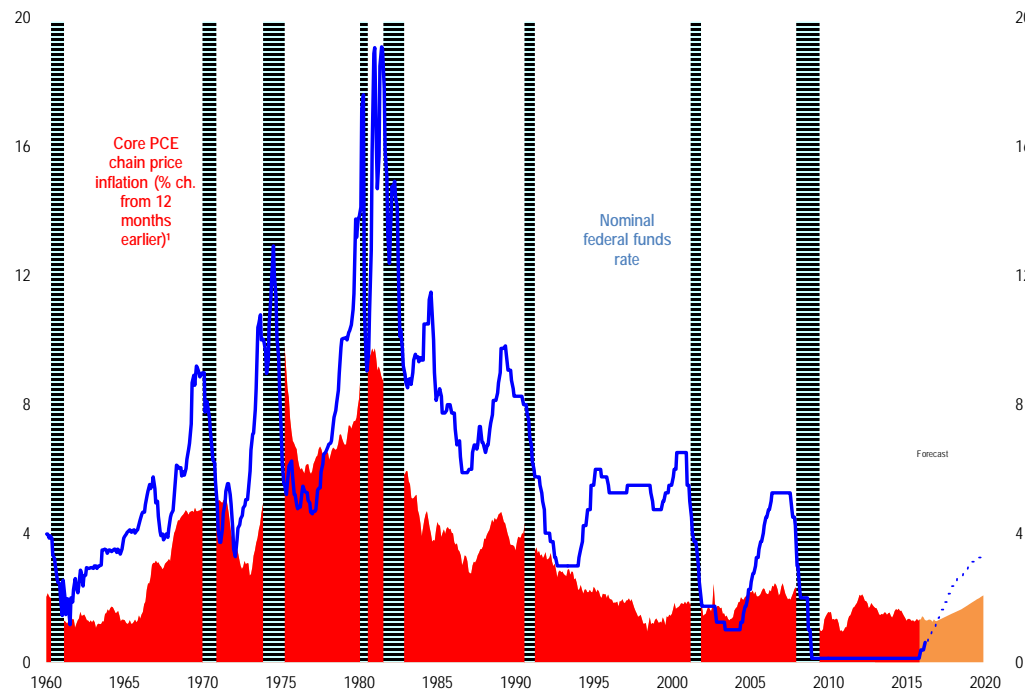


Sources: Haver Analytics; Dow Jones. Updated through January 15, 2016.

WHAT IT MEANS FOR THE FED

Sooner/Slower Begets the Best Outcomes

Nominal funds rate (% per annum) and core inflation (% ch. From 12 months earlier)¹

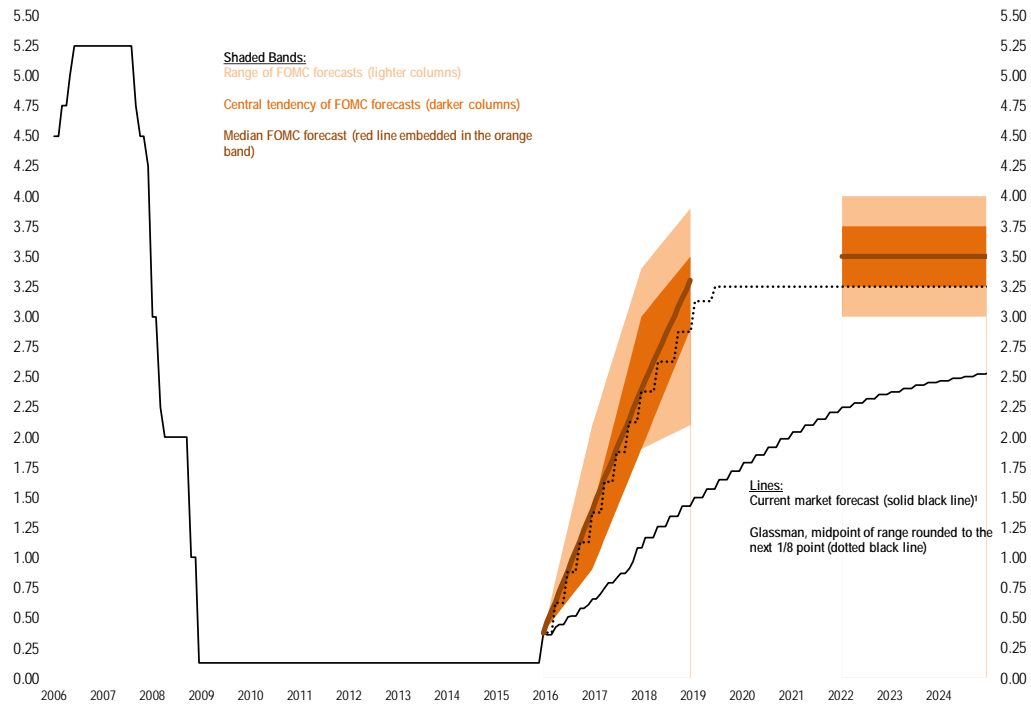


¹ Chain price index for personal consumption expenditures excluding food and energy.

Source: Federal Reserve Board. Updated through November 2015 (inflation) and January 2016 (fed funds).

The End Game

Forecasts of the federal funds rate (percent)

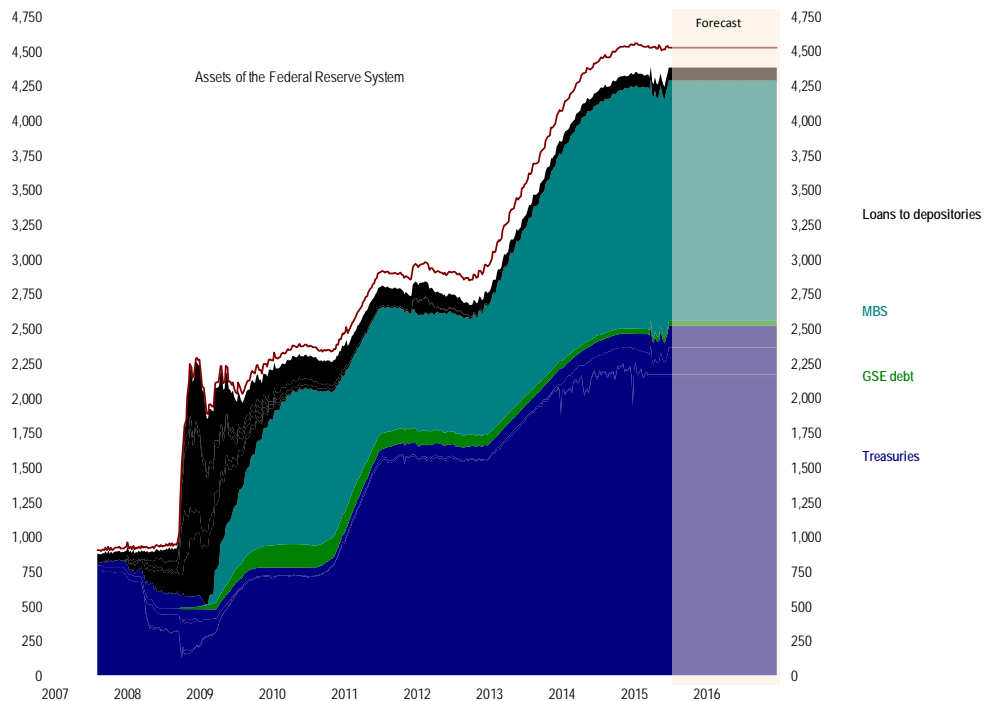


¹ Eurodollar futures rate less 1/8 percentage point.

Sources: FRB; Bloomberg. Updated through December 16, 2015 (FOMC) and January 22, 2016 (futures).

Then There's This ... the Fed Bought Assets ...

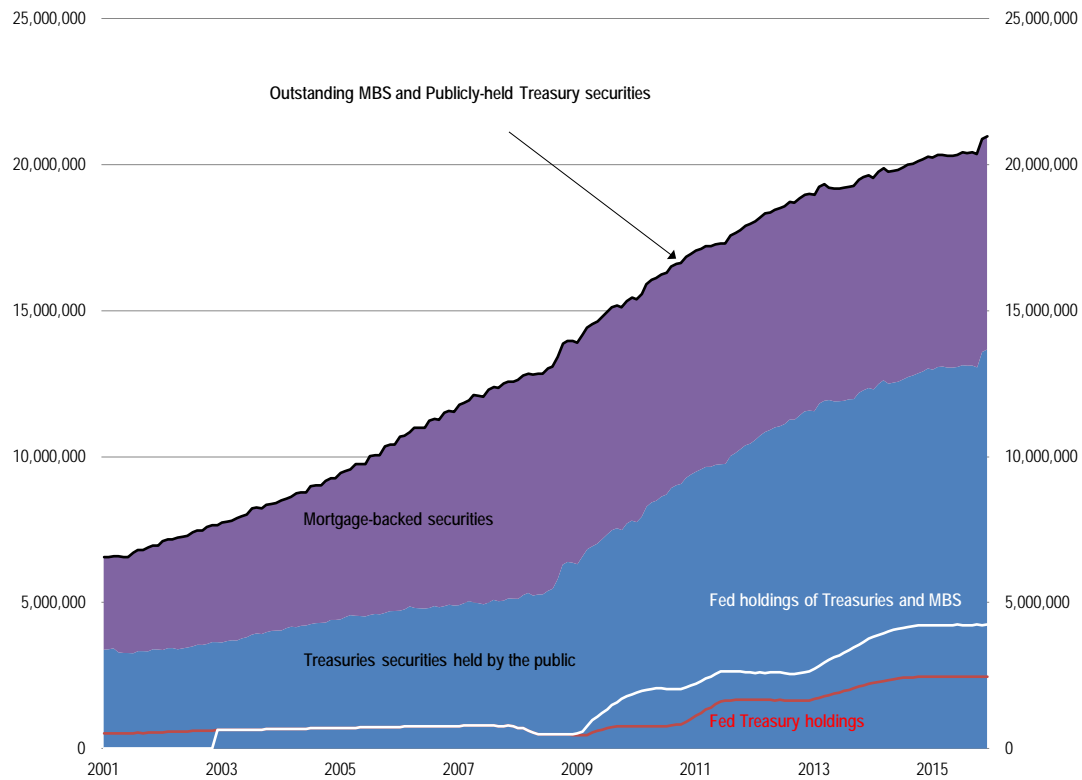
Assets held by the Federal Reserve (billions of dollars)



Source: Federal Reserve Board. Updated through December 2015.

... Shrinking Supply ...

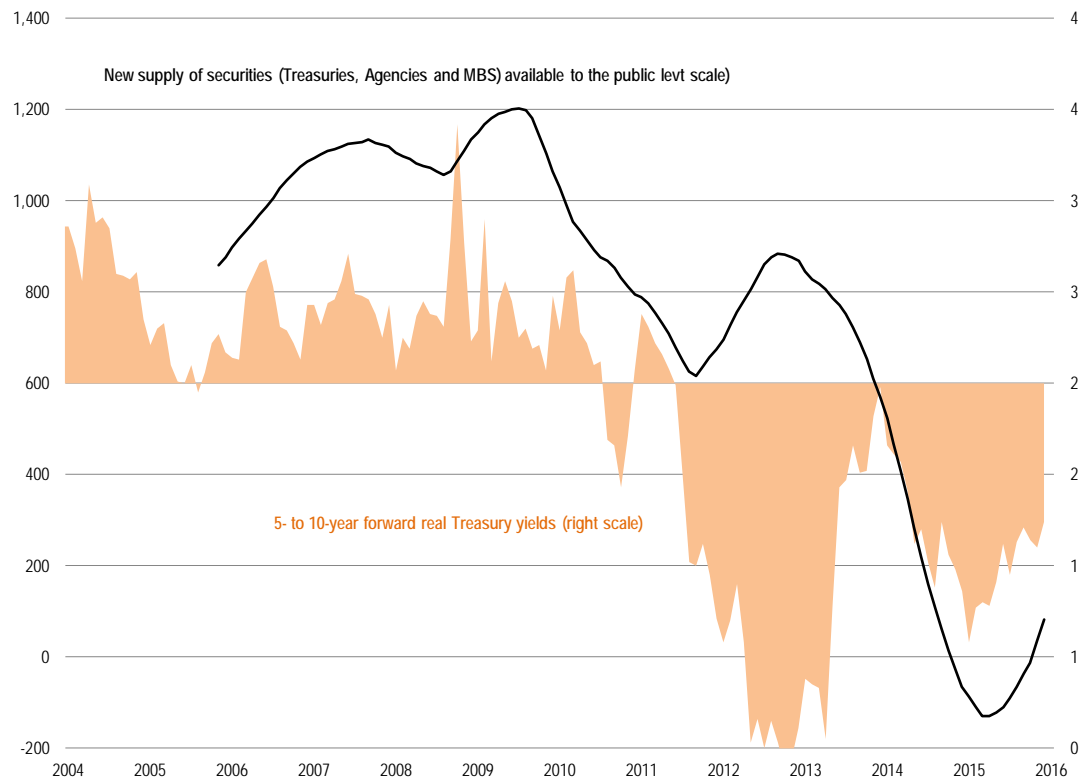
MBS and Treasury securities outstanding (thousands of dollars)



Sources: Haver Analytics; Federal Reserve Board. Updated through December 2015.

... that Is Available to the Public ...

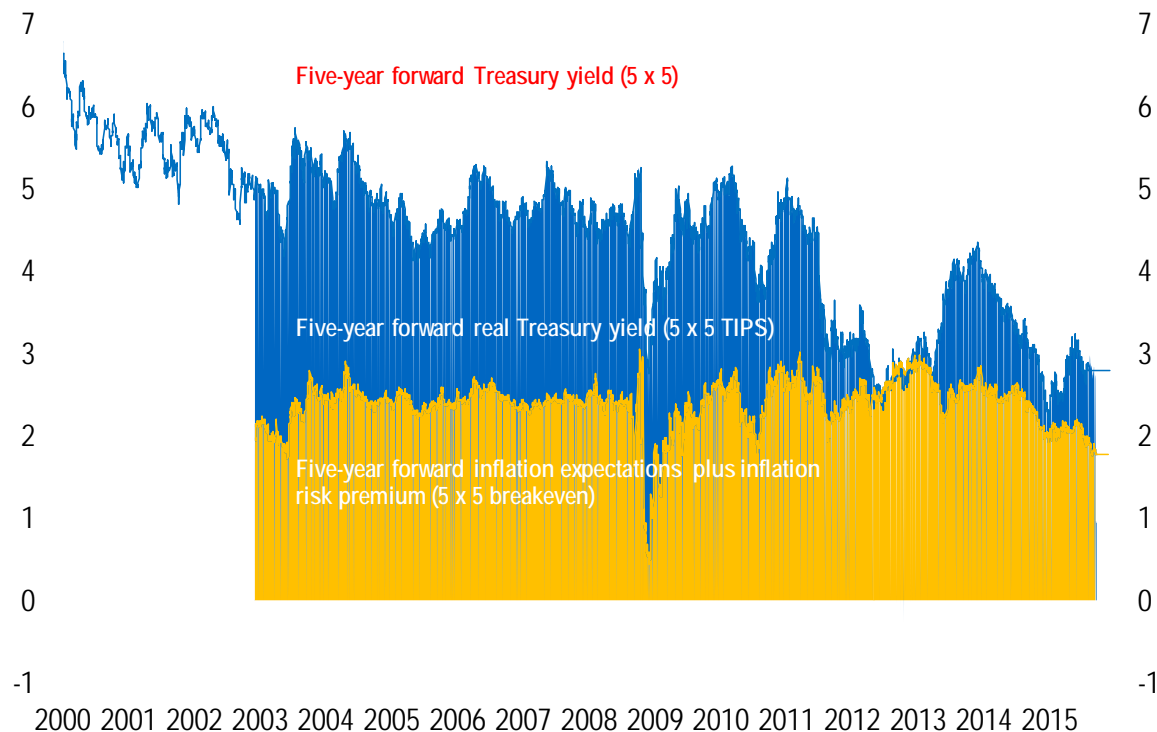
MBS and Treasury securities outstanding (thousands of dollars)



Source: Haver Analytics; Federal Reserve Board. Updated through December 2015.

That's Why Bond Yields Are Artificially Low

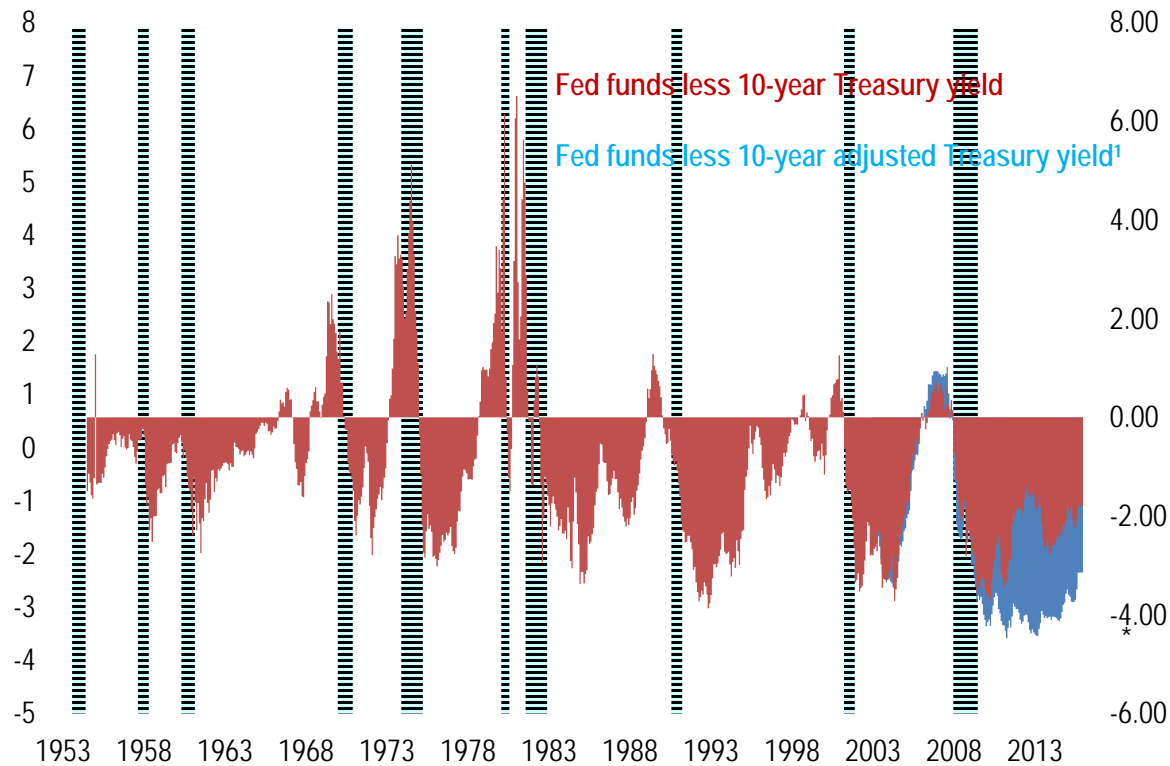
Real versus inflation components of future interest rates (percent per annum)



Source: Federal Reserve Board; Bloomberg. Updated through October 23, 2015.

That's Why the Yield Curve Isn't That Steep

Federal funds rate less 10-year Treasury yield (percentage points)



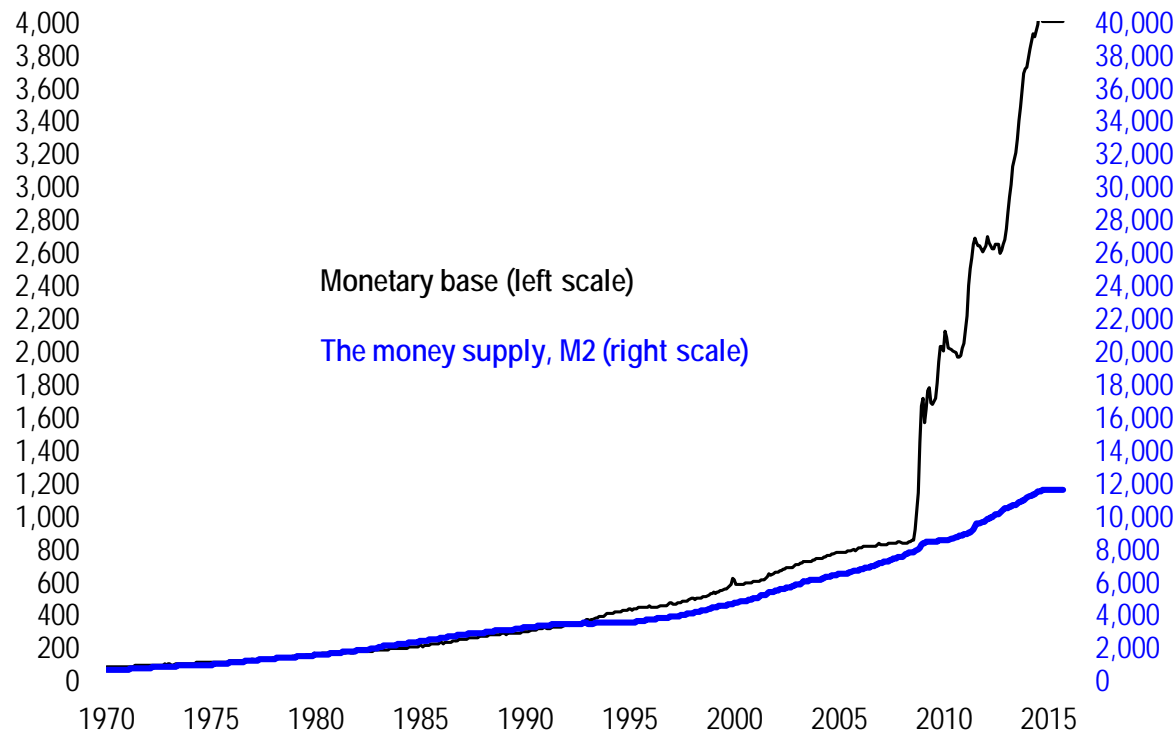
¹ Refers to the 10-year Treasury yield plus 2 percentage points less 10-year TIPS yield.

Source: Federal Reserve Board. Updated through March 2015.

P.S. QE Had Nothing to do With Money

Monetary base (billions of dollars)

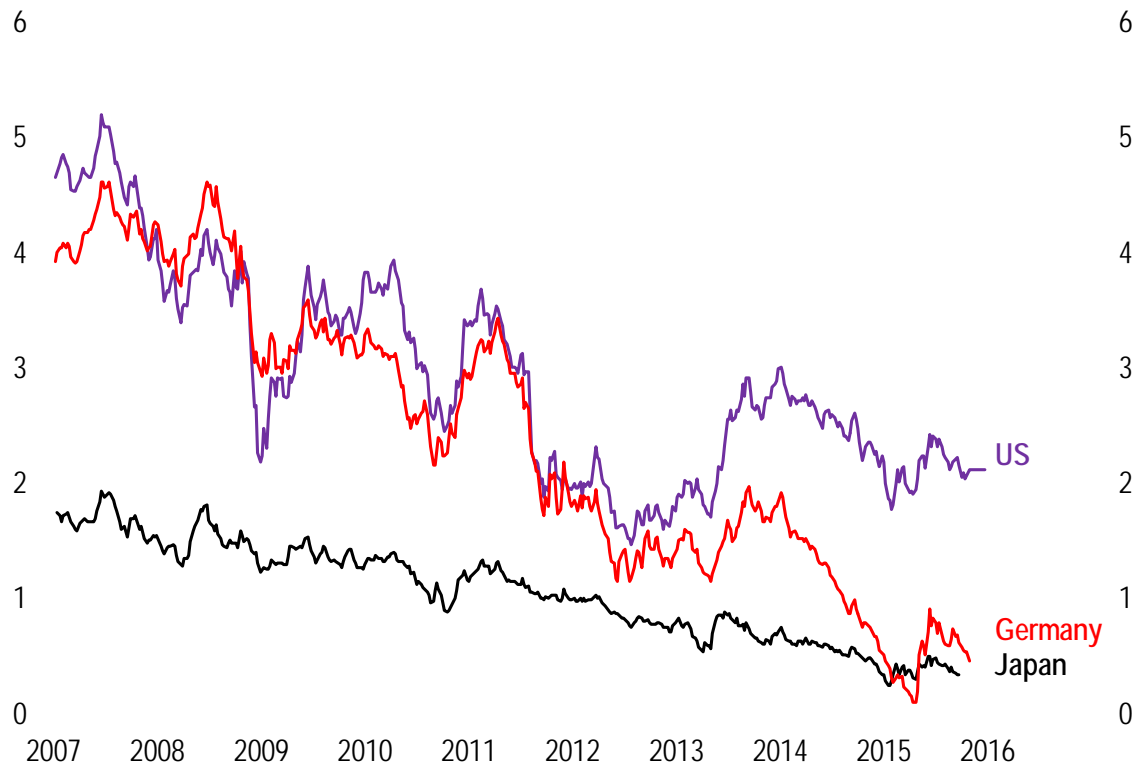
M2 (billions of dollars)



Source: Federal Reserve Board. Updated through October 2014.

Foreign QE Affects Us Too

10-year sovereign yields (percent per annum)



Sources: Bloomberg; Federal Reserve Board. Updated through September 25, 2015.

CONCLUSION: 7th INNING
(Extra Innings Likely)

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