

Money and Banking Conference 2017

Professor Martin Eichenbaum

Northwestern | Kellogg



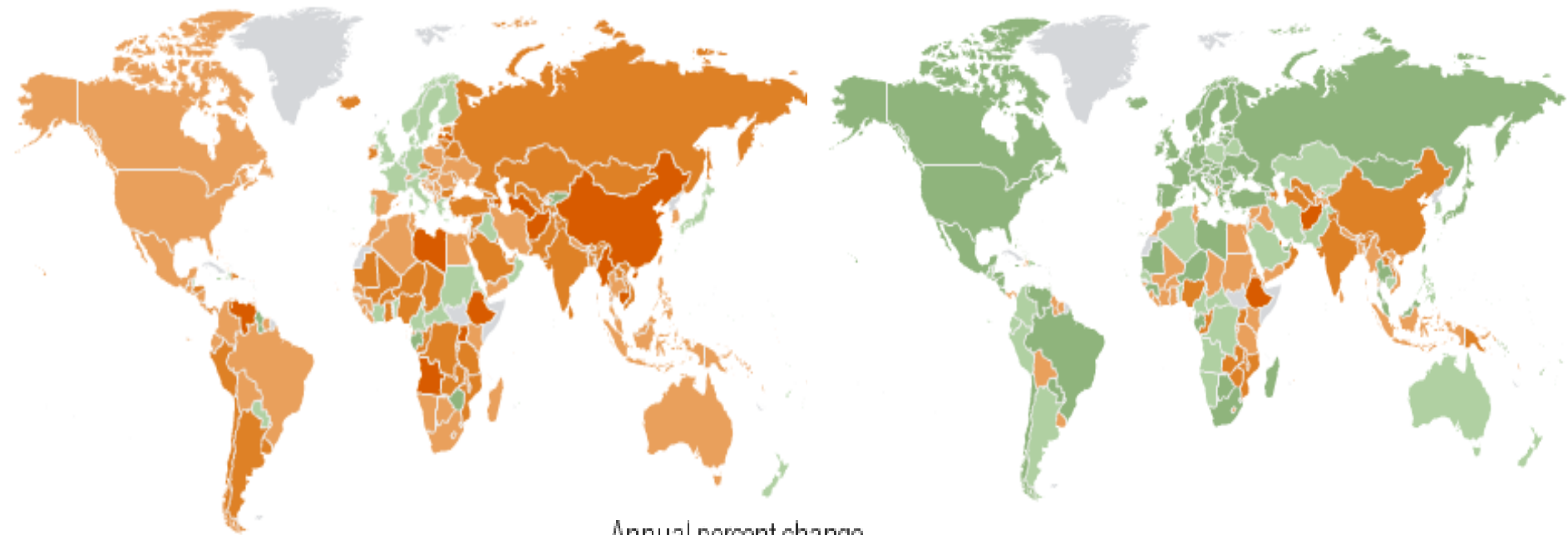
Overview

- Short-run outlook for U.S. Economy.
- Why has the recovery from the Great Recession been so weak?
- Why are real interest rates on a secular decline?
 - Secular stagnation.
 - Implications for monetary policy.
- Tail-side risks to growth:
 - Tax cuts and trade wars.

Background: the prelude and the Great Recession

2005

2009



Annual percent change



Source: FMI DataMapper

The Great Recession was a global phenomenon

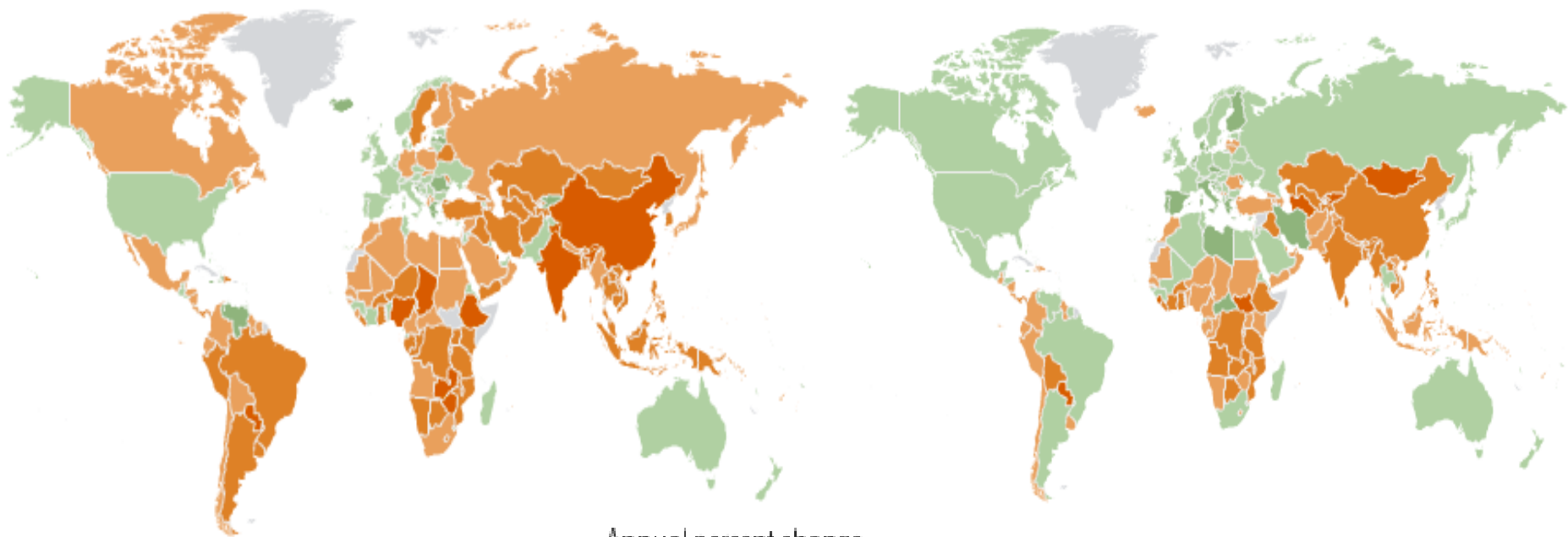
Annual percent change in output

	2006	2007	2008	2009
World output	5.2	5.4	2.9	-0.5
United States	2.7	1.9	0.0	-2.6
Euro area	3.1	2.9	0.4	-4.1
Russia	8.2	8.5	5.2	-7.8
China	12.7	14.2	9.6	9.2
India	9.7	9.9	6.2	6.8
Middle East	5.8	6.2	5.1	1.8
South America and Mexico	5.5	5.7	4.2	-2.7
Argentina	8.5	8.7	6.8	-2.5

The global economy: grappling with the Great Recession and the Euro Crisis

2010

2012



Annual percent change

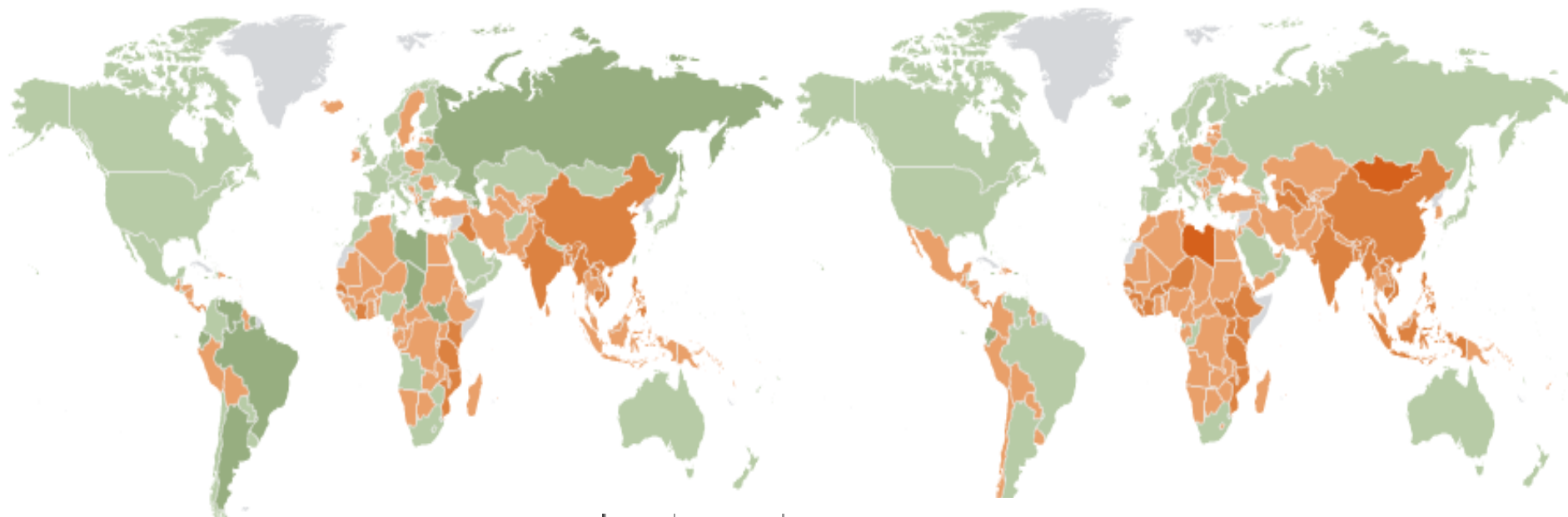


Source: FMI DataMapper

The global economy: where are we going?

2016

2020



Annual percent change



Source: FMI DataMapper

Looking forward, real GDP growth projections

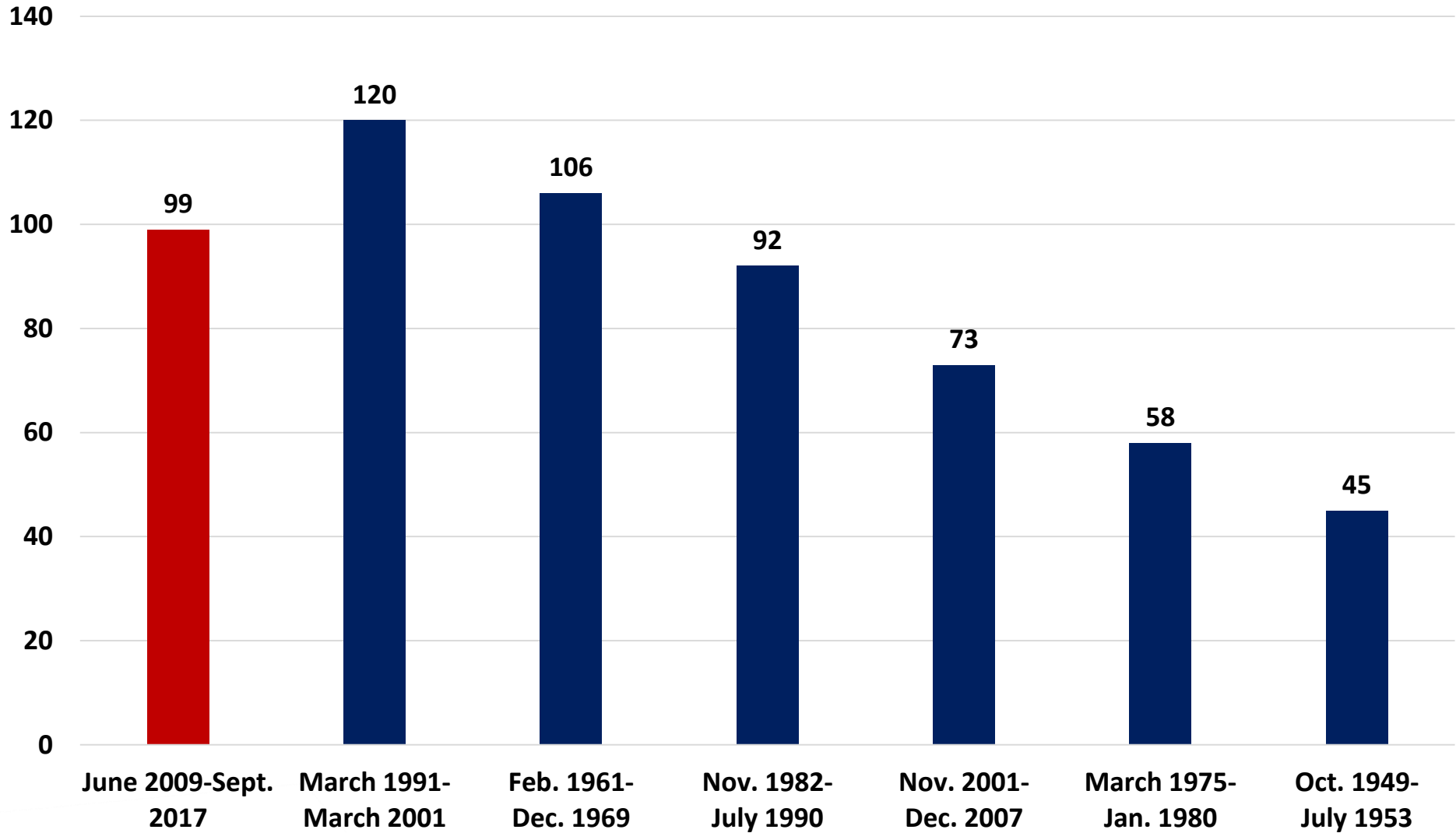
	2016	2017	2018
World output	3.2	3.5	3.6
U.S.	1.6	2.1	2.1
Euro area	1.8	1.9	1.7
Latin America and the Caribbean	-1.0	1.0	1.9
Argentina	-2.3	2.5	3.1
Japan	1.0	1.3	0.6
China	6.7	6.7	6.4

Source: IMF WEO update July 2017, Argentina projection OECD, June 2017

Focusing on the U.S.

- We're in a recovery.
- But it's an **unusually weak** recovery
- The central question
 - Does this weakness reflect transitory forces or more fundamental forces sometimes referred to as **'secular stagnation'**?

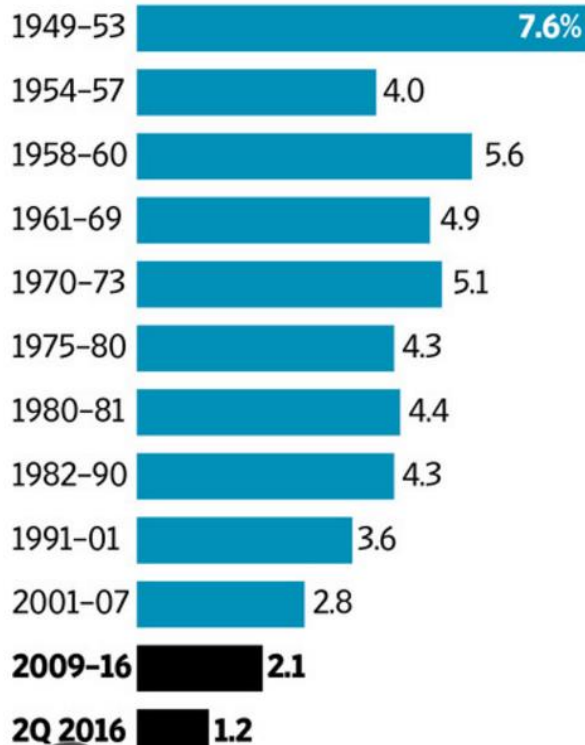
Length of expansions: current vs. Previous five longest expansions



Current expansion: unusually mild

Underwhelming Growth

Average GDP growth during each expansion, at an annualized rate



Not all figures are adjusted for inflation and seasonality
Source: Commerce Department

Notable contributions to Q2 growth

CONSUMER SPENDING
+2.83 pct. pts.

NET TRADE
+0.23 pct. pts.

GOVERNMENT SPENDING
-0.16 pct. pts.

RESIDENTIAL INVESTMENT
-0.24 pct. pts.

BUSINESS INVESTMENT
-0.28 pct. pts.

CHG. IN PRIVATE INVENTORIES
-1.16 pct. pts.

THE WALL STREET JOURNAL.

U.S. Projections

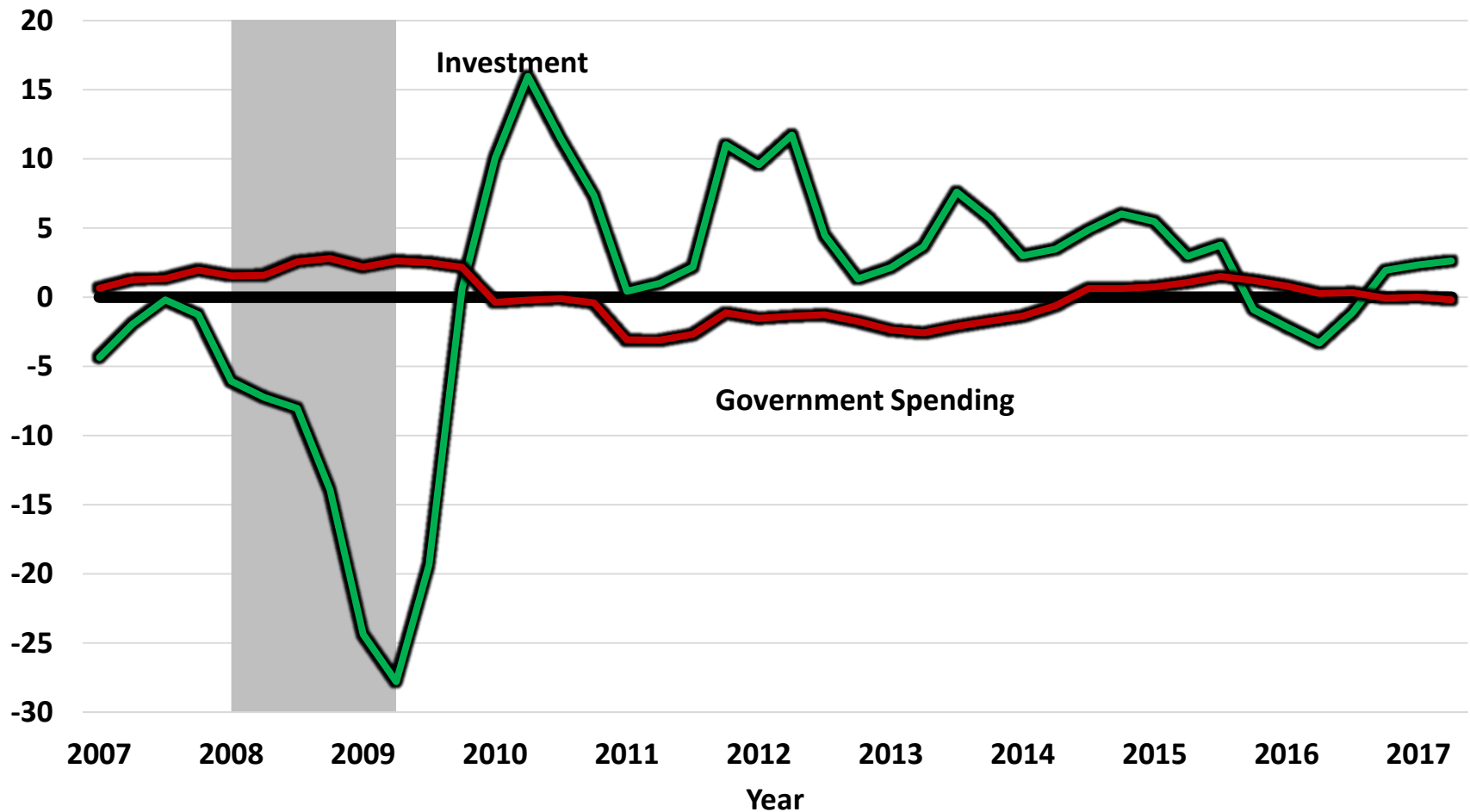
The survey of professional forecasters, August 2017

	Real GDP (%)	Unemployment Rate (%)	Inflation Core (%)
2017	2.1	4.5	2.2
2018	2.4	4.3	2.3
2019	2.2	4.4	2.4
2020	2.0	4.5	N.A.

Why has consumption has grown at an annual rate of 3% since 2014 but GDP has only grown at 2%?

- $GDP = C + I + G + NX$
- Investment weakness, corporations sitting on record-breaking profits (as share of GDP).
 - Dividends, share buy-backs.
- Government spending weakness
 - Republican Congress forced spending cuts in 2012-13.
 - State and local cutbacks after recession.

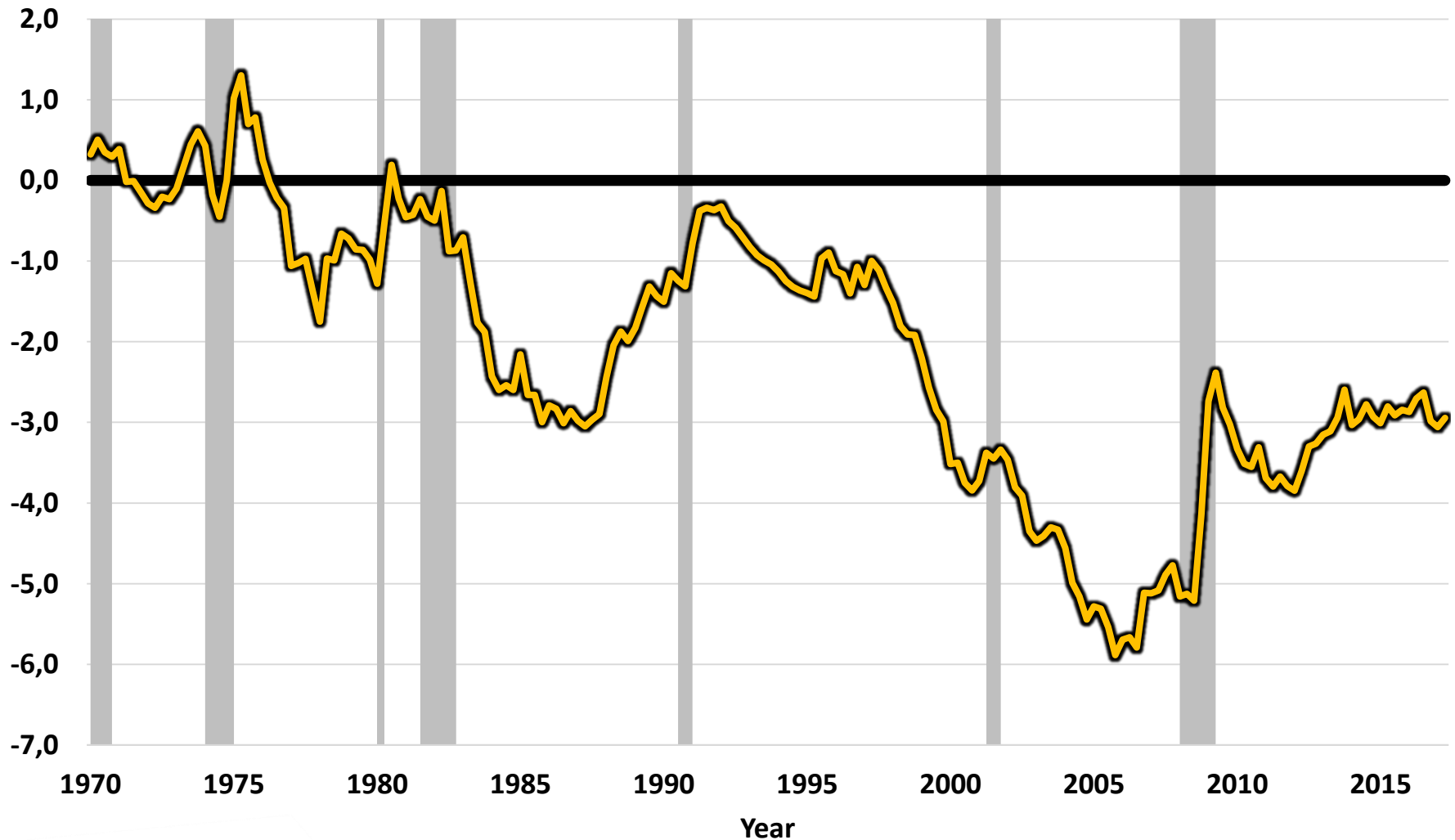
Growth in fixed investment and government spending, 2007-17



Productivity and Investment

- Productivity growth of 0.6 percent for seven years since mid-2010.
- Bob Gordon forecast for next 25 years (!) is 1.2 percent.
- Big question: as labor markets tighten, will firms buy robots and other capital to replace workers?
- This would lead to faster growth via a pickup in investment.
- Evidence that trend productivity growth is faster when unemployment is low (the 1960s and 1990s).

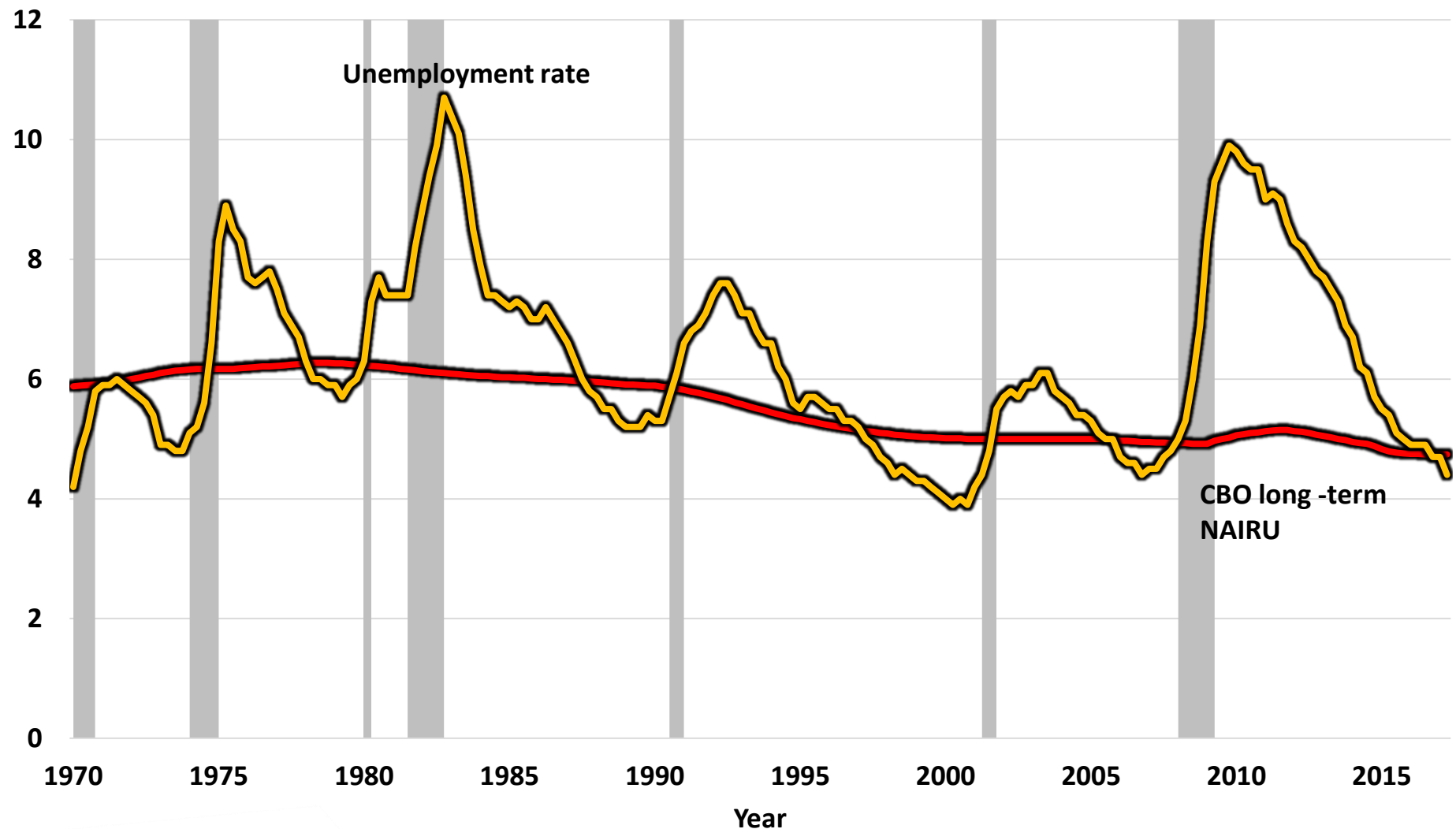
Net Exports as a Share of GDP, 1970-2017



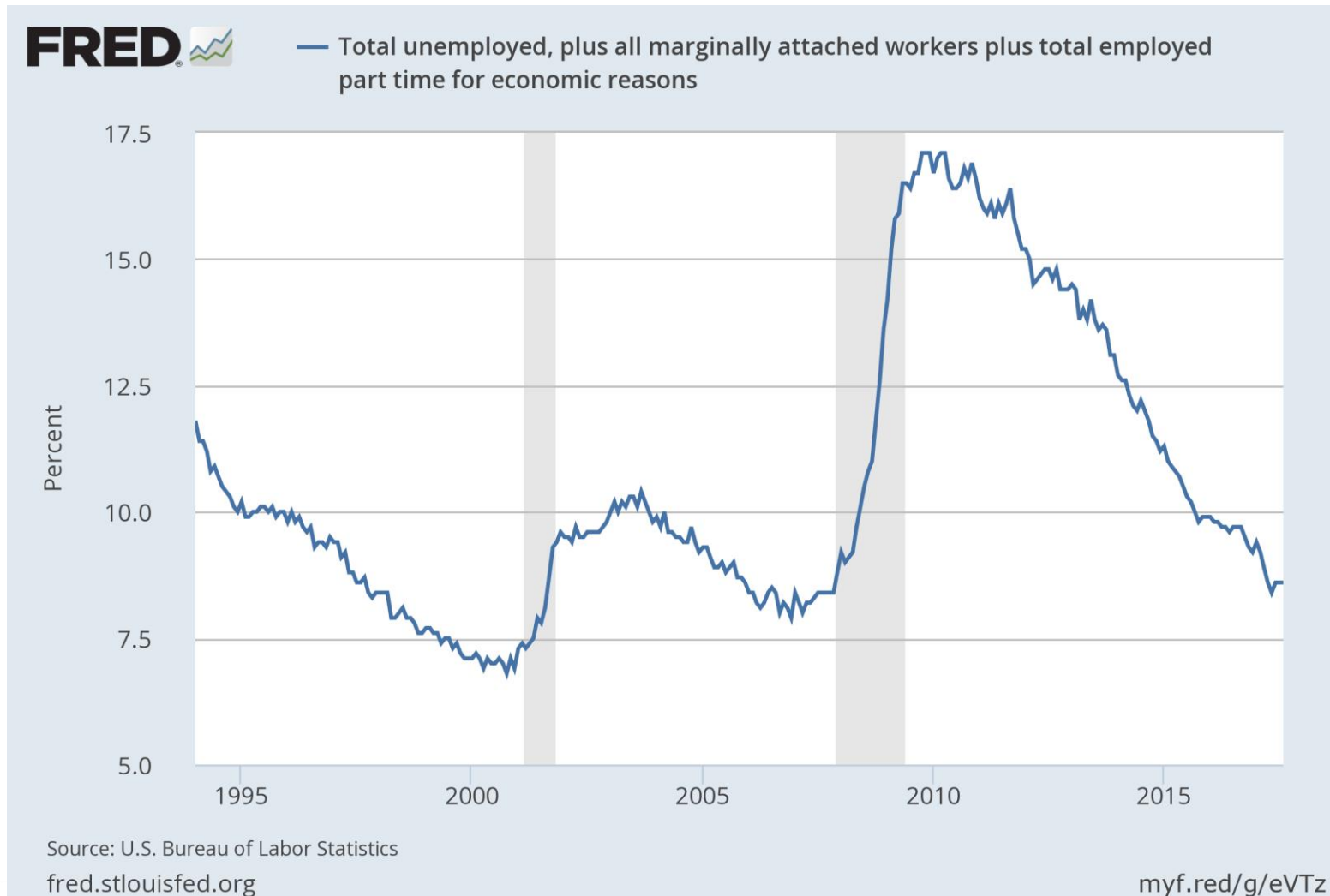
Strong labor markets and the peculiar behavior of U.S. inflation

- Unemployment rate has fallen from 10 percent in October 2009 to 4.4 percent in August 2017.
- Below most estimates of the NAIRU.
- But inflation isn't accelerating as in past expansions

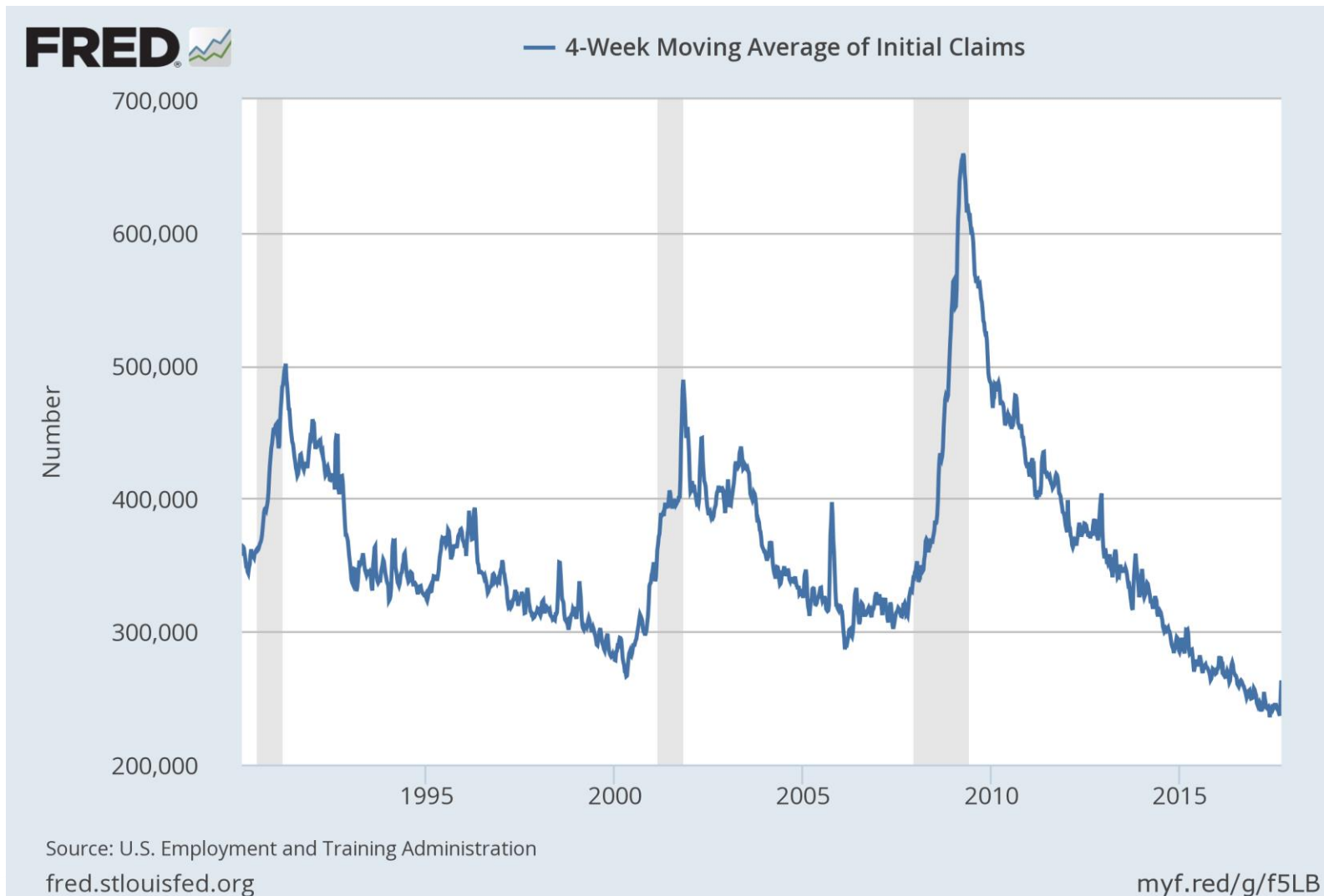
The headline unemployment rate and NAIUR, 1970-2017



Broad measure of unemployment

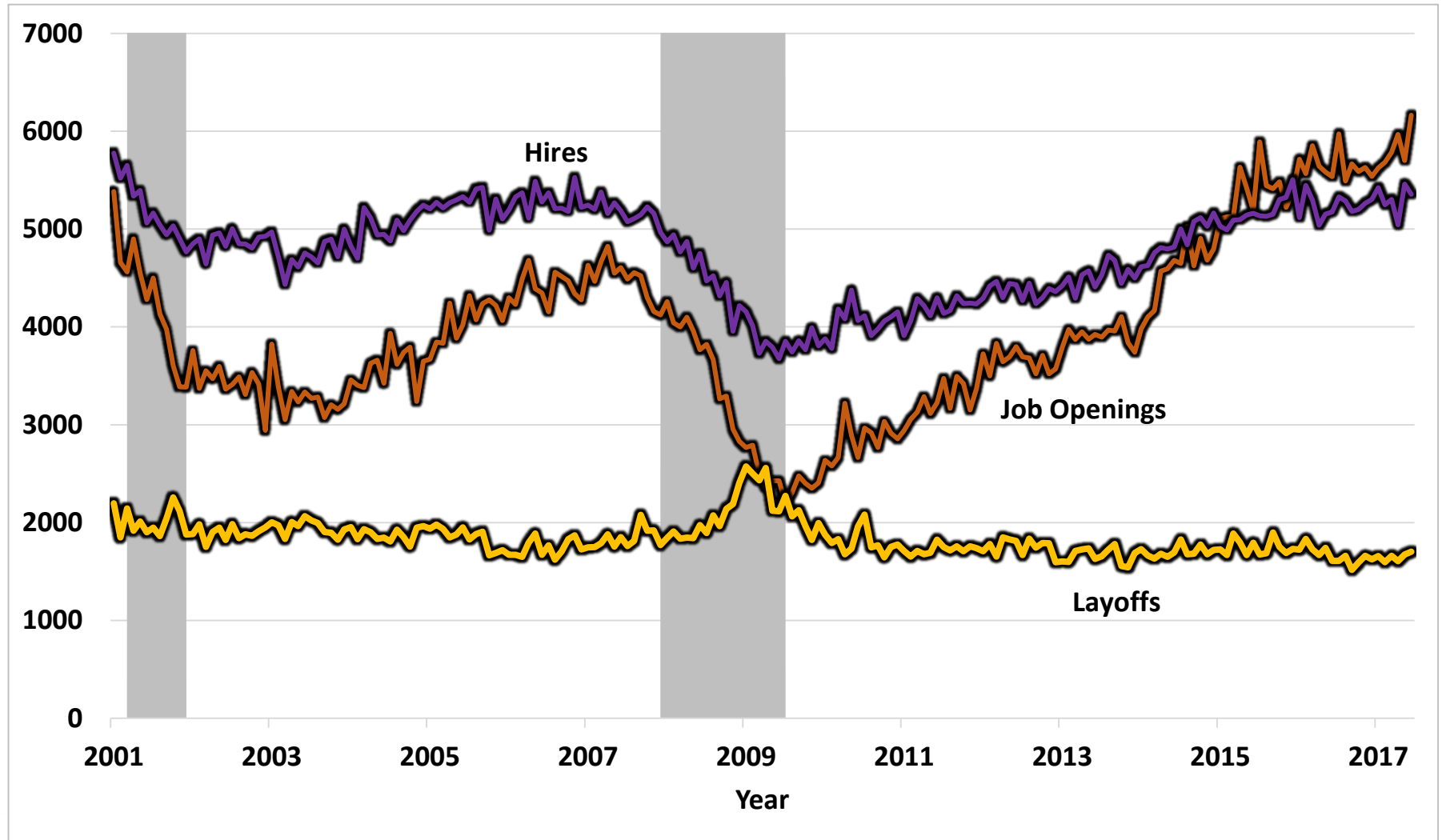


New claims for unemployment insurance

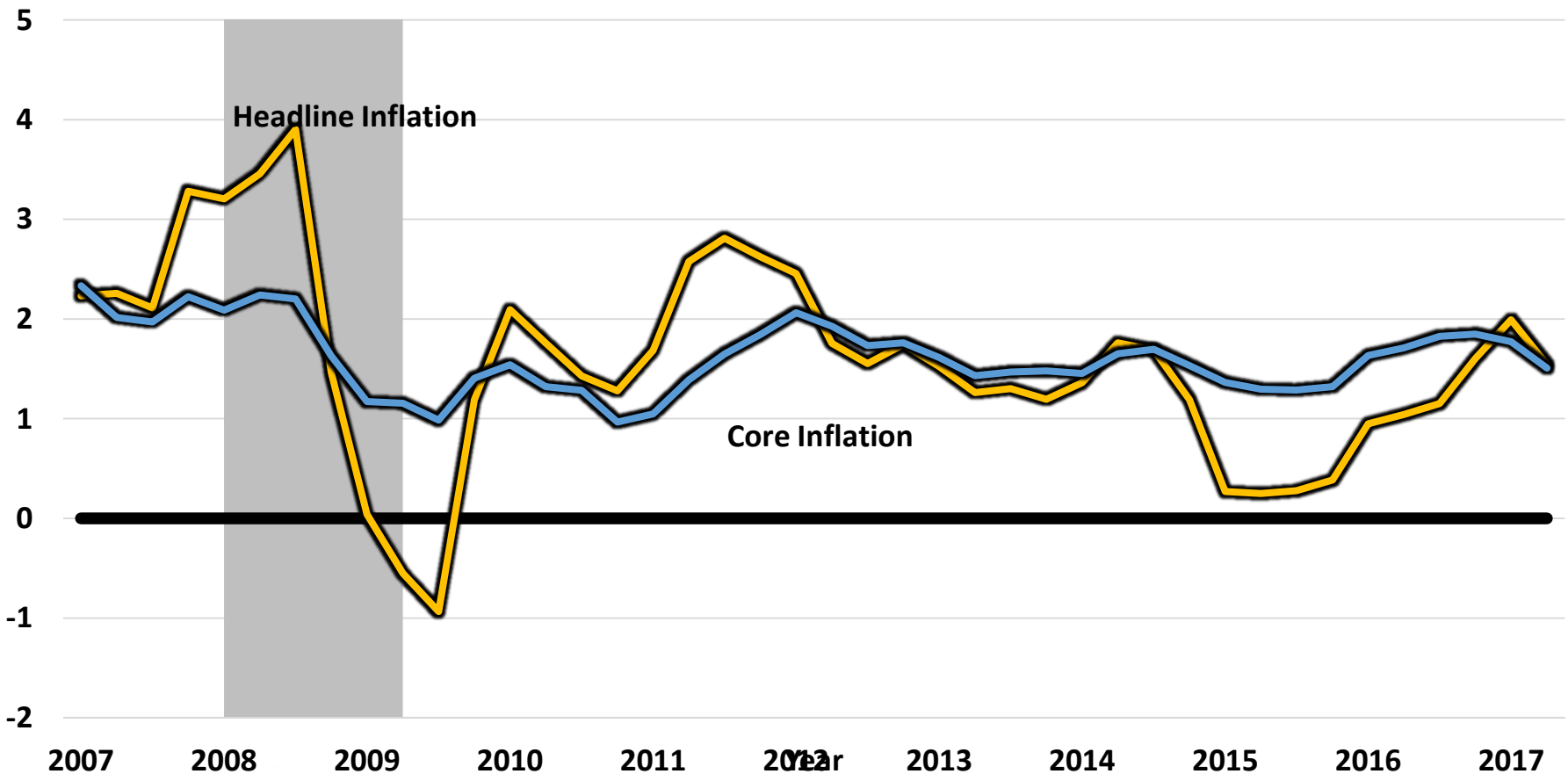


Job openings, layoffs, hires: Labor market tighter than 2007

Level in thousands

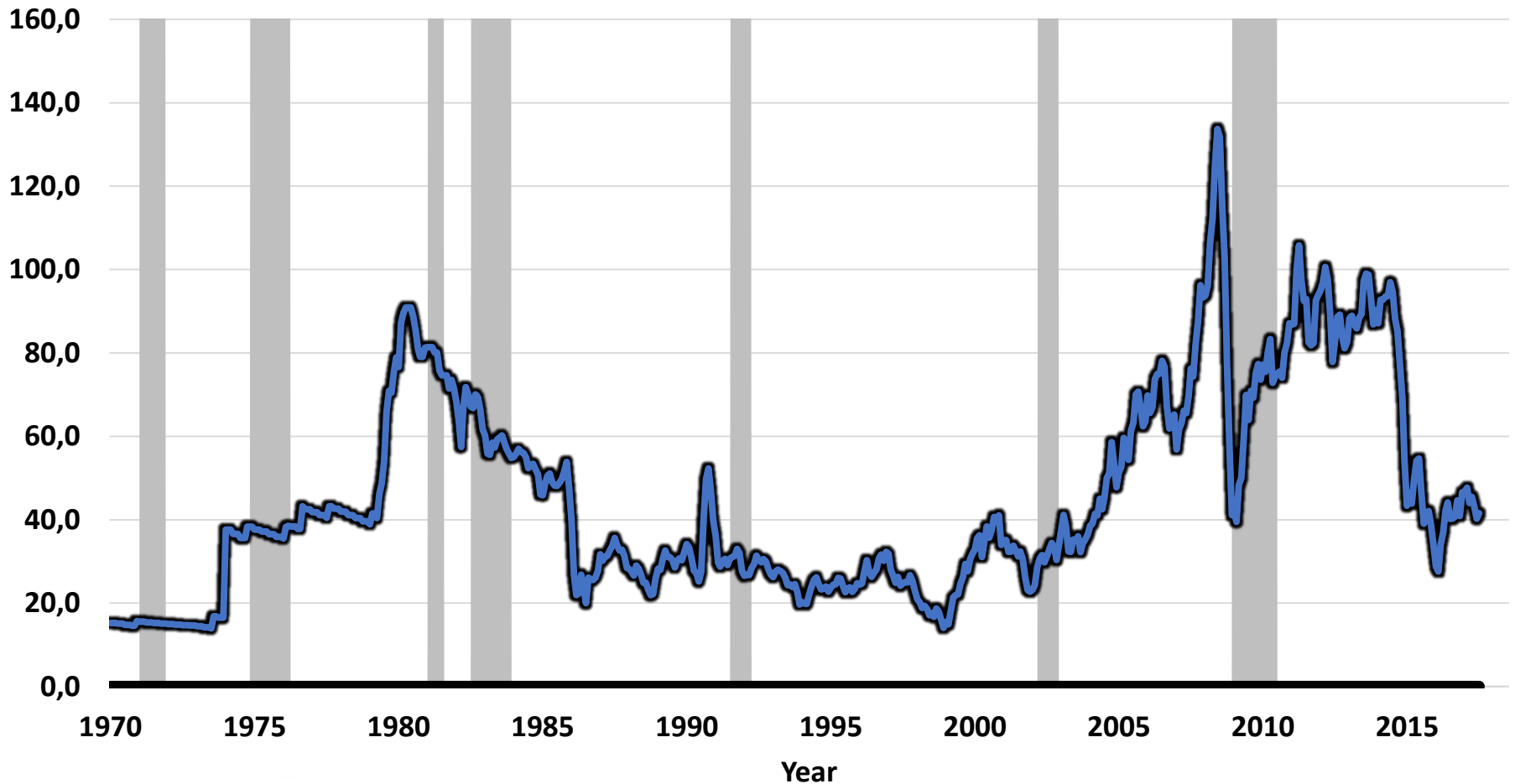


Despite the strong labor market, inflation has remained low



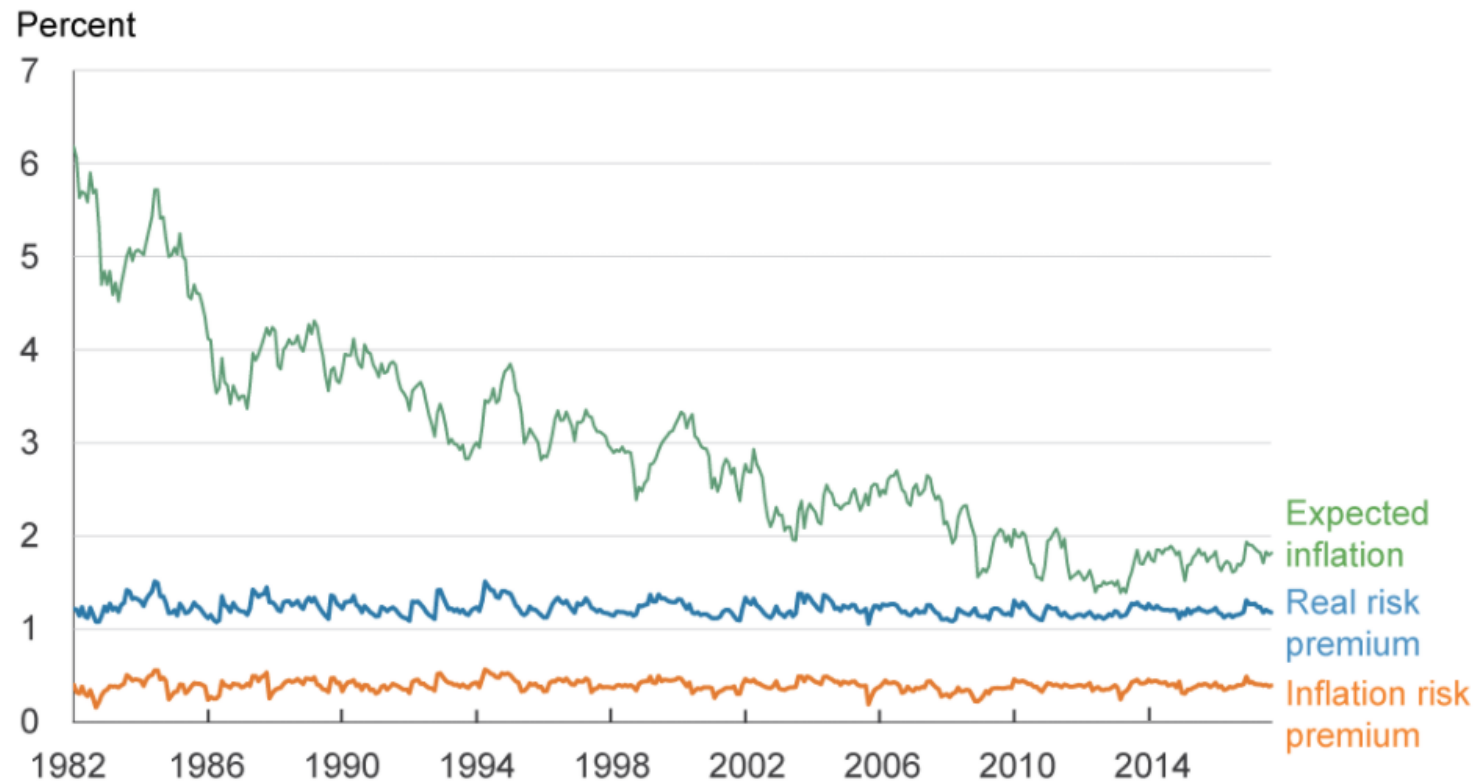
Oil and inflation

Price of oil in 2009 dollars

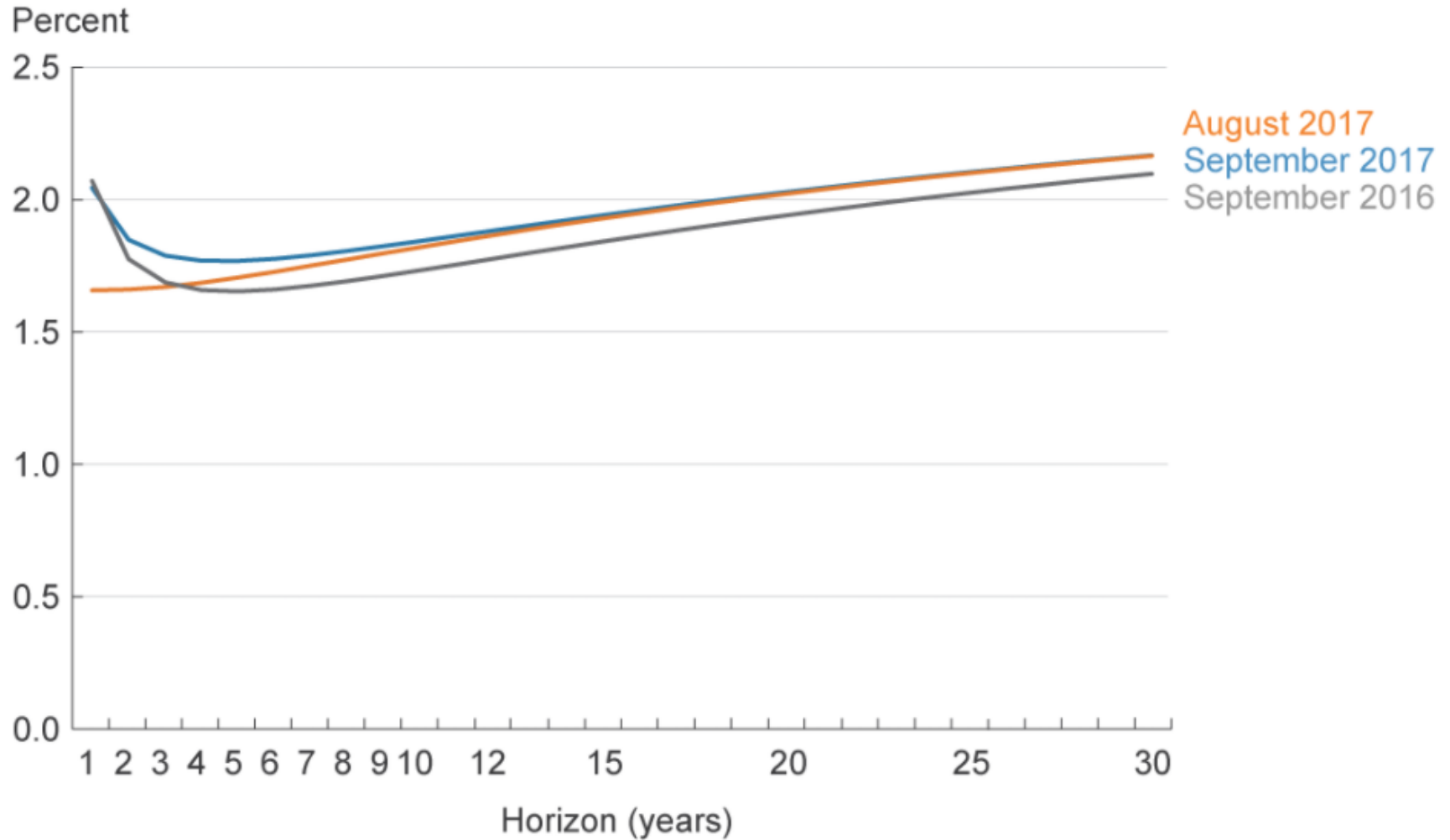


Inflation expectations computed by the Cleveland Fed, Sept 2017

Ten-Year Expected Inflation and Real and Inflation Risk Premia



Expected Inflation Term Structure Cleveland Fed, Sept 2017



For GDP to return to old growth rate of 3%, hours would have to grow at 2%

- Unlikely that productivity will speed up in the short-run, so growth will have to come from hours worked.
- Past Year:
 - Population +0.6%
 - Labor Force +0.8%
 - Hours +1.3%
- How low can unemployment go?
 - 3.8% April 2000, 3.4% Fall-Winter 1968-69
- Possible sources of additional labor supply
 - Prime-age labor force participation.
 - Employees working part-time who want full-time work.

Short-term outlook for monetary policy

- Strong support for tighter labor markets to attract labor force dropouts.
- In the absence of a significant upturn of inflation, Fed will slow pace of rate increases.
- Consensus forecast for mid-2019, Federal Funds rate of 2.7% to 3.0%.
- Fed will begin to run down balance sheet.
- A lot depends on how expansionary fiscal policy will be (tax cuts/ reforms).

Why has the recovery been so weak and why are interest rates so low?

The optimistic view

- Consumers entered crisis with high leverage which they're *slowly* winding down.
- Monetary policy isn't very effective at the zero lower bound.
- Fiscal policy hasn't been sufficiently expansionary.
- Uncertainty about future government policy and the effects of over-regulation.
- Uncertainty about future demand, here and abroad has led to extremely low investment levels.

Why has the recovery been so weak and why are interest rates so low?

The pessimistic view

- The major economies, including the U.S., are experiencing a very persistent decline in underlying growth rates associated with very low interest rates.
 - Secular stagnation
- Supply-side considerations
 - Declining population growth rates.
 - Declining growth rate of productivity.
 - Declining labor force participation rates.
- Demand-side considerations
 - Declining investment rates relative to high savings rates.
 - Persistent shortfalls in aggregate demand (Summers).
- Demand-based stories seem increasingly unlikely tens years after the financial crisis and with the U.S. at historically low levels of unemployment.

Declining growth rates

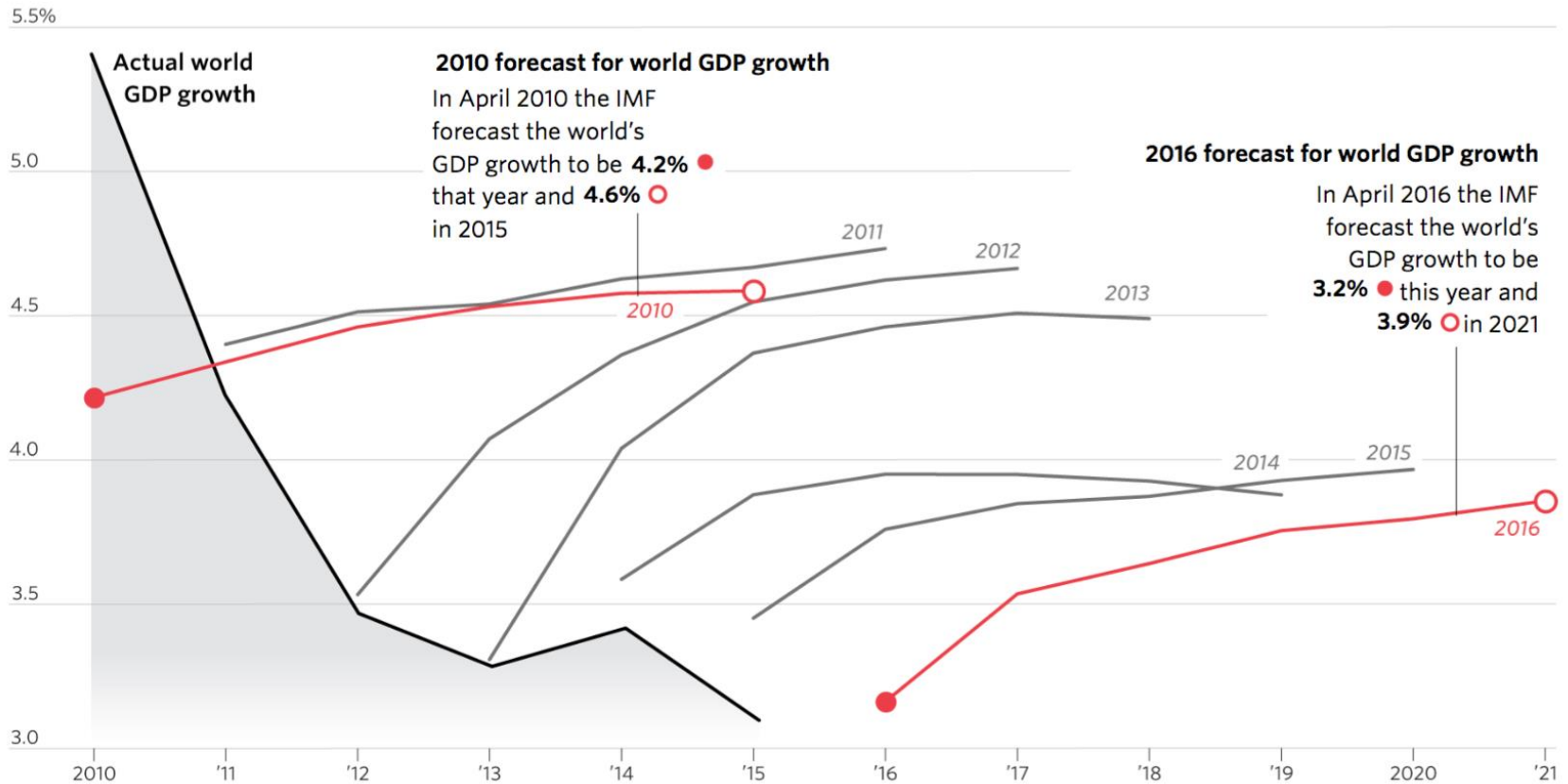
IMF Real GDP Growth Projections

	1999-2008	2022
United States	2.6	1.7
Euro Area	2.1	1.7
Japan	1.0	0.6
Russia	6.9	1.5
China	10.1	5.7
India	6.9	8.2
Latin America	3.3	2.6
Argentina	2.6	3.1

Source: IMF, April 2017

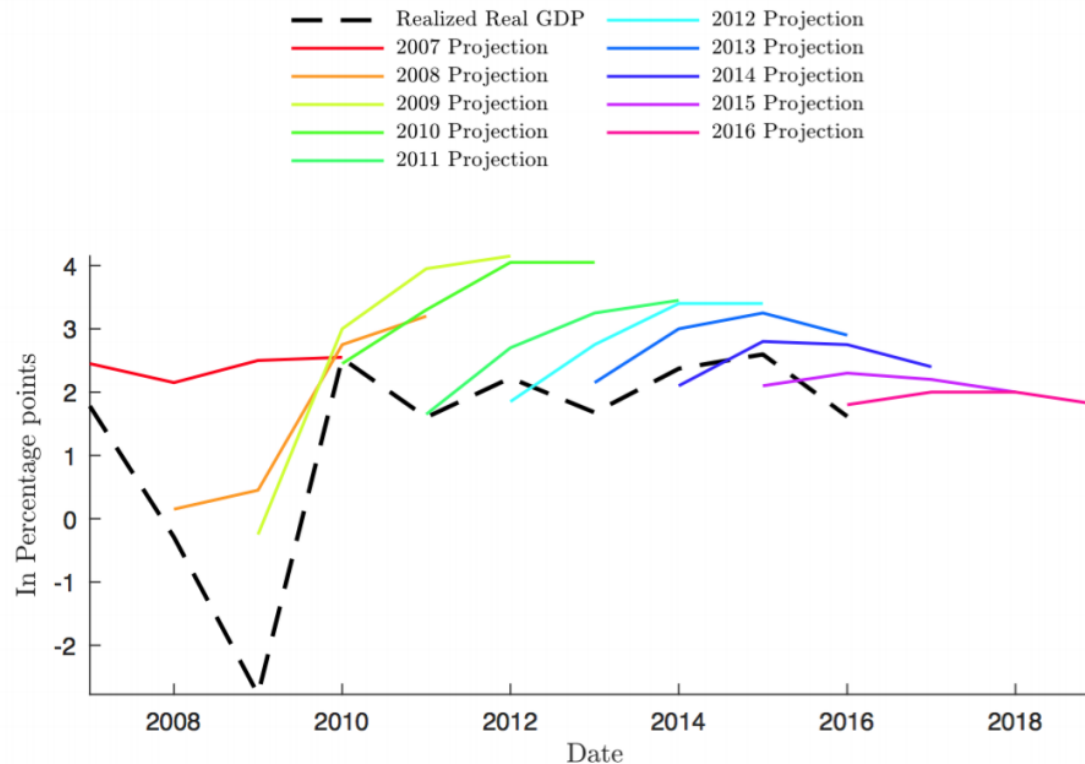
Persistent downward revisions in forecasted output growth

Forecasts are shown for the forecasting year and the next five years. Forecasts are made in April of each year.



Source: International Monetary Fund

Similar pattern for FRB forecasts growth rate of real U.S. GDP



Source: FRED, Board of Governors of the Federal Reserve System

Nominal interest rates are on a secular decline

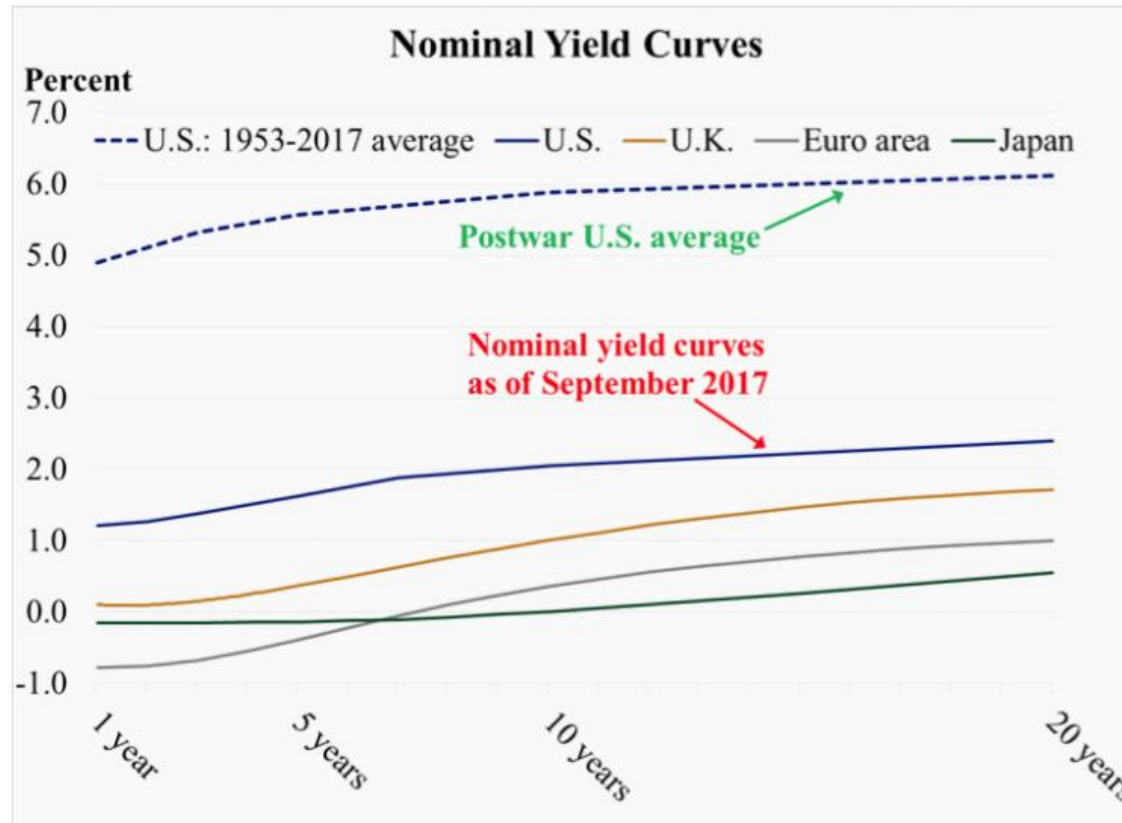


FIGURE: Source: Federal Reserve Board, U.S. Department of the Treasury, Bank of England, European Central Bank and Japan's Ministry of Finance. Last observation: September 7, 2017.

Real interest rates are on a secular decline

Ten-Year TIPS Yields versus Real Yields

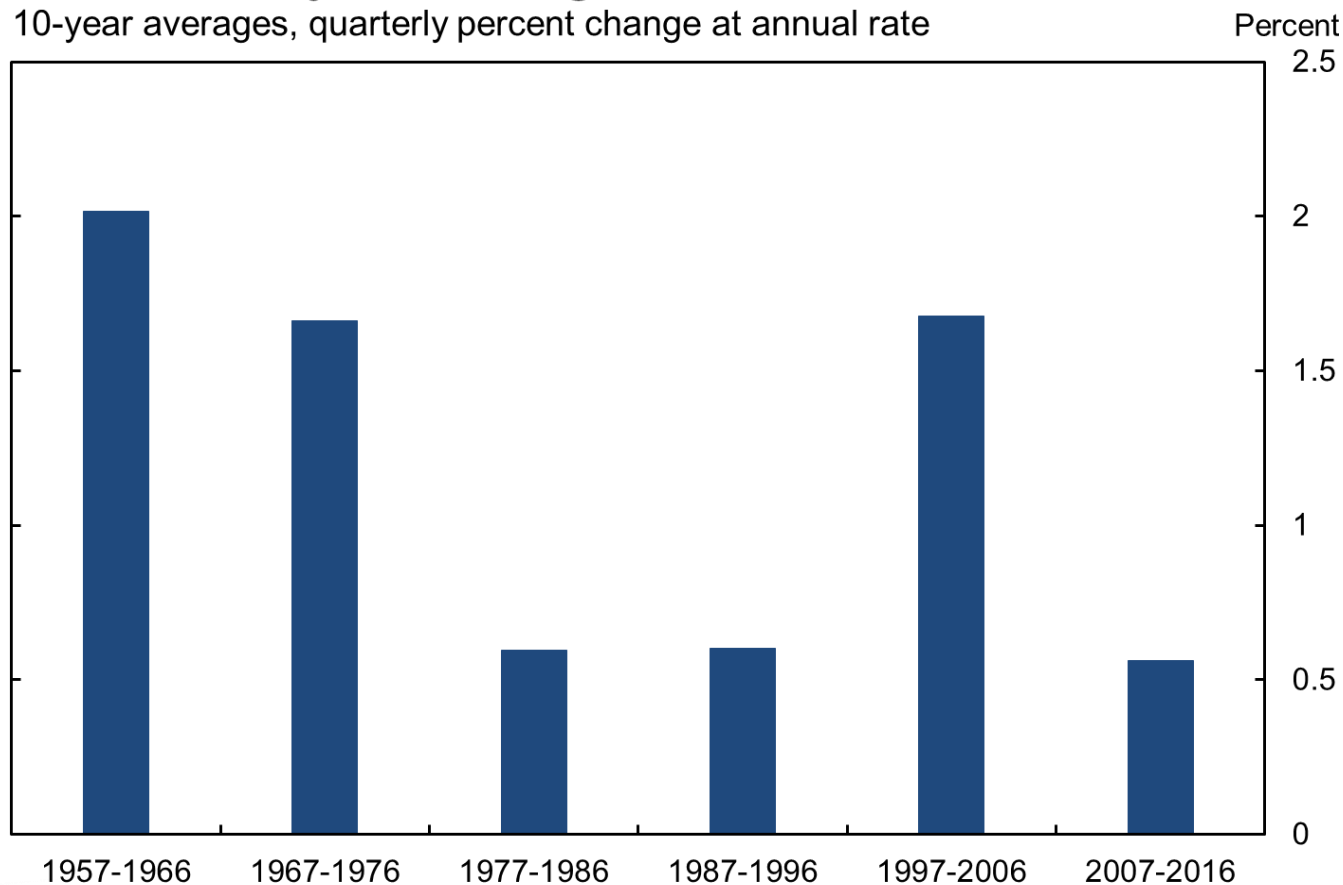


Source, Cleveland Fed, Sept 2017

Key contributing factor to declining growth and real interest rates: slowdown in TFP growth

Utilization-adjusted TFP growth

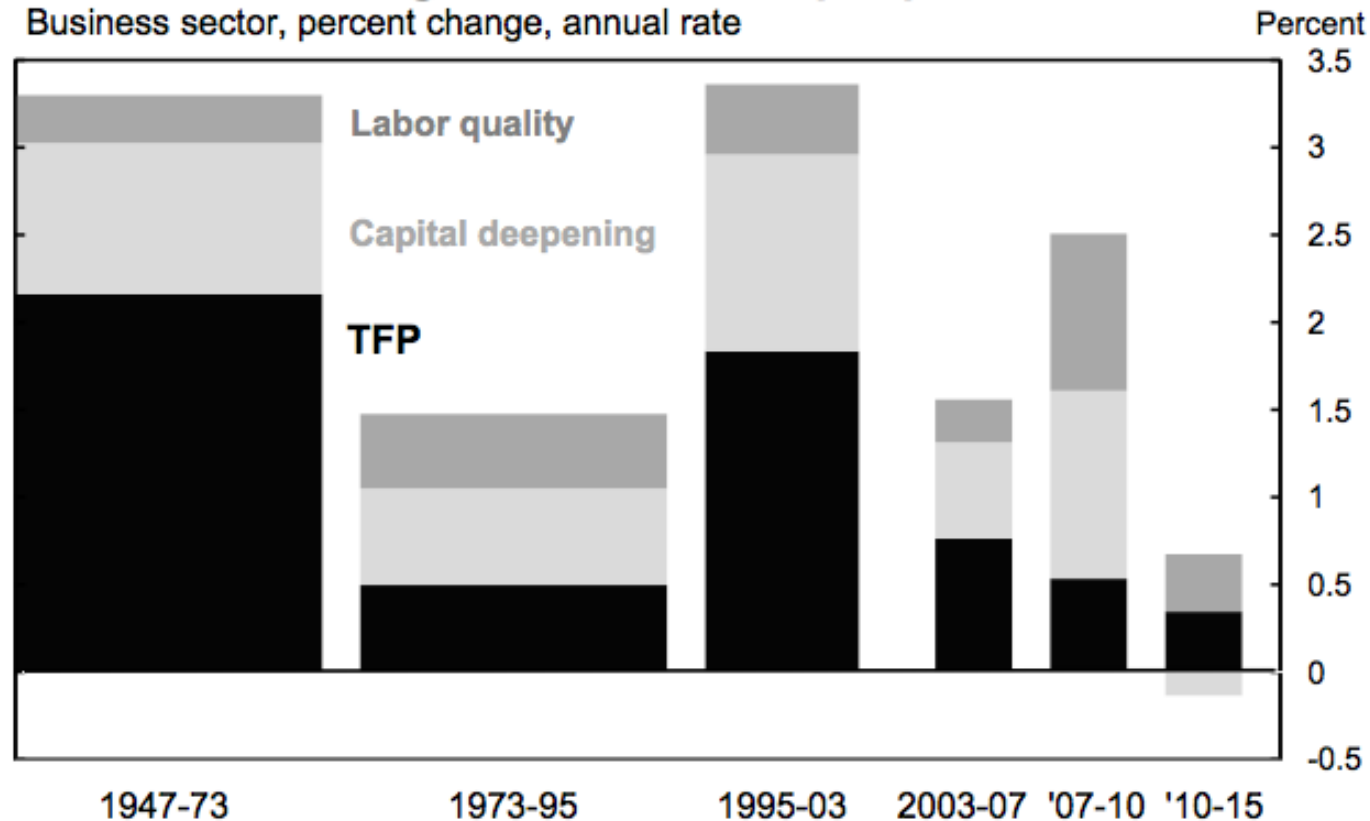
10-year averages, quarterly percent change at annual rate



Productivity growth in the U.S. business sector

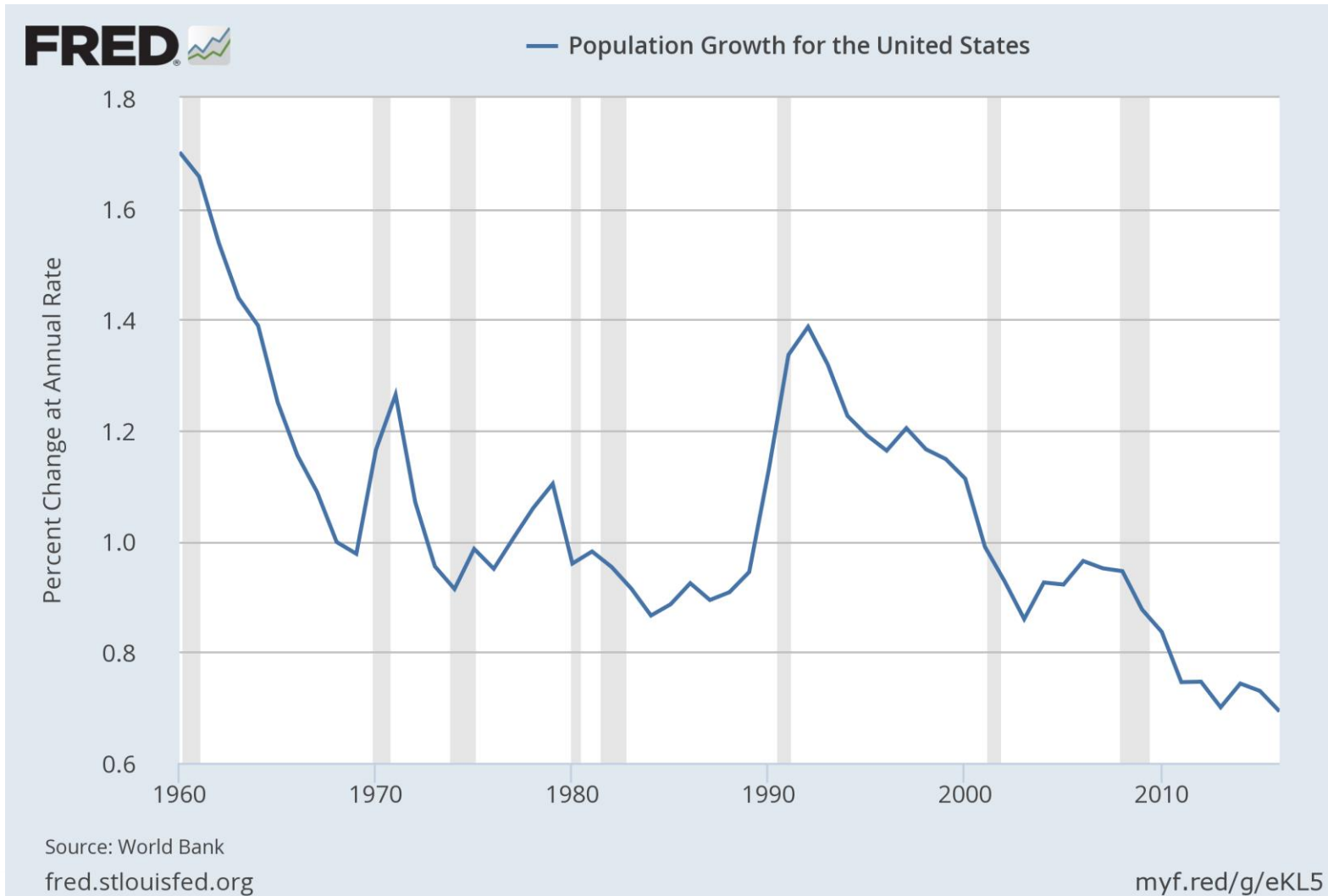
Contributions to growth in U.S. output per hour

Business sector, percent change, annual rate



Source: Fernald (2014a). Quarterly; samples end in Q4 of years shown except 1973 (ends Q1). Capital deepening is contribution of capital relative to quality-adjusted hours. Total factor productivity measured as a residual.

Key contributing factor to declining growth and real interest rates: Declining population growth rates



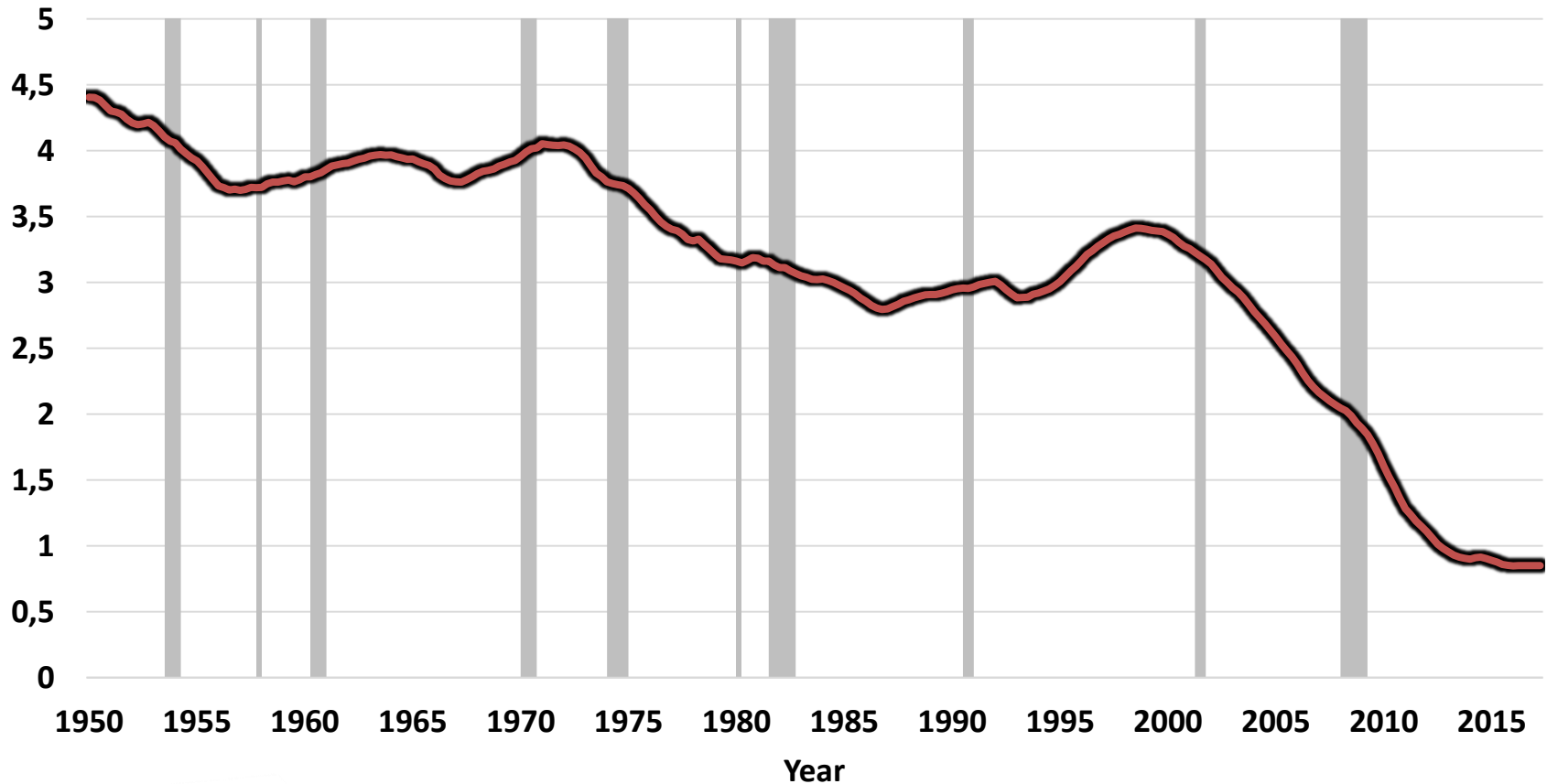
How fast can the U.S grow?

Supply side constraints

- 2.1 percent GDP growth since 2009 made possible by a decline in unemployment rate from 10% to 4.4%.
- At some point the unemployment rate will stop declining.
- How fast can the economy growth with a constant unemployment rate?
- Actual growth rate 2006-2016 = 1.3%
 - Productivity Growth 0.9%
 - Hours Growth 0.4%

GDP Growth at a Constant Unemployment Rate, 1950-2017.

R.J. Gordon's estimate of growth rate that the economy would achieve if it were always operating at the NAIU with no deviations of the unemployment rate from the NAIU.



Secular stagnation and interest rates

- Lower output growth is associated with lower `normal' real interest rates.
- The Fed is raising nominal interest rates.
- But we won't go back to the old normal: nominal rates will remain low by historical standards.
- Why?

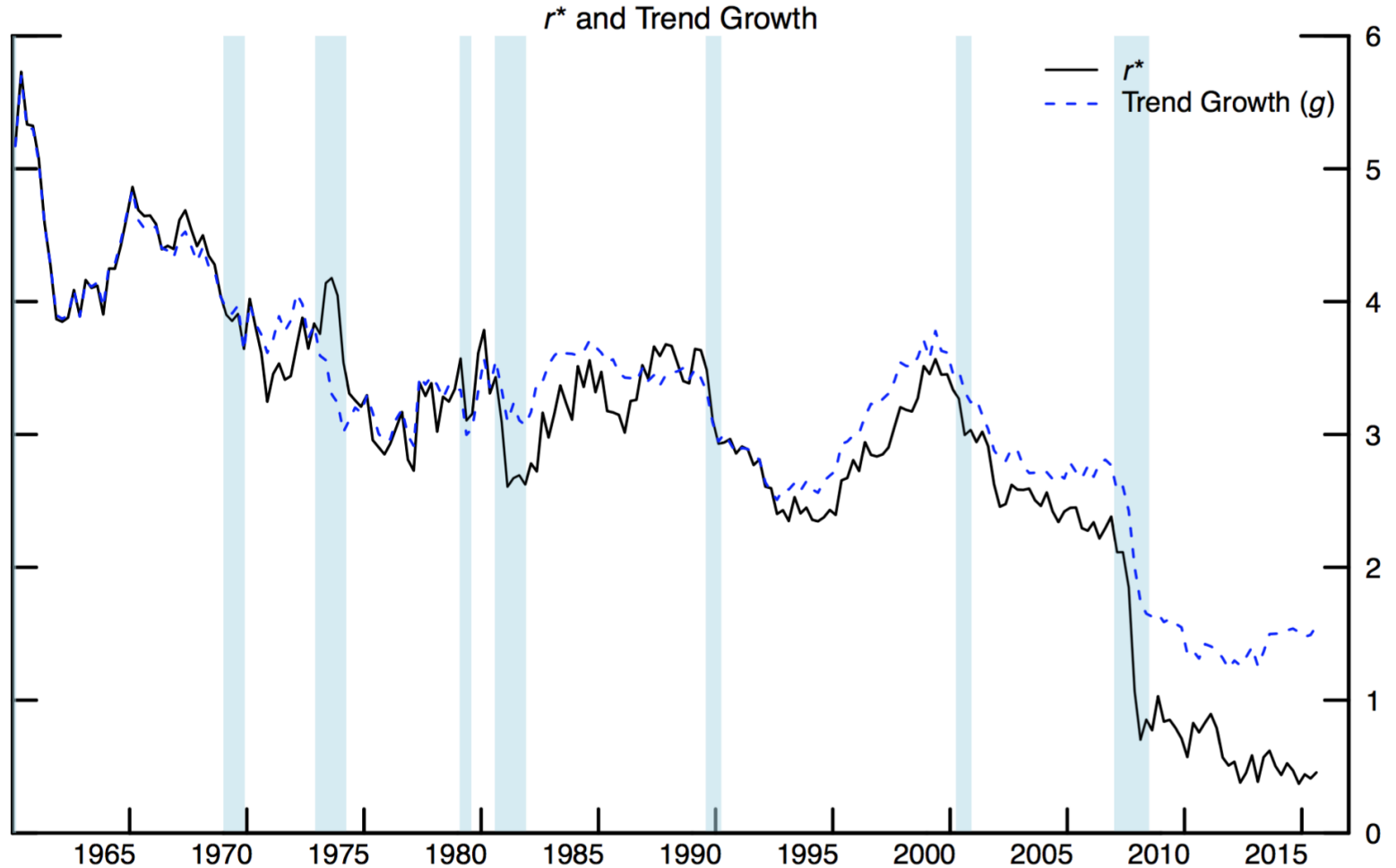
The new normal

- Over long periods of time the nominal interest rate is equal to Fed's 's target rate of inflation plus the natural rate of interest.
- The latter is determined in private markets around the world by fundamentals like demographics and the productivity.
- Monetary policy has very little effect on the natural rate of interest.
- If the natural rate of interest has fallen and inflation targets are unchanged, the nominal interest rate must fall.

The natural rate of interest and monetary policy

- Various authors have argued that the secular decline in real interest rates implies a downward trend in the natural rate of interest, r^* .
- Example: Holston, Laubach and Williams (December, 2016)
 - Estimate r^* for the U.S., the Euro area, the U.K. and Canada.
 - In all four economies r^* has fallen to historically low levels.
 - *The decline is, in large, part explained by a significant decline in the estimated trend growth rates of output in all four economies.*

Holston et. al. results for the U.S.



Fall in r^* is highly correlated with the fall in the trend growth rates of output

Holston et. al. results...

- Similar pattern for U.S., the Euro area, the U.K. and Canada.
- The process appeared to accelerate in the final part of the sample, with trend potential output growth slowing by a percentage point on average over 2007–2016.
- Congressional Budget Office, 2016; and International Monetary Fund 2015.
 - Highlight the roles of slowing labor force growth and a slowdown in trend productivity growth.

Challenge for U.S. policymakers

- Under old assumptions about the natural rate and trend output, policy rates will go back to around 4% eventually.
- If we use Holston et al numbers or the output gap as calculated by the Congressional Budget Office, short term interest rates are likely to be much lower.
- This scenario is consistent with of FRB projections and futures markets.
- But judging from past accuracy, those projections may be *too optimistic*.

Federal Reserve Board Survey of Economic Projections

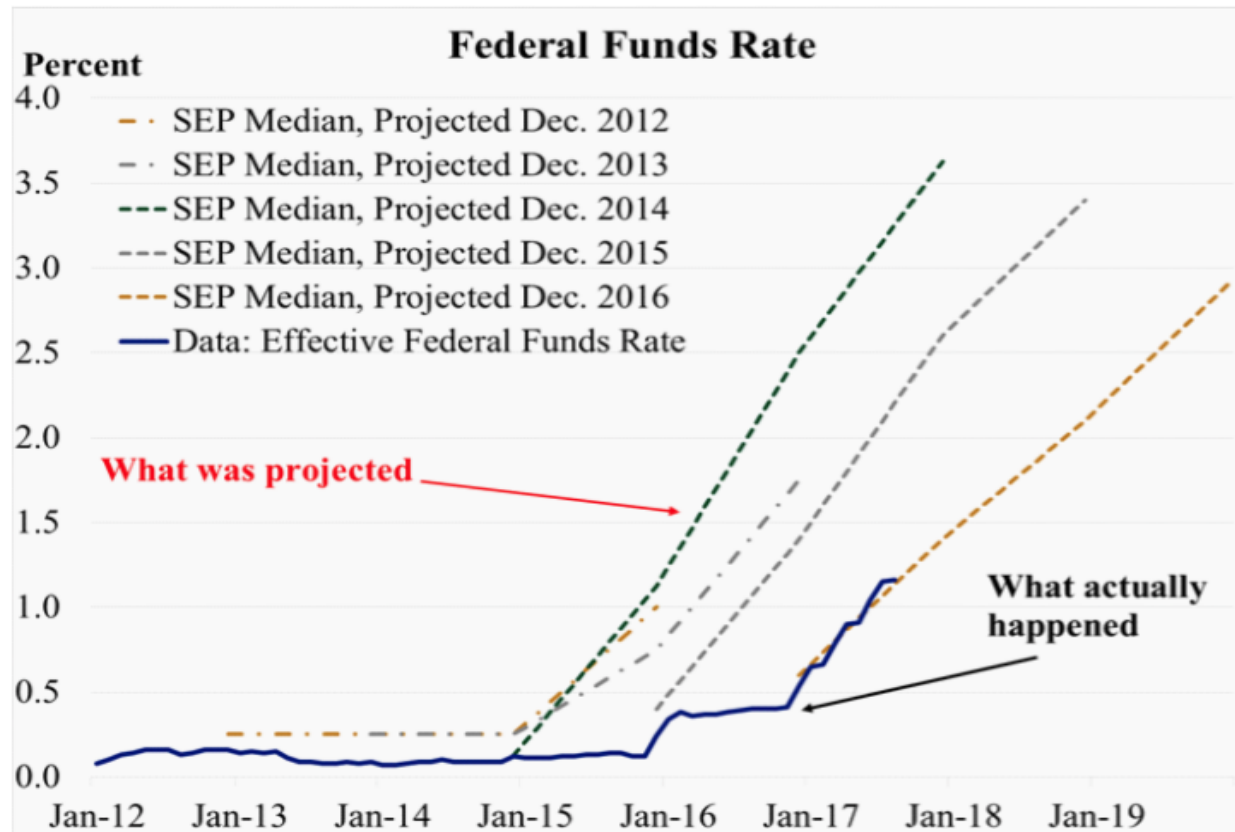


FIGURE: Source: Federal Reserve Board and author's calculations. Last observation: August 2017.

Monetary policy will be less effective in the future

- How often will the ELB constraint be binding after negative shocks to the economy?
 - Recent paper in the BPEA, Kiley and Roberds (2017), suggests that the constraint will be binding around 40% of the time!
- Expect the Fed to
 - Take ‘more chances’ on inflation front.
 - Unconventional policy measures
 - The Fed wants to reduce the size of its balance sheet. But removing excess reserves will put downward pressure on the price of assets that are close substitutes from a regulatory perspective, e.g. LCR.
- Monetary policy won't not be as powerful in the future as in the past.
- This will leave the U.S. economy more vulnerable to shocks.
- **Fiscal policy** will have to play a much larger in stabilization policy: but that rests on the dubious assumption that the U.S. fiscal house will be in order.

Tail risks: consider trade policy

- President Trump and Congress will probably embark on massively expansionary fiscal policy
 - Large cuts in corporate and personal income tax rates and a large increase in defense spending.
- How to pay for these initiatives?
- Initial Idea: border-adjusted cash flow tax
 - Similar to a value-added tax with a wage bill deduction.
 - Raises Revenue Because Imports > Exports
 - Not clear how we will pay for these initiatives.
- Border-adjustment idea is dead
 - Predicated on an appreciation of dollar
 - This source of revenue won't happen.

Fiscal stimulus at full employment

- Right now expansionary fiscal policy will have a limited impact on real GDP.
- You need either more capital, more labor or higher productivity to produce more GDP.
- The U.S. is at full employment and President Trump is hardly likely to push for a large rise in immigration.
- Even if investment picks up, it will take years to have a meaningful impact on the U.S.'s stock of capital.
- Productivity growth is low and unlikely to be meaningfully affected over the next few years by any of the policy measures now in play.
- The Fed may react to massive fiscal stimulus by raising interest rates faster than they would have otherwise.

Twin Deficits

- Most analysts think the tax initiatives will have a serious negative impact on the deficit.
- How will a close-to-full employment economy deal with a burst in aggregate demand?
- Where will consumers and firms get the extra goods and services from?
- From abroad, that's where.
- So expect higher trade deficits and higher budget deficits.
- This is the classic **twin-deficit** phenomenon (President Reagan).

How will President Trump react to rising trade deficits?

- He certainly won't apologize for an ill-timed fiscal expansion.
- He'll claim that the rising trade deficits and a stronger dollar happened because other countries intensified unfair trade practices and interventions in exchange rate markets to keep the dollar "over-valued."
- These claims reflect both political necessities and his sincere belief that international trade is a sequence of bilateral zero-sum games.

Dangers

- Large trade deficits will dramatically raise the odds that President Trump will actually adopt protectionist trade policies.
- Will other countries quietly accept our dictates?
- Countries like China will take retaliatory measures.
 - ‘Senior Chinese officials have warned the US that Beijing is ready to retaliate if Donald Trump’s incoming administration imposes new tariffs, highlighting the risk of a destructive trade war between the world’s two largest economies’ [Financial Times, January 6 2017](#).
- The dangers of a Great Trade War are real especially given ongoing tensions with China and Mexico.

Conclusion

- Consensus GDP Forecast for 2018 and 2019: 2.2% and 2.4%
 - Productivity 1.0
 - Labor Force 0.8%
 - Hours 1.3%
- Hours growth made possible by declining unemployment, labor Force re-entry, and shift from part-time to full-time work.
- Sources of uncertainty
 - How much will tax cuts add to deficit?
 - How much will monetary policy fight against fiscal stimulus?

The larger challenge for policy makers

- We have likely entered a prolonged period of low growth.
- The ELB will likely be more binding in the future and monetary policy will be less effective than in the past.
- Unless the advanced economies get their fiscal house in order, it will be increasingly difficult to use fiscal policy to fight recessions.
- Countries like Argentina will experience heightened vulnerability to protracted slowdowns originating from abroad.