

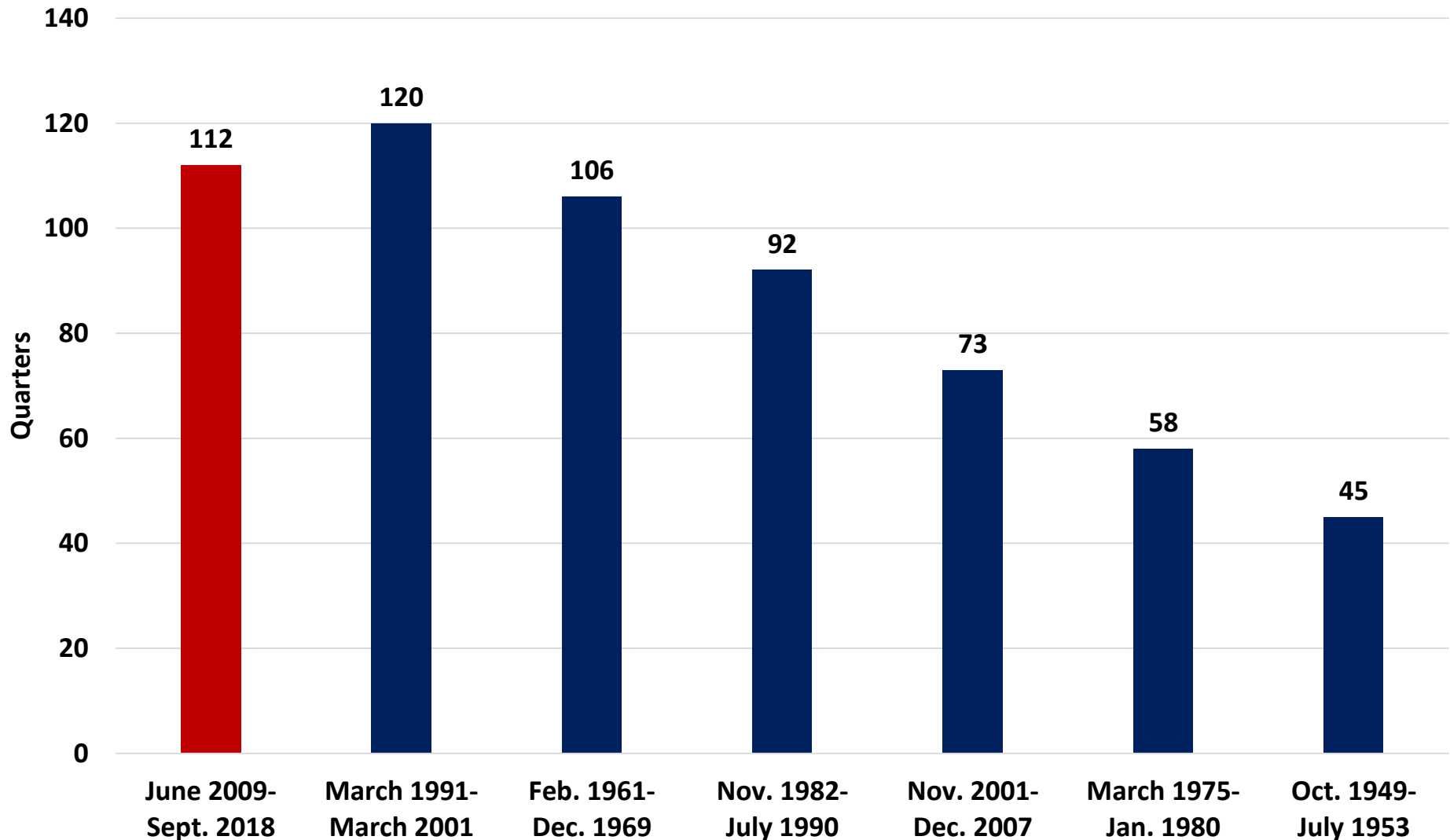
**Is the Business Cycle Dead?  
Anticipating the Next Recession**

**Robert J. Gordon  
Northwestern University and NBER  
NABE Annual Meeting  
September 30, 2018**

# **Anticipating the Next Recession: A Preview**

- **Economic Expansion Has Reached 112 Months, record is 120 months**
  - **March 1991 to March 2001**
- **Expansions Perpetuate Themselves with a Self-Generating Mechanism**
- **Something Must Interrupt that Mechanism for a Recession to Occur**
- **What Killed Previous Expansions?**
- **An Expansion-Killing Checklist for 2020-21**

# Length of Expansions: Current vs. Previous Five Longest



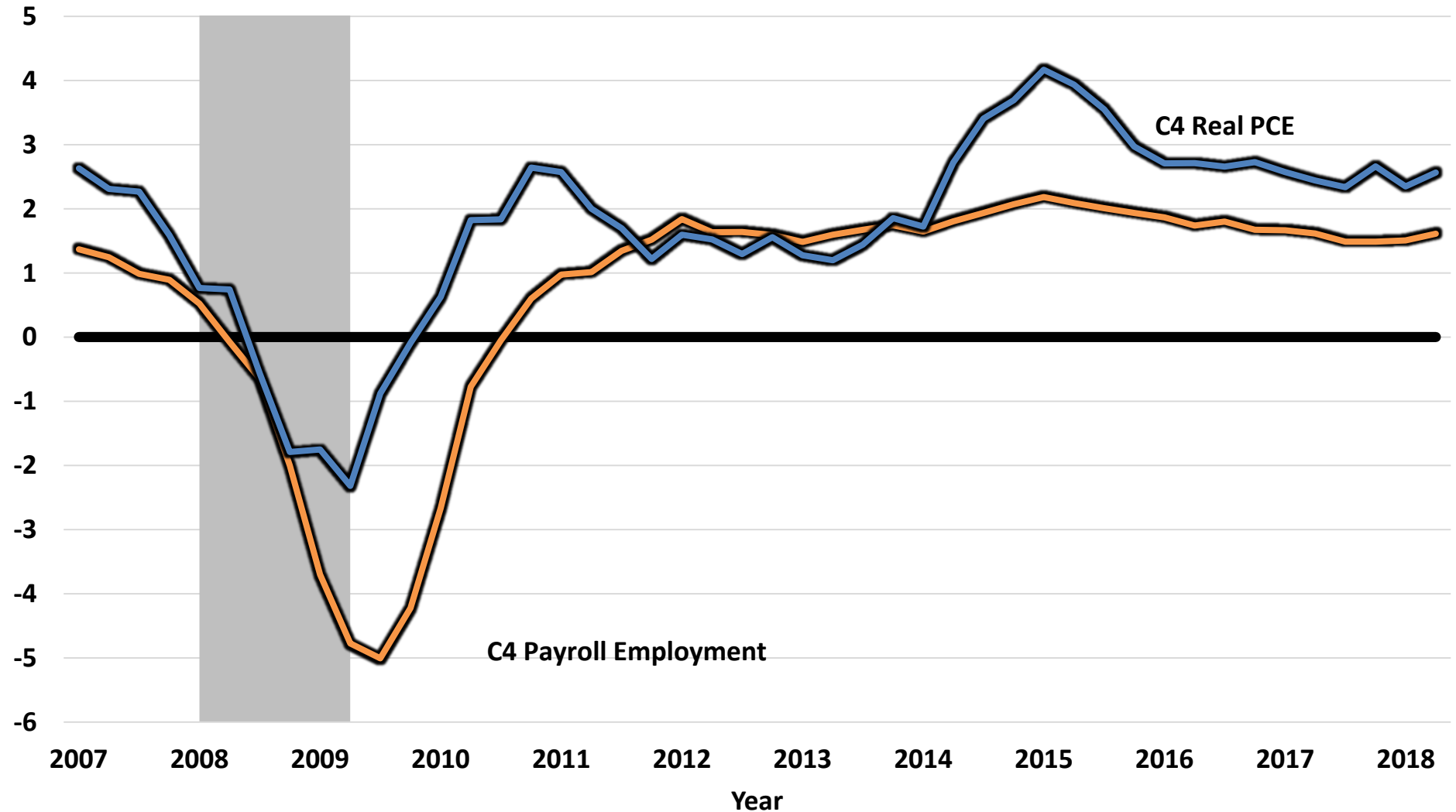
# **The Current Economy: A Golden Moment**

- **“Golden” with low inflation and average GDP & GDI growth of 3.0 in 2018:Q1 and again in Q2**
- **Unemployment rate has fallen from 10 percent in October 2009 to 3.9 in August 2018**
  - **Below All Estimates of the NAIRU**
- **Core PCE Inflation at the Fed’s target of 2.0 percent**
- **How Low Can Unemployment Go?**
  - **3.8% April 2000, 3.4% Fall-Winter 1968-69**
  - **18 U.S. states have U rates at 3.5% or below**
  - **WI-MN-CO-VA 2.9 or 3.0%**

# **Without a Negative Shock, Expansion is a Virtuous Circle**

- **Employment growth causes income to grow**
- **Income growth causes consumption spending to grow**
- **Higher consumption spending creates more jobs, more growth of employment**
- **Consumers don't suddenly save most of their extra income, they spend it**

# Closeup of Consumption and Employment Growth Feeding Each Other



# **Boosting the Expansion from 2% to 3% Growth: Fiscal Stimulus**

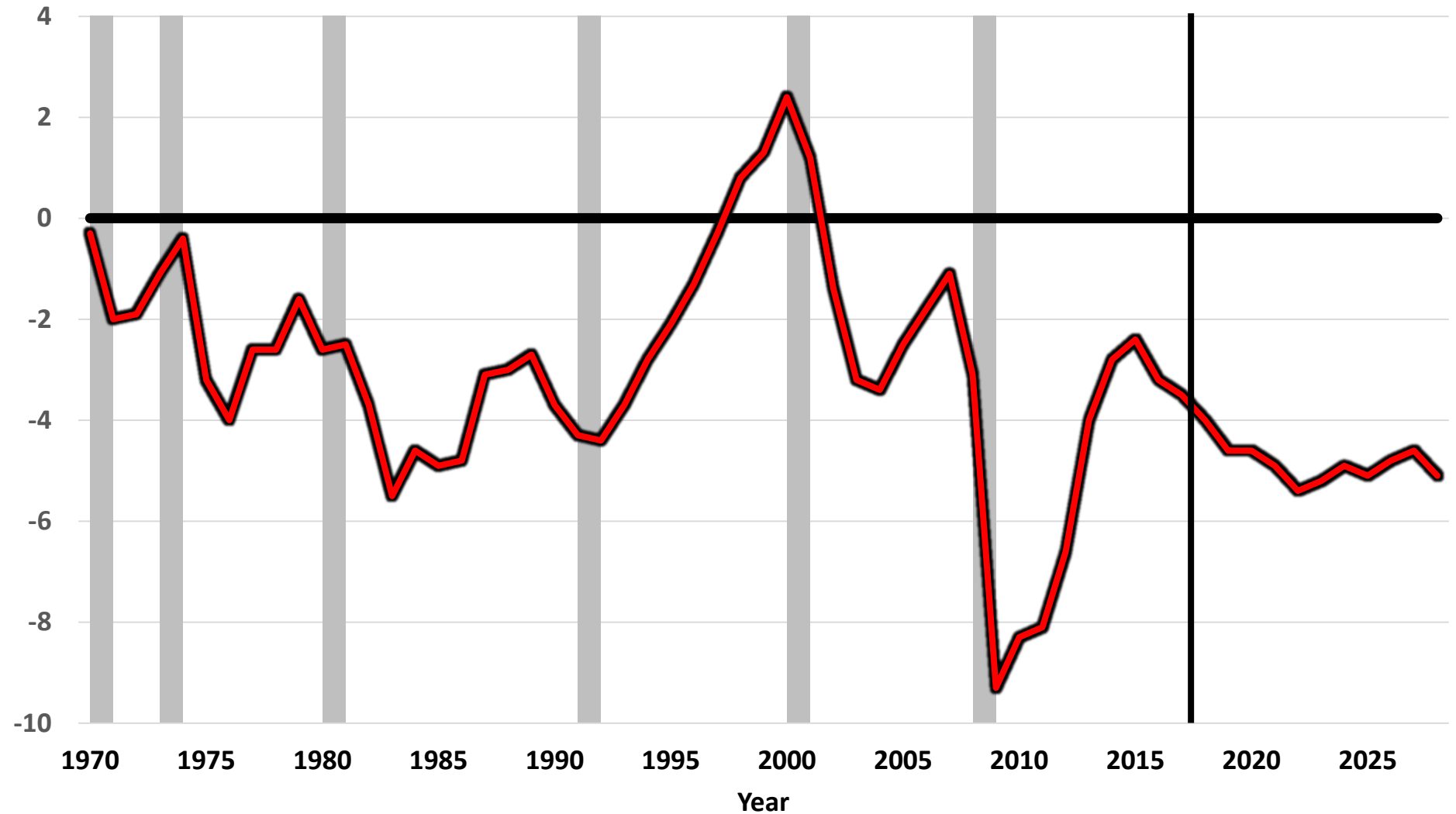
- **Tax Cut Multiplier**

- Corporate and personal tax cuts equal \$150 Billion per Year, or 0.8 percent of GDP
- Tax multipliers, 0.3 to 0.4, translates into extra 0.3 of GDP growth 2018-2019

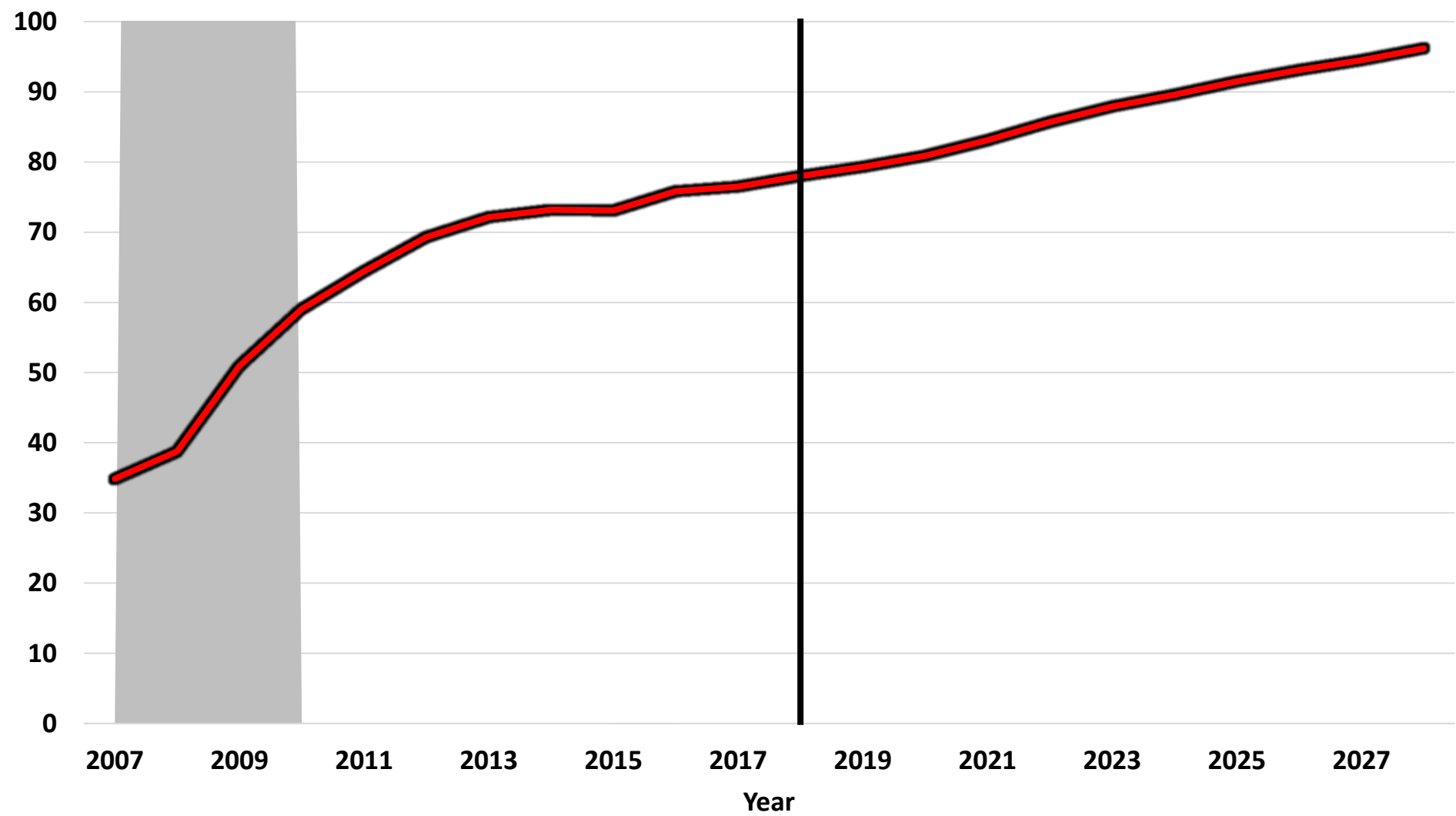
- **Expenditure Multiplier**

- \$150 billion per year over 2 years, 0.8 percent of GDP
- Spending multipliers, at least 1.0, translates into extra 0.8 of GDP growth 2018-2019

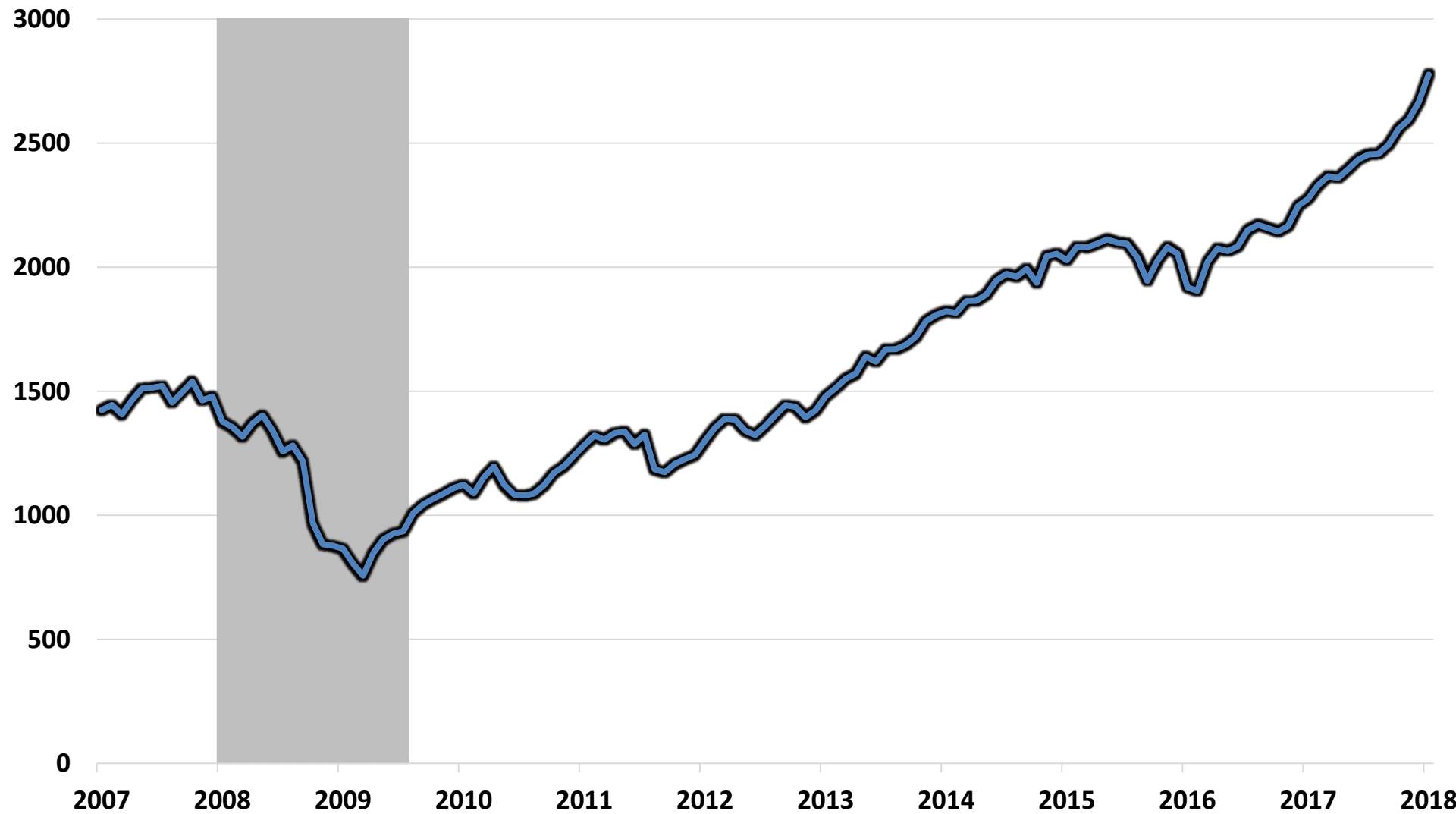
# Federal Deficit / GDP Since 1970



# Federal Debt (Held by Public)/ GDP Including Trump Stimulus



# Adding to Economic Stimulus: The Ebullient S&P 500 Index



# Stock Market Wealth Effect

- S&P 500 has increased 36% since Nov 8, 2016
- This represents about +\$7 trillion in wealth
- How much of this wealth would have to raise consumption to boost GDP by half a percent?
- Answer: 1.5 cents spending per dollar of extra wealth
- Boost to GDP growth?
  - Fiscal policy +1.0 percent
  - Stock market +0.5 percent
- Implies Acceleration from 2.0 to 3.5 percent growth
- Fiscal expansion boosts dollar, cuts net exports, shaves growth forecast to 3.25 percent

# What Killed Previous Expansions?

- **Most common, high interest rates as Fed responded to rising inflation**
  - Late 1950s, late 1960s, late 1980s
- **Special category – oil shock inflation**
  - In 1974 caused a recession as higher prices eroded purchasing power
  - In 1980 the Fed boosted rates to double digits
- **Other special categories:**
  - collapse of dot.com investment boom of late 1990s, together with stock market crash
  - Collapse of housing and excess leverage that led up to 2008-09 financial crisis.

# Nouriel Roubini (Dr. Doom)

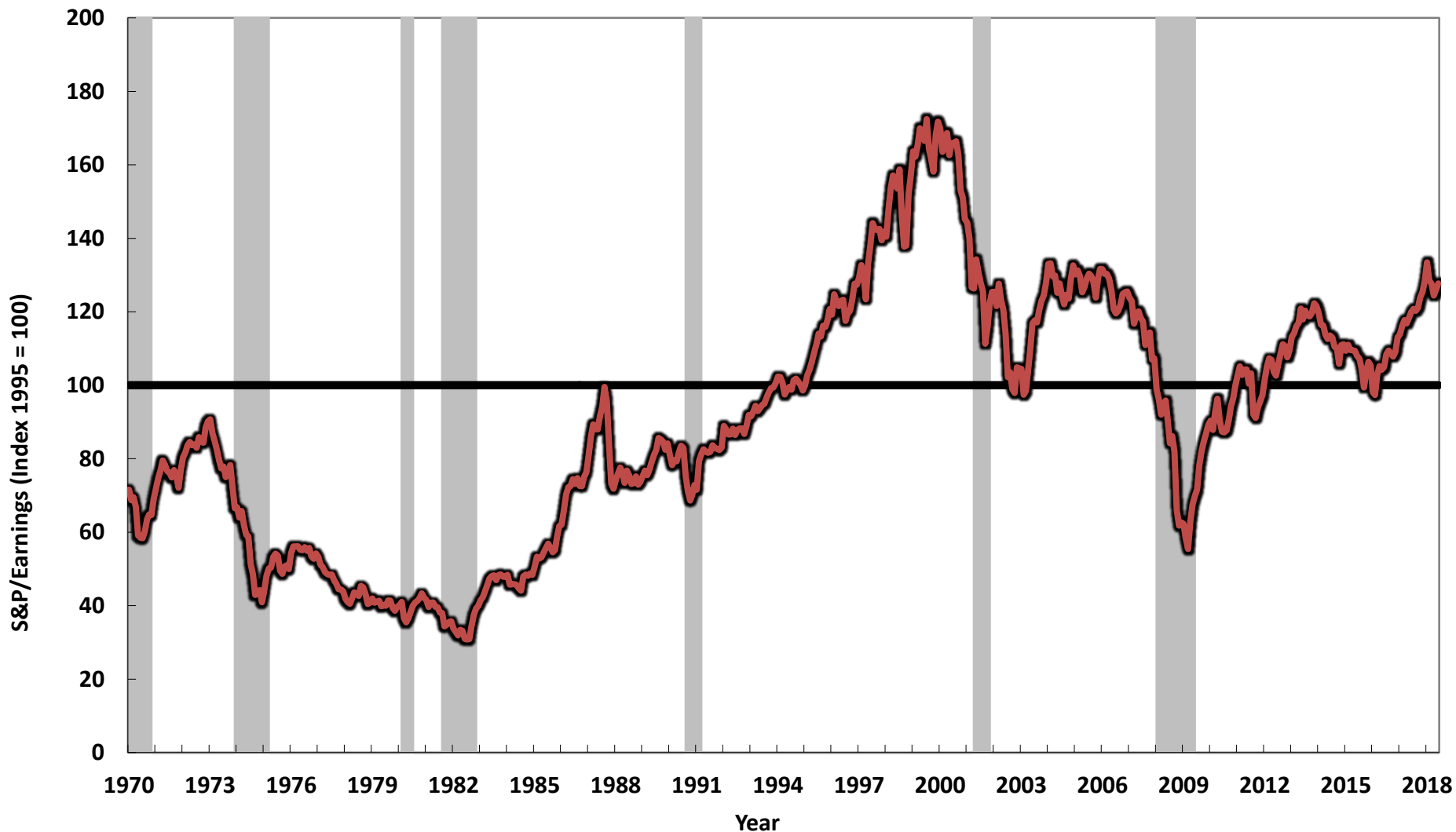
## Checklist for Next Crisis

- His checklist rearranged
- (1) (2) Fiscal and stock market reversal
- (3) (4) Growth weakness in rest of the world
- (5) Once growth stalls, risk of illiquidity
- (6) Monetary policy and inflation
- Trump policy follies
  - (7) Tariffs cut growth and raises inflation
  - (8) Tech transfer, immigration, no infrastructure
  - (9) Unpredictable Trump responses to slowdown
- Fiscal and Monetary Policy are handcuffed

# **Reversal of Fiscal and Stock Market Stimulus**

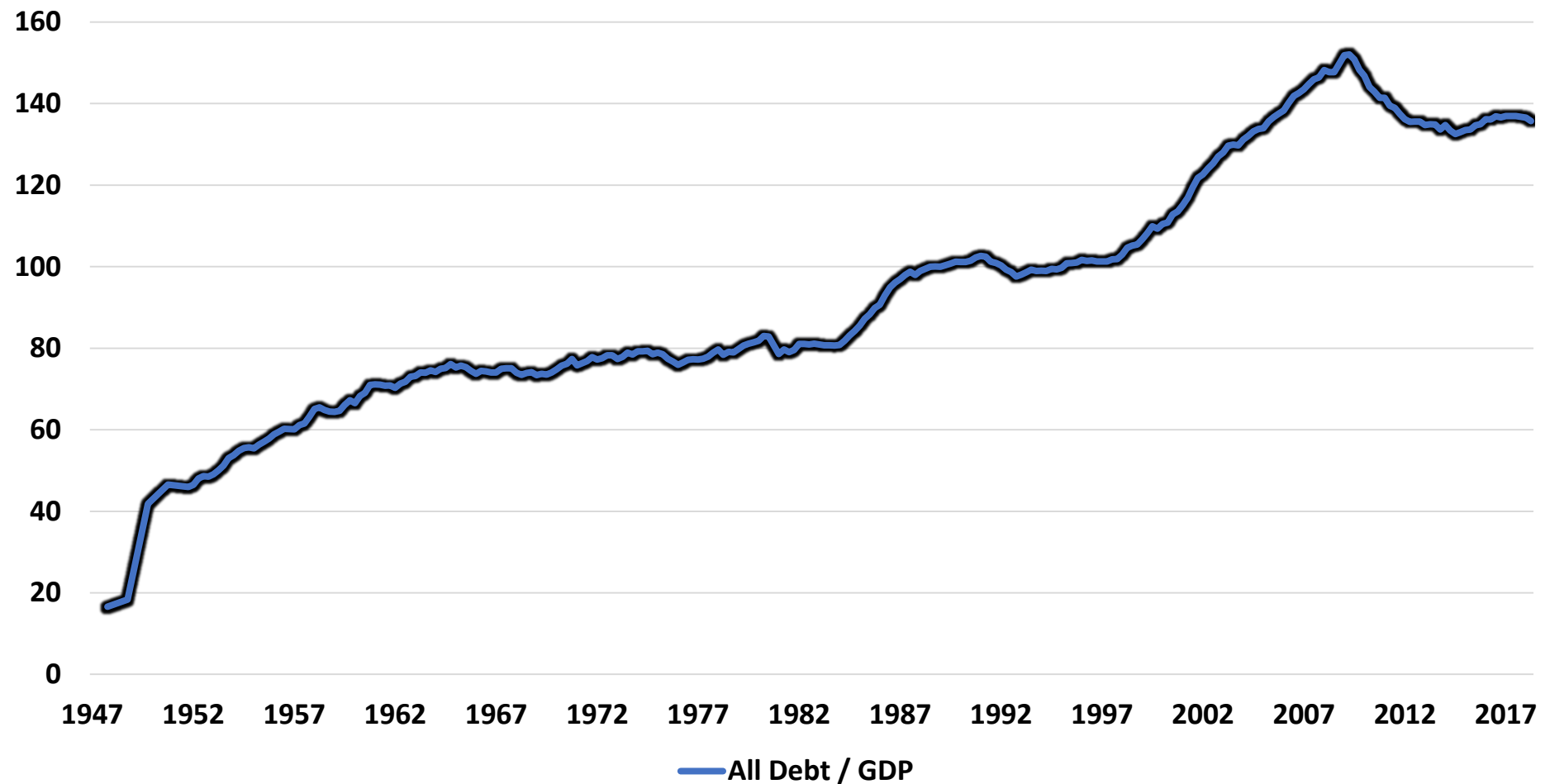
- **If Democrats take the House, a future of fiscal stalemate**
- **Expenditure boost is a temporary two-year deal**
- **But Tax cuts won't be reversed**
- **That removes the spur from 2% to 3% growth but doesn't cause a recession**
- **Stock market collapse?**
  - **Flaws in Shiller price-earnings ratio**
  - **10-year earnings average includes 2009-2010**
- **2000-01 end of stock market bubble caused only 0.3% decline in GDP/GDI 2001:Q1 to 2001:Q4.**

# S&P Price-Earnings Ratio, Five-Year Earnings Average, 1970-2018



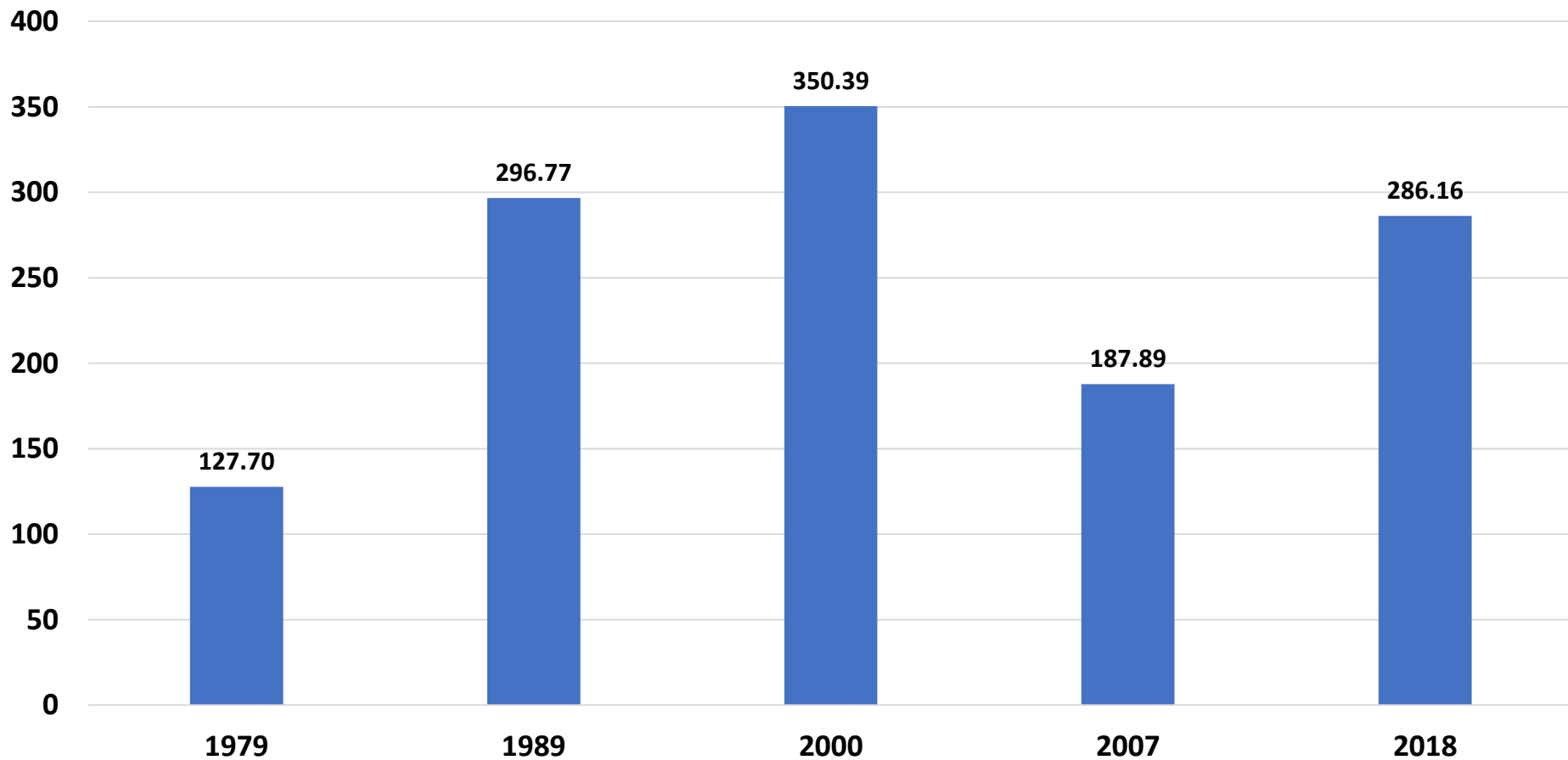
# Total Debt/GDP Down From Peak (Corporate, Mortgage, Consumer )

Ratio of All Debt to GDP, 1947-2017



# Corporate Debt / Profits Below 1989, 2000

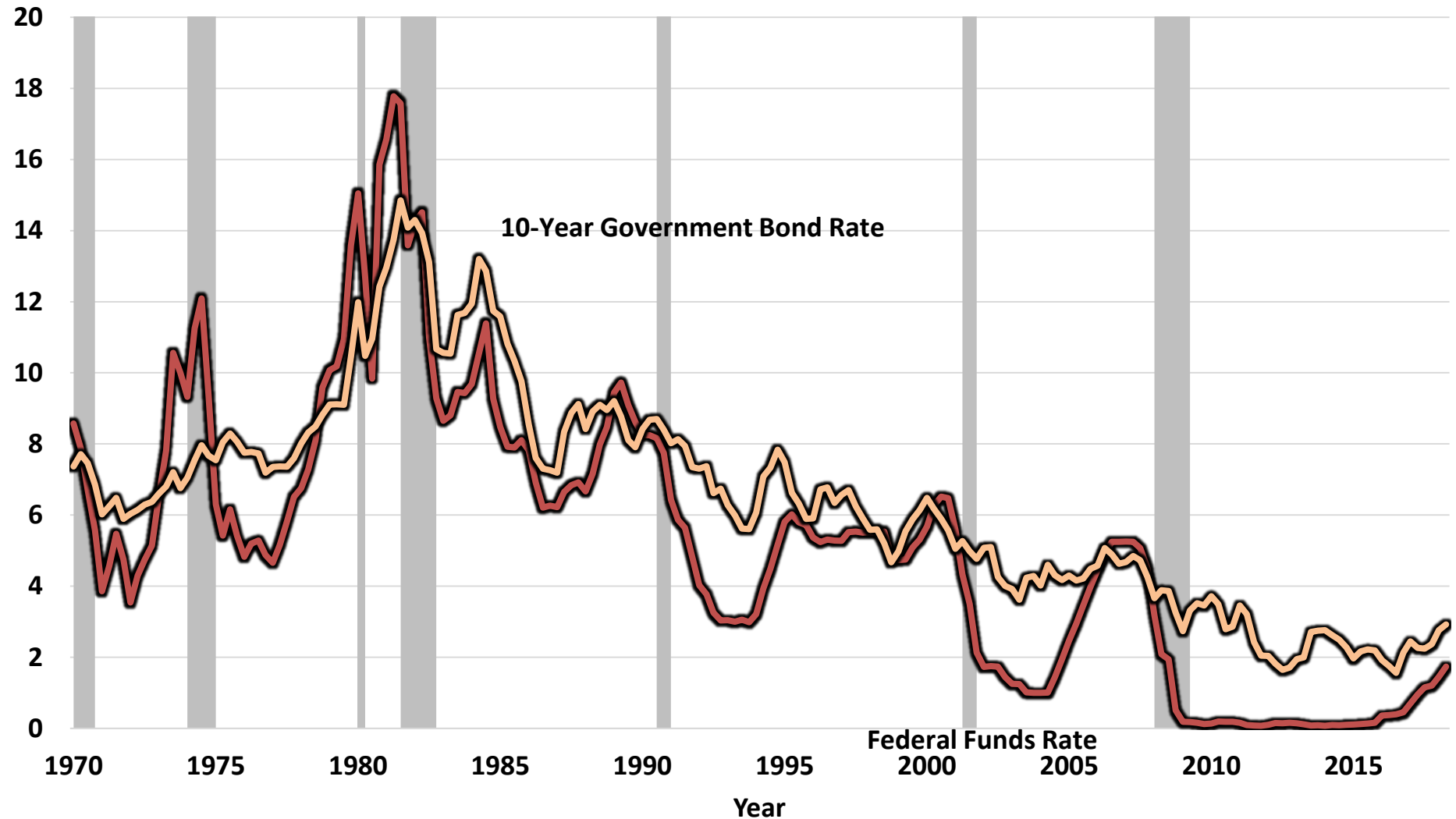
Corporate Debt as a Percent of Corporate Profits (Before Tax) at Business Cycle Peaks



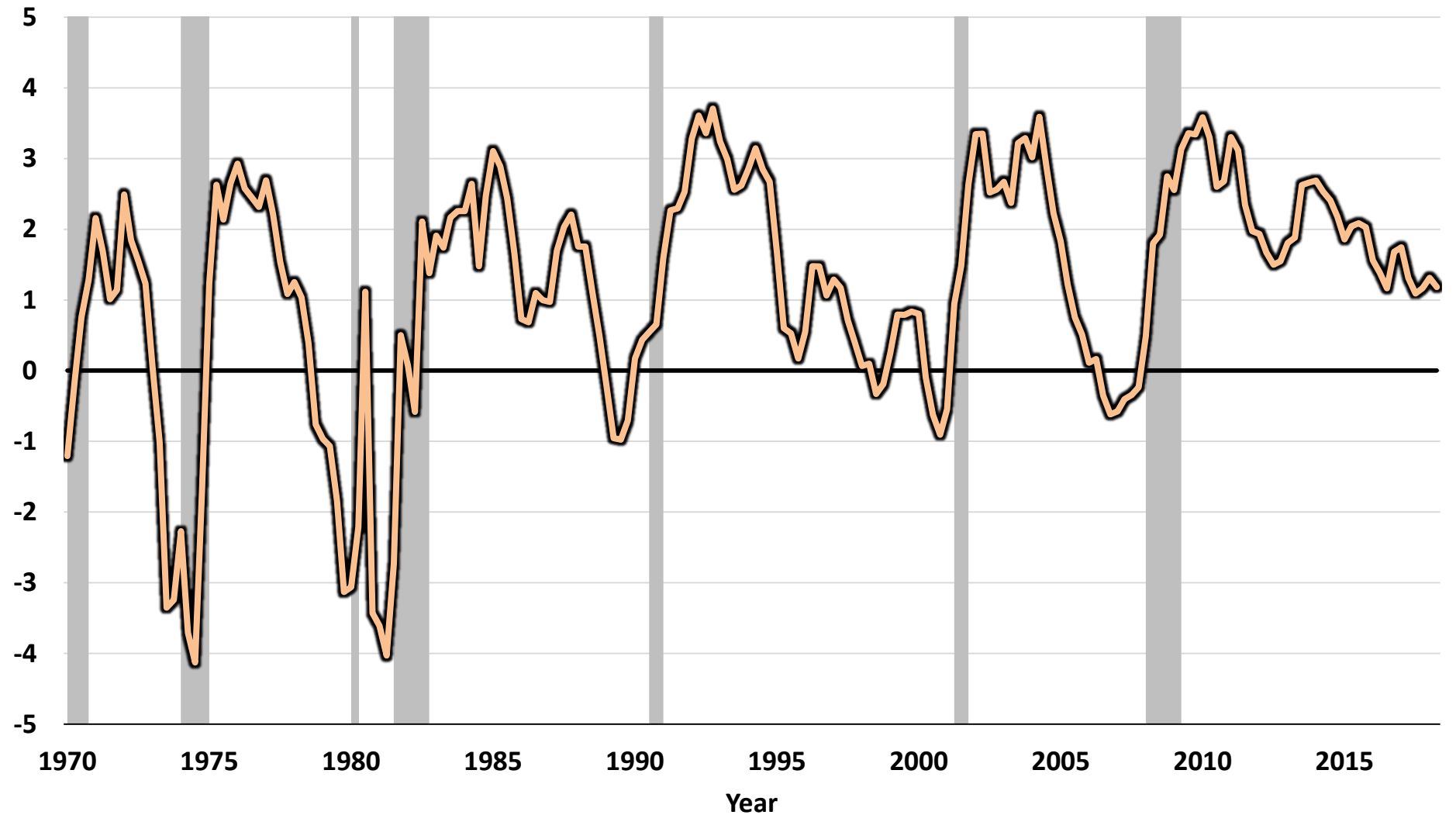
# Weakness in Rest of World?

- **Depreciating currencies, dollar-denominated debt crisis in some emerging markets**
  - Turkey, Argentina, to lesser extent India and Indonesia
- **Will be exacerbated by Fed's gradual rate increases**
- **But most emerging markets have much higher dollar reserves than in 1997-98**
- **Crisis of 1997-98 reminds us of minimal feedback to U.S. economy**
- **Growth forecast of 3.25 already assumes some reduction in net exports**

# Interest Rates: Federal Funds and 10-Year Treasury Bonds, 1970- 2018



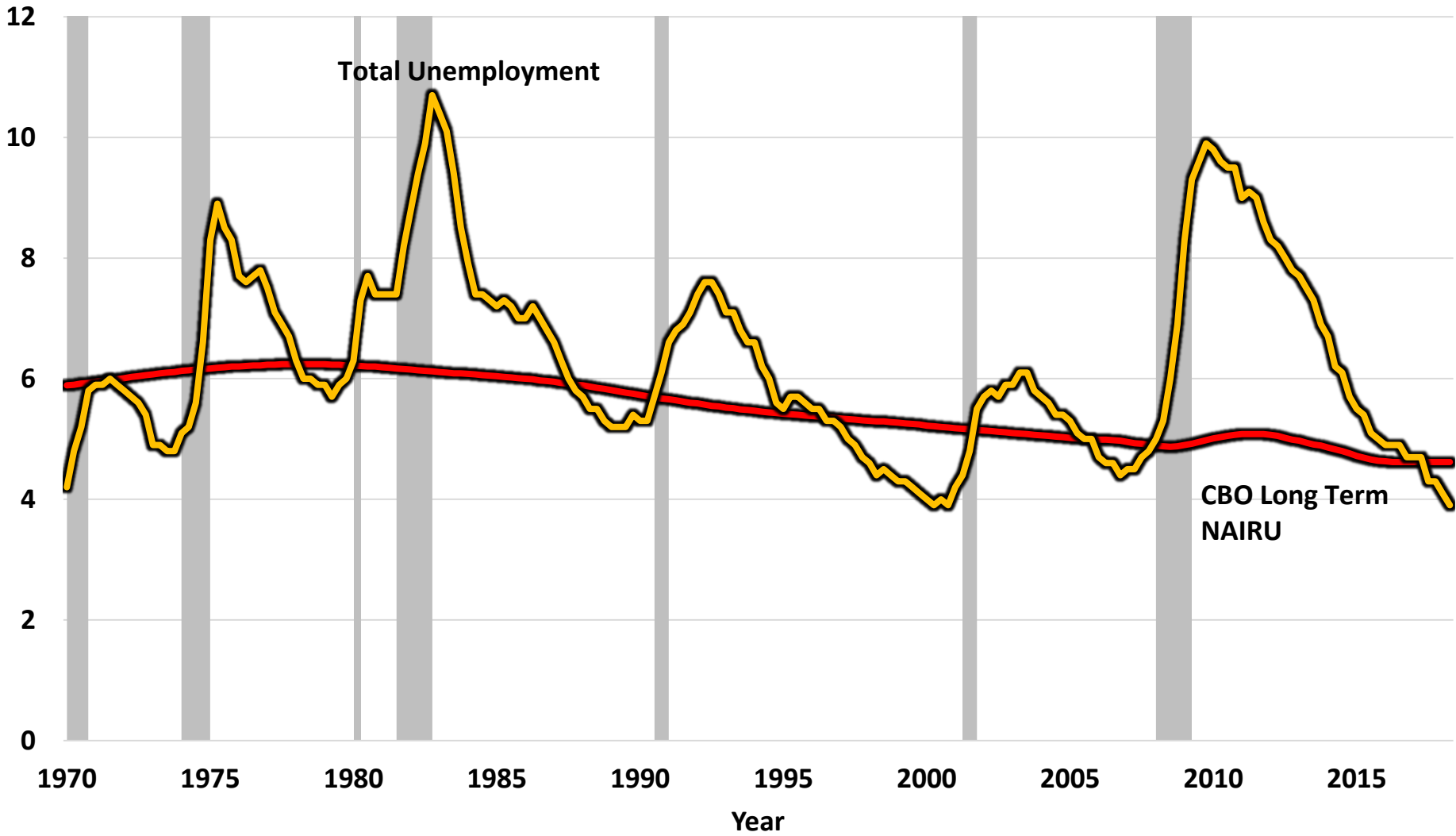
# The Yield Curve: Precursor of Recession But Not Yet Negative



# **Outlook for Monetary Policy**

- **Strong support for tighter labor markets to attract re-entry of labor force dropouts**
- **In the absence of a significant upturn of inflation, Fed will maintain a slow pace of rate increases**
- **Consensus forecast for mid-2019, Federal Funds rate of 2.7 to 3.0**
- **Fed is reducing balance sheet, pushing up long-term rates and postponing inversion**
- **Achilles Heel: Fed's inflation forecast**

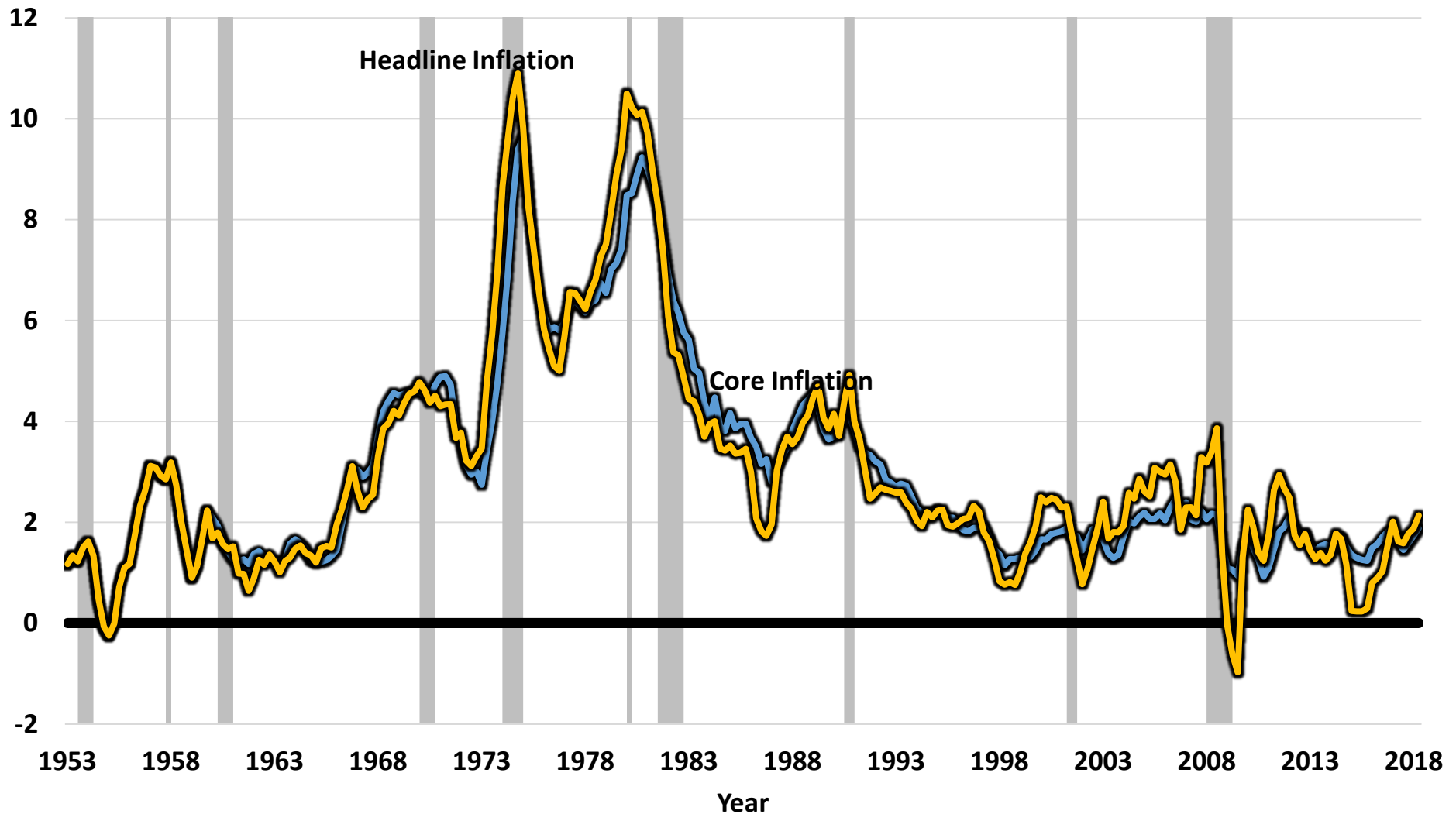
# The Unemployment Rate and the NAIRU, 1970-2018



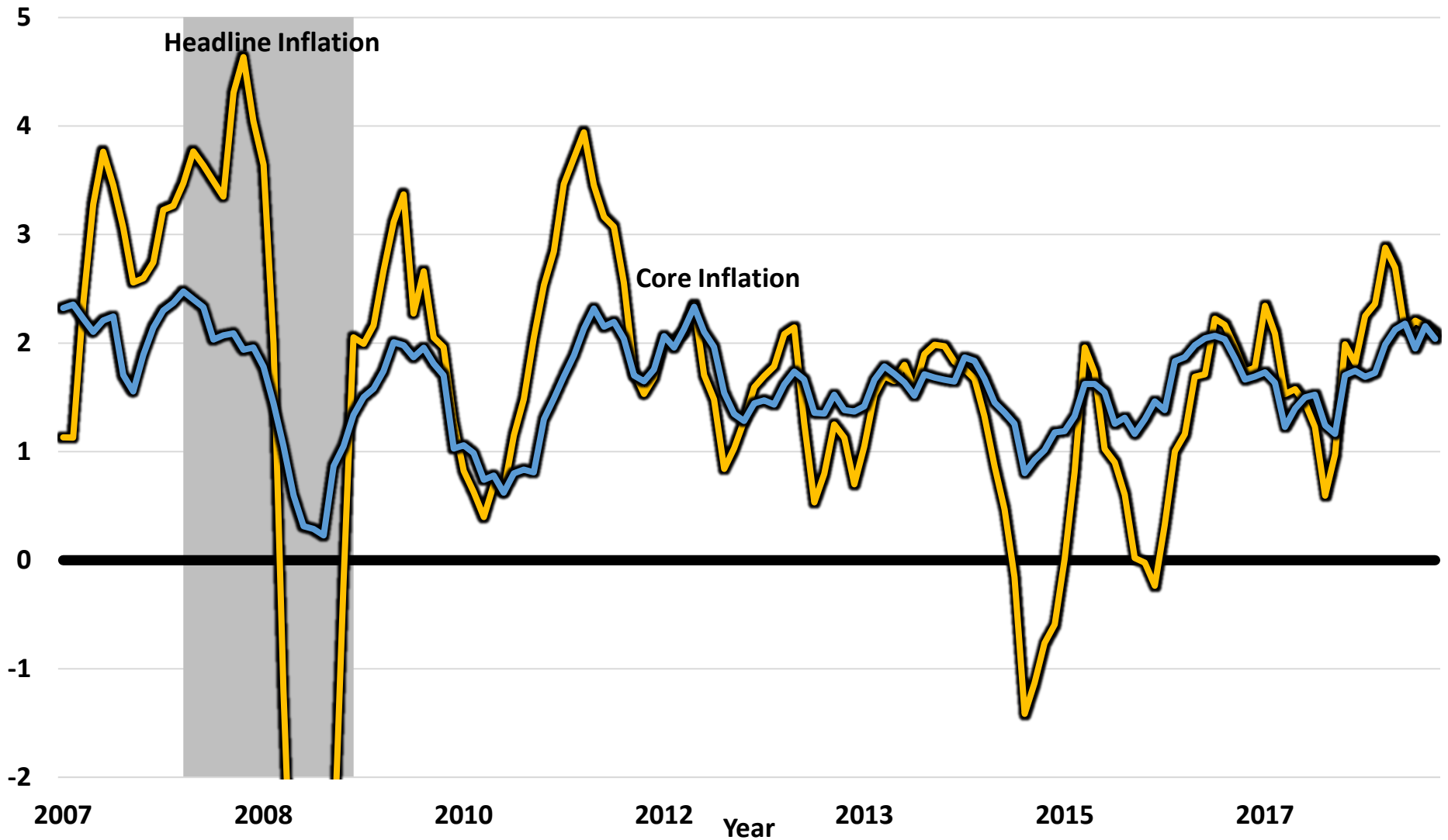
# Near-term Unemployment Outlook

- Since late 2009 unemployment rate has declined from 10.0 to 3.9 percent
- That's a decline of 2/3 point per year to achieve 2.2 percent growth per year
- That pace of decline will take the U rate to 2.6 percent by summer 2020
- The Fed predicts inflation =
  - 2.0 2018                      2.1 2019 and 2020
- Inflation has been quiescent but it's not dead yet

# Headline and Core Inflation, 1953-2018



# A Close-Up Look at Inflation, 2007-2018



# **My Nominee for Expansion-Killer**

- **Fed's FF rate trajectory based on its own inflation forecast of 2.0 for 2018, 2.1 for 2019, 2020**
- **But core PCE inflation has already accelerated**
  - **1.55 in five years to Dec 2017**
  - **1.90 in six months to July 2018**
- **What if acceleration continues?**
  - **2.3 in 2018 H2**
  - **2.7 in 2019 H2**
  - **3.1 in 2020 H2**
- **The Fed will react by raising rates faster than markets expect**
- **Markets will have a tantrum but won't drop by half as in 2000-02 or 2007-09**

# **Can Supply Meet Demand Growth? Supply Squeeze Will Raise Inflation**

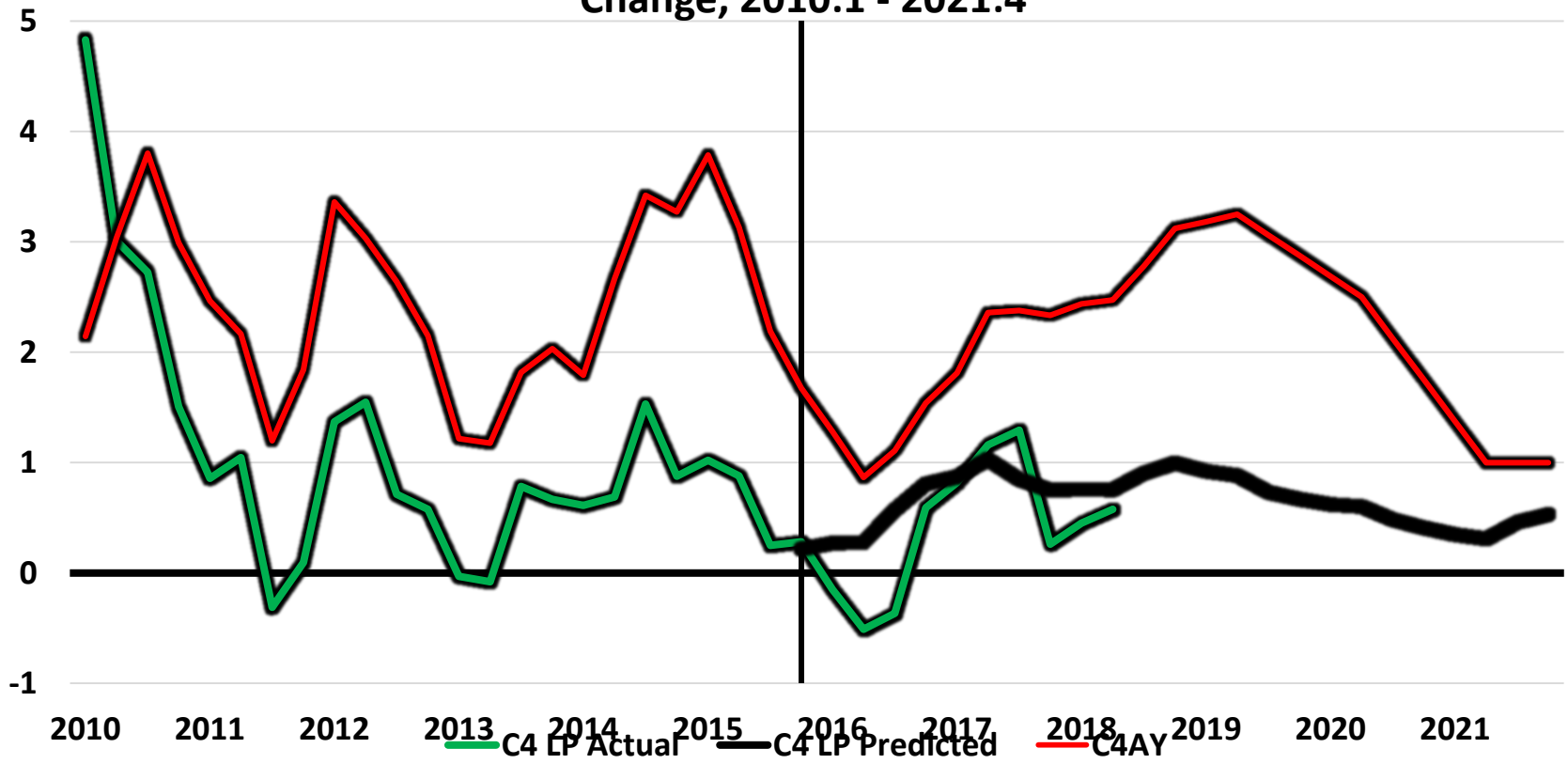
- **2.2 percent GDP growth since 2010 Made Possible by a Decline in U Rate from 10 to 3.9**
- **At some point the U Rate will stop declining**
- **How can the economy growth at 3.5% with a constant unemployment rate?**
- **Actual Growth Rate 2006-2016 = 1.3%**
  - **Productivity Growth 0.9%**
  - **Hours Growth 0.4%**

# **Everything Depends on A Revival of Productivity Growth**

- **Productivity growth 0.7 percent for eight years since mid-2010 (GDP / total economy hours)**
- **Forecast for next 25 years in my book is 1.2 percent**
- **Big question: as labor markets tighten, will firms buy robots and other capital to replace workers?**
- **Evidence that trend productivity growth is faster when unemployment is low as in the 1960s and 1990s**
- **What likelihood that productivity growth will rise to accommodate faster demand growth?**

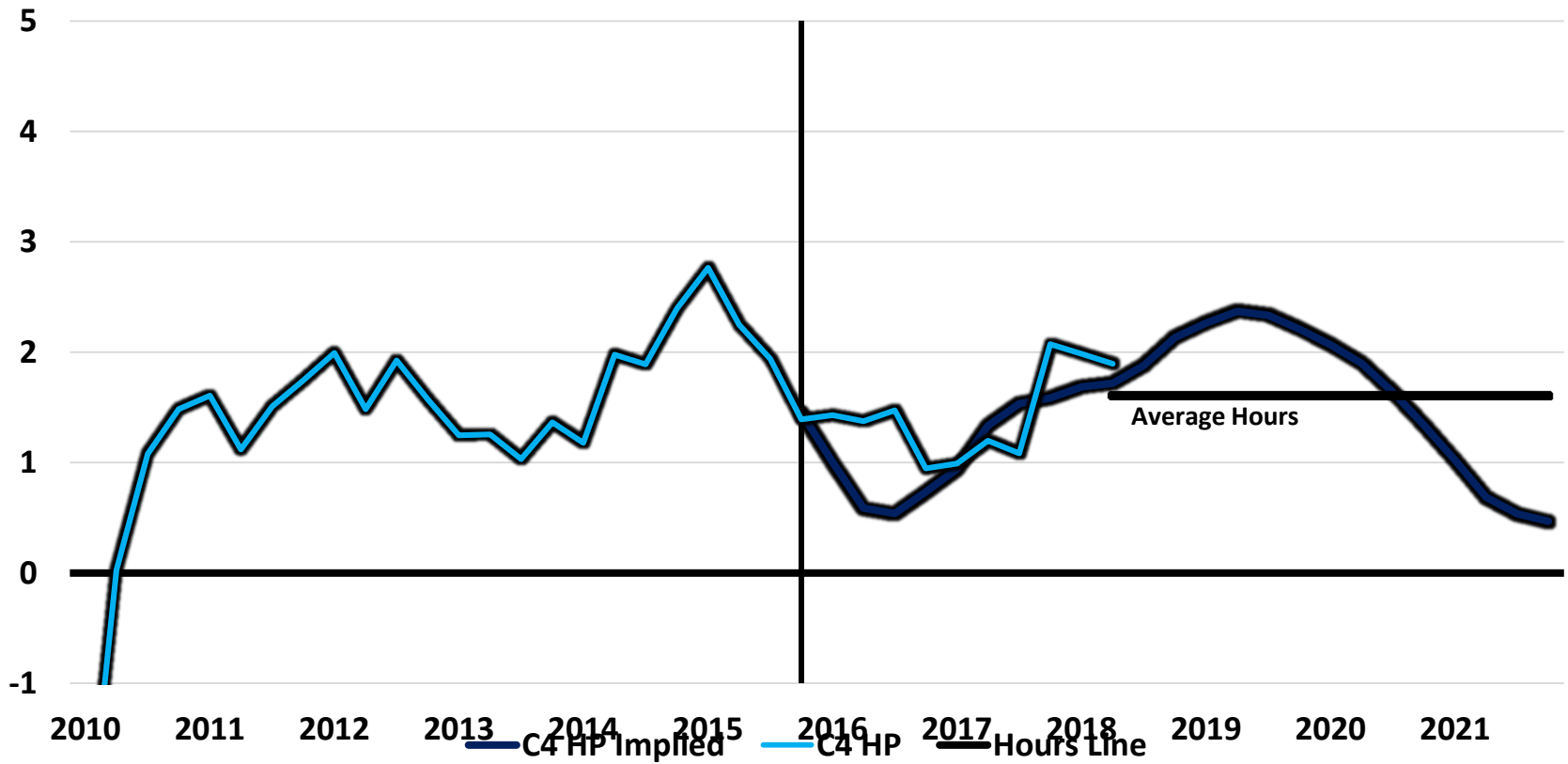
# Constant Productivity Trend Yields Little Procyclical Response

Actual and Assumed Productivity Change with Assumed Output Change, 2010:1 - 2021:4



# Required Excess in Hours Growth Over 2011-2018 Average

Actual and Simulated Hours Responses



# **Conclusion About Productivity and Hours**

- **Growing hours at pace of 2011-2018 requires**
  - Decline in U rate to 2.6% by mid 2020 OR
  - Faster growth in prime-age LFPR
  - Faster conversion of part-time to full-time work that raises hours per employee
- **But that pace is not enough**
  - Hours at 2011-2018 pace requires 1.6% productivity growth compared to 0.7% trend
  - Good news, 2018:H1 = 1.5%

# Conclusion

- Removing fiscal and stock market stimulus will cause growth to slow, but not enough to cause a recession
- Achilles heel of outlook is the Fed's forecast of ***ABSOLUTELY NO INCREASE OF INFLATION***
- Aggregate supply for a 3.25 growth path requires
  - Continued decline of unemployment rate
  - Bounce back of productivity growth to 1.6% from 0.7%
- My prediction: higher inflation will shake financial markets even before the Fed acts
- Close call whether recession occurs in 2020-21, but no financial crisis