

The Future of Potential Output Growth in the U.S. Economy

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Remarks at Panel Discussion
Western Economic Association

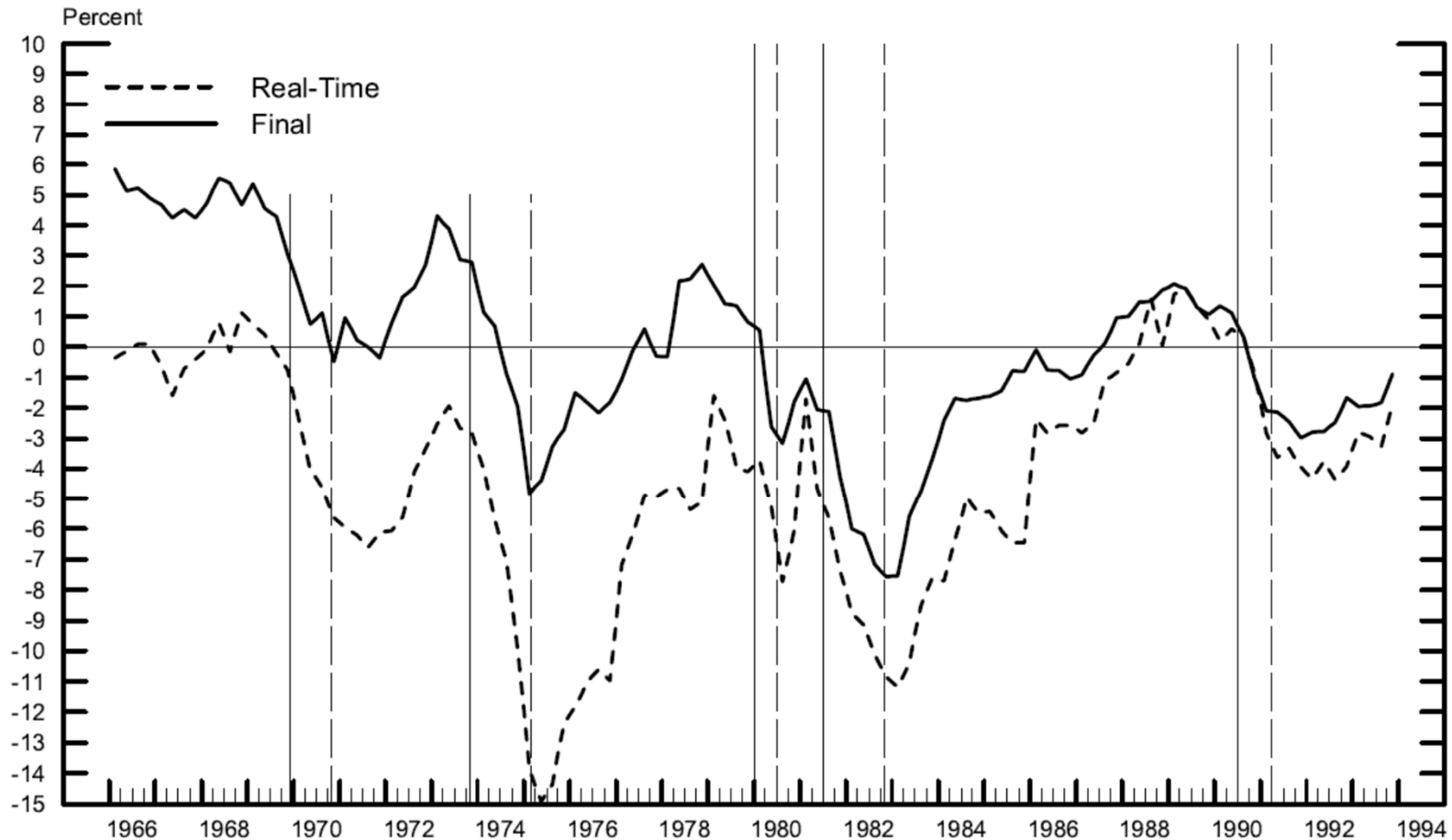
Monday July 1, 2019
2:30 pm - 4:15 pm

Incredibly Important Topic

- Potential Output is needed to distinguish:
 - Supply side versus demand side policy
 - Actual Y goes up and down relative to potential Y^*
 - But potential has its own ups and downs
 - It's policy-dependent!
 - Secular stagnation or pro-growth policy?
- Used to determine best policy going forward
 - Monetary policy: a key factor in Taylor rule
 - Fiscal policy: cyclically-adjusted deficit
- Consider four examples
 - Revised **down** in 1970s
 - Revised **up** in 1990s
 - Revised **down** in 2007-16
 - Needs to be revised **up** now

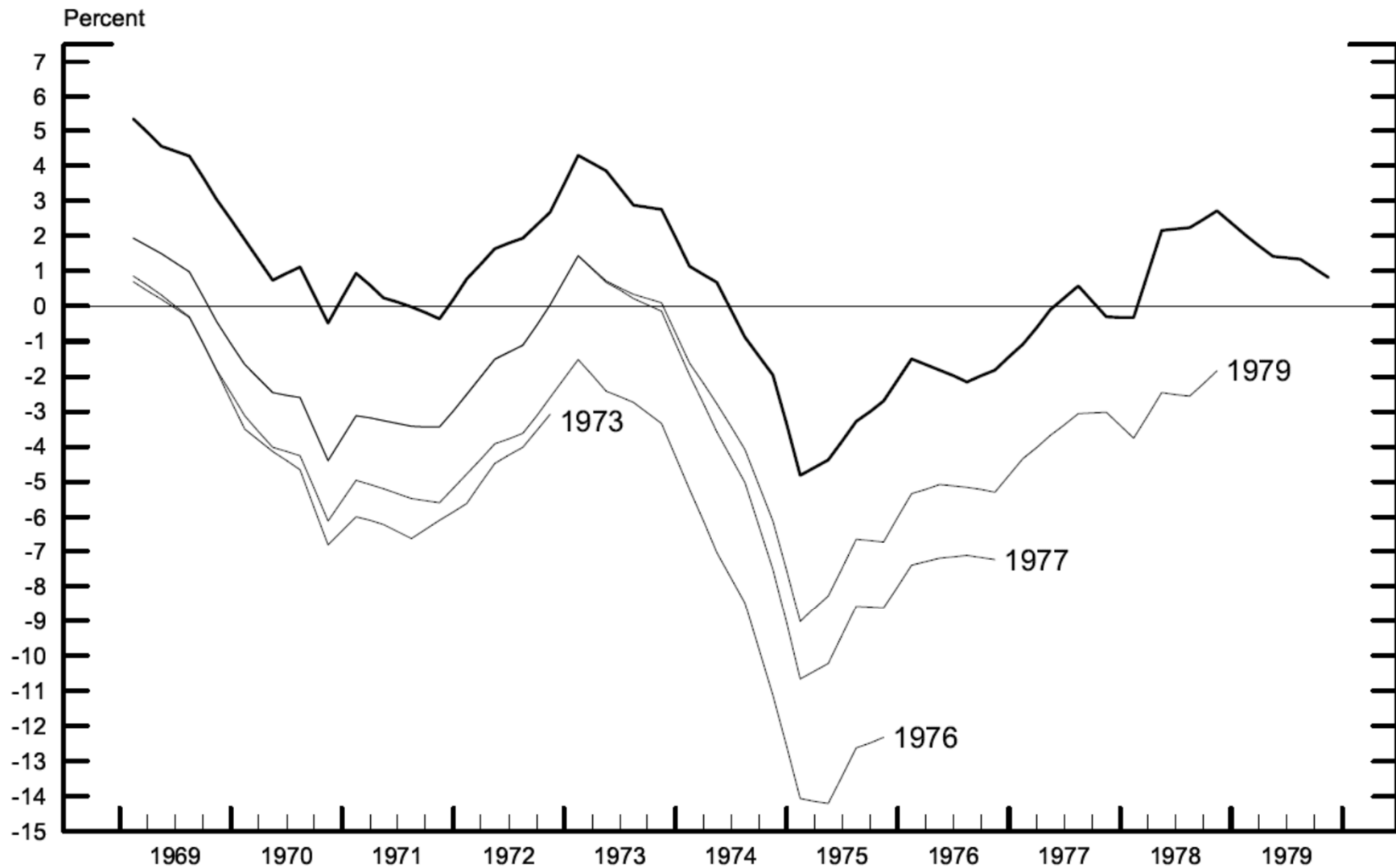
The 1960s and 1970s

The Output Gap in Real-Time and Final Data



Source: Athanasios Orphanides "The Quest For Prosperity Without Inflation," *JME* (2003)

The Evolution of History During the 1970s Output Gap Measurement



Source: Athanasios Orphanides "The Quest For Prosperity Without Inflation," *JME* (2003)

Concerns about Potential Output in the 1960s and 1970s

- Started at CEA in '61, but became politicized by late '60s
- Serious economic analysts—like Burns and Greenspan—paid no attention to it
 - The series showed a GDP gap of 15 percent in the mid 1970s—comparable to the Great Depression!
- Economists knew that even the '77 revision was too small
 - Done by a lame-duck CEA that pulled back from staff estimates

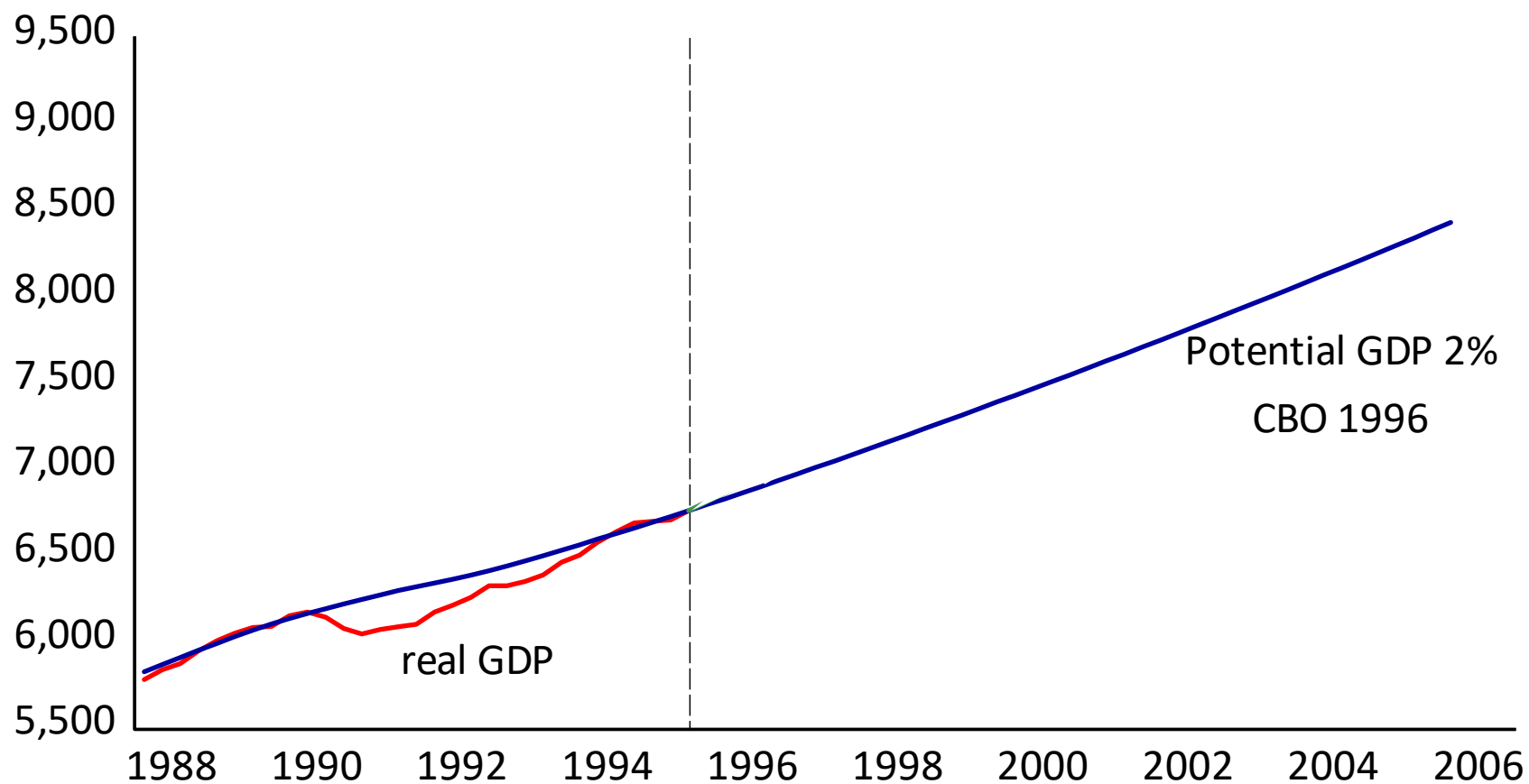
The 1980s and 1990s

- CBO 1996: Real Potential GDP, Vintage: 1996-04-17, Billions of Chained 1992 Dollars, spliced to equal real GDP in 1995.3
 - Growth rate is 3.1% from 1995.3 to 2006.4
- CBO 2000: Real Potential GDP, Vintage: 2000-01-27, Billions of Chained 1996 Dollars, converted to 1992 dollars and spliced with real GDP in 1995:3
 - Growth rate is 2.1 % from 1995.3 to 2006.4
- Real GDP: Actual real GDP, Vintage: 1996-01-19, Billions of Chained 1992 Dollars

Source: Alfred, St. Louis Fed

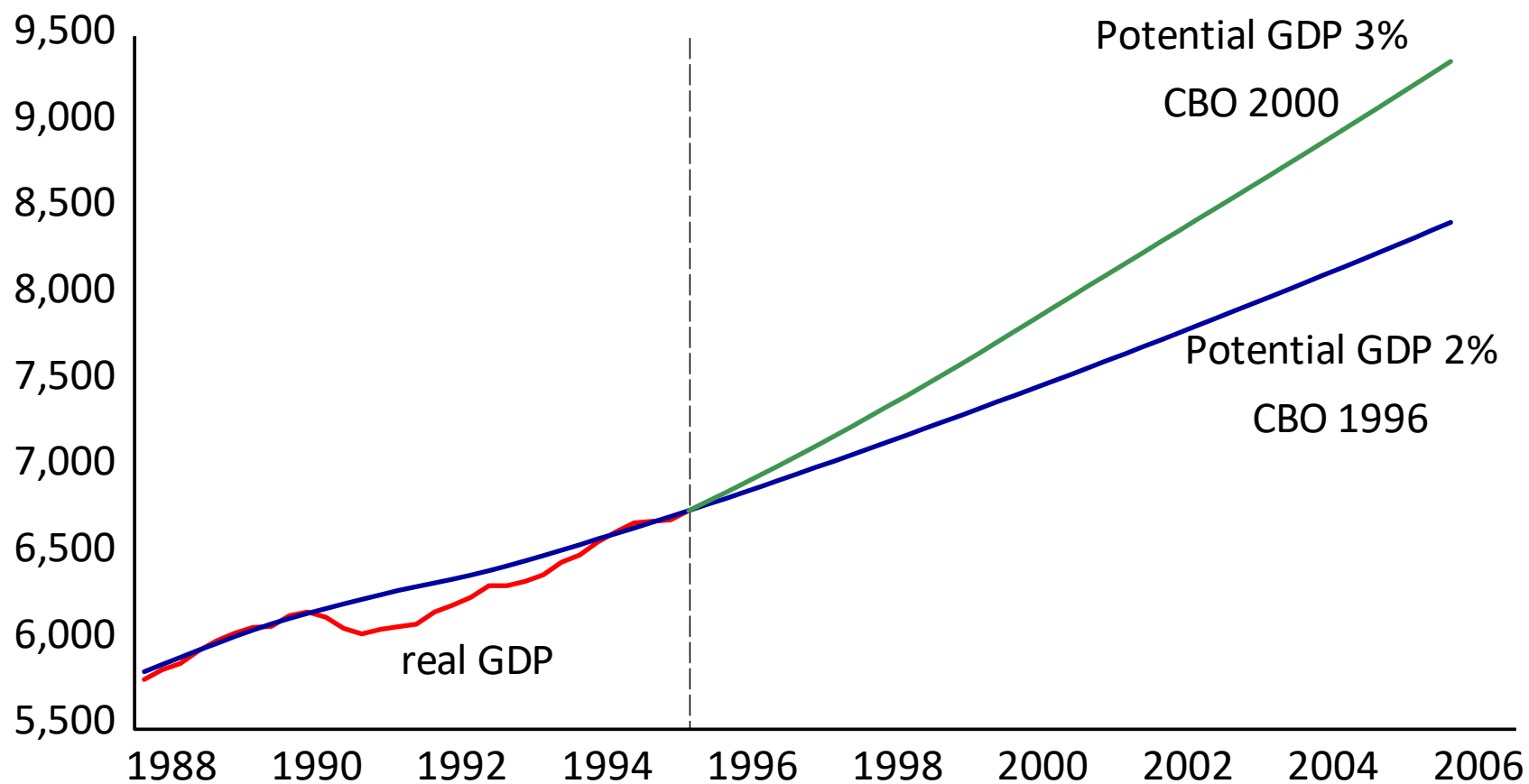
Billions of 1992 dollars

1995Q3



Billions of 1992 dollars

1995Q3



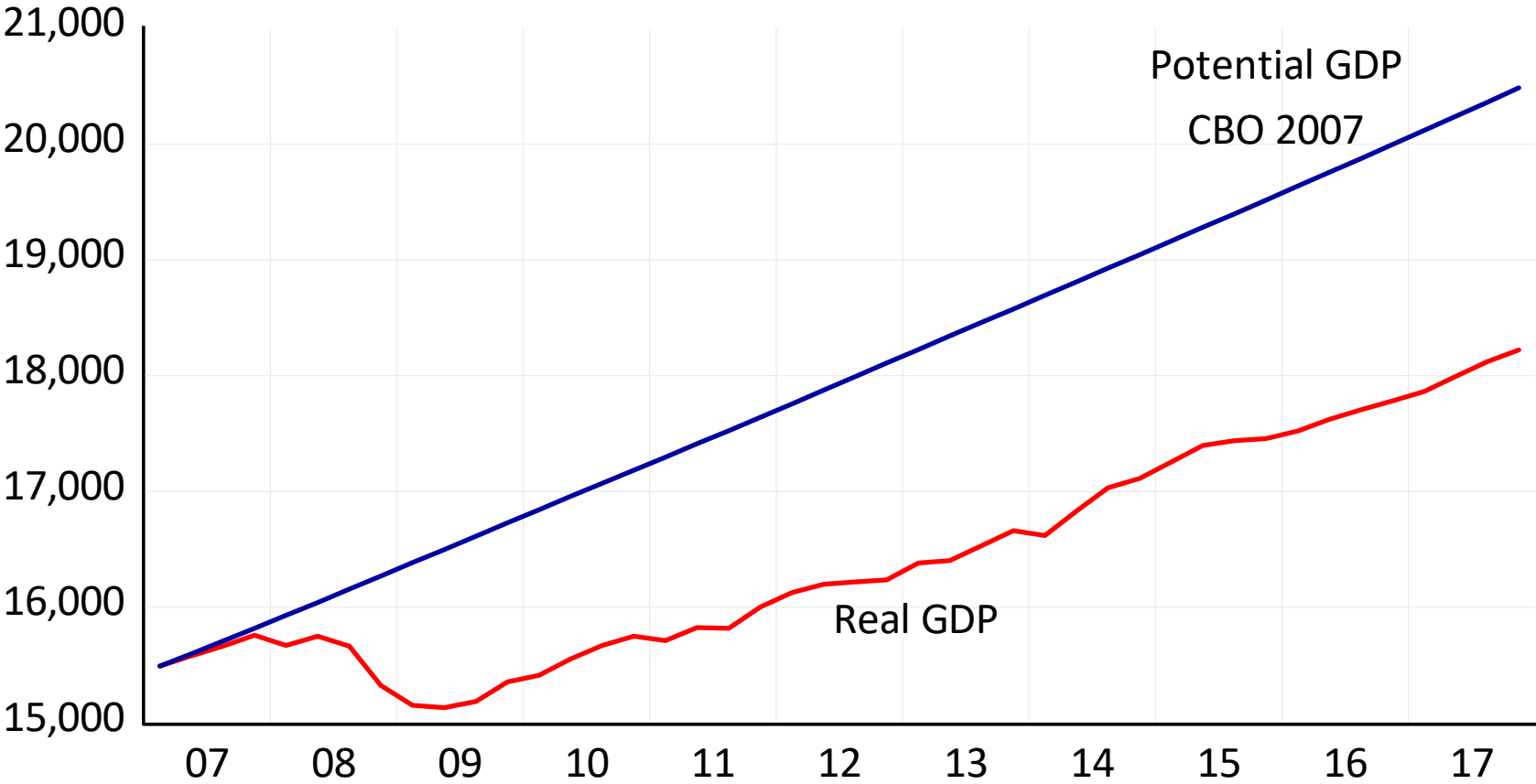
The 2000s

(Period of Great Recession and Slow Recovery)

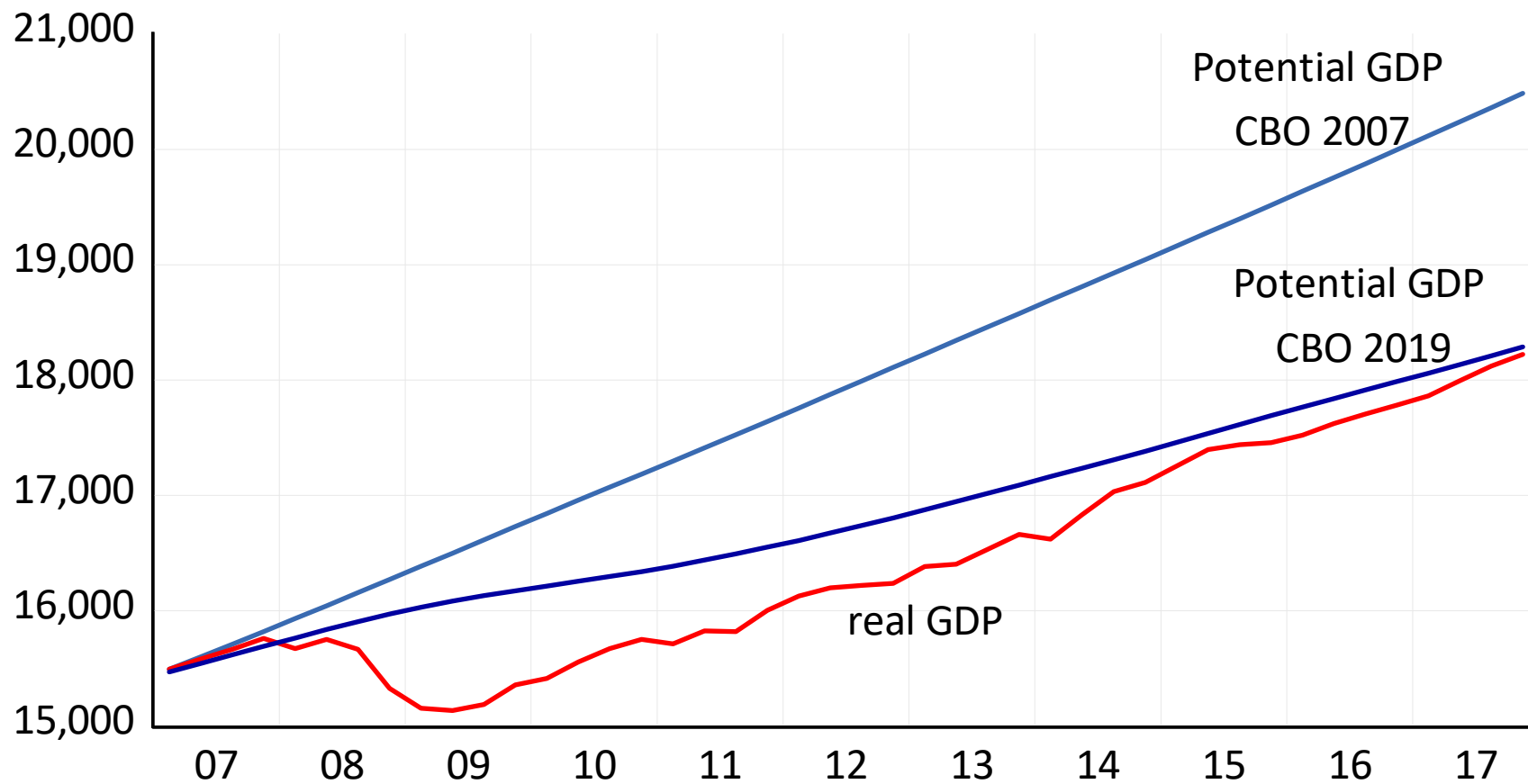
- CBO 2007: Real Potential GDP; Vintage: 2007-01-24, Billions of Chained 2000 Dollars, Spliced to 2007Q1 due to different base year
- CBO 2019: Real Potential GDP from Fred, June 2019

Source: Alfred, St. Louis Fed

Billions of 2012 dollars



Billions of 2012 dollars



Percent per year

5

4

3

2

1

0

Productivity Growth

1960

1970

1980

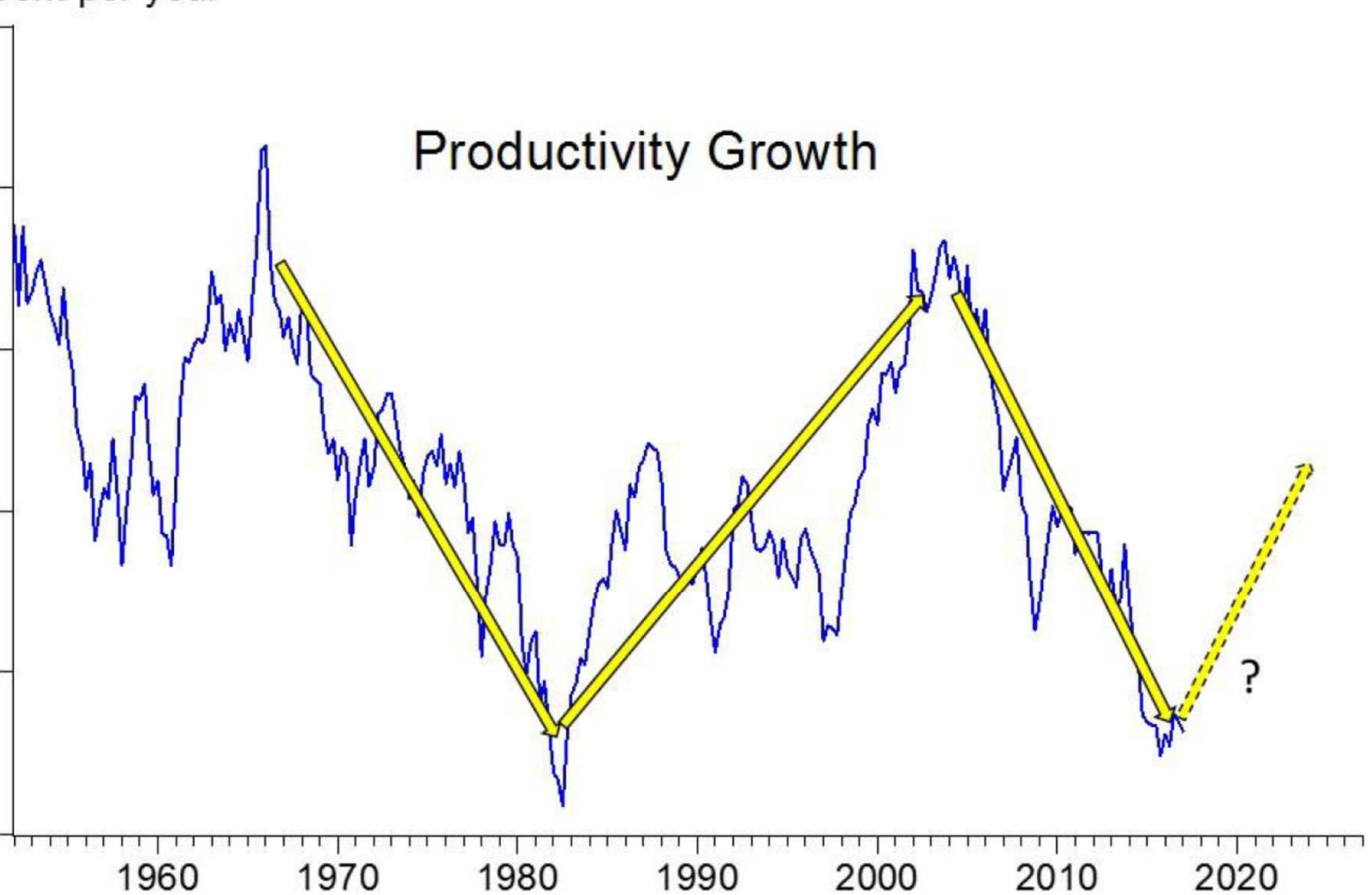
1990

2000

2010

2020

?



First Principles of Economic Policy

- *predictable policy framework* based on the
- *rule of law* with
- *strong incentives* drawn from reliance on the
- *market system* and a clearly
- *limited role for government.*

Shifting Policy Principles

- The 1960s and 1970s
 - Shifting away from key principles
- The 1980s and 1990s
 - Swinging back toward the principles
- The early 2000s
 - Veering away again
- The Future
 - Swinging back toward the principles?

The Future

- July 2017, Cogan, Hubbard, Taylor, Warsh
 - Should revise potential growth up if policy changes
 - real potential GDP growth = **3.0%** per year
 - **2.0%** productivity growth & **1.0%** employment growth
- Compared with CBO:
 - real potential GDP growth = **1.8%** per year
 - **1.3%** productivity growth & **0.5%** employment growth
- Employment growth at **1.0%** rather than **0.5%** because
 - “labor force participation rate will remain constant compared to CBOs assumption that...rate will decline.”
 - Constant because a 0.4 percent per year decline due to aging population, would be offset by 0.4 percent per year increase in age-specific labor force participation rates due to policy
 - Population assumed to increase by 1% per year (*ERP* 2017)

Policy Reform Buckets

- Tax reform
- Regulatory reform
- Monetary reform
 - International monetary reform
- Budget reform

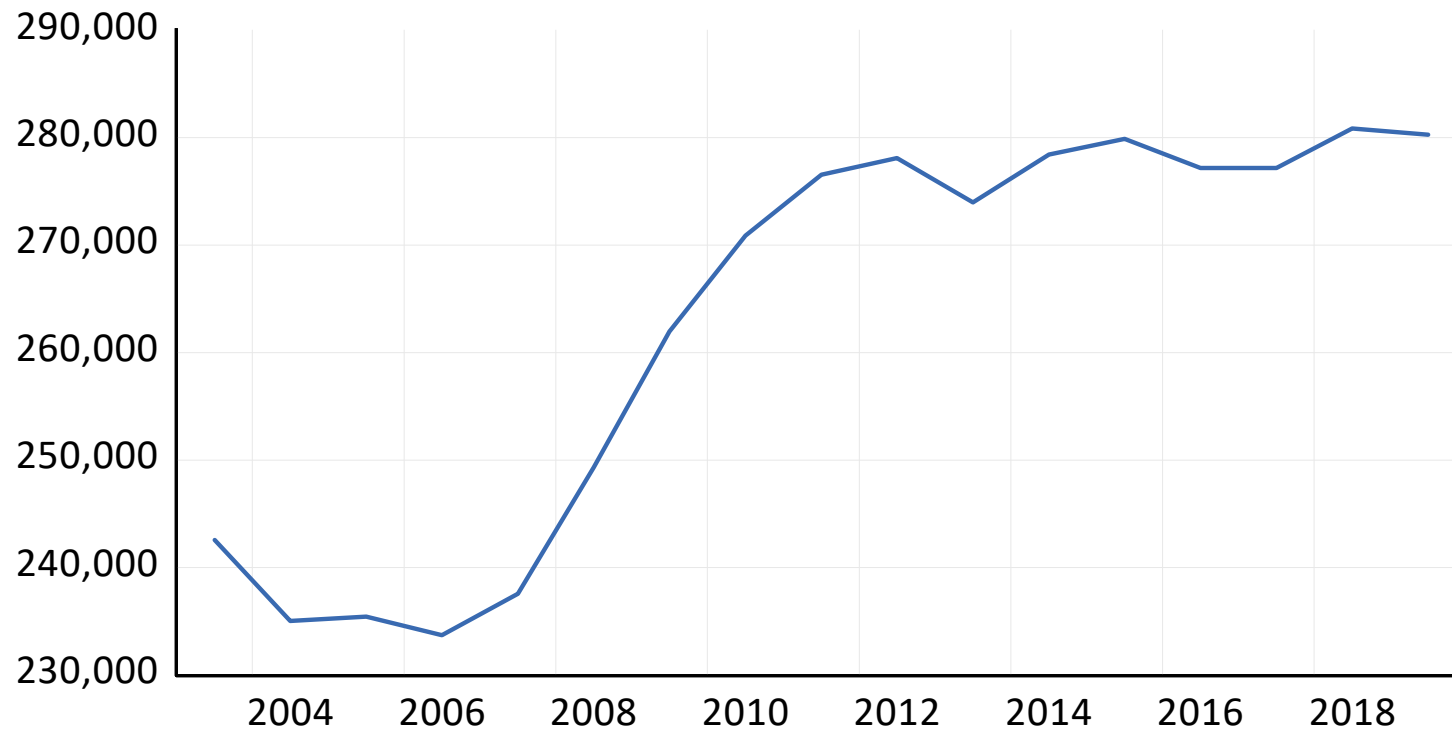
Tax Reform

- 2017 Act lowered tax rates on business
 - 35% to 21% corporate rate
 - Expensing (at least for 5 years)
 - Lower tax rate on small business
 - Territorial tax system and low rate for repatriation
- All reduce cost of capital, thus raise investment, productivity, wages, and economic growth
- Personal side:
 - Simplification
 - Lower rates, expand base (deductibility of SALT)

Regulatory Reform

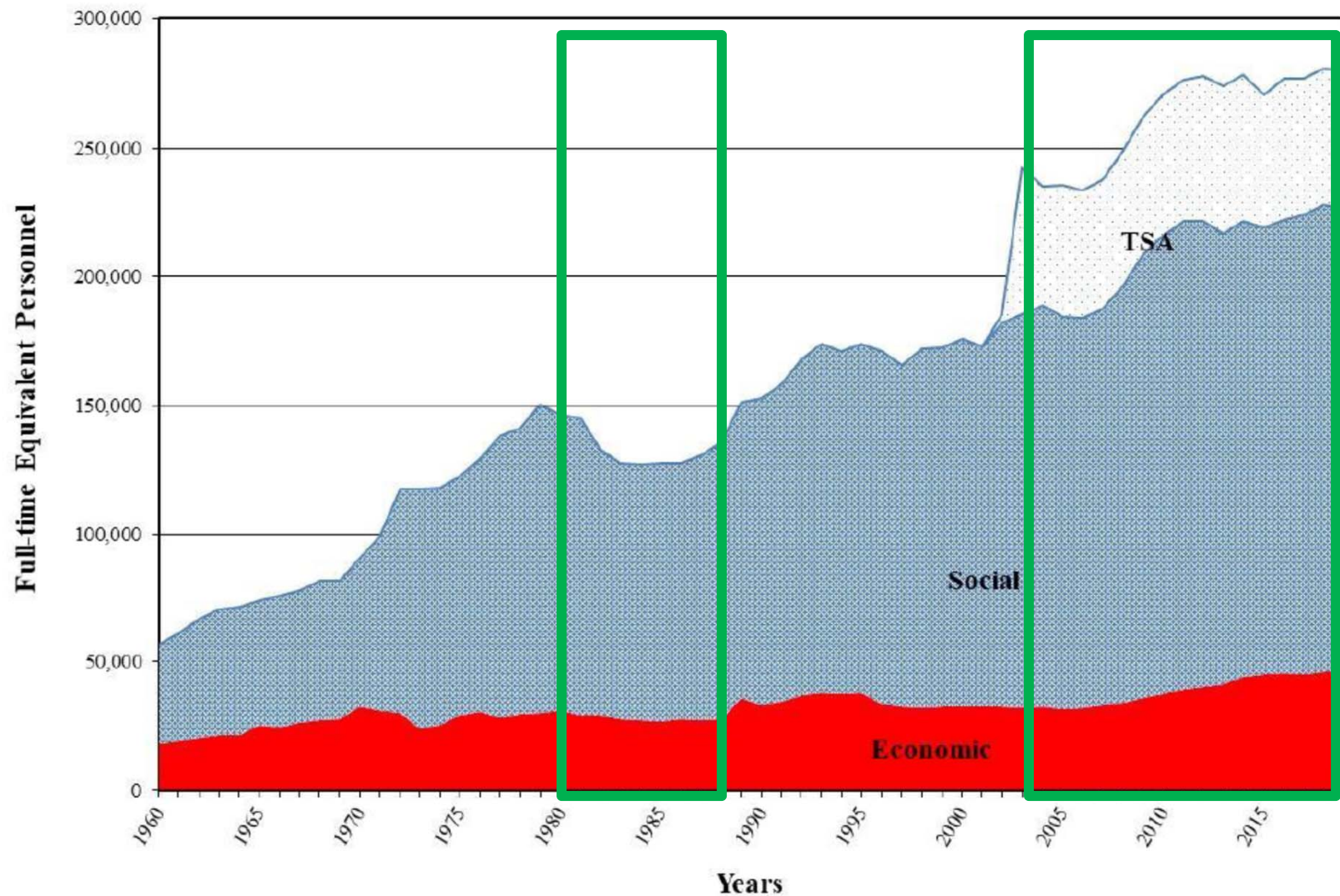
- Executive Orders
- Using the Congressional Review Act
- Appointments
 - Ajit Pai (FCC), Jay Clayton (SEC), Randy Quarles (Fed), Joseph Otting (OCC), Jellena McWilliams (FDIC), Neomi Rao (OIRA), Mick Mulvaney (CFPB), Rick Perry (Energy)
- Legislation passed
 - Economic Growth, Regulatory Relief, Consumer Protection Act
 - Lifts threshold from \$50B to \$250B for TBTF and stress tests
- Legislation still needed
 - Financial Institution Bankruptcy Act (Chapter 14)

Full-time
equivalent
personnel



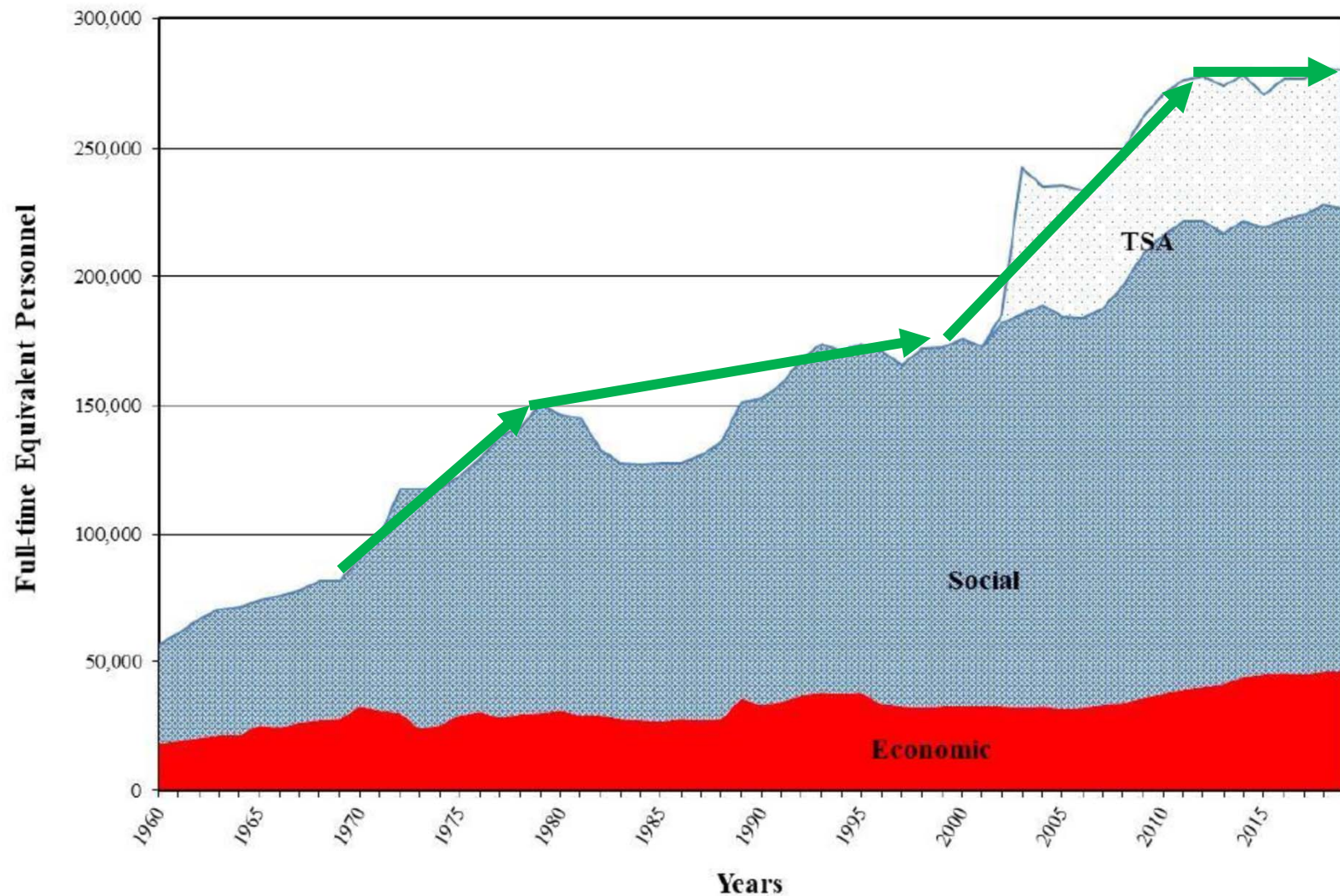
Staffing of Federal Regulatory Agencies
(Includes TSA employees - about 53,000)

Staffing of Federal Regulatory Agencies



Source: Weidenbaum Center, Washington University and the George Washington University Regulatory Studies Center. Derived from the *Budget of the United States Government* and related documents, various fiscal years.

Staffing of Federal Regulatory Agencies

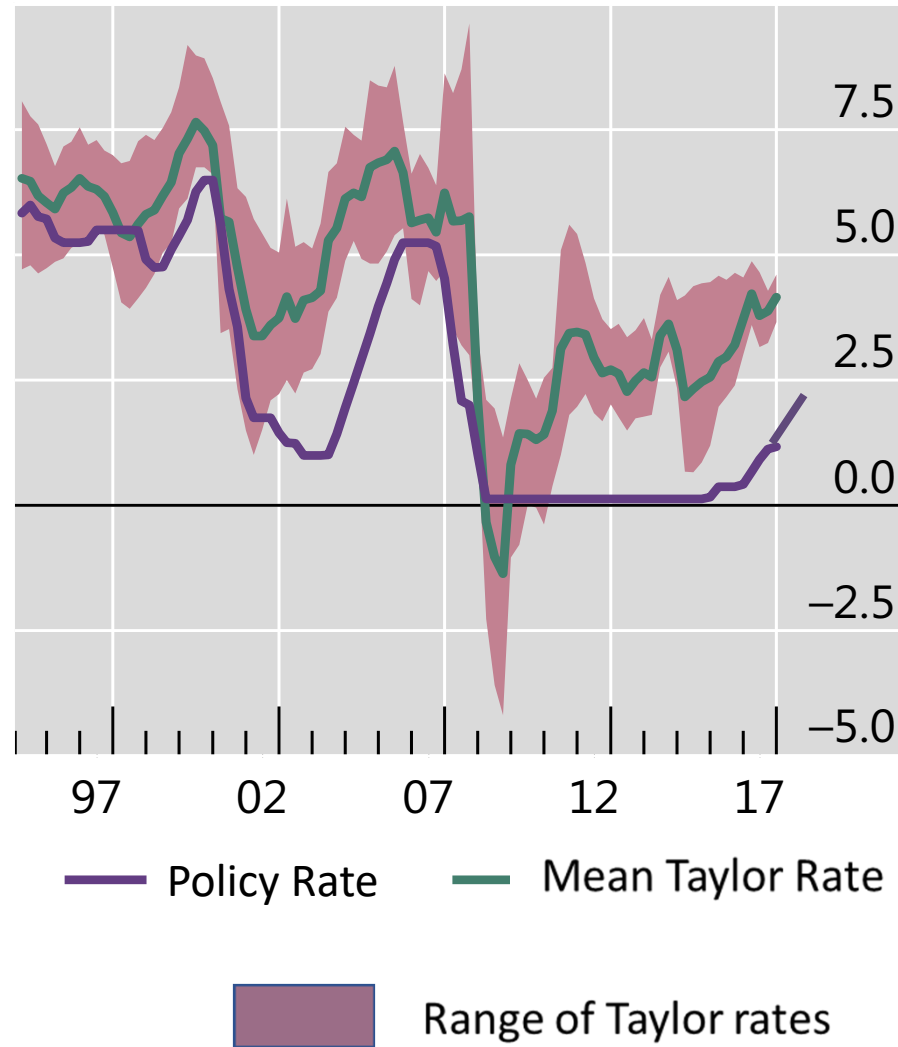


Source: Weidenbaum Center, Washington University and the George Washington University Regulatory Studies Center. Derived from the *Budget of the United States Government* and related documents, various fiscal years.

Monetary Policy

- Fed began to get back on track in 2017 and 2018
 - Normalizing back towards rule-like policy that worked well in the past
 - Actions, appointments, speeches, publications

United States



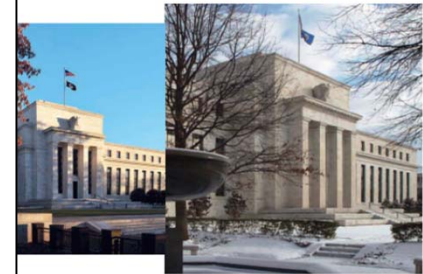
Source: Bank for International Settlements, 2018

- Jan 18, 2017: Janet Yellen describes the Fed's strategy
 - When economy is weak...we lower short-term interest rates
 - When inflation too high... we increase interest rates
- Jan 19, 2017: Yellen compares strategy with the Taylor rule and other rules, and explains the differences.
- Feb 11, 2017 : Stanley Fischer gives same message
- July 7, 2017: *Monetary Policy Report*
 - A whole new section on "Monetary Policy Rules"

- Feb 23, 2018: *Monetary Policy Report*, with new chair, again includes section on policy rules
- Feb 27 & Mar 1, 2018: In first testimony as Fed Chair, Jay Powell says that
 - “I find these rule prescriptions helpful.”
- Emphasis on rules does not go unnoticed:
 - Larry Kudlow: “I think that’s progress.”
- Mar 8, 2018: Fed creates web site “Monetary Rules”
- July 13, 2018: *Monetary Policy Report*
- Nov 27, 2018: Vice Chair Clarida “Economic research suggests that monetary policy should be 'data dependent.' The seminal reference is Taylor (1993), “Discretion versus Policy Rules in Practice,”
- Feb 22, 2019: *Monetary Policy Report*

Monetary Policy Report, Fed (2019)

MONETARY POLICY REPORT
February 22, 2019



Board of Governors of the Federal Reserve System

A. Monetary policy rules

Taylor (1993) rule

$$R_t^{T93} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + (u_t^{LR} - u_t)$$

Balanced-approach rule

$$R_t^{BA} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + 2(u_t^{LR} - u_t)$$

Taylor (1993) rule, adjusted

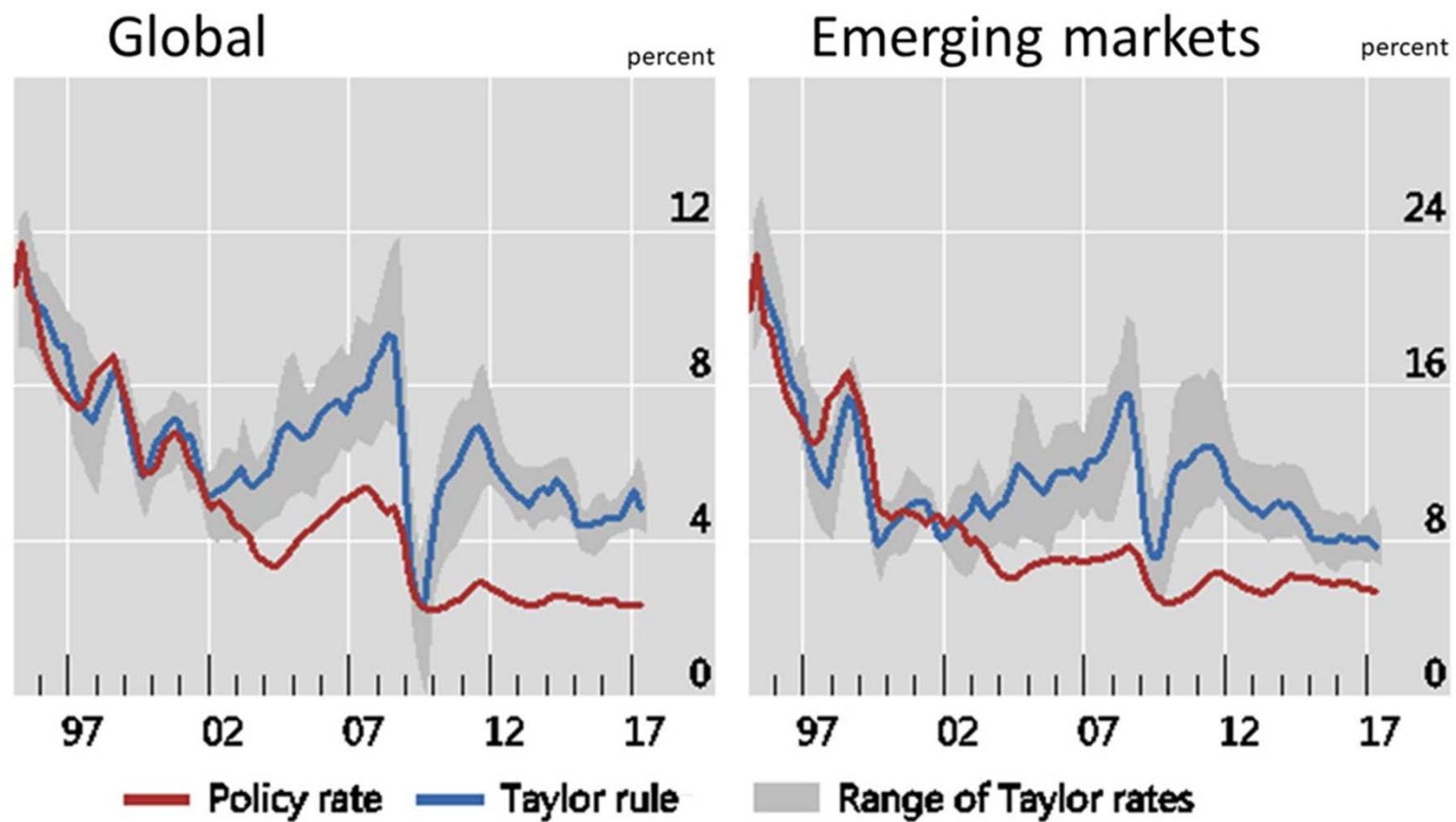
$$R_t^{T93adj} = \text{maximum} \{R_t^{T93} - Z_t, 0\}$$

Price-level rule

$$R_t^{PL} = \text{maximum} \{r_t^{LR} + \pi_t + (u_t^{LR} - u_t) + 0.5(PLgap_t), 0\}$$

First-difference rule

$$R_t^{FD} = R_{t-1} + 0.5(\pi_t - \pi^{LR}) + (u_t^{LR} - u_t) - (u_{t-4}^{LR} - u_{t-4})$$



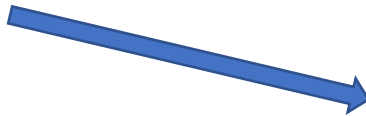
Source: Bank of International Settlements(2018)

With Fed Normalizing, International Monetary Reform Could Follow

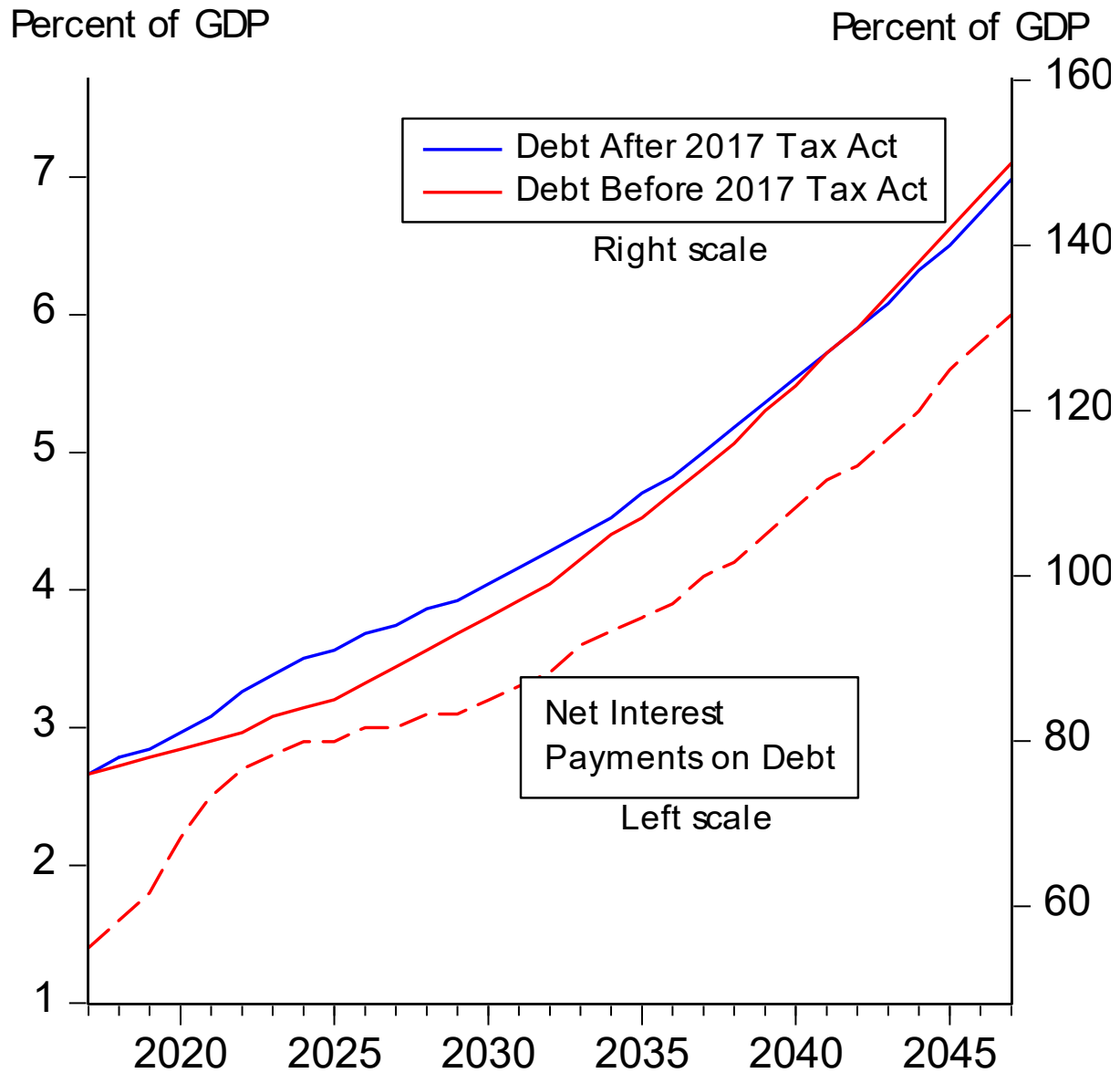
- Each central bank would describe & commit to a strategy for setting policy instruments.
 - Raghu Rajan: “what we need are monetary rules.”
 - Mario Draghi: “We would all clearly benefit from...improving communication over our reaction functions...”
- Attractive because each country can choose its own strategy and contribute to global stability.

International monetary arrangements

- Rules-based monetary policy
- Flexible exchange rates
- Open capital markets
 - EPG report to G20



Budget Reform

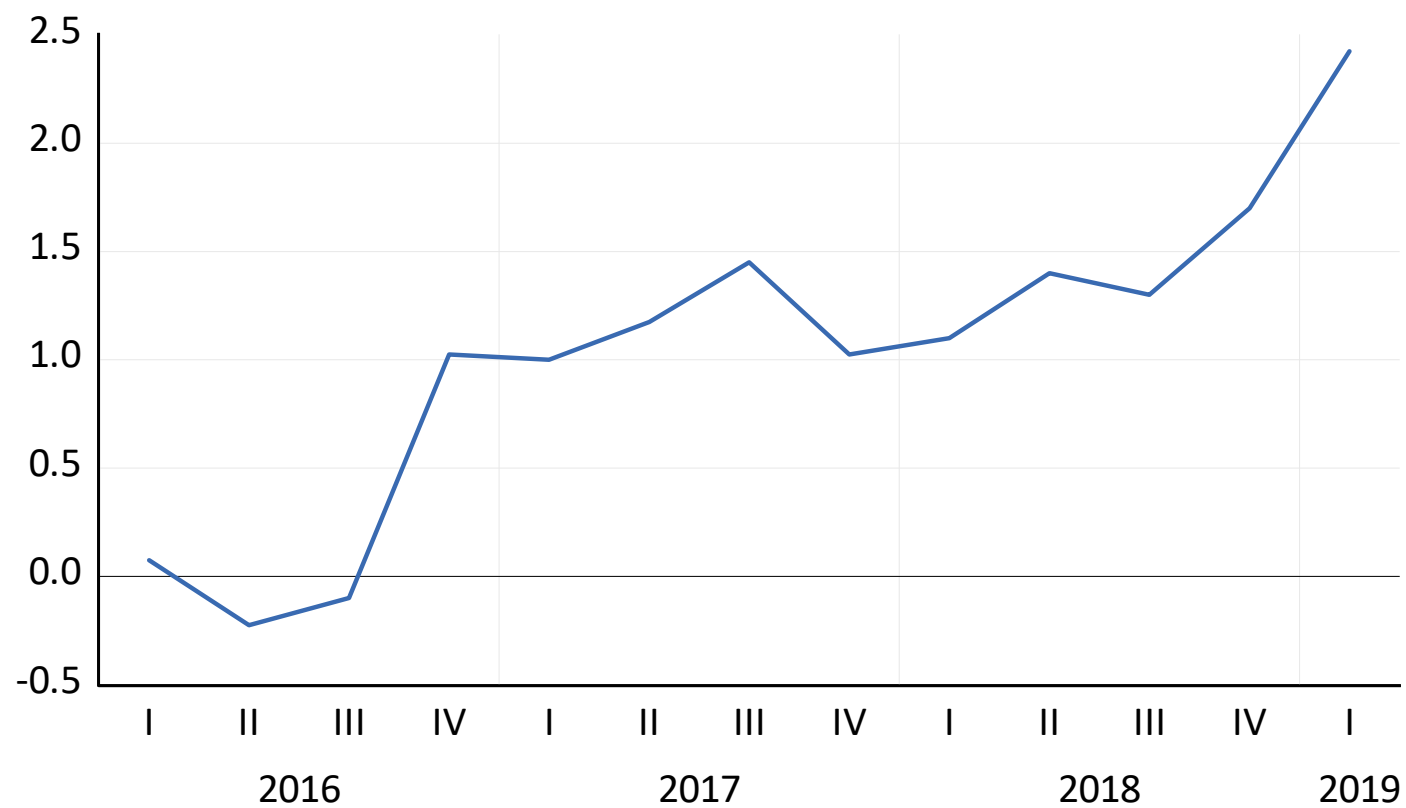


Is it Working?

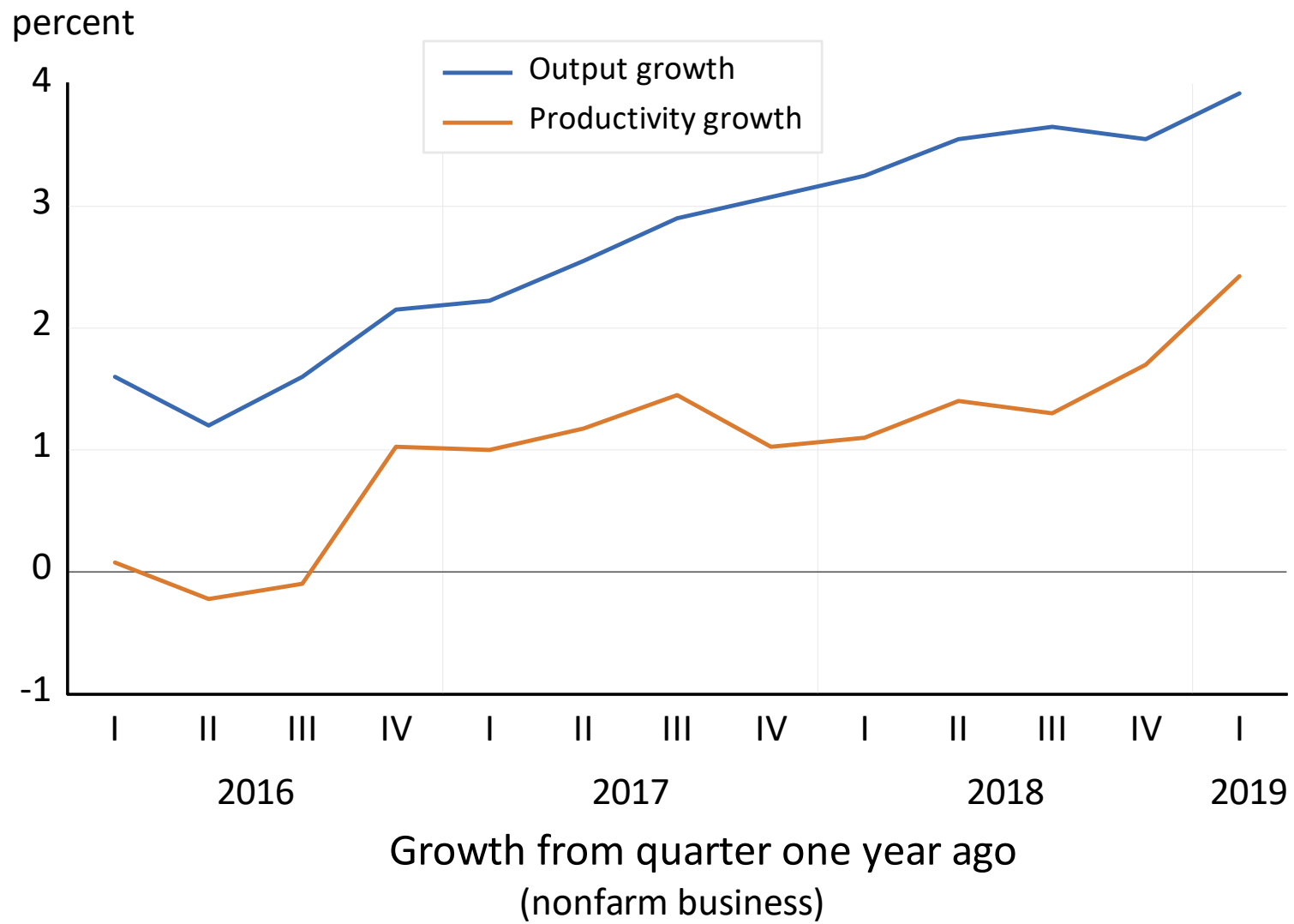
Growth Projections (Annual Rates)

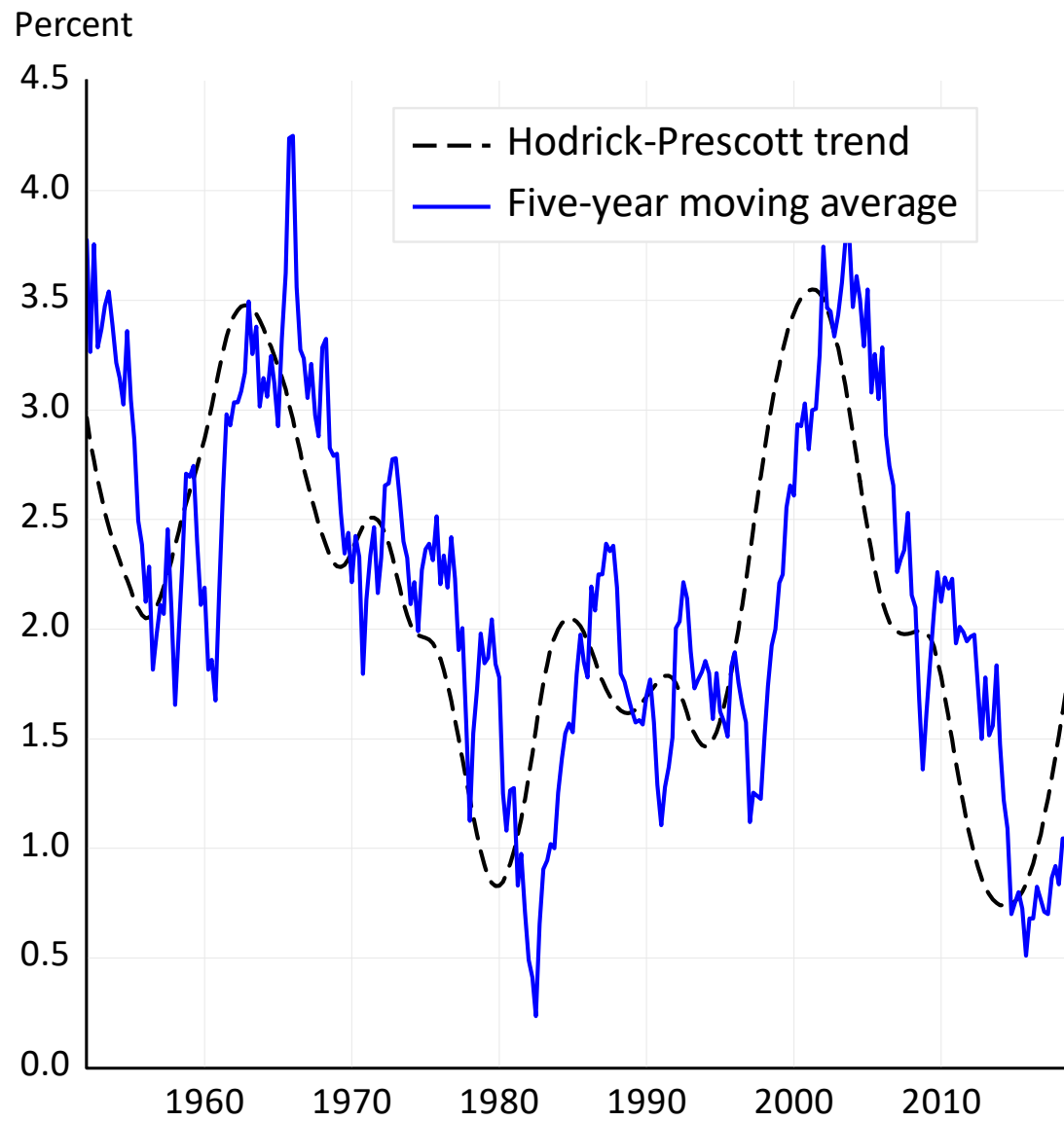
	Productivity	+	Employment	=	real GDP
CBO	1.3	+	0.5	=	1.8
Reform	2.0	+	1.0	=	3.0

percent

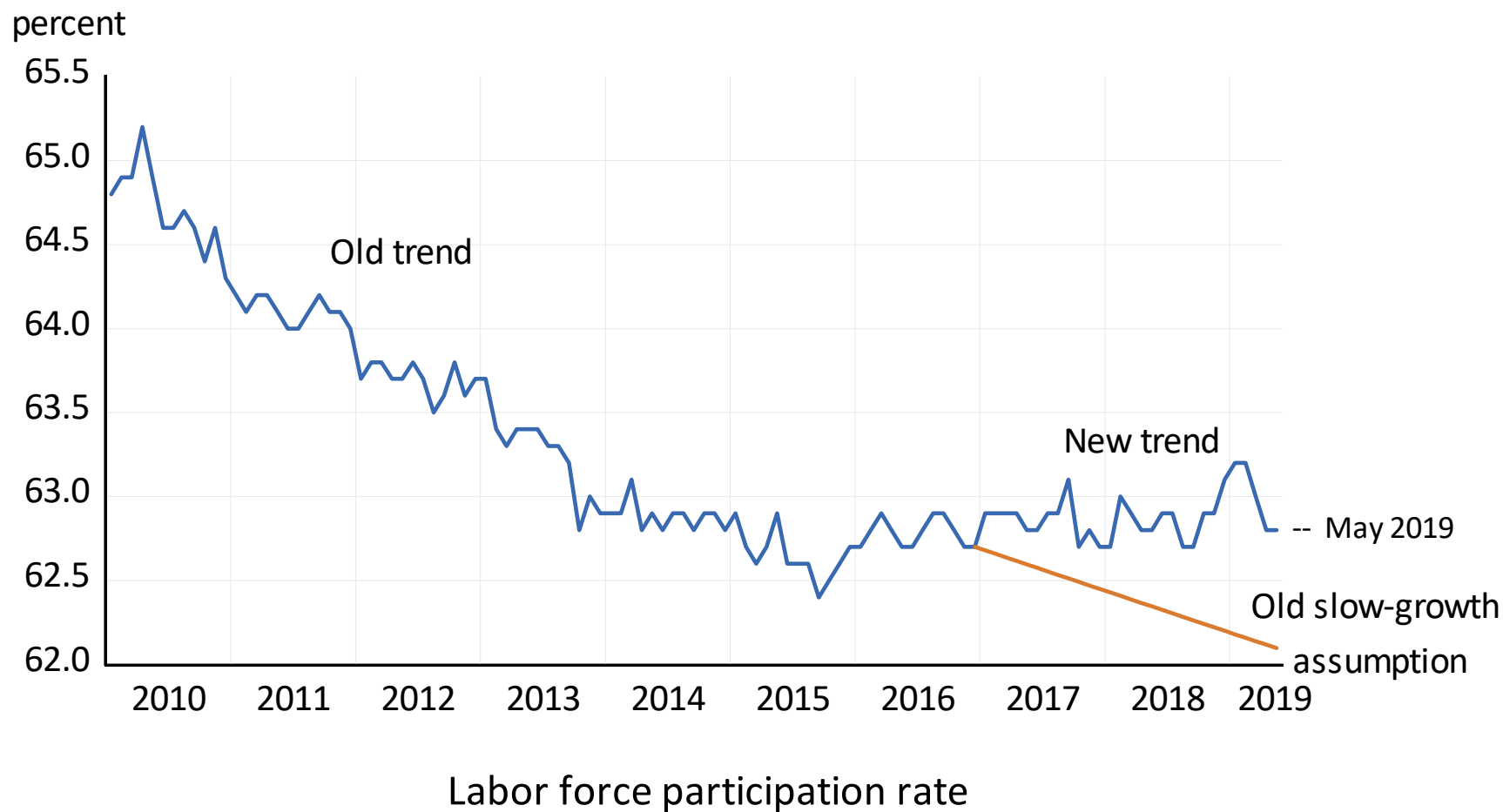


Productivity Growth from Quarter One Year Ago
(nonfarm business)

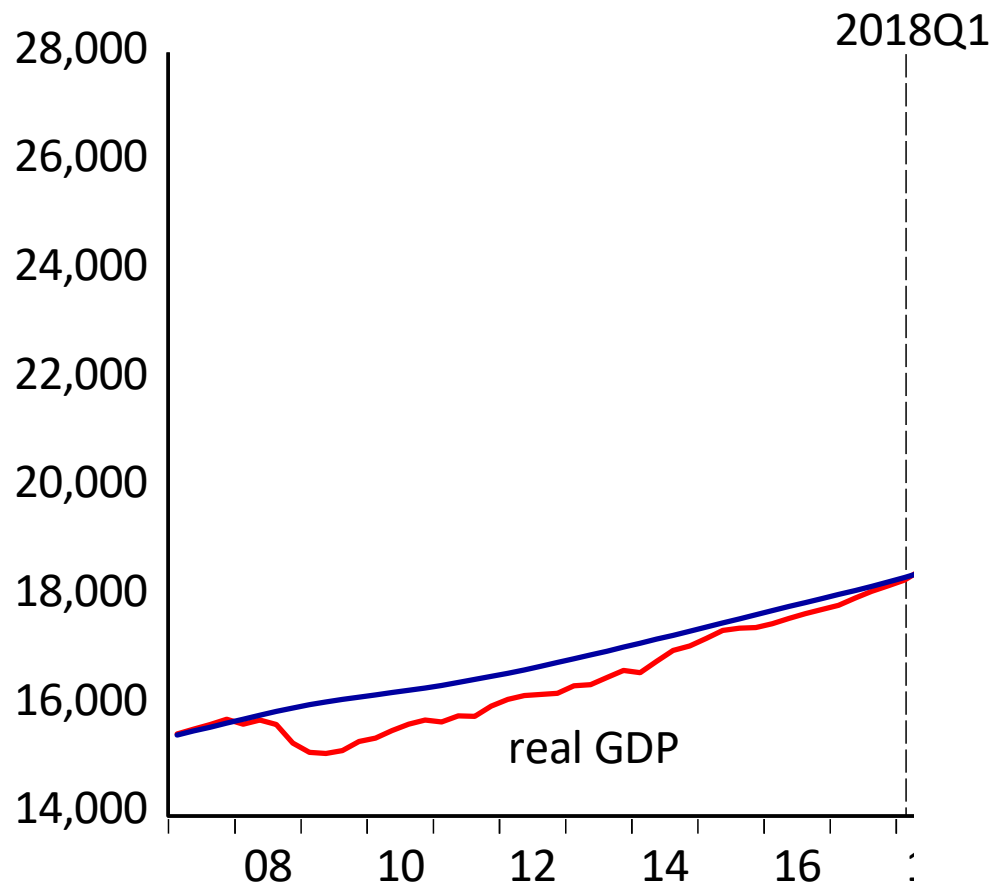




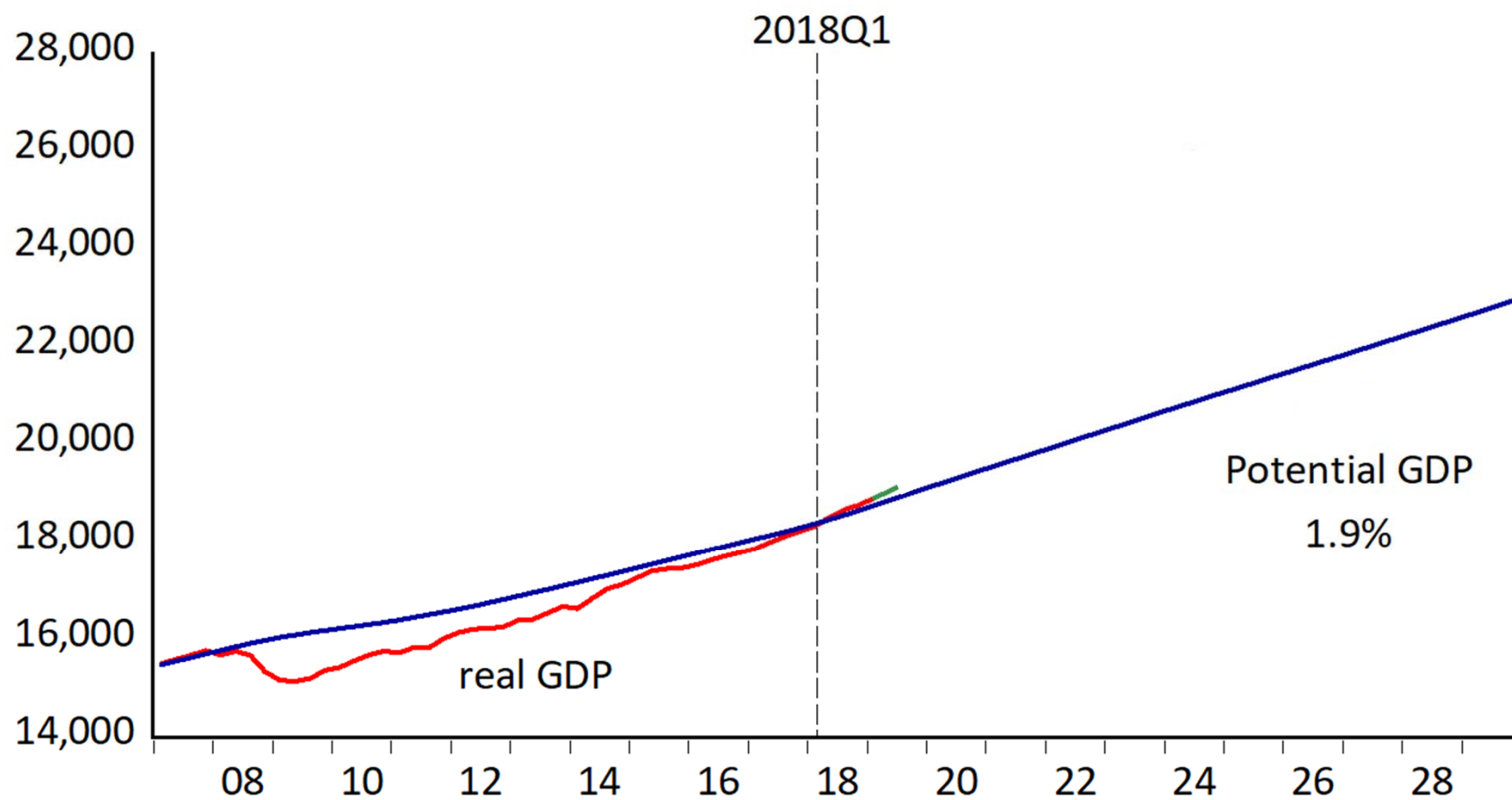
Productivity growth



Billions of 2012 dollars



Billions of 2012 dollars



Billions of 2012 dollars

