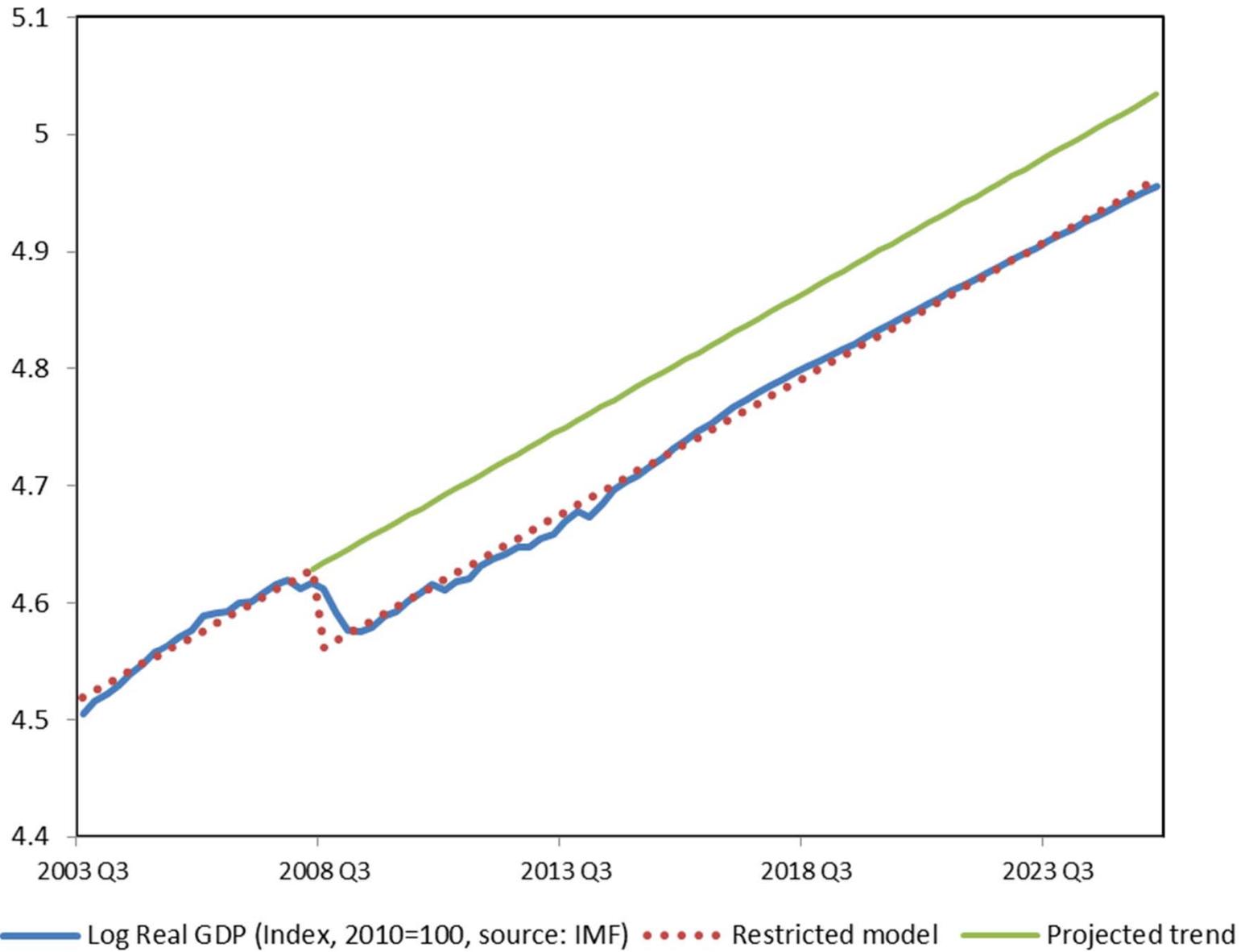


Economics 442
Macroeconomic Policy
Lecture 25
4/24/2019

Instructor: Prof. Menzie Chinn
UW Madison
Spring 2019

Outline

- Secular stagnation: Interpretations
- Slow Potential GDP Growth (Fernald, Hall, Stock, Watson)
- Measurement Issues (Byrne, Fernald, Reinsdorf)



Source: Papell, Prodan, *Econbrowser*, 17 Feb 2015

What Is Secular Stagnation?

- A term first coined by Alvin Hansen
- Resurrected in 2013 by Lawrence Summers
- But means different things to different people
- Hence we have to be specific when we discuss the phenomenon in order to understand explanations, and policy responses

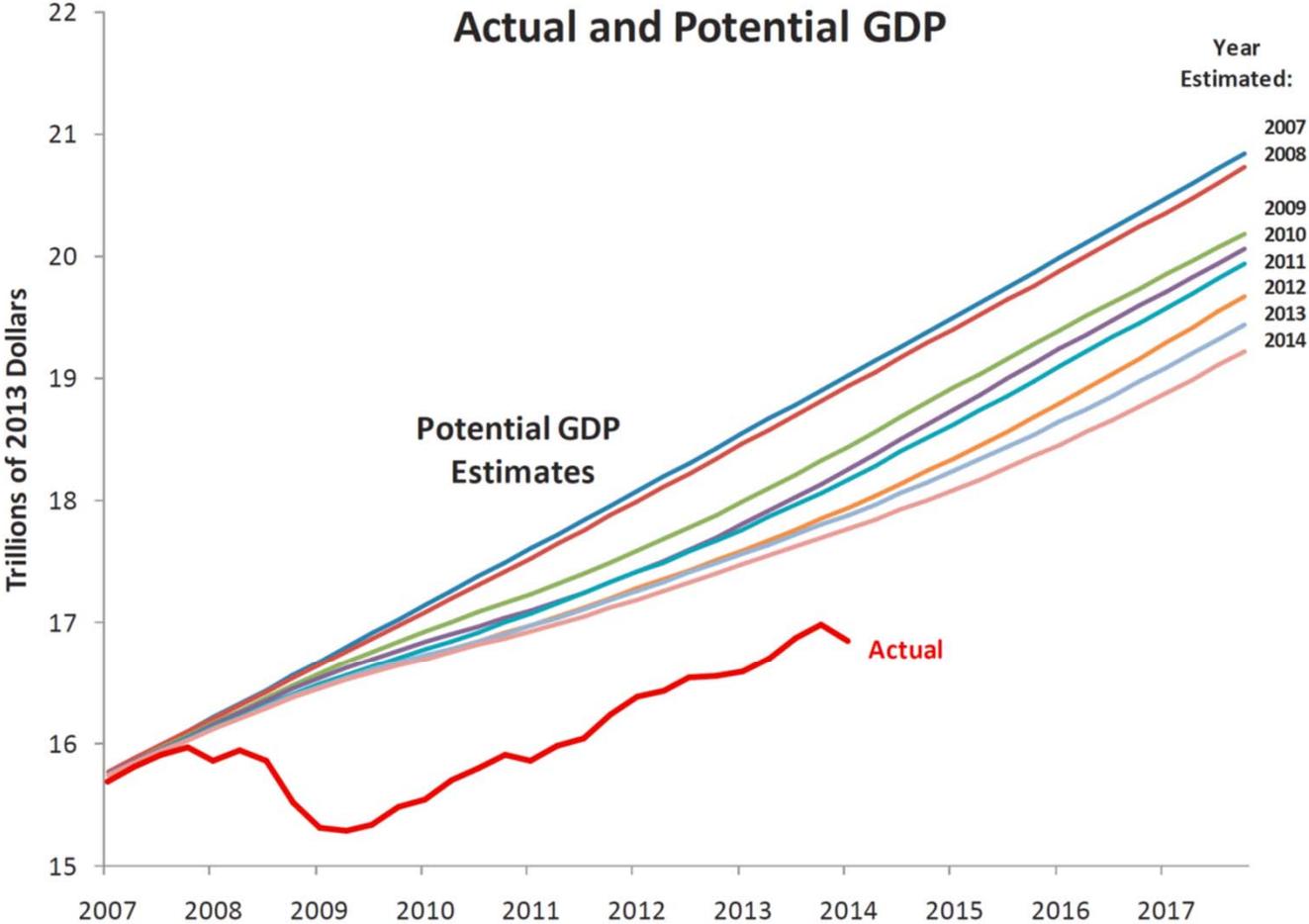
Three Pillars

- First is the economy's long-run potential growth rate.
- Second is the deviation of actual growth from its potential.
- Third is one-off changes in the level of GDP without a change in the long-run growth rate.

Long Run Growth

- This relates to the trend in potential GDP
- Gordon argues that there is a slowdown, due to
 - Technological growth
 - Demography
 - Inequality
 - Public debt

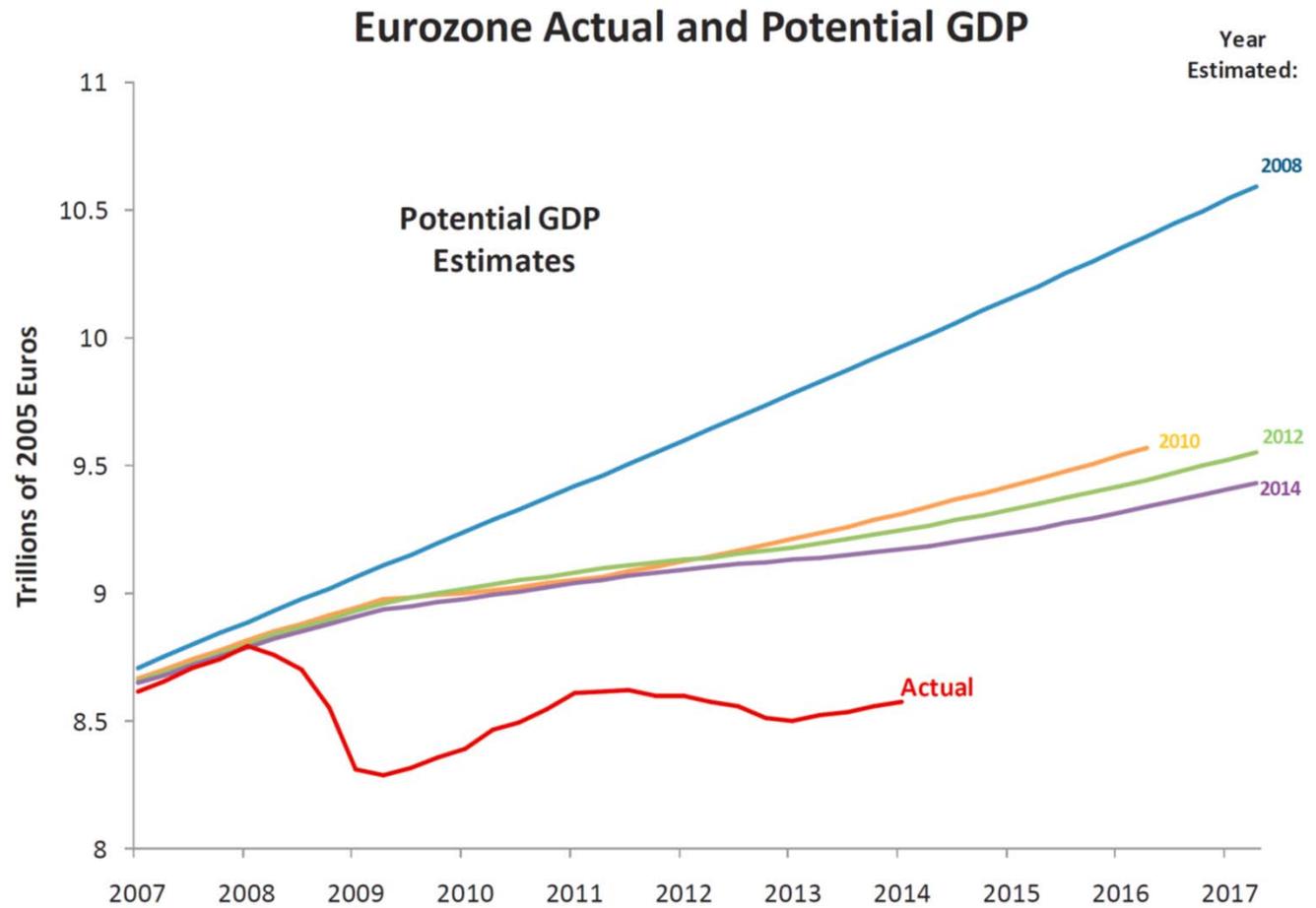
Figure 1a Actual and potential GDP in the US



Sources: Congressional Budget Office, Bureau of Economic Analysis.

Source: Summers (2014).

Figure 1b Actual and potential GDP in the Eurozone



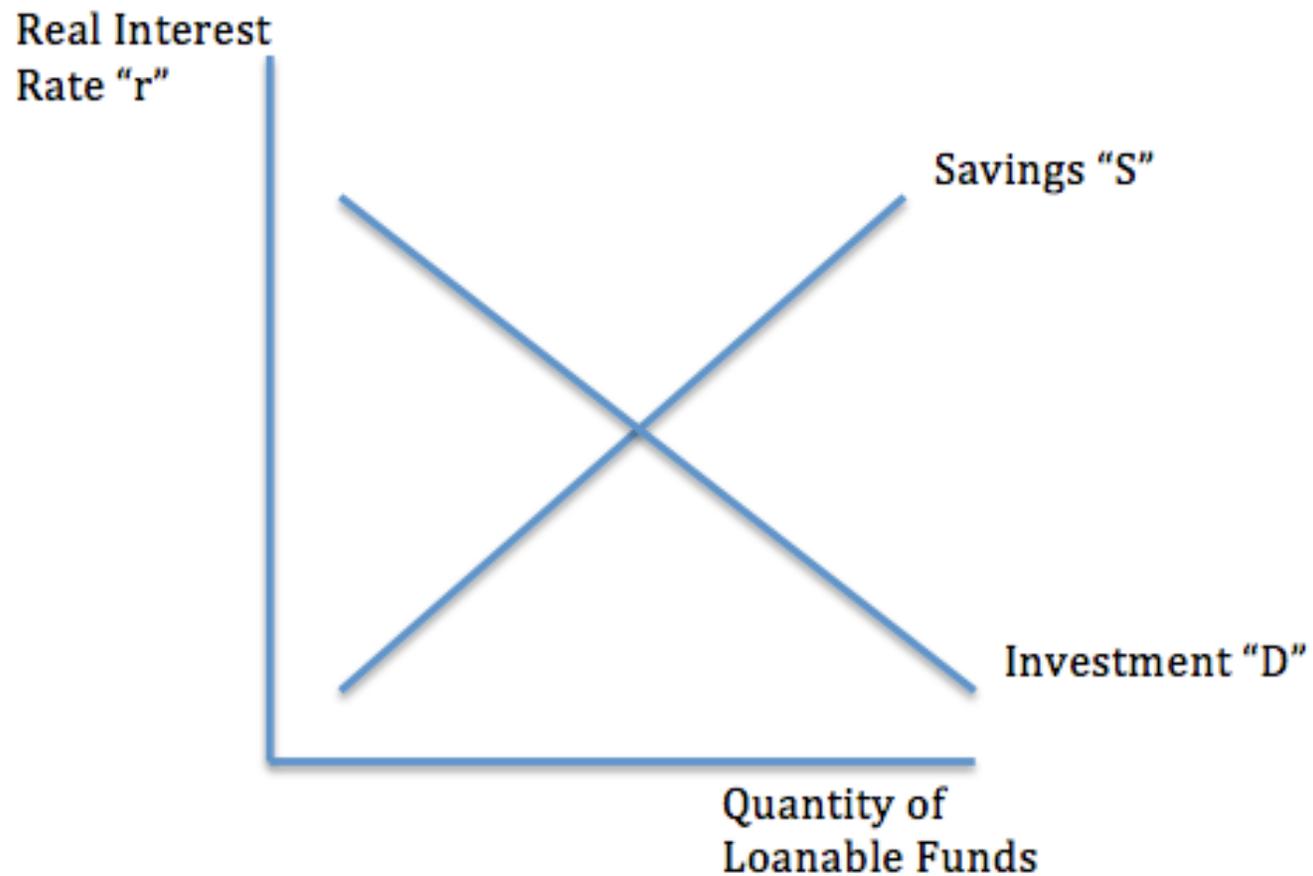
Sources: IMF World Economic Outlook Databases, Bloomberg.

Source: Summers (2014).

Persistent Output Gap

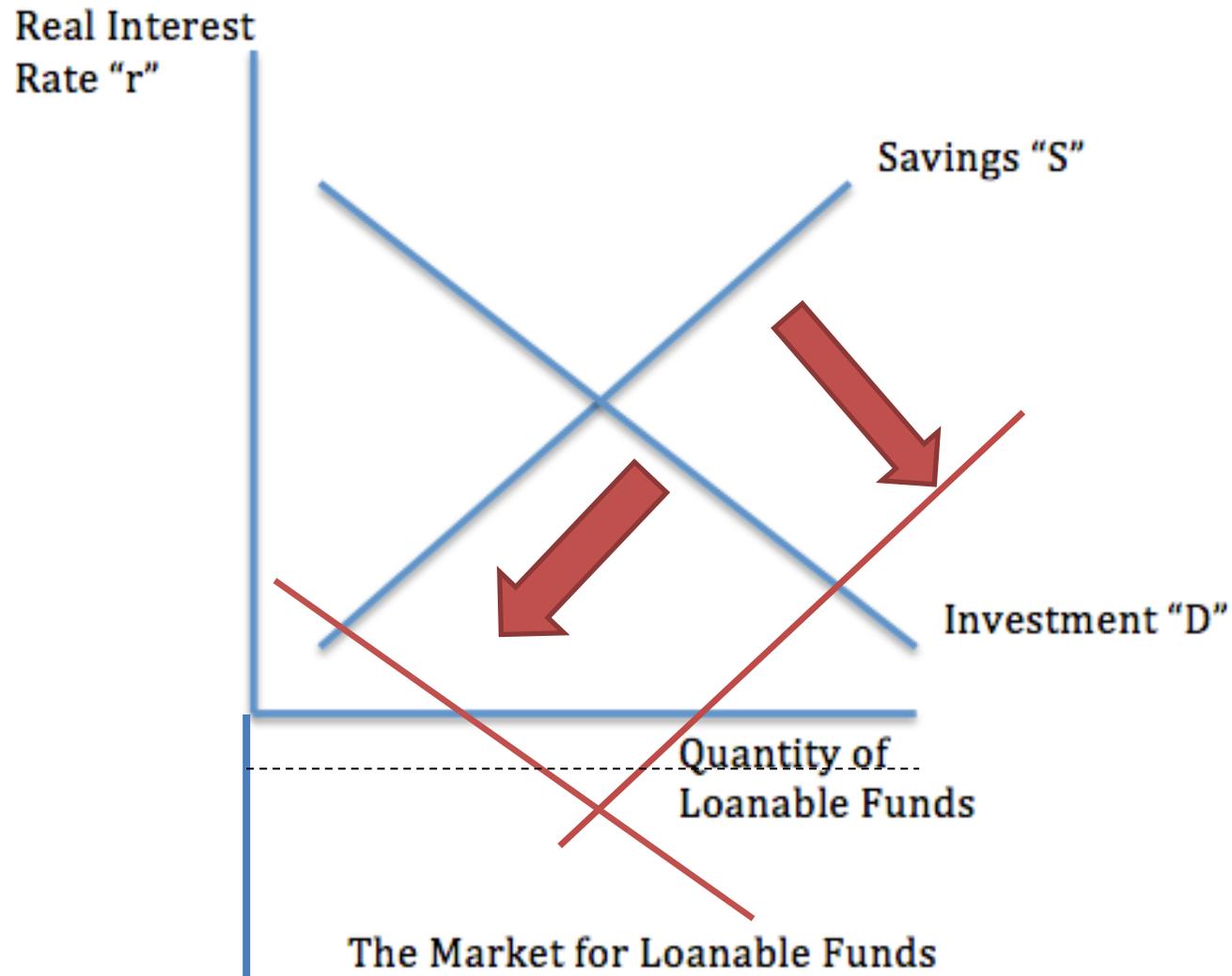
- This is easily interpretable in the framework we have right now.
- $AD = Y < Y_n$
- Why is AD so low?
- Real interest rate that equilibrates saving to investment at full employment (FERIR in Summers' lexicon) is lower than what is achieved, given ZLB; or...
- Saving is too high relative to desired investment

Loanable Funds Framework

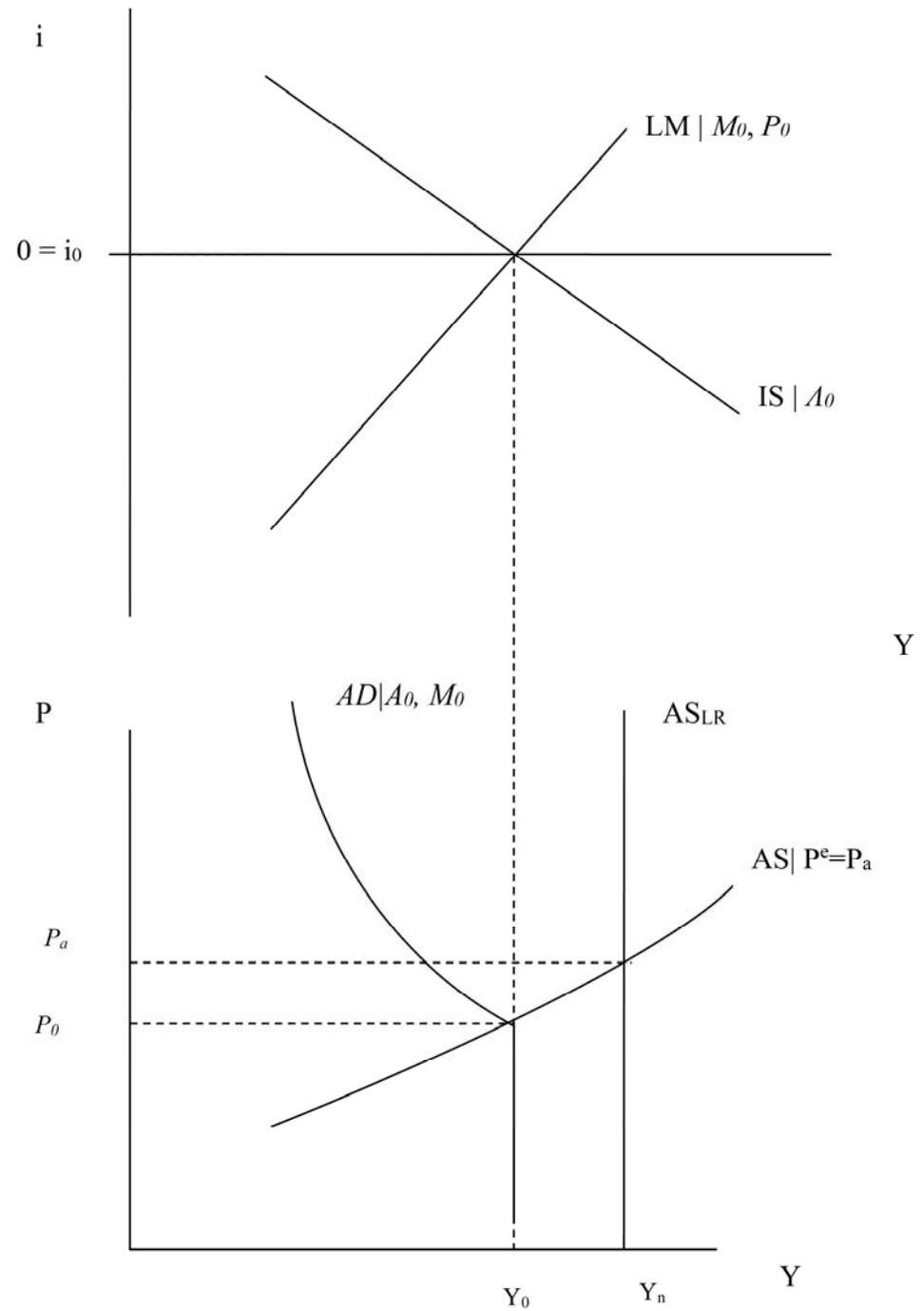


The Market for Loanable Funds

Loanable Funds Framework



Or, in AD-AS Framework



Why Deficient Aggregate Demand?

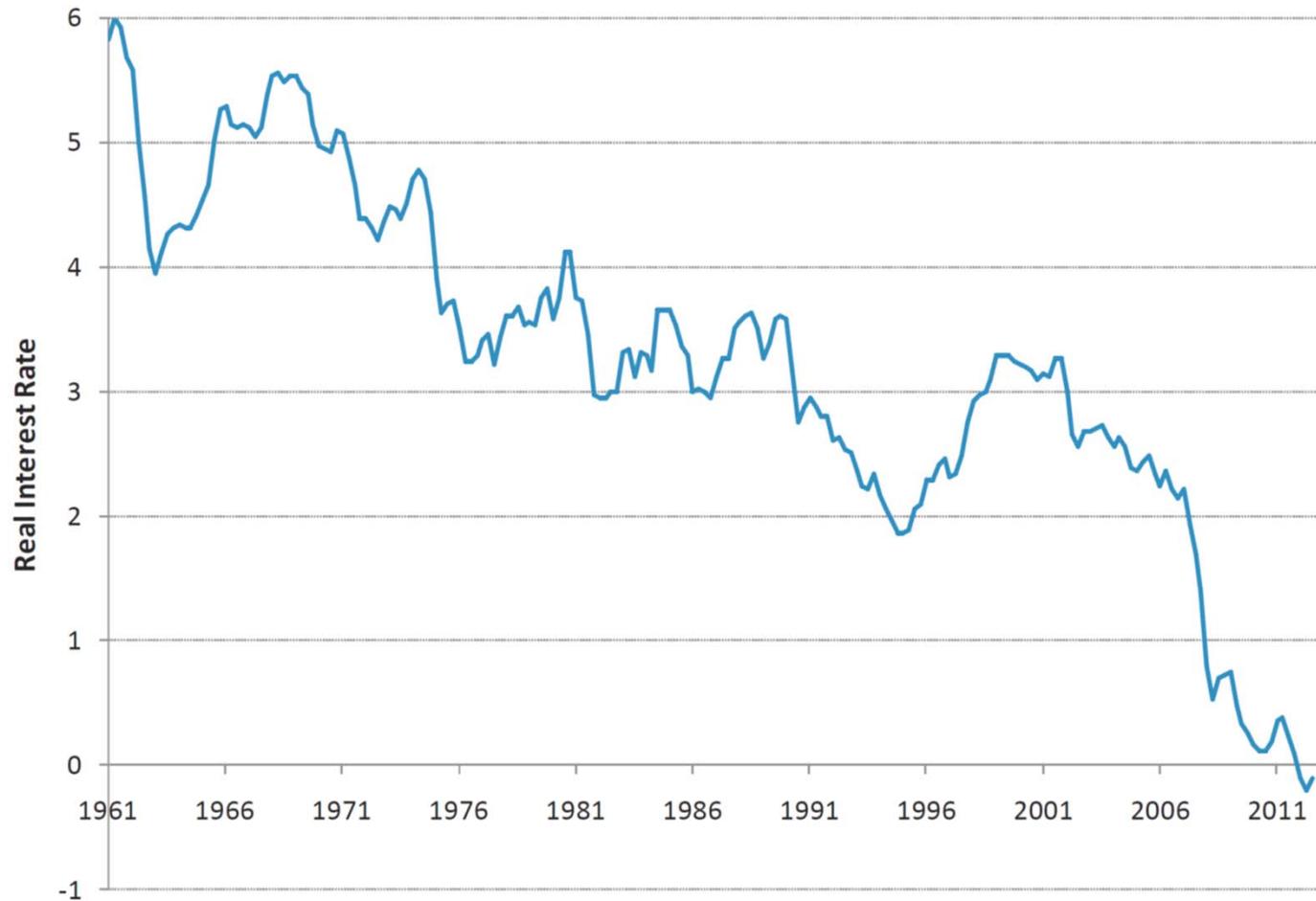
- We have a solution: Higher government spending
- This is not implemented, either because solvency concerns, or because of a lack of political will
- Hence, the question reduces to why deficient private aggregate demand

Summers' Explanations

- Slower population growth and/or slower technological innovation results in less demand for investment
- Lower price of investment goods results in need for less savings
- Rising income inequality leads to lower overall MPC, as high income households have lower MPC
- Central bank demand for safe assets
- Disinflation means higher after tax real interest rates (for a given real interest rate).

Estimates of the FERIR

Natural Rate of Interest

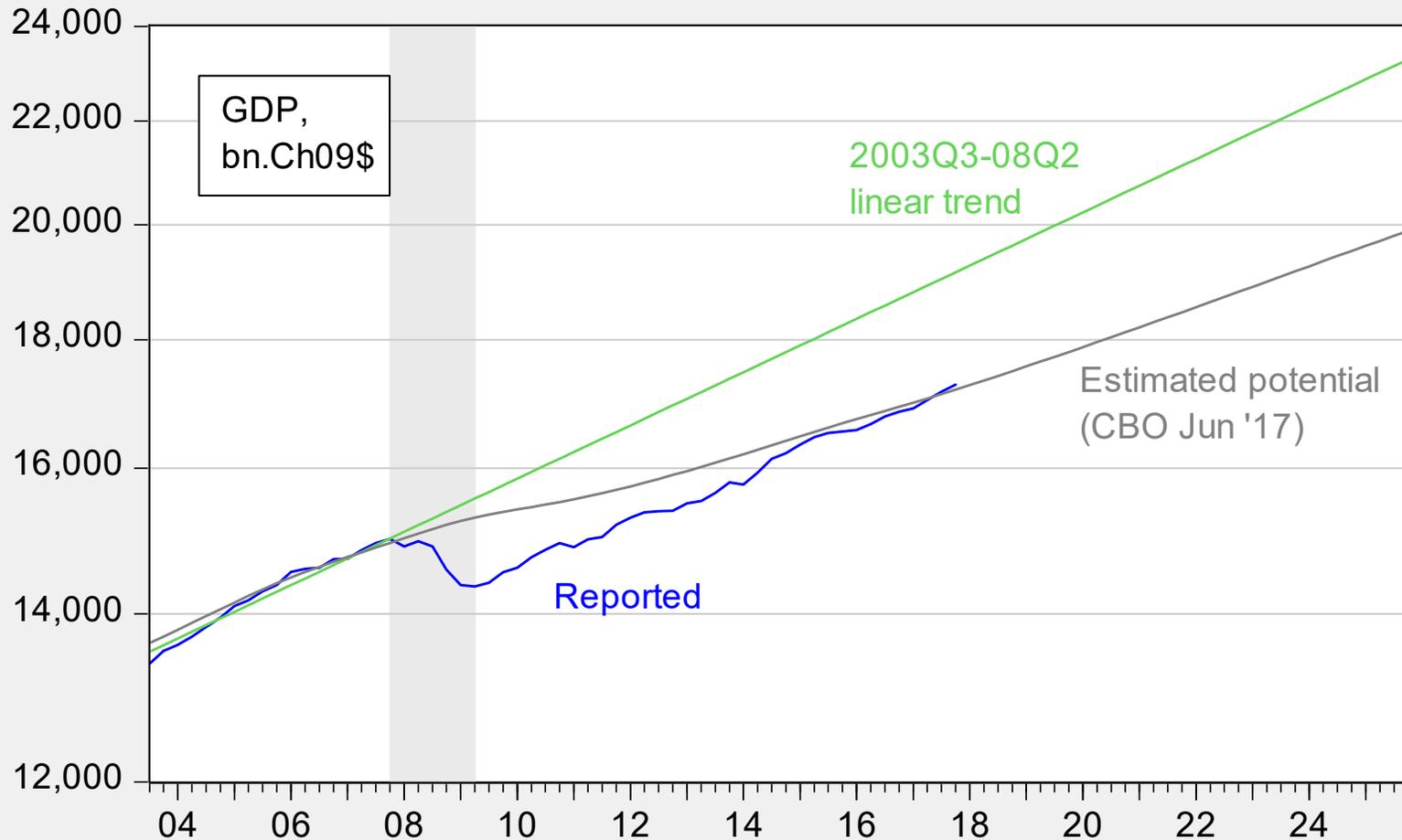


Sources: Thomas Laubach and John Williams, "Measuring the Natural Rate of Interest".

Additional Interpretation

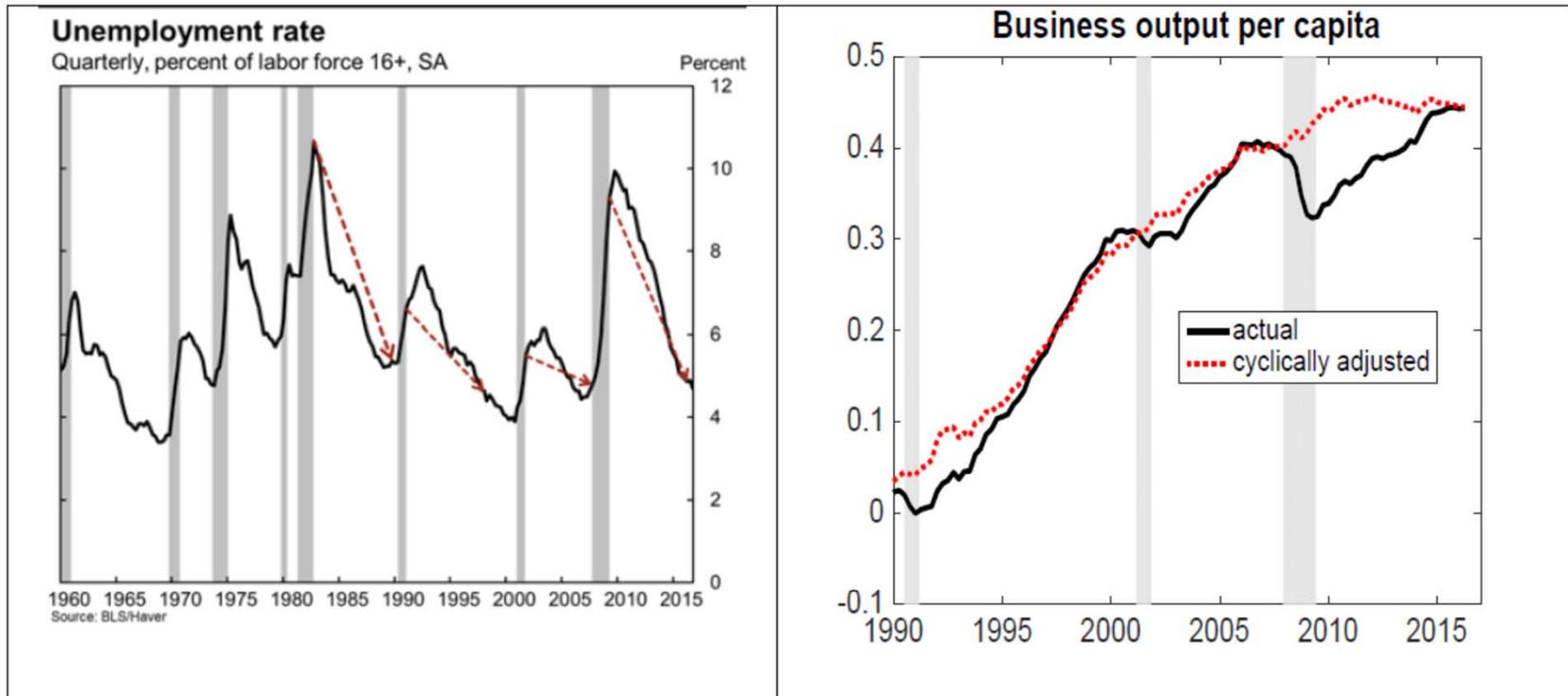
- Demographics impact can be made explicit in an overlapping generations (OLG) model.
- Slowdown in population growth induces greater saving.
- A higher inflation target (if credible) can do away with the slump.
- These points are discussed, shown in Eggertsson and Mehrotra (in volume, article)

Slow Growth: Yn or AD deficiency

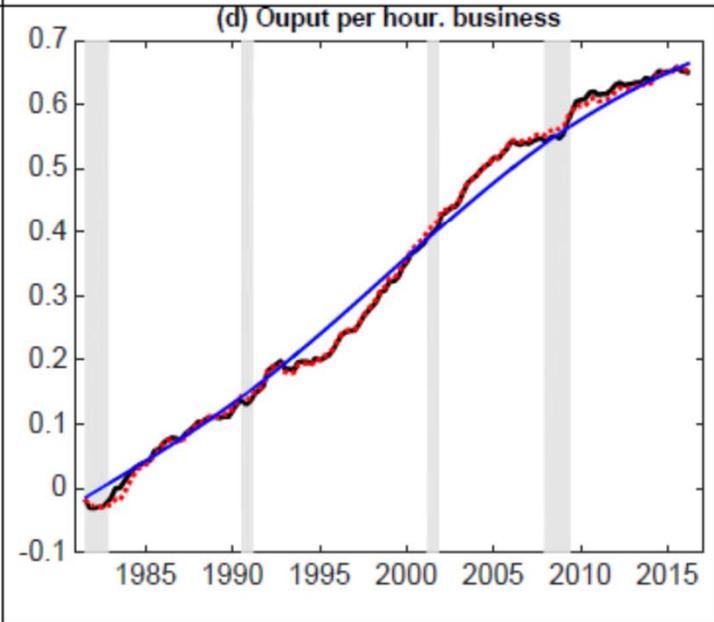
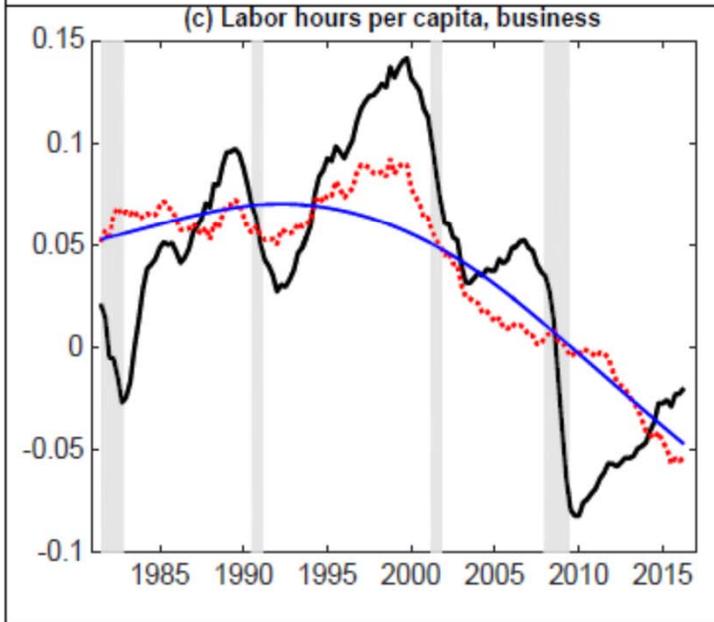
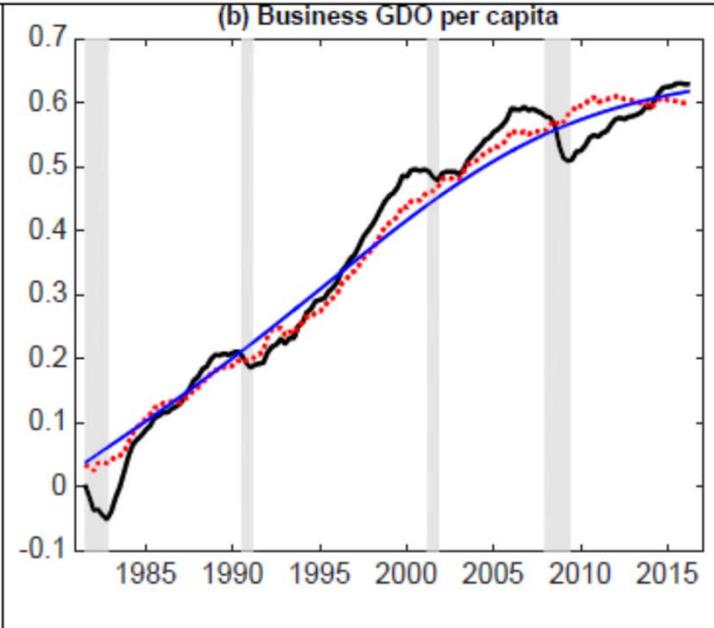
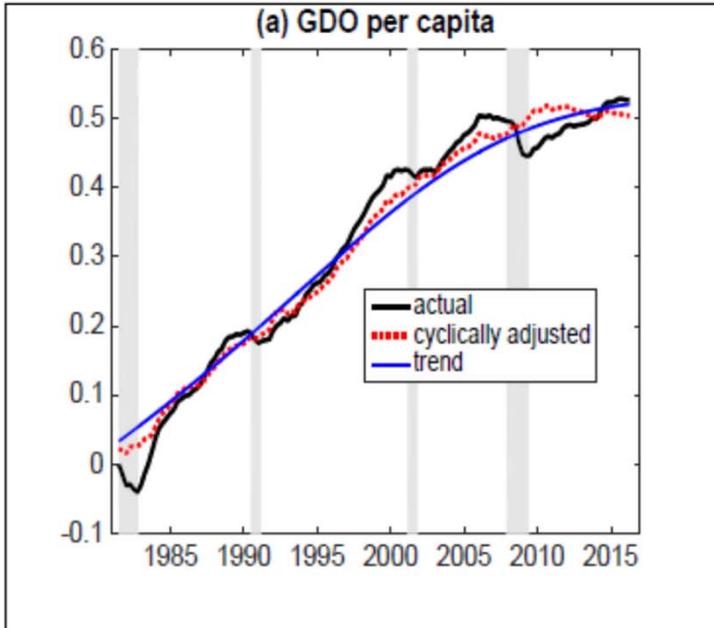


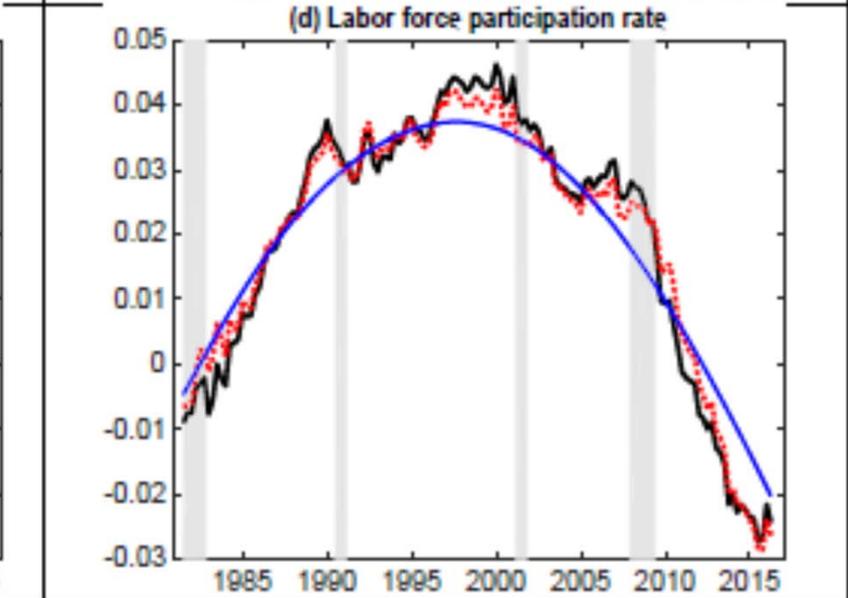
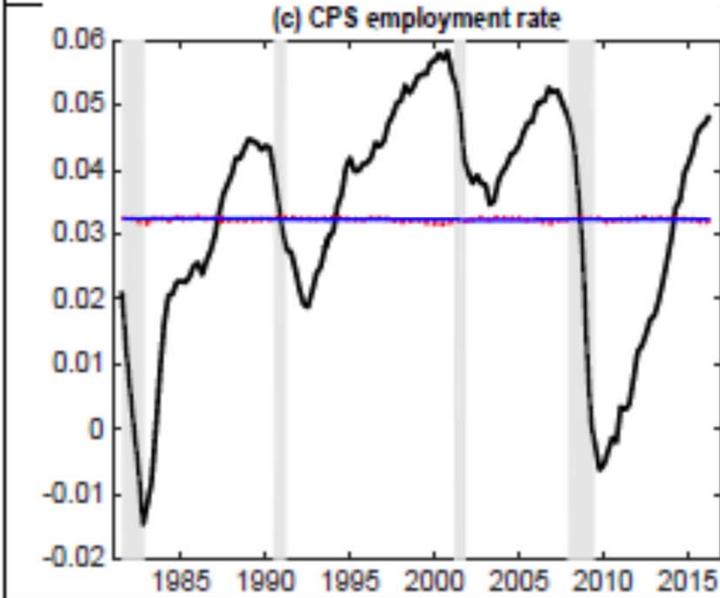
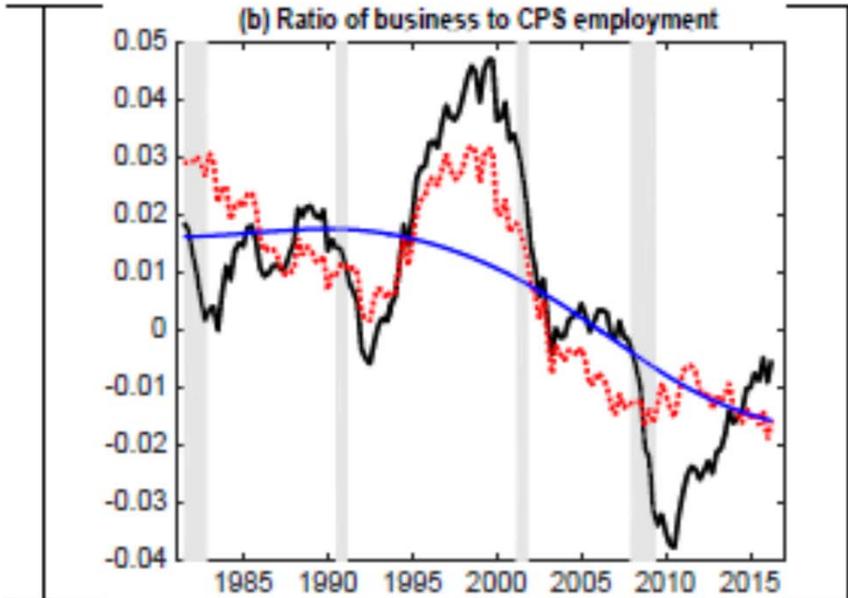
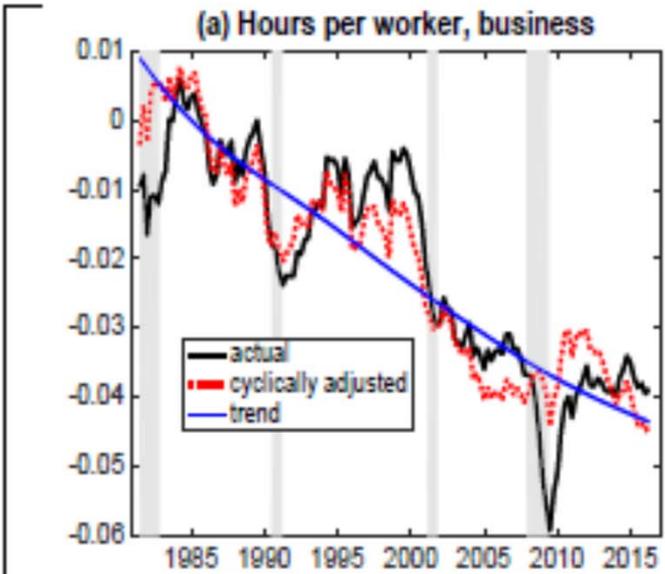
Data and Trends

Figure 1: Unemployment and Output



Notes: In the left panel, arrows connect the unemployment rate at the NBER-dated troughs with the rate 28 quarters later (or at the next peak, whichever comes first). In the right panel, the black line is the log of business output per person (normalized to 0 in 1991); the red line cyclically adjusts those data using Okun's Law as described in the text (normalized to equal the black line in 2007Q3).





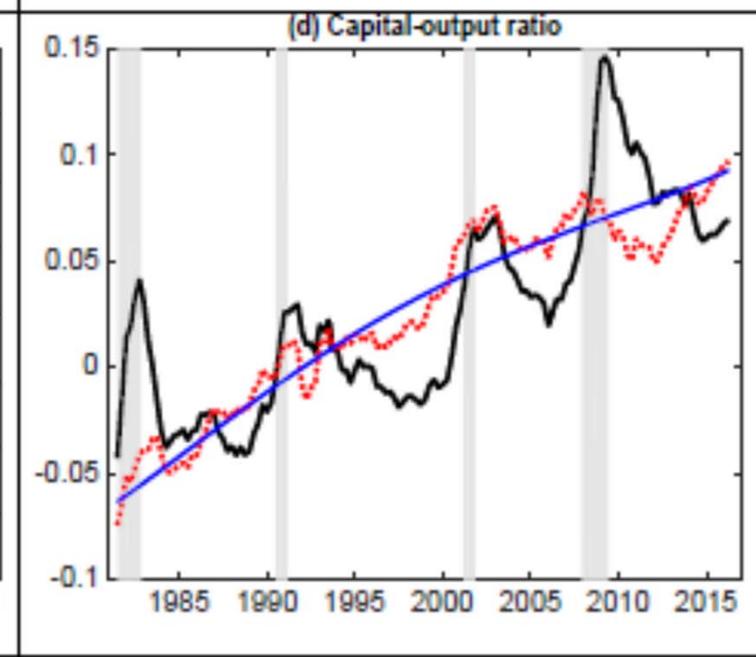
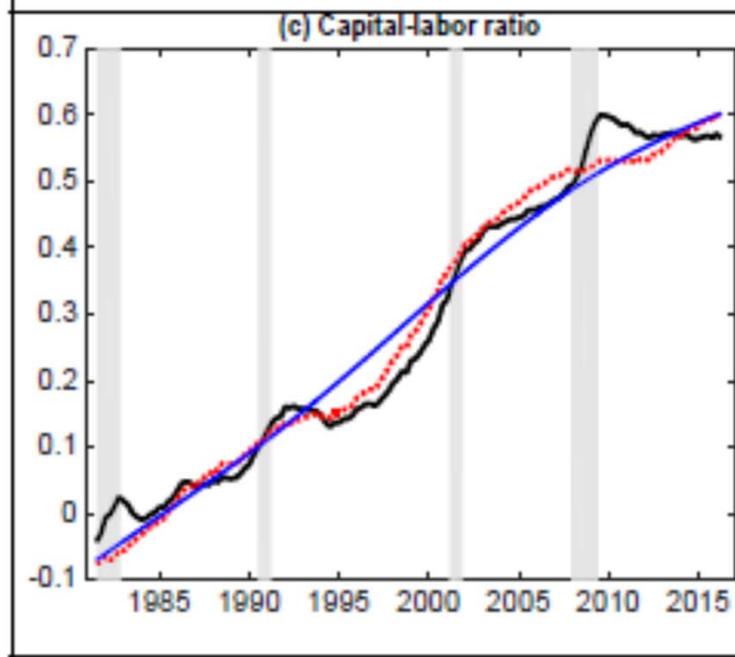
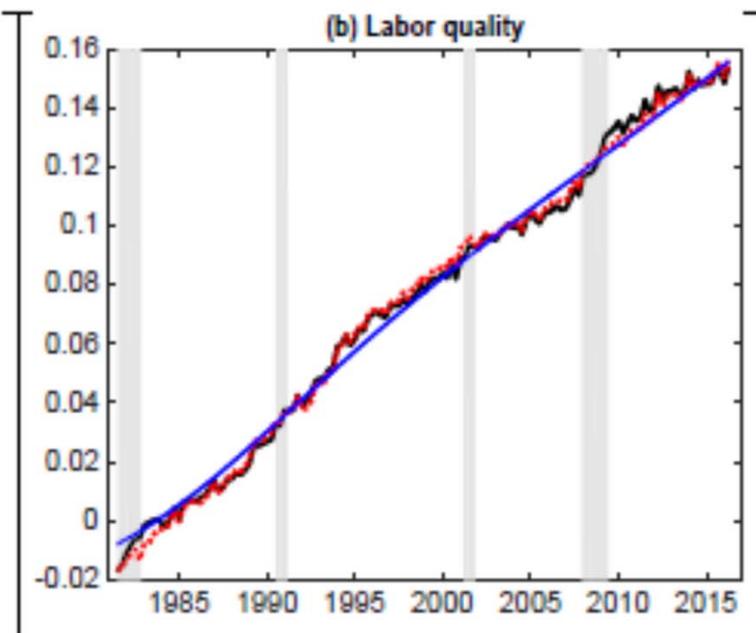
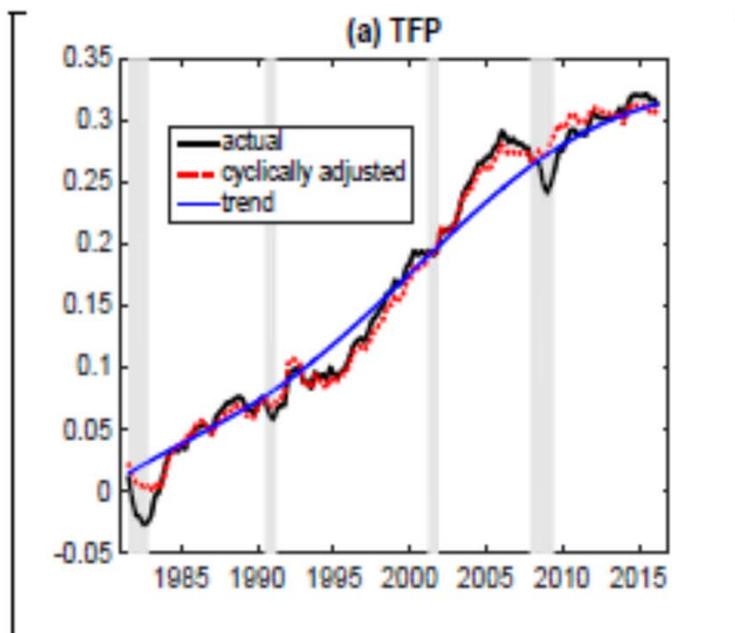
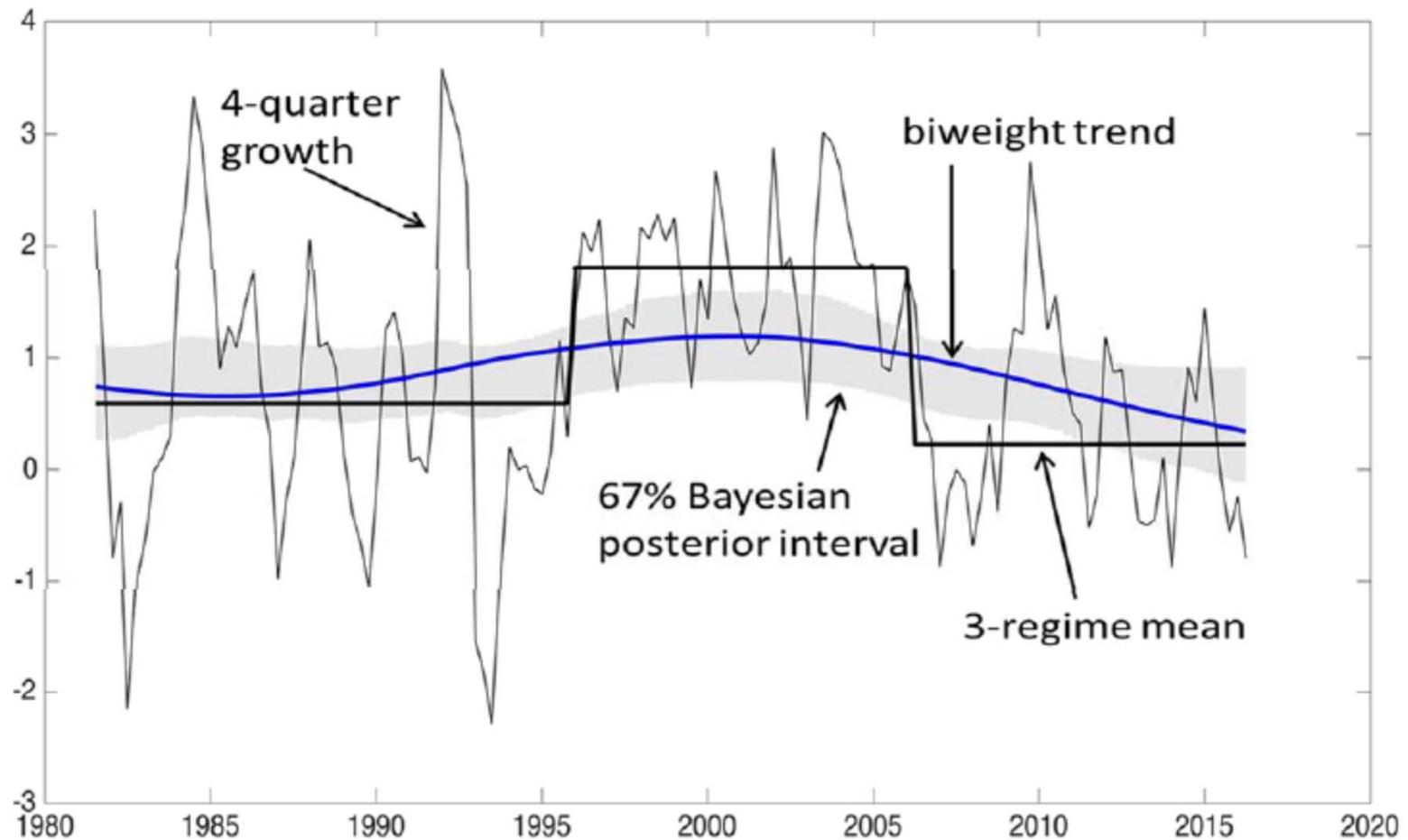


Figure 11: Cyclically-Adjusted TFP and Estimated Low-Frequency Mean Growth Rates



Notes: TFP is cyclically adjusted. The thin black line is its four-quarter growth rate. The blue line is the cyclically-adjusted trend using a biweight filter (60-quarter bandwidth). The shaded area is a 67% Bayes posterior set. The dark black line are the means estimated within the three regimes estimated by break tests, with break dates in 1995Q4 and 2006Q1 from Table 6.

Figure 16: Labor-Force Participation Rates by Sex

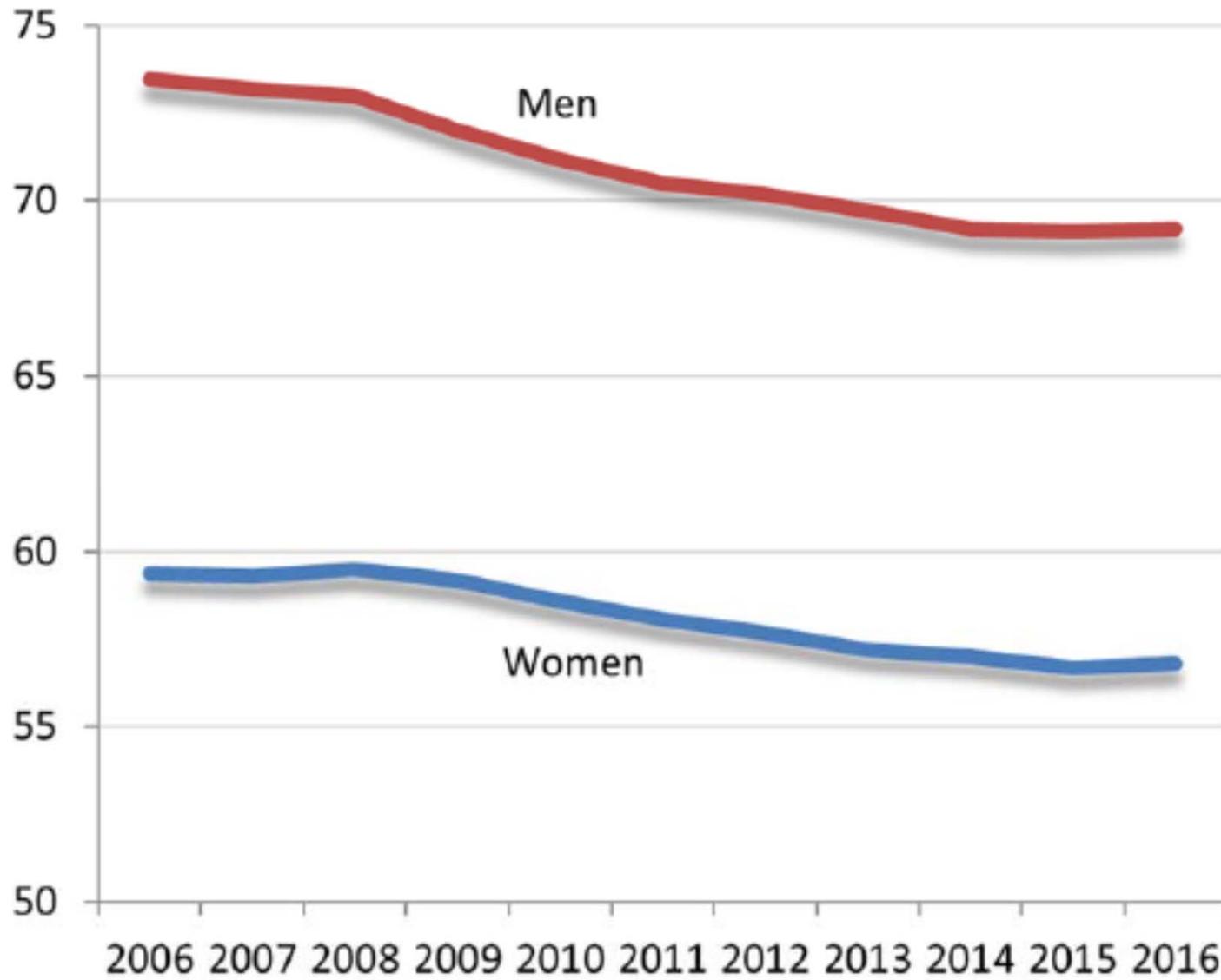


Figure 17. Labor-Force Participation Rate, Actual and Adjusted for Changing Demography

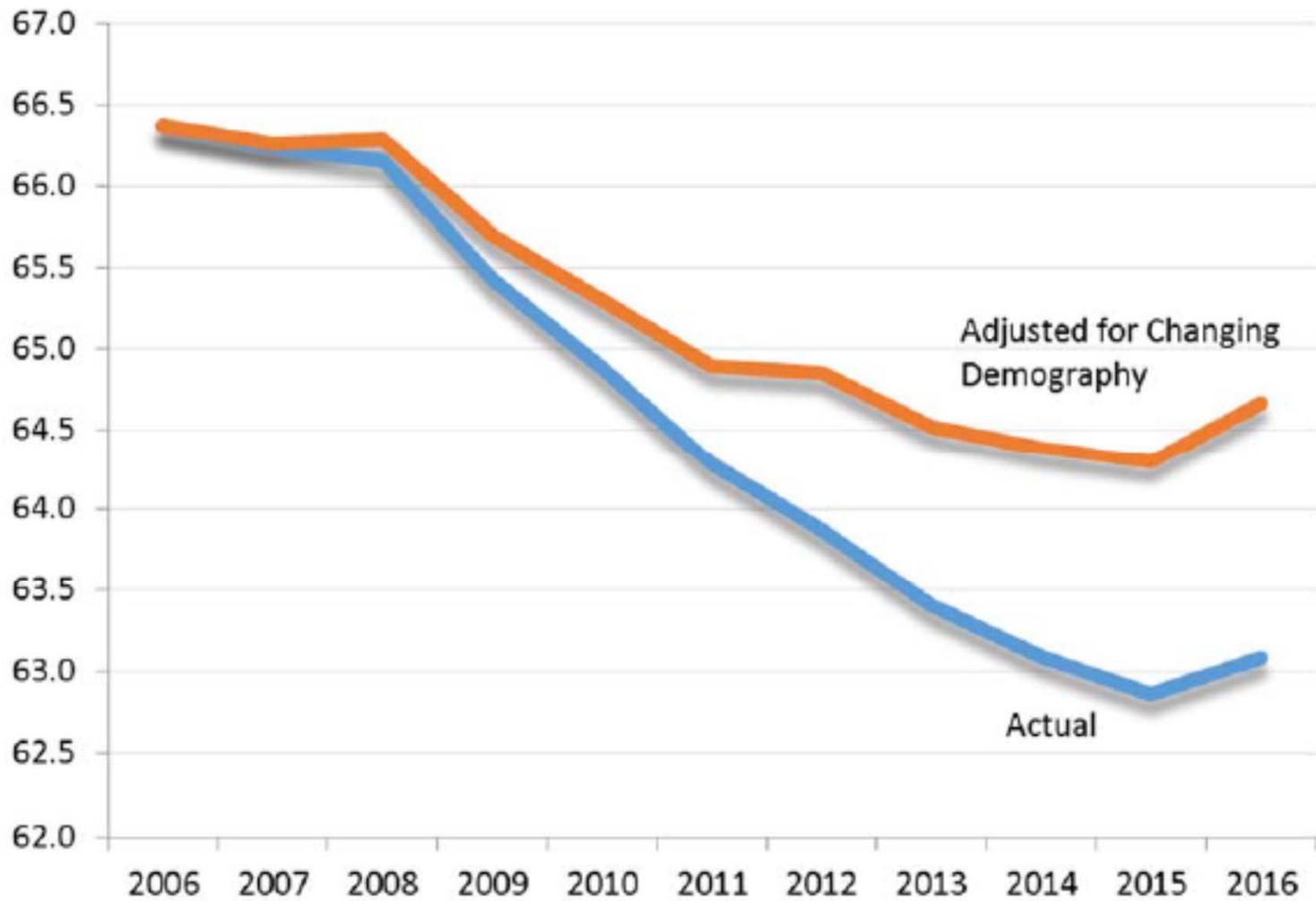
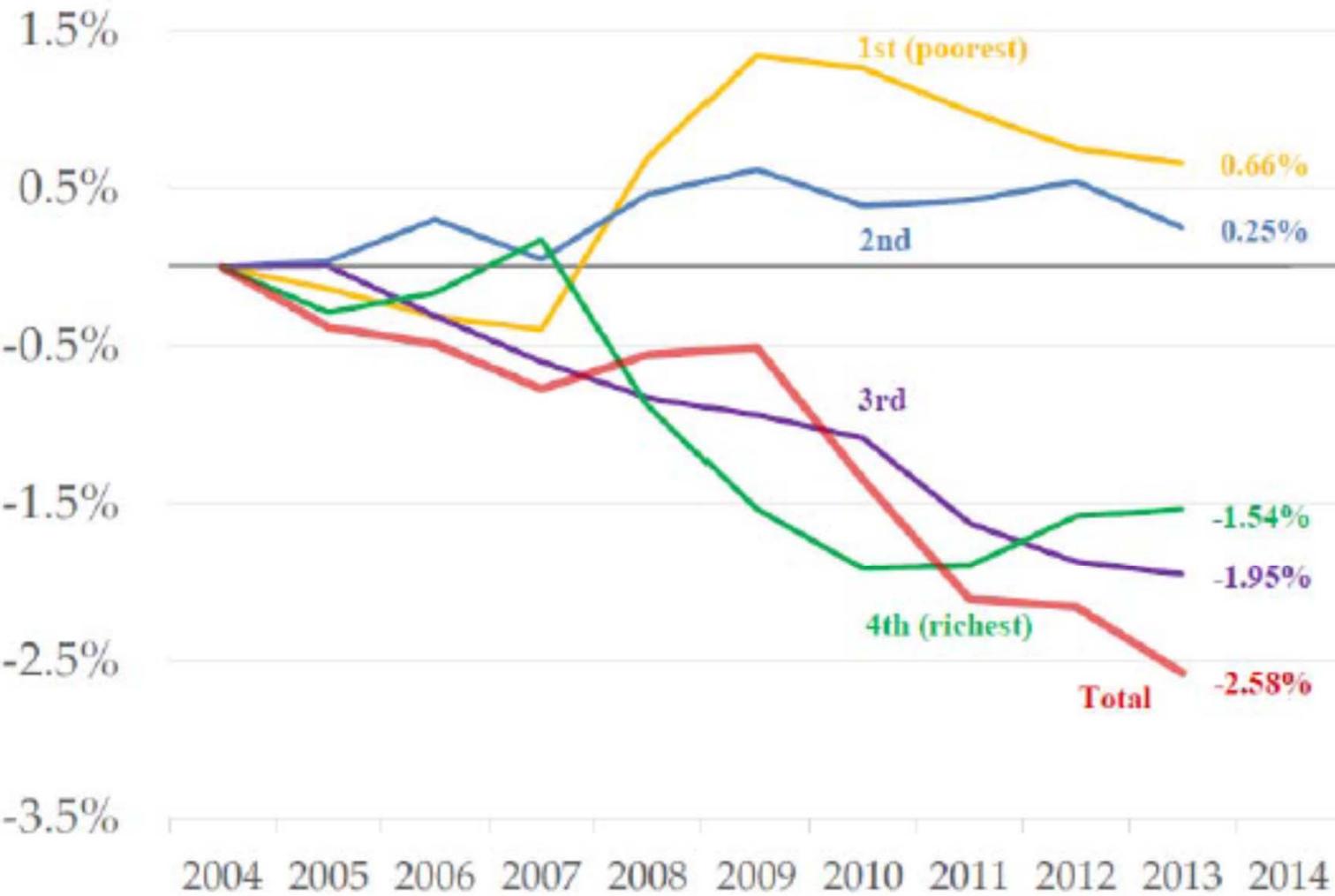
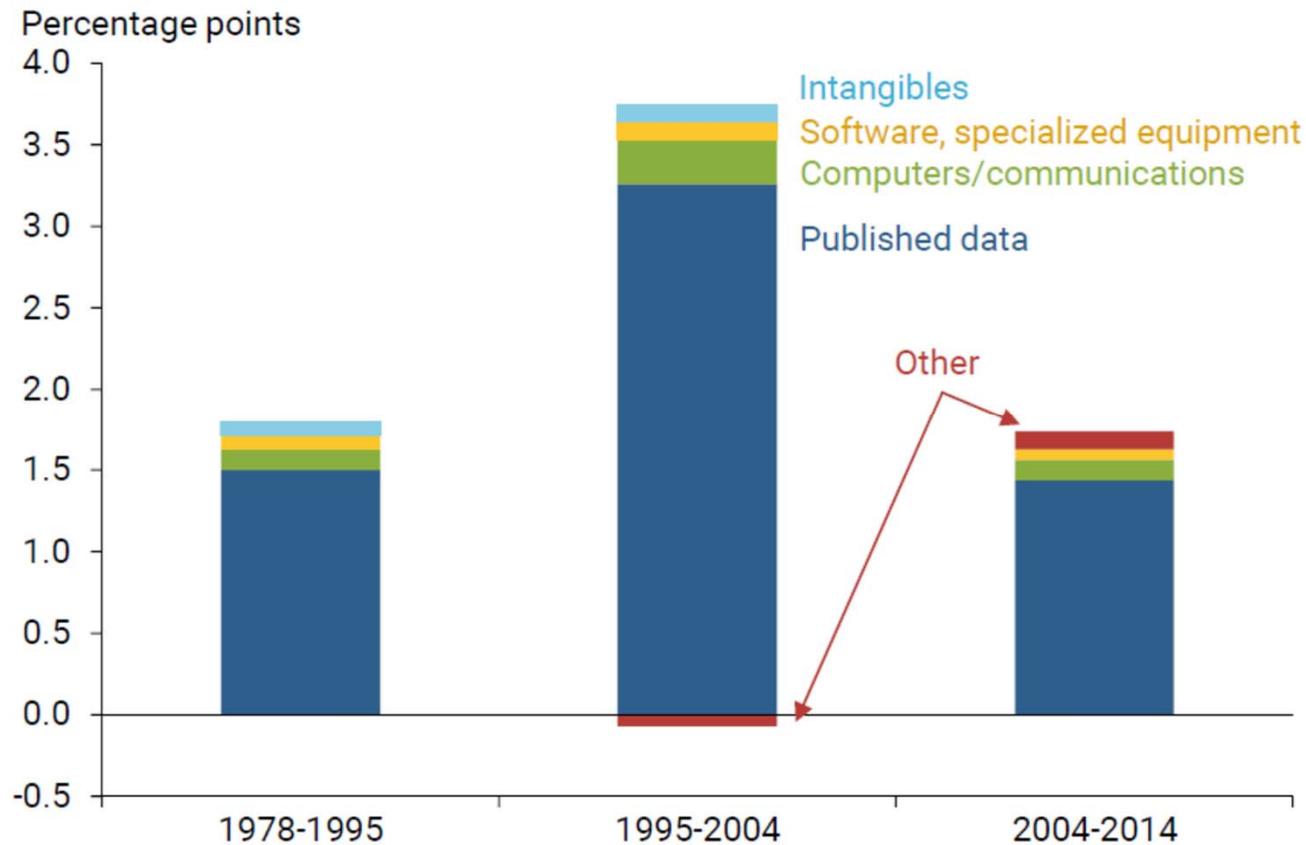


Figure 18. Role of Family Income in Participation Rates



Measurement Error?

Figure 1
Published and adjusted U.S. labor productivity



Source: Bureau of Labor Statistics, Fernald 2014, and authors' calculations.
"Other" includes Internet, free digital services, globalization, and fracking.