Productivity Origins of "Secular Stagnation"

by

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Themes of My Presentation

- We are not in a new "Era of Secular Stagnation".
- We are instead in an era of slow productivity growth and hence slow potential GDP growth.
- The nature of technological change naturally leads to medium-run variations in productivity growth.
- Government policies that affect supply, not demand, have more chance of being successful.

Outline of My Presentation

- Overview of concept of “Secular Stagnation.”
- Review of Larry Summers’ arguments calling for more government spending.
- Alternative interpretation of current situation.
- Discussion of possible solutions.

What is Secular Stagnation?

Alvin Hansen's Dec. 1938 AEA Presidential Address

- Essence of secular stagnation - "sick recoveries which die in their infancy and depressions which feed on themselves and leave a hard and seemingly immovable core of unemployment."

- Full employment cannot be reached in a modern economy without robust investment expenditures adequate to fill the gap between consumption expenditures and that level of income which could be achieved were all the factors employed.

- 3 drivers of investment:

  ~~(i) population growth~~
  ~~(ii) opening of new territory & discovery of new resources~~
  (iii) Technical innovations

A New Era of Secular Stagnation?

- Larry Summers (2014, 2016) has argued that we are in a new era of secular stagnation.

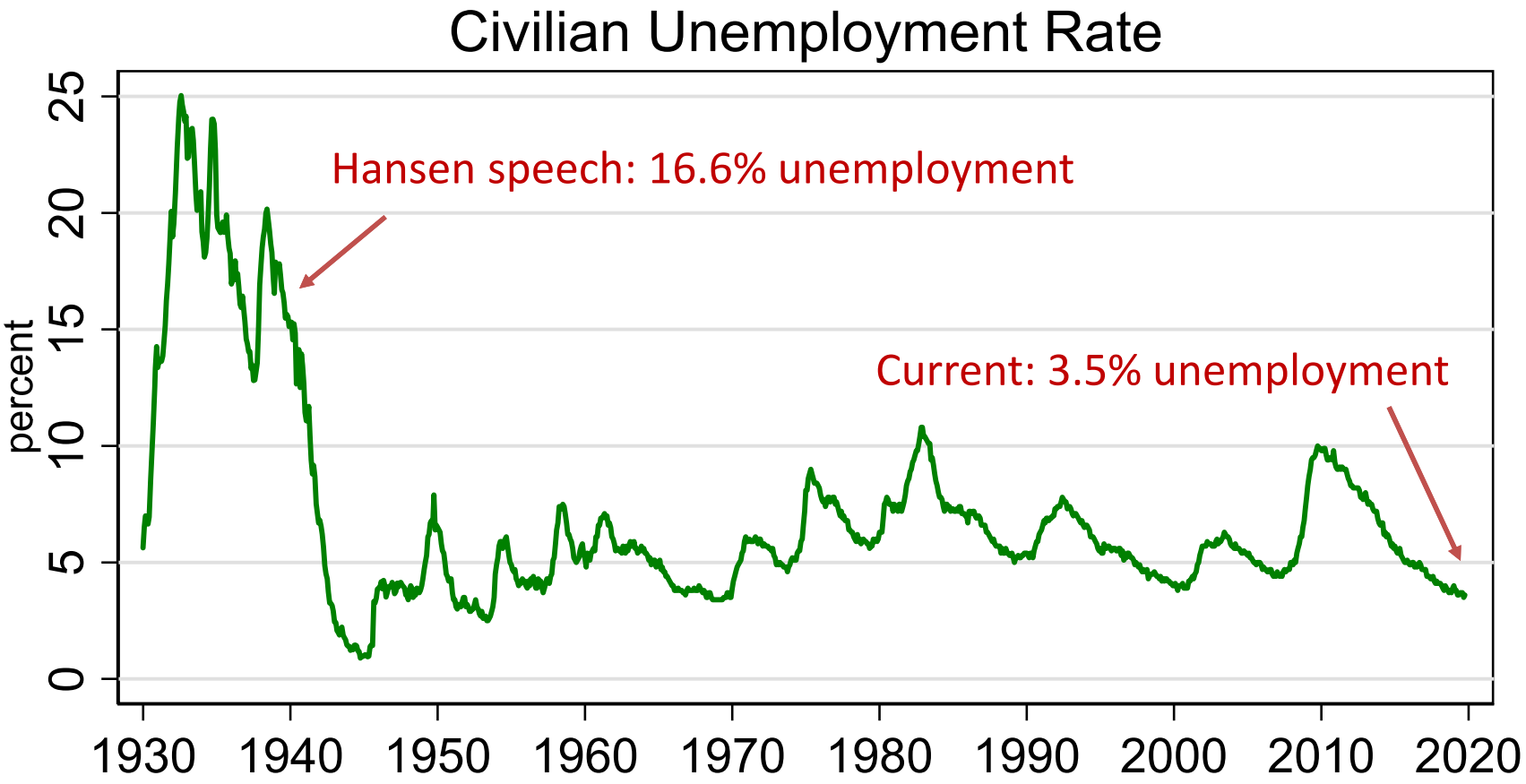
- He argues for more government demand stimulus as a solution.

- Secular stagnation is about inadequate demand.

  Potential output might be growing but actual output falls short, resulting in high unemployment and underutilization of resources.

- I believe that we are not in an era of secular stagnation, but in an era of slow potential output growth. In short, I agree with Robert Gordon's hypothesis of "supply-side headwinds."

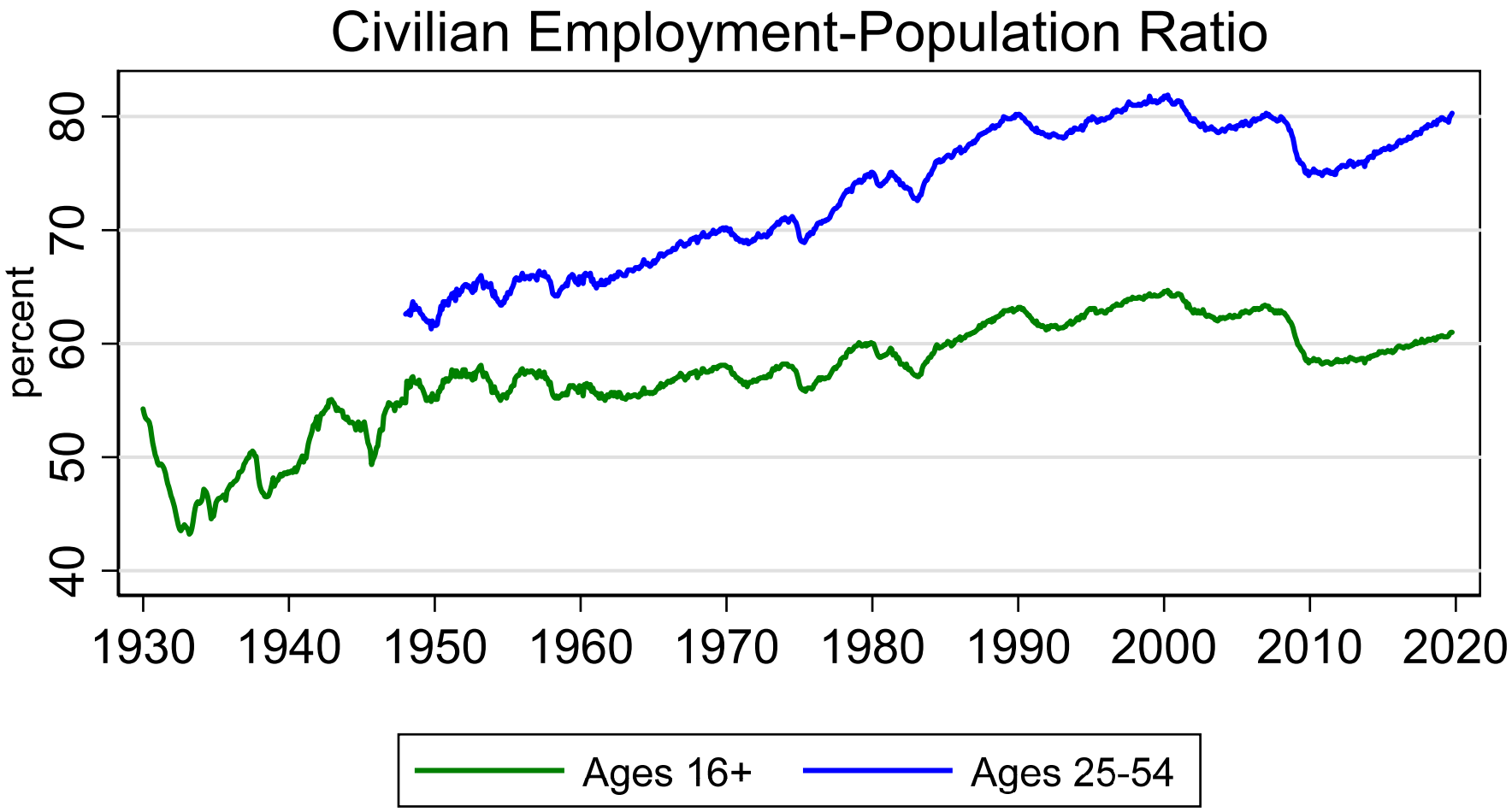
Evidence Against Secular Stagnation



The current unemployment rate indicates full employment.

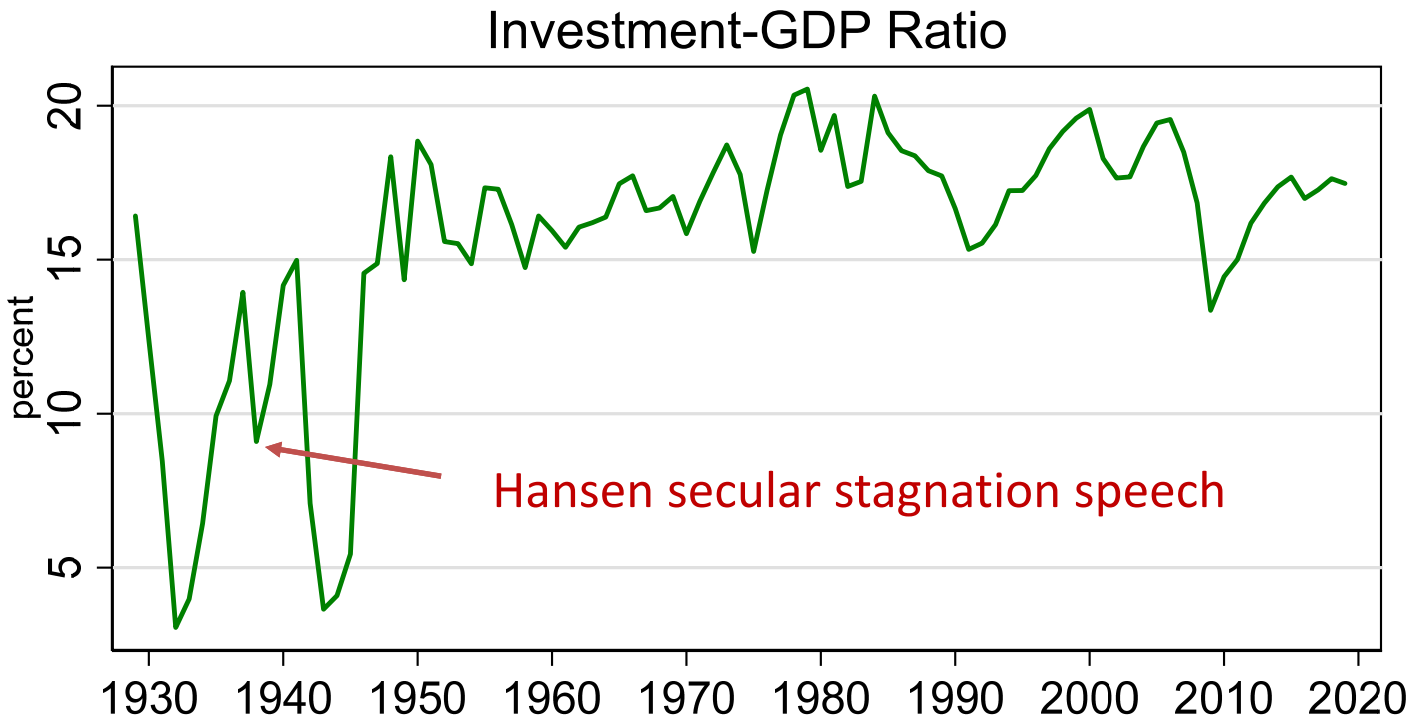
But how does the employment-population ratio look?

Evidence Against Secular Stagnation



The employment-population ratio also indicates full employment.

Evidence Against Secular Stagnation



Time period	Investment-GDP Ratio
2019	17.6
Average, 1947-2019	17.3
Average, 1947-1973	16.6

The Problem: Slow Potential GDP Growth

Average Annual GDP Growth

Time Period	Real GDP	Real GDP Per Capita
1947 - 1973	3.9 %	2.4 %
1974 - 1999	3.1	2.1
2000 - 2019	2.0	1.2
Diff: 1947-73 - 2000-19	1.9 %	1.2 %

It is best to compare per capita growth rates since real GDP per capita is most closely associated with the standard of living.

Decomposing Per Capita Real GDP Growth

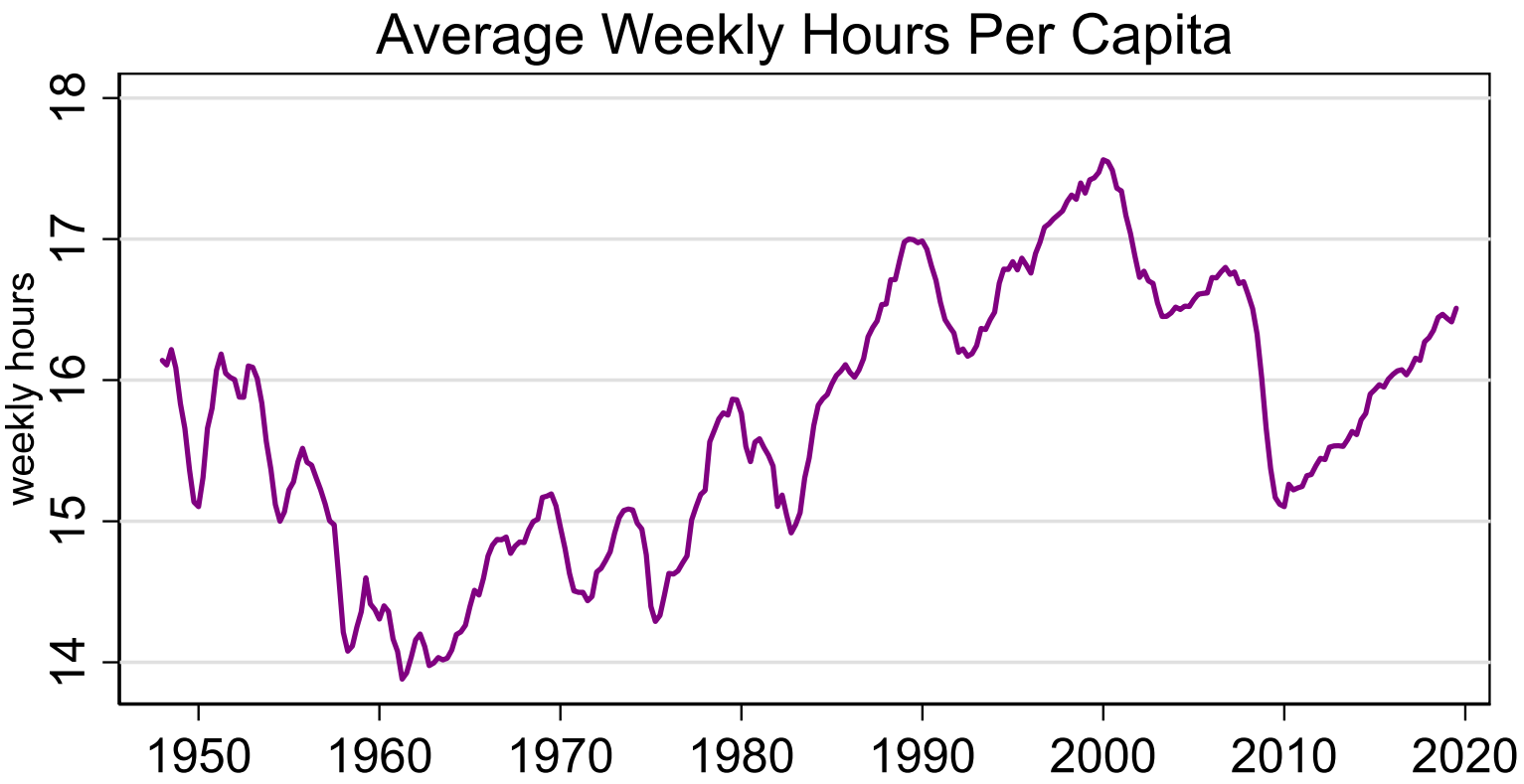
Y = real GDP, Pop = total population, Hours = hours worked

$$\Delta \ln\left(\frac{Y}{Pop}\right) = \Delta \ln\left(\frac{Hours}{Pop}\right) + \Delta \ln\left(\frac{Y}{Hours}\right)$$

- Cannot grow indefinitely.
- But the low frequency movements can affect growth for several decades.

Average labor productivity:
The key to growth in the standard of living

Low Frequency Movements in Hours Per Capita



- 1975-2000: The entry of the Baby Boom into the labor force and rising female labor participation rates contributed to rising hours per capita.

- Present and future: The aging of the Baby Boom is likely to reduce hours per capita.

Slowdown in Productivity Growth

Average Annual Growth, Percent

Time Period	Labor Productivity	TFP (Fernald)
1947 - 1973	3.2 %	2.1 %
1974 - 1999	1.7	0.7
2000 - 2019	1.9	0.8
Diff: 1947-73 - 2000-19	1.3	1.3

The decline in TFP growth is equal to the decline in labor productivity growth.

Returning to Alvin Hansen's 1938 Address

"We are thus rapidly entering a world in which we must fall back upon a more rapid advance of technology than in the past if we are to find private investment opportunities adequate to maintain full employment."

"Should we accept the advice of those who would declare a moratorium on invention and technical progress, this one remaining avenue for private investment would also be closed. There can be no greater error in the analysis of the economic trends of our times than that which finds in the advance of technology, broadly conceived, a major cause of unemployment. " (AER March 1939, p. 10)

I think Hansen's point applies to the growth rate of potential GDP even more than to output gaps.

Why is Productivity Growth Sometimes Slow?

- Alvin Hansen argued: "The growth of modern industry has not come in terms of millions of small increments of change giving rise to a smooth and even development. Characteristically it has come by gigantic leaps and bounds. Very often the change can best be described as discontinuous, lumpy, and jerky."

- Modern economists agree that growth-driving technological change is:

  - Large-scale
  - General purpose
  - Infrequent
  - Randomly timed
  - Disruptive

Consequences of Disruptive Technological Change

- Periods of high productivity growth for decades after an arrival, followed by possibly long periods of slow productivity growth until the next arrival (e.g. Laitner and Stolyarov (2019).

- Falling stock prices initially because technology is embodied in new capital and new firms so there are capital losses (e.g. Greenwood and Jovanovic (1999)).

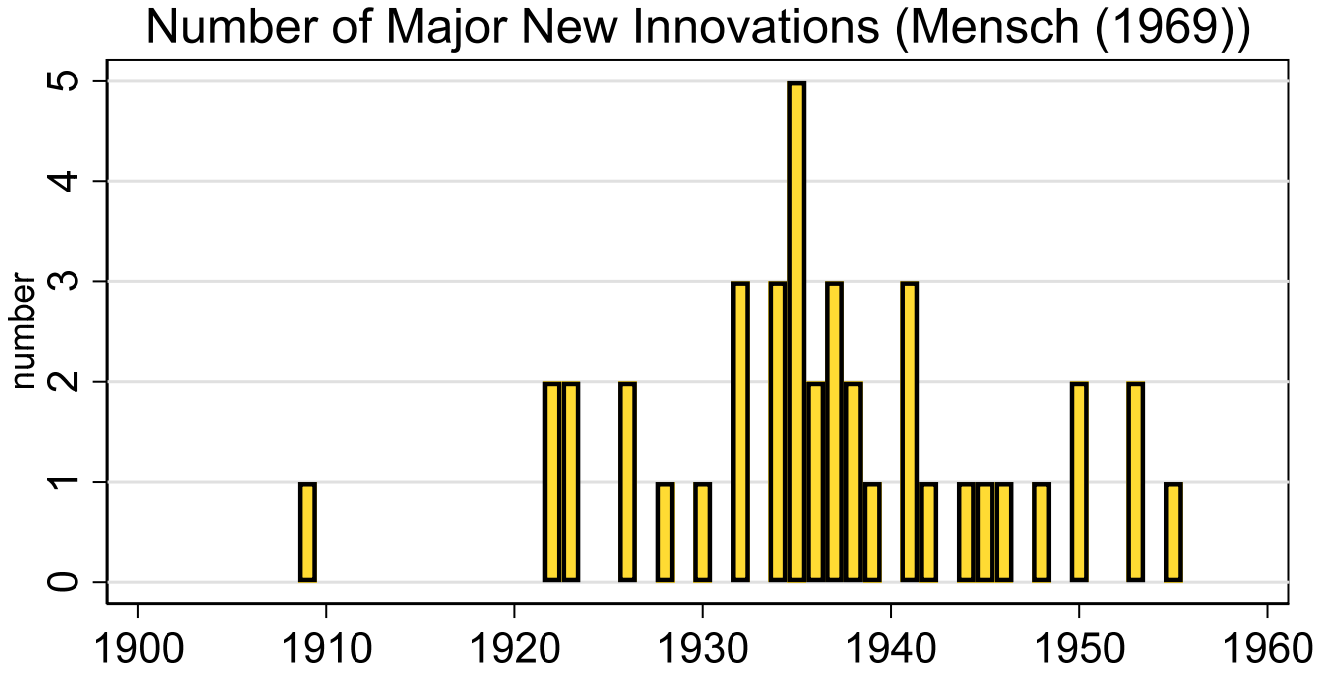
- A large equity premium and low risk-free rate because of the risk of disruptive technological change (e.g. Laitner and Stolyarov (2019)).

- Slow initial productivity growth as businesses reorganize and workers grapple with learning-by-doing (e.g. Greenwood and Yorokoglu (1997)).

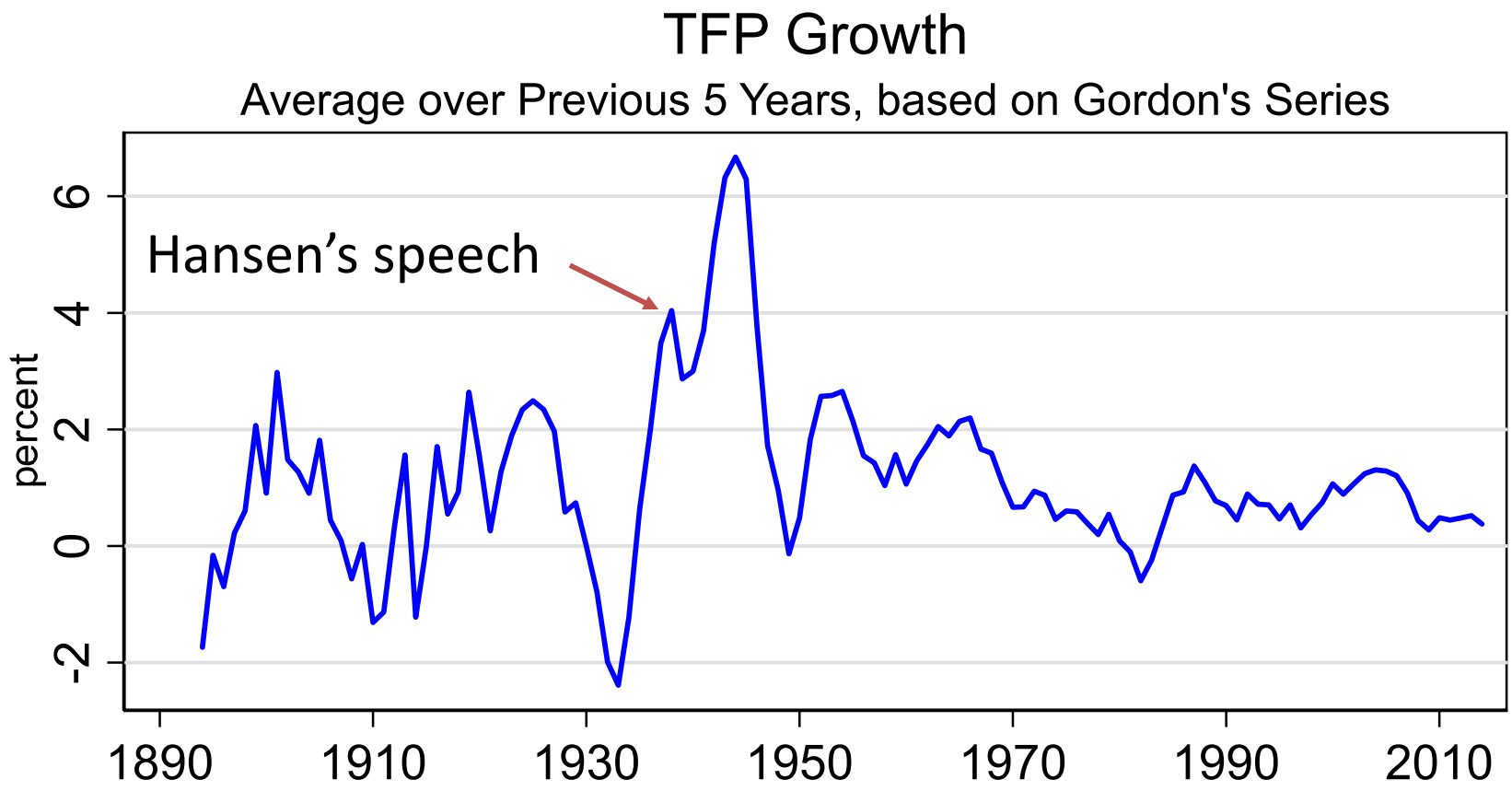
Difficulties of Detecting Technological Change

- Sometimes it is difficult to tell when the economy is on the verge of a great leap forward.

- Hansen gave his speech near the end of what Alexander Field (2003) has called “The Most Technologically Progressive Decade of the Century” – the 1930s.



Difficulties of Detecting Technological Change



What to do during a slow productivity era?

- Be patient?

- Turn to the government:

  - Because the revolutionary technological changes come from the private sector, the government cannot simply invent them.

  - However, government policies can potentially speed them up and/or lay the foundation for faster diffusion.

Government policies that might spur productivity growth

1. Subsidies to R&D
2. Government investment in infrastructure
3. Government investment in human capital.
4. Tax rate changes
5. Regulatory and other structural changes

1. Subsidies to R&D

- Most research suggests large returns to government subsidies to basic research and R&D.

- Spending is so low on this component that even a high percentage point rise would have only small budgetary consequences.

2. Government investment in infrastructure

- In Ramey (2019) "The Macroeconomic Consequences of Infrastructure Spending," I review the theory and evidence for infrastructure spending in the short run and long run.

- Both theory that incorporates time-to-build delays and empirical evidence suggest that the short-run multipliers on infrastructure spending are low.

- However, the estimates of the returns to public capital support long-run positive effects, with higher multipliers.

- However, most theories suggest that growth rates would be raised during the transition path, but not permanently.

3. Government investment in human capital

- In the Hulten and Ramey (2019) CRIW/NBER volume, *Education, Skills, and Technical Change: Implications for the Future of U.S. GDP Growth*, we emphasize the important interactions between skill accumulation and technical change and the importance of an educated workforce for innovation and diffusion.

- By most measures, the U.S. does an inferior job in educating its population.

- How to do it better is the challenge. Some of the papers in our volume discuss the issues involved.

4. Tax rate changes

- The work of Romer and Romer (2010), Mertens and Ravn (various) and others suggests very large output effects of tax rate changes.

- The recent performance of GDP growth is consistent with the empirical estimates of the effects of tax cuts. However, productivity growth remains very sluggish.

- Given the size of current deficits, it would be hard to argue for further tax cuts!

5. Regulatory and other structural policies

- In his 1938 speech, Alvin Hansen highlighted restrictions on technical change from "the growing power of trade unions and trade associations, the development of monopolistic competition, of rivalry for the market through expensive persuasion and advertising, instead of through price competition … (and) the tendency to block the advance of technical progress by the shelving of patents."

- Recent research suggests a rise in firm concentration and markups. If so, it may be impeding innovation and antitrust action might be needed.

Conclusions

- The U.S. does not currently face a problem of high unemployment and underutilization, which are hallmarks of secular stagnation.
- The U.S. does face a problem of low productivity growth.
- The nature of technological change naturally leads to medium-run variation in productivity growth. We are currently experiencing a slow-growth period.
- We could wait patiently for the next technological revolution, but there is a possible role for government supply-side policies to hasten the change.