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# Why is US Productivity Growth So Slow? Possible Explanations Possible Policy Responses

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Presentation to Brookings Conference on Productivity  
September 8-9, 2016

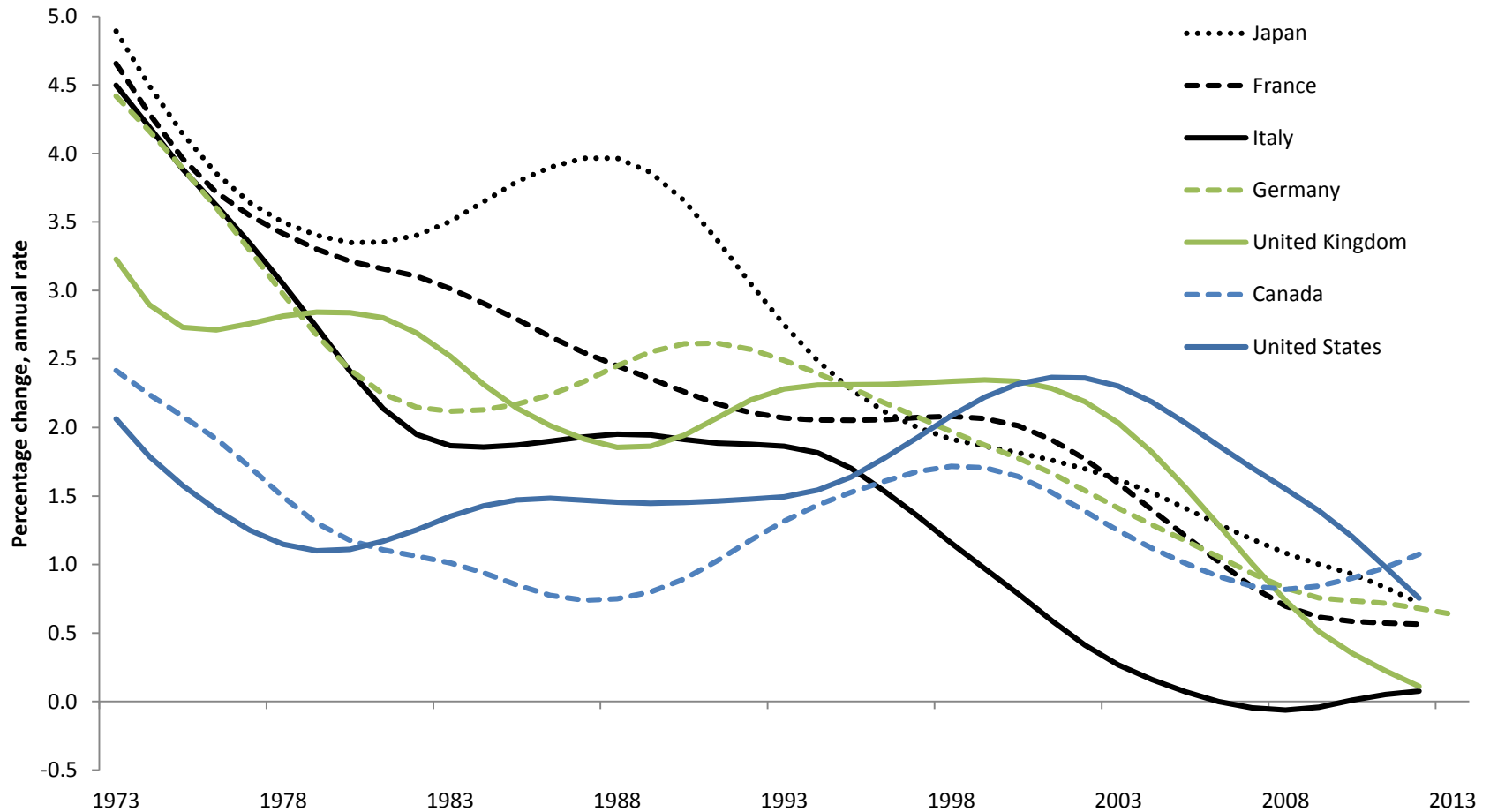
Martin Neil Baily and Nicholas Montalbano

# What is productivity and why is it important?

- Productivity growth is the most important determinant of the growth in wages and living standards over the long run
- Labor Productivity: output per hour worked
- Multifactor Productivity (MFP): output per bundle of inputs (capital, labor, and intermediate inputs)
  - MFP growth occurs through improvements in technology, higher value products and services, and better organization of production

# The Slowdown has Occurred in almost All Advanced Economies

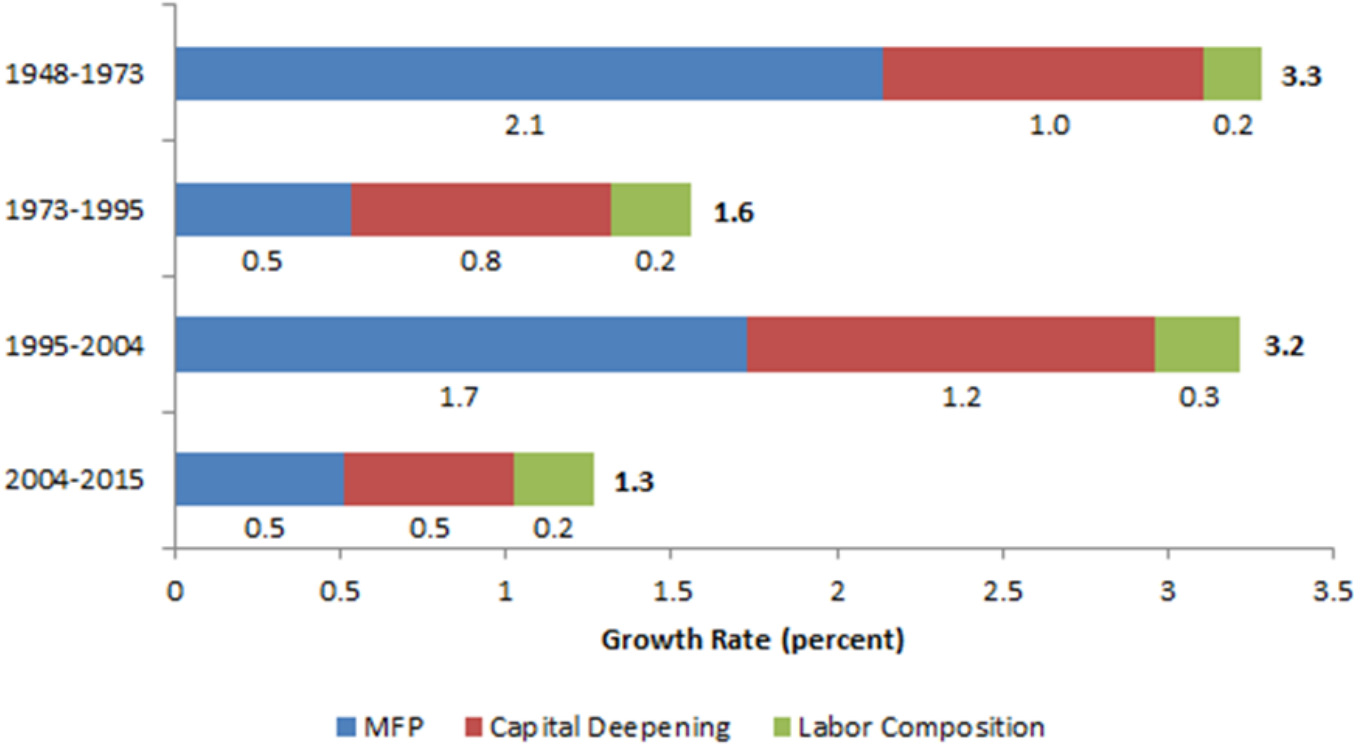
Labor Productivity Smoothed Trend Growth in G-7 Countries, Total Economy



Source: OECD Productivity Statistics (database), <http://dx.doi.org/10.1787/pdtyv-data-en>, February 2016.

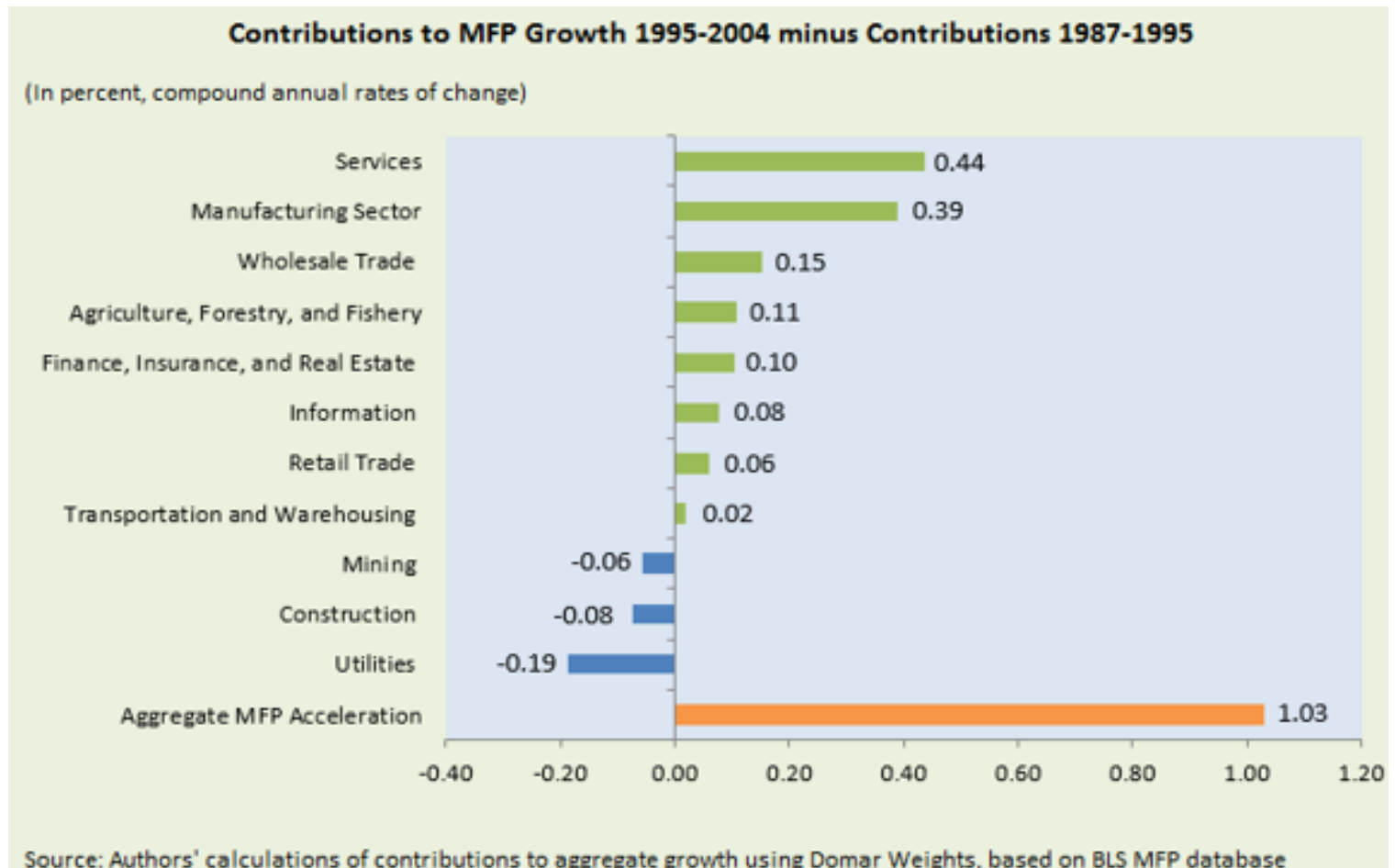
**US Labor Productivity Growth Slowed in the early 1970s, like the others, but there was a Temporary Productivity Surge 1995-2004. Both MFP growth and capital per worker hour important**

### Labor Productivity by Contribution



# What Drove Post-1995 Acceleration: Services & Manufacturing

In Services, Negative Growth Numbers were Eliminated  
Semiconductors a big role in the manufacturing acceleration



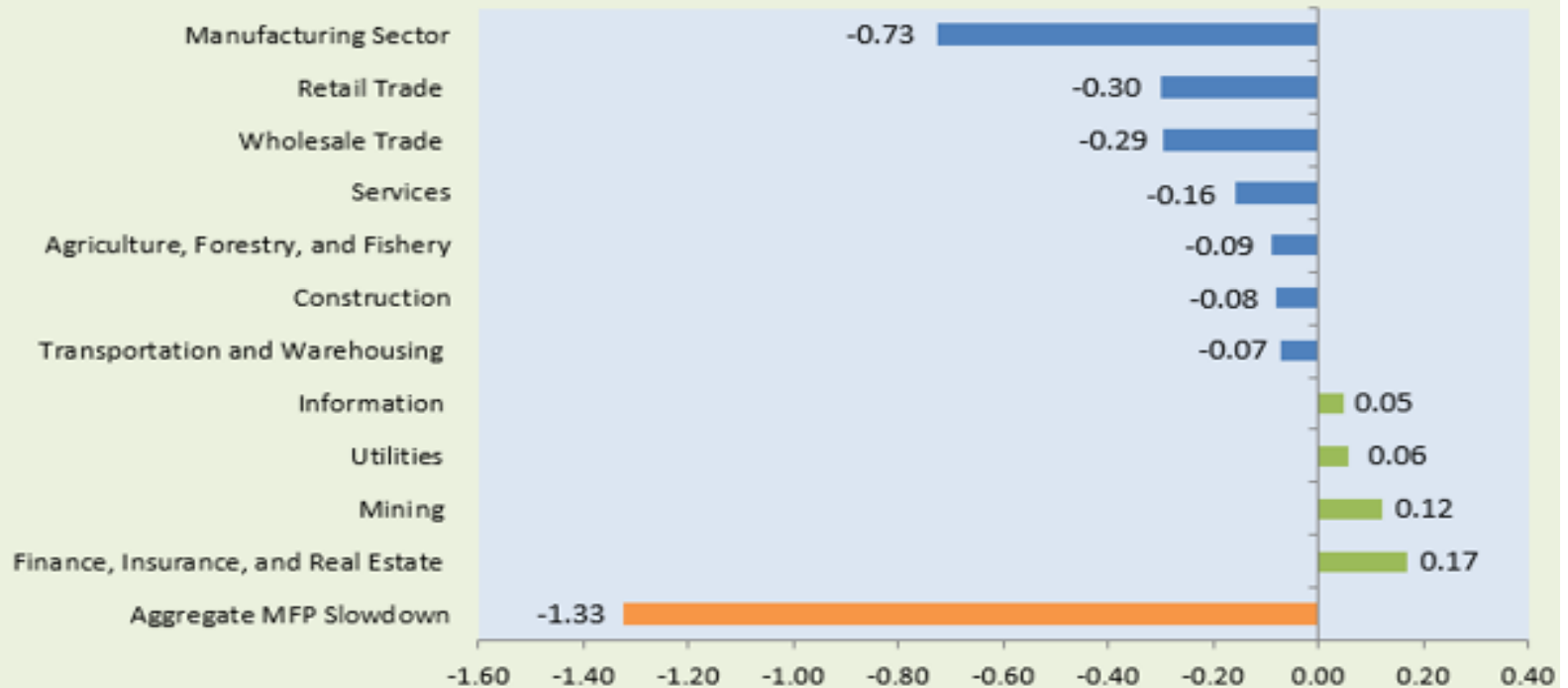
# Manufacturing and Trade Drove the Post 2004 Slowdown

Semiconductor productivity growth slowed

The big box retailers had driven out most small retailers

**Contributions to MFP Growth 2004-2014 minus Contributions 1995-2004**

(In percent, compound annual rates of change)

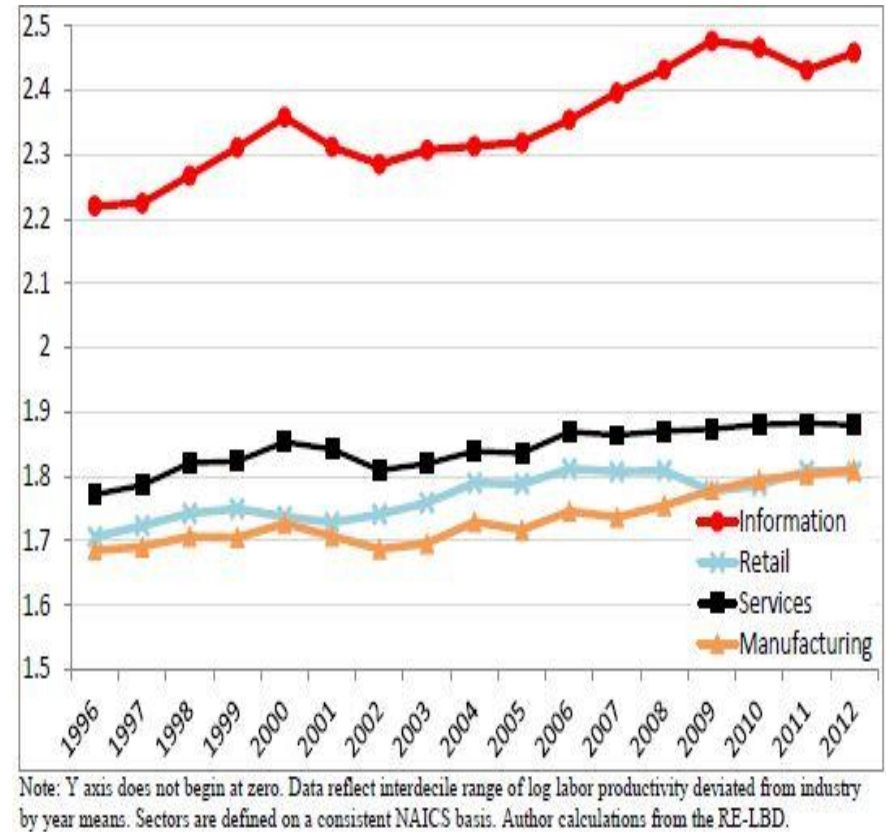
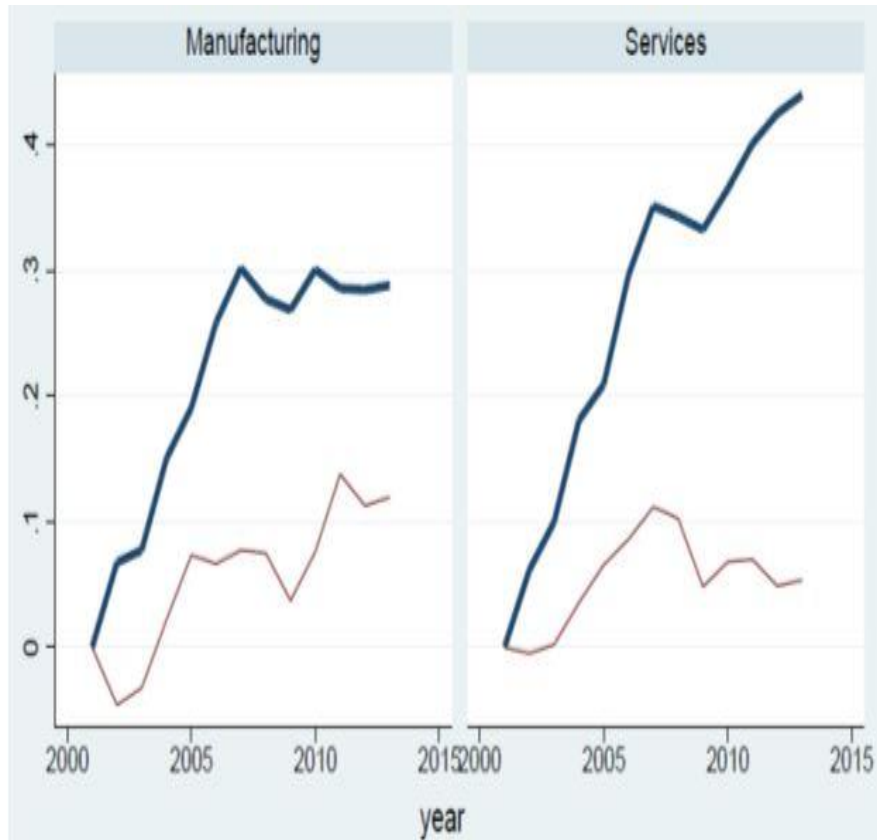


Source: Authors' calculations of contributions to aggregate growth using Domar Weights, based on BLS MFP database

# Summary on the US Productivity Growth Surge 1995-2004.

- Accelerated decline in ICT prices, for a period.
- Strong demand growth, high investment.
- Strong productivity growth in wholesale and retail trade started pre-95, ended in the 2000s. The “Wal\*Mart effect”.
- Services productivity flipped from large negatives to small positives in mid-90s. A Greenspan effect? He questioned the validity of negative productivity numbers.
- Three real effects, one measurement issue.

# Important Research from Micro Data: A widening productivity gap between the most productive and the less productive firms





# Explanations of Chronically Slow Productivity Growth

- With the 1995-2004 surge roughly understood, the question becomes why has growth been chronically slow and what can be done about it.
- Three perspectives:
  - Chronic measurement problem. Productivity actually doing better than is believed
  - The productivity frontier is now moving out slowly because of an exhaustion of important innovations.
  - The frontier is moving out, but many or most firms are not keeping pace with the frontier

# The Mismeasurement Issue and Long Run Growth

- The Unmeasured Part of the Economy is Large
  - Health care. Innovations in surgical procedures, scanning, pharmaceuticals, medical devices. Almost none of it is counted.
  - Education. Technology has changed very little, but may be poised for advance in the future.
  - Financial services, legal services, professional services. Unmeasured.
  - CPU price declines have slowed, but other ICT prices are falling rapidly (Byrne and Corrado).
- The statistical agencies need more money, a big effort to improve measurement.

# Are there are no more major innovations to be found?

- Robert J. Gordon lays out the case that no more major innovations are forthcoming. He reviews and dismisses the range of innovations described by the technology optimists.
- Mokyr argues that technology has provided much better tools with which to make future advances in technology.
- Firm level data suggest the problem is that many or most firms cannot keep up with the frontier.
- Agree with Gordon that the period after the war was unusual, but disagree with extent of his pessimism.

# Barriers that Prevent Diffusion and Policies to Overcome the Problem

- Competition should drive out the least productive companies and force the laggards to catch up.
  - Regulation may be limiting competitive intensity
  - Patents are providing too much rent seeking and not enough competition
  - Too much licensing restricts entry
  - Lack of effective competition in health care
  - Must maintain global competition and expand trade
- Neither managerial capability nor worker skills are at the level to adopt best practices
  - May be a question of time before innovation diffuses, becomes more user-friendly
- Invest in worker skills

# Other Policies to Increase Productivity Growth

- Stimulate aggregate demand with infrastructure investment
  - We need to fix the roads. Stronger demand should boost investment
- Enhance US manufacturing. A big share of productivity growth. Important innovations are available.
  - Tax reform to level the playing field
  - Federal support for R&D has lagged

# Conclusion

- Access to firm level data has revealed the widening of the productivity distribution and, together with industry data, provided insight into the causes of slow growth
- It has also given hope that there might be ways to reverse or partially reverse the slowing of growth, either through policy actions to encourage competition, or through the natural forces of time in a market economy