



# THE FUTURE OF PRODUCTIVITY

*... productivity isn't everything, but in the long run it is almost everything.*

Paul Krugman, 1994

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CSTP-TIP Workshop on Future Trends in STI Policy

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# The OECD new book: out now!

Available at:

<http://www.oecd.org/economy/the-future-of-productivity.htm>

Book + 5 page policy note +  
technical papers + videos and ppt

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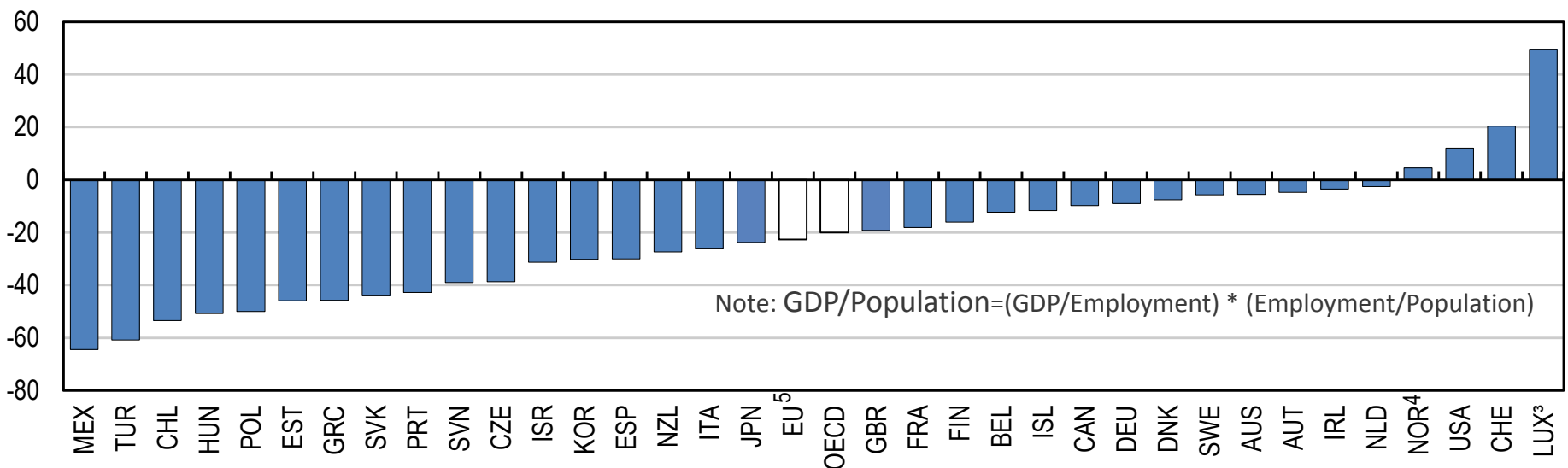
Giuseppe Nicoletti

## THE FUTURE OF PRODUCTIVITY

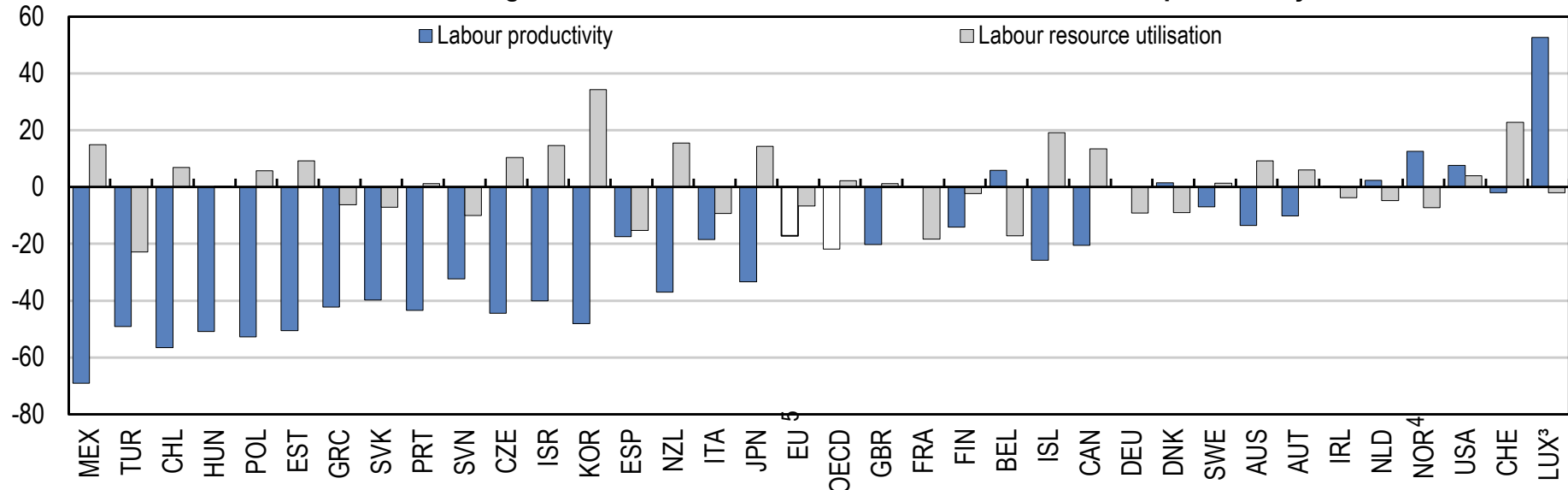


# Cross-country gaps in GDP per capita mainly reflects productivity shortfalls

A. Percentage GDP per capita difference compared with the upper half of OECD countries<sup>1</sup>



B. Percentage difference in labour resource utilisation and labour productivity<sup>2</sup>



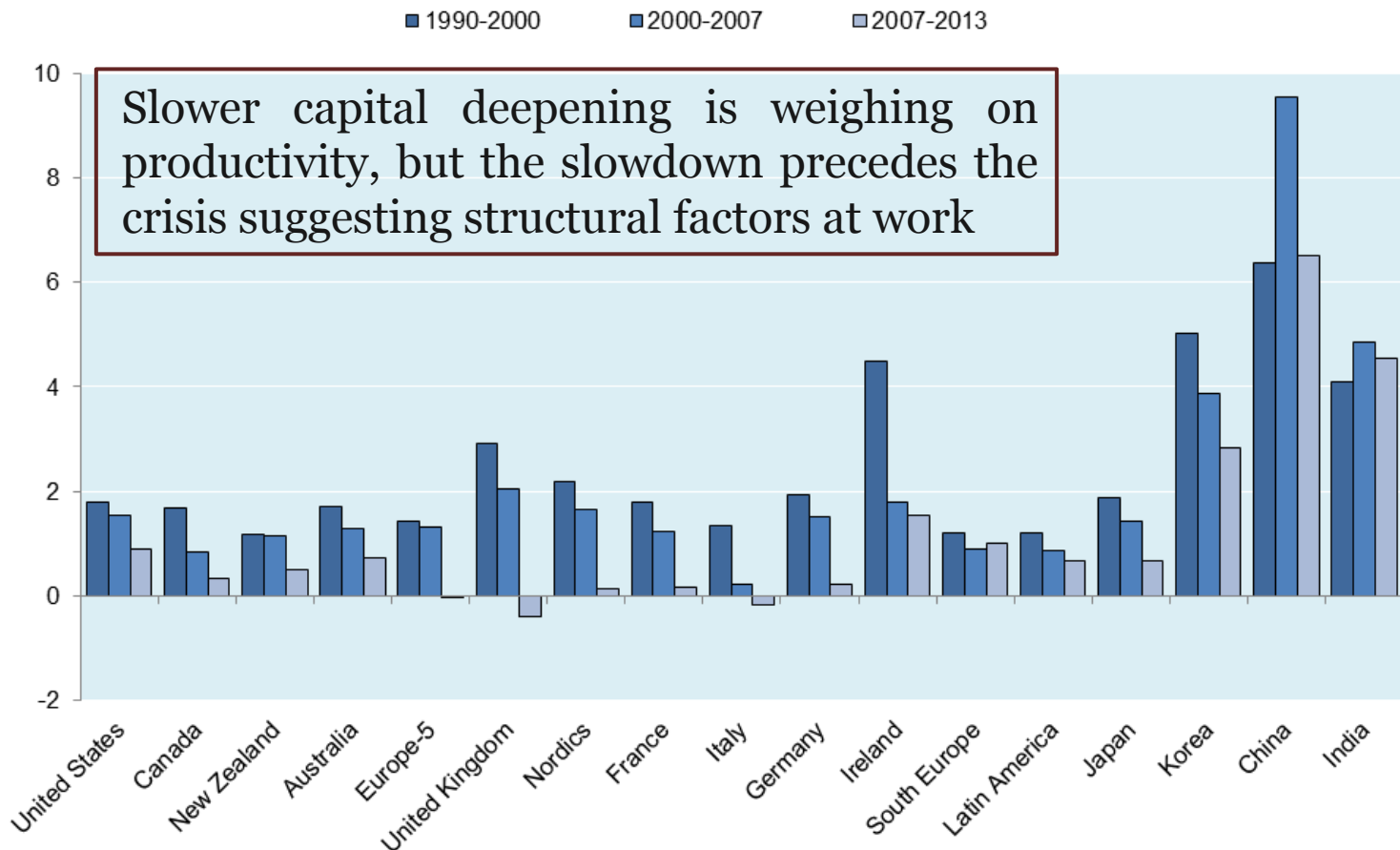
Source: OECD (2015), *Economic Policy Reforms: Going for Growth*



# Productivity growth slowed across the OECD, even before the crisis

## Labour productivity growth since 1990

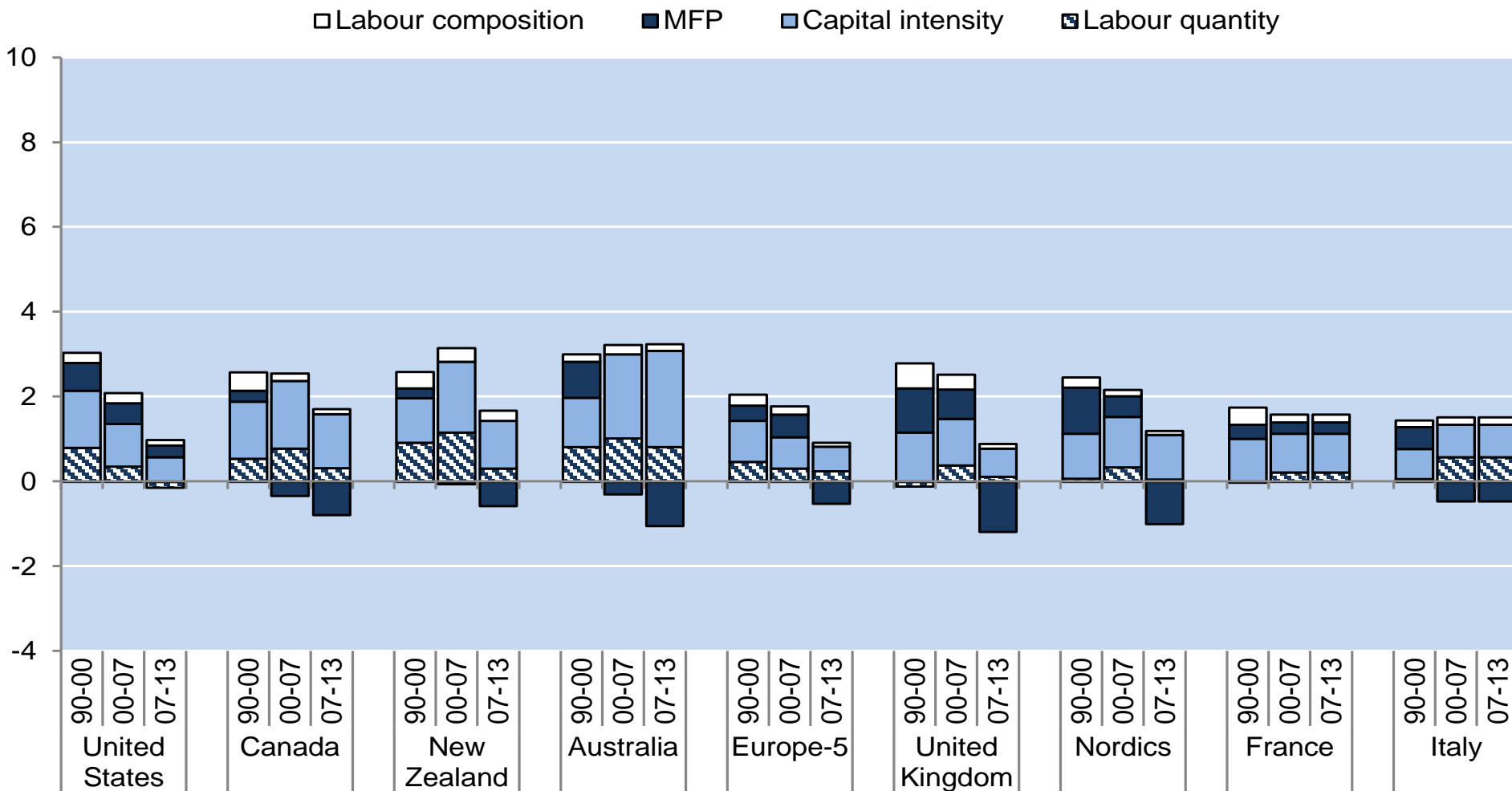
GDP per hour worked (China and India refer to GDP per worker)





# Decomposing Growth: Growth without MFP?

Contribution of production factors to GDP growth 1990-2013 (%pts)

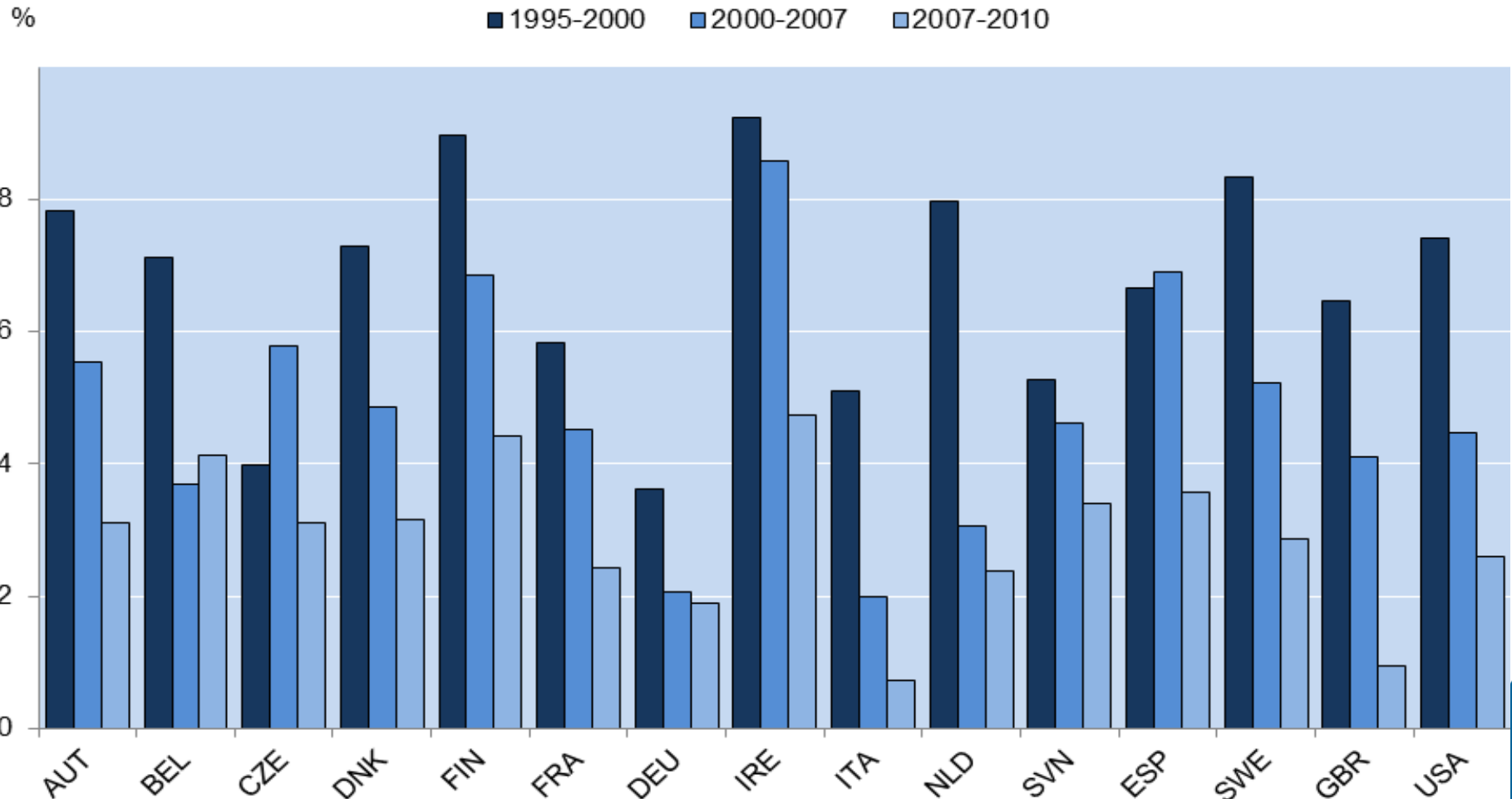


Source: Conference Board Total Economy Database



# Knowledge based capital accumulation has been slowing too

## Investment in KBC; annual average growth



Source: Corrado et al., (2012).



# The slow-down...is it here to stay?

## Techno-pessimists vs techno-optimists

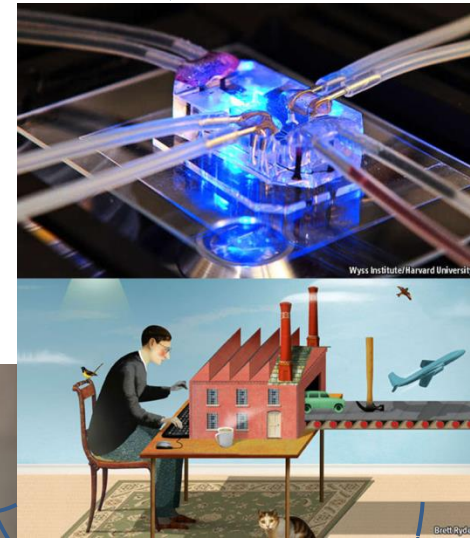
### ...The debate is not settled



Will we ever  
invent anything this  
useful again?



The growing debate about  
dwindling innovation







# Why the slow-down? Taking a granular approach:

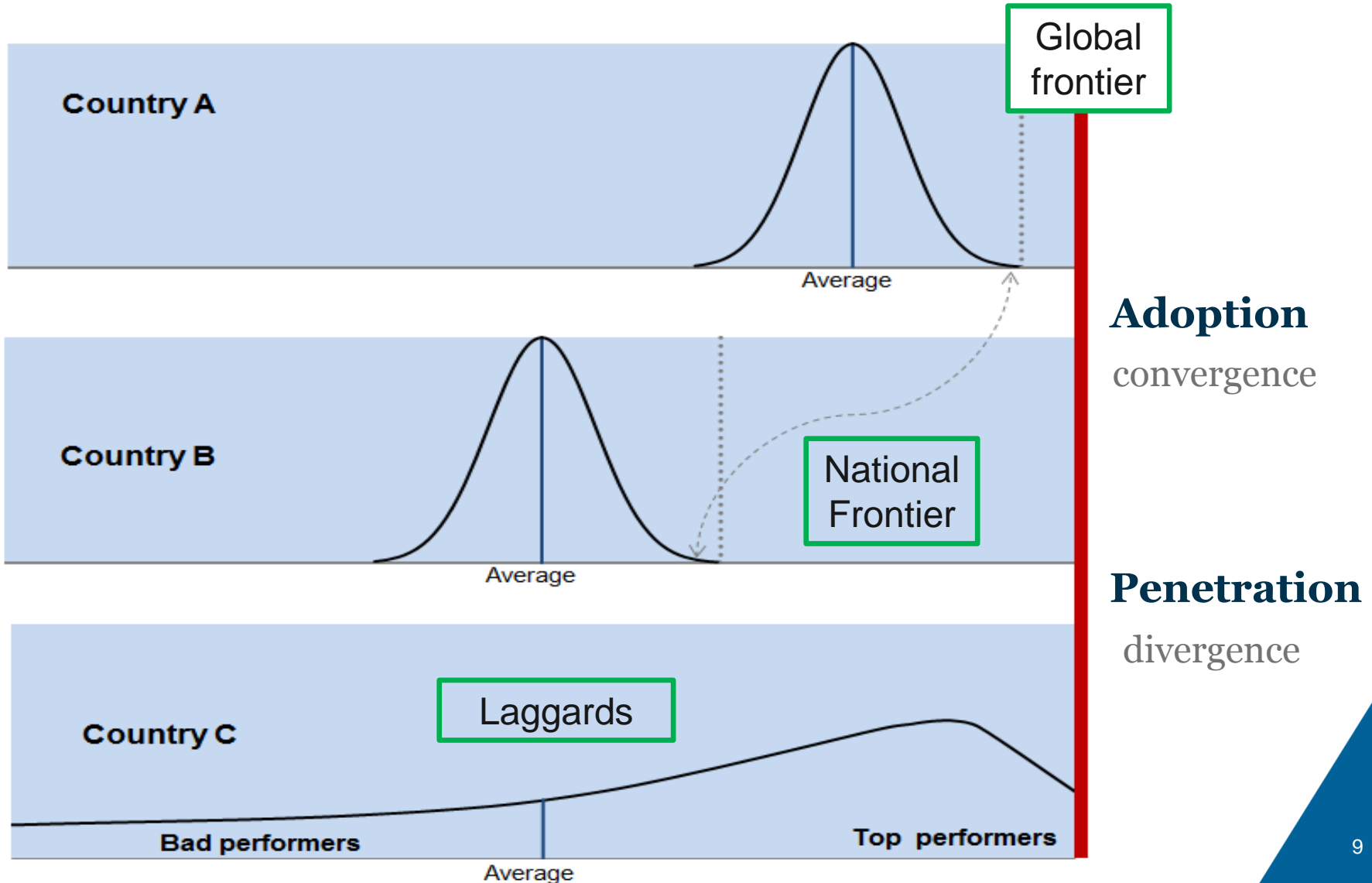
1. Is it because the **productivity frontier is slowing** ?
  2. Is it because “**laggards**” **are not catching up**?
  3. Is it because of **misallocation** and **declining business dynamism**?
  4. ...or **something else**?
- Role of **policies**?







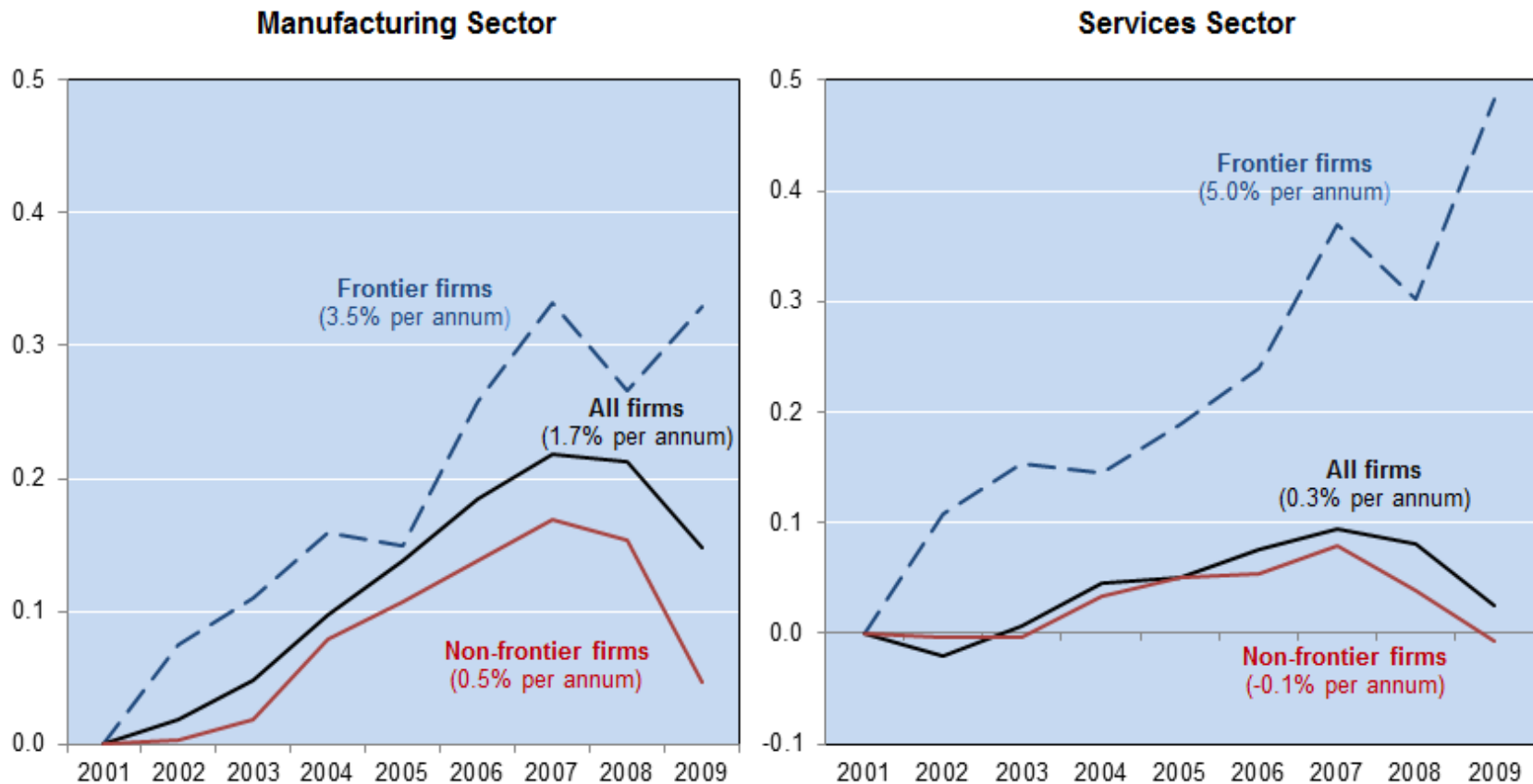
# Analytical framework





# The Increasing gap between firms at the frontier and the others

**Solid growth at the global productivity frontier but growth of the rest disappointed**  
Labour productivity; index 2001=0



Source: Andrews, D. C. Criscuolo and P. Gal (2015), "Frontier firms, technology diffusion and public policy: micro evidence from OECD countries", OECD Mimeo.



# Possible explanations and how to revive growth

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- Technological diffusion slowed down
- “Winner takes all”
- Replication and diffusion of the magic “bundle” is becoming more difficult

Three areas for policy:

1. **Pushing out the global frontier:** More and more efficient public investment in **basic research**. Role for international co-operation?  
Enabling **experimentation** of firms with new technologies and business models.
2. **More efficient resource allocation:** Reduce barriers to firm **entry and exit** to enable high productivity firms to grow and low productivity firms to exit. “Resolving” **Skill mismatch** and **upscaling**
3. **Reviving the diffusion machine:** From global to national frontier and from national frontier to laggards through exposure to best practice (trade and GVC participation, FDI, mobility of skilled workers) resource (e.g. skill) allocation and absorptive capacity (e.g. R&D; University collaboration)



# Policies to revive productivity growth

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## **Framework policies**

1. Pro-competition product market reforms, esp. in services
2. Exit matters: bankruptcy legislation that does not excessively penalise failure
3. Policies that do not inhibit labour and residential mobility
4. Education & social policies to help workers adapt to technological change and the costs of reallocation

## **Innovation policies**

1. Public investment in basic research
2. Collaboration between firms and universities
3. R&D fiscal incentives and IPRs but design is crucial



THANK YOU!

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