



Peterson Institute for International  
Economics, Washington D.C.,  
9 July 2015

# THE FUTURE OF PRODUCTIVITY

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

Paul Krugman, 1994

Catherine L. Mann  
OECD Chief Economist

Launch of the book: Adalet McGowan, M., D. Andrews, C.  
Criscuolo and G. Nicoletti (2015), *The Future of Productivity*  
OECD, Paris.



# Road Map

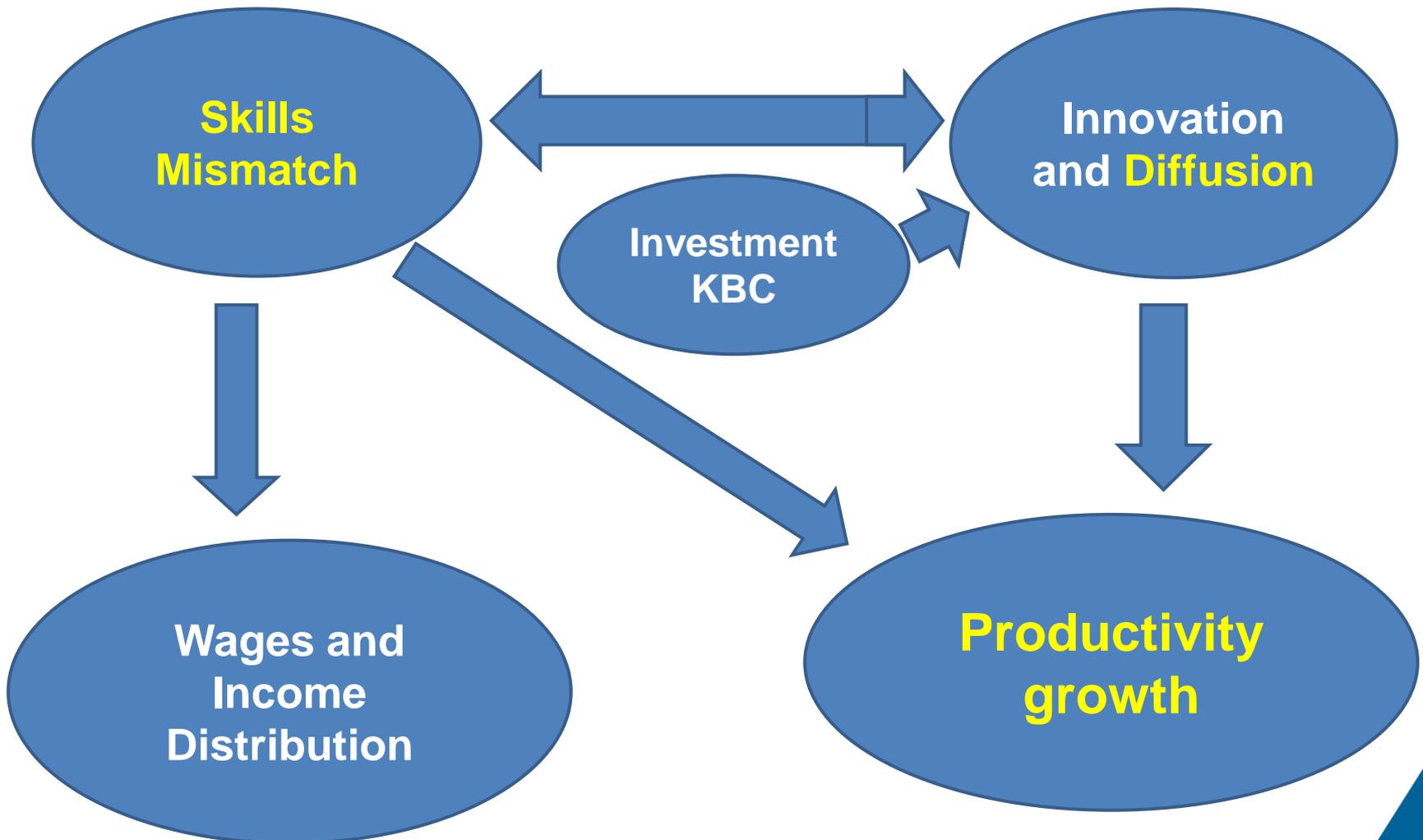
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- Productivity: Why does it matter?
  - Potential growth
  - Labour productivity/Income per capita
- Productivity: What is wrong?
  - Broken diffusion machine
  - Misallocated resources, esp. skills
- Policies to revive productivity growth



# A peek at policy channels

## Framework Policies, Demand Conditions and..





# Productivity: What is it, Why it Matters

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## Productivity is about:

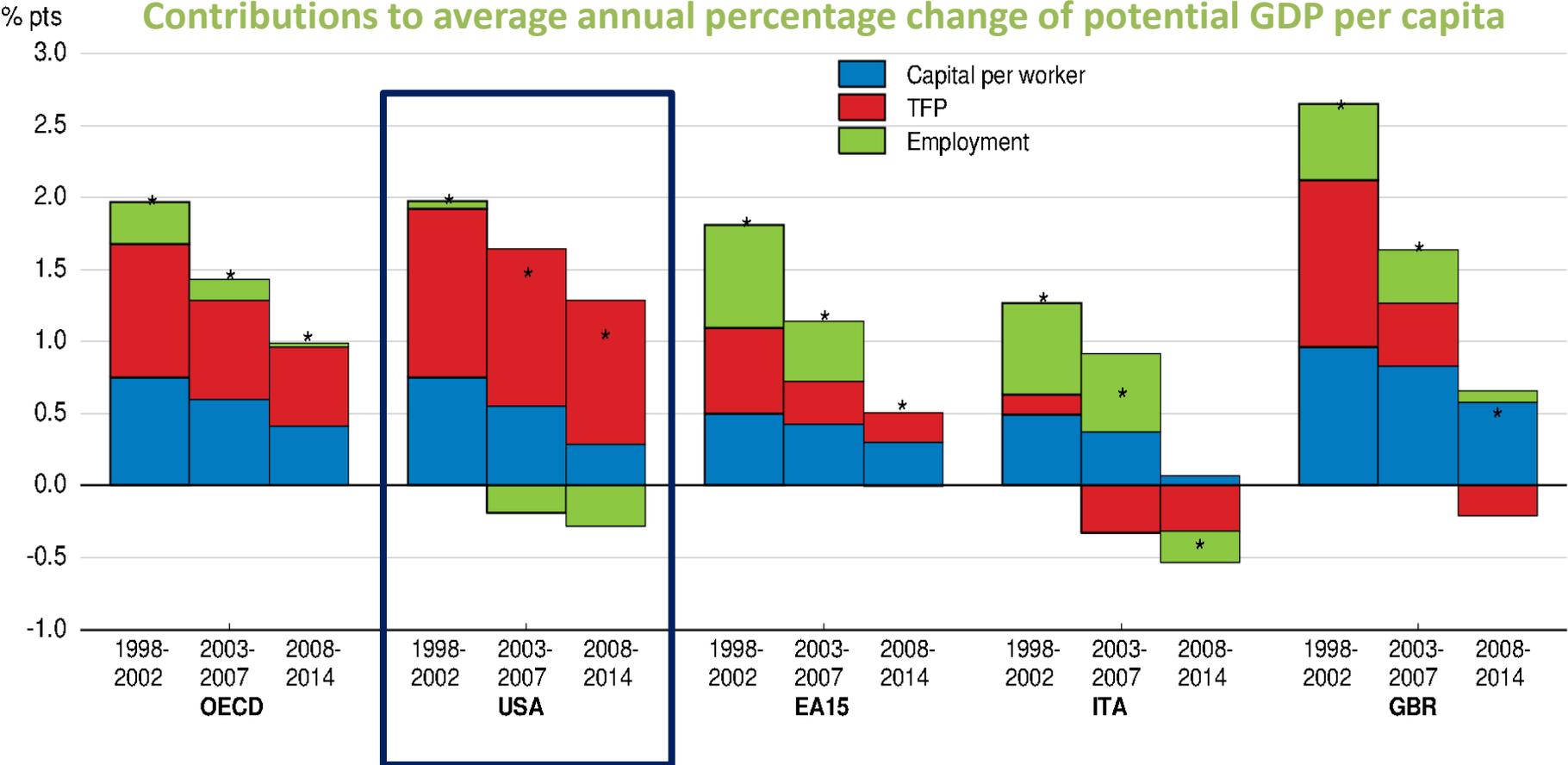
- Working *smarter*, not working *harder*
- More output by better combining inputs, via:
  - new ideas
  - technological innovations
  - new business models
  - more efficient resource allocation.

Productivity crucial for **potential growth**



# Potential Growth: Who cares? What's wrong? Promises, Promises

Contributions to average annual percentage change of potential GDP per capita



Source: June 2015 OECD Economic Outlook database.

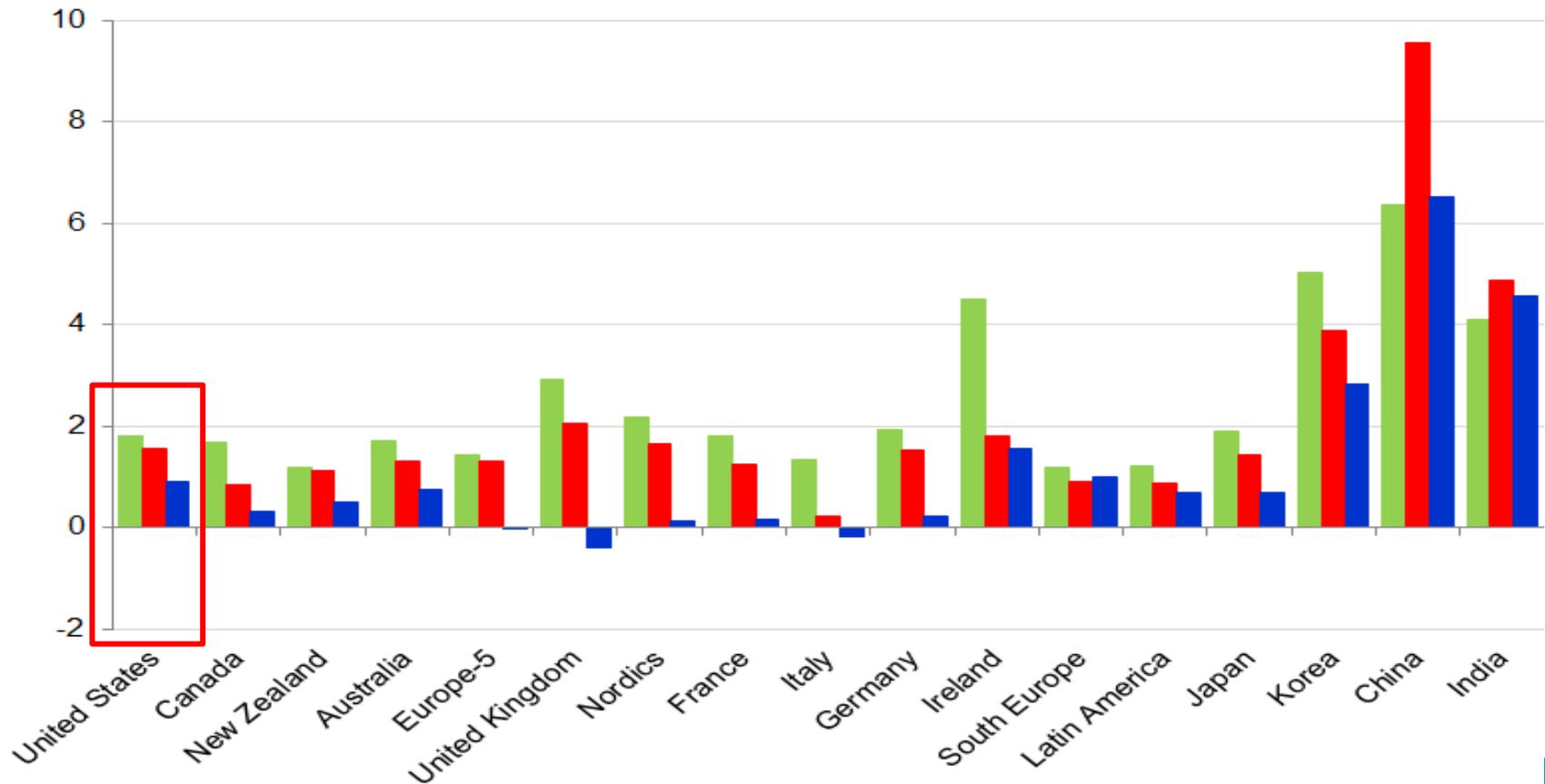


# Labour productivity (drives income/capita) slowed even before the crisis...why?

## Labour productivity growth since 1990

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

■ 1990-2000 ■ 2000-2007 ■ 2007-2013

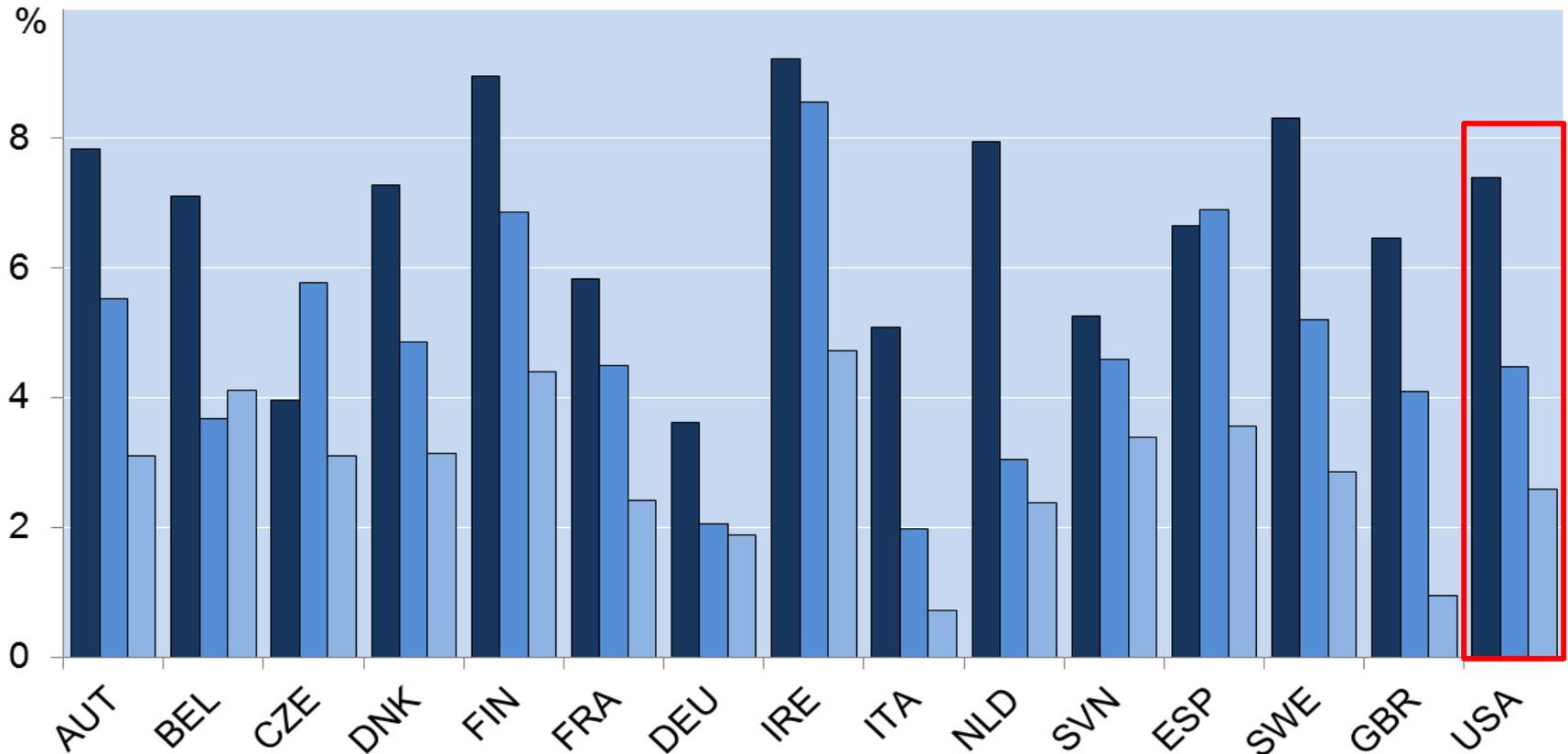




# Slowing investment in KBC

Investment in Knowledge Based Capital  
Annual average growth

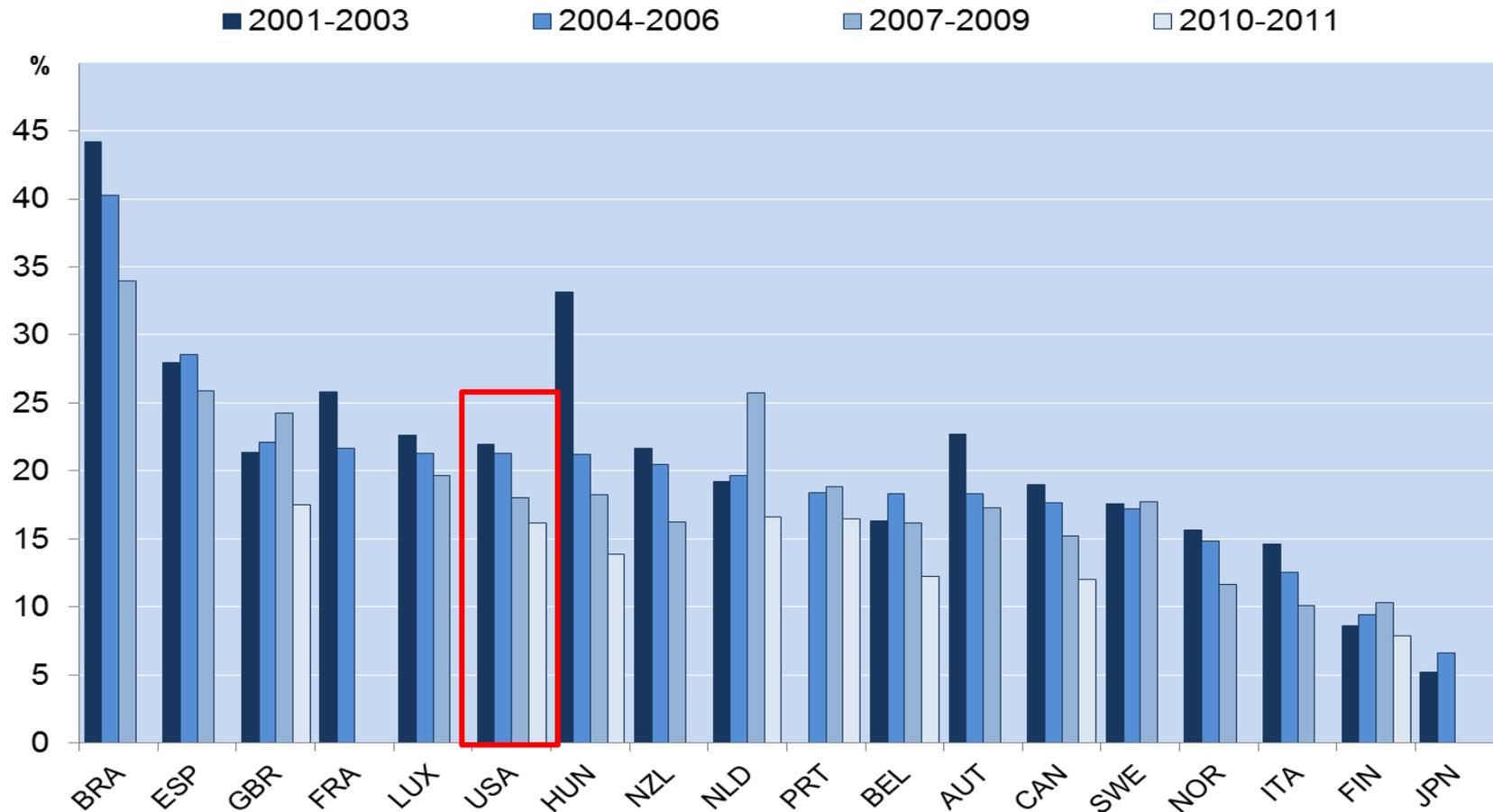
■ 1995-2000 ■ 2000-2007 ■ 2007-2010





# Declining business dynamism

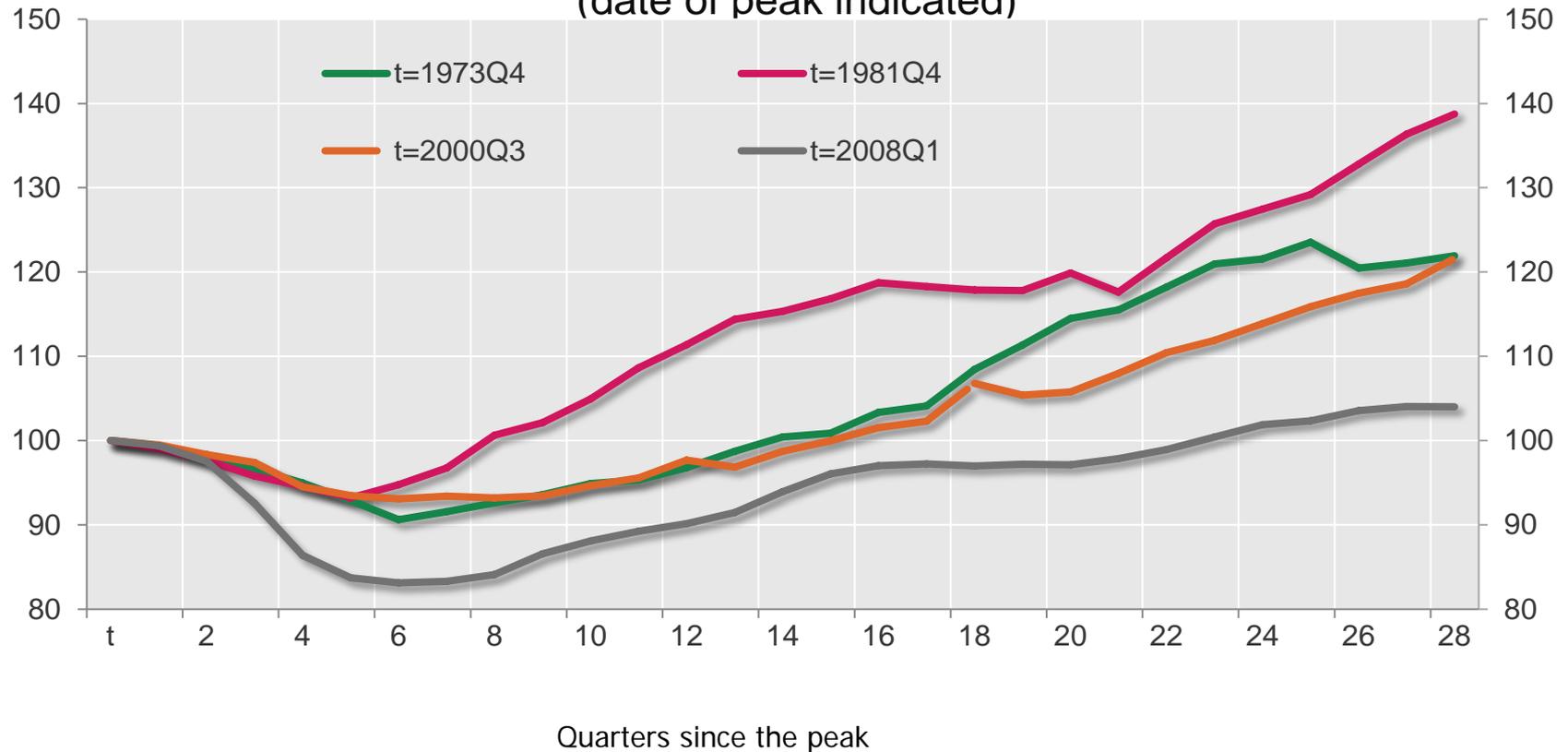
Share of start-up firms in total  
Per cent; average over the periods





# Since the crisis, sluggish investment

Business investment in different cycles  
Cyclical peak in OECD real business fixed investment=100  
(date of peak indicated)





## Prospects going forward?



Economic odd couple Robert Gordon, left, and Joel Mokyr encapsulate the debate on the future of innovation. *ROB HART FOR THE WALL STREET JOURNAL* "Economists Debate: Has All the Important Stuff Already Been Invented? By Timothy Aepfel, June 15, 2014 10:38 p.m. ET



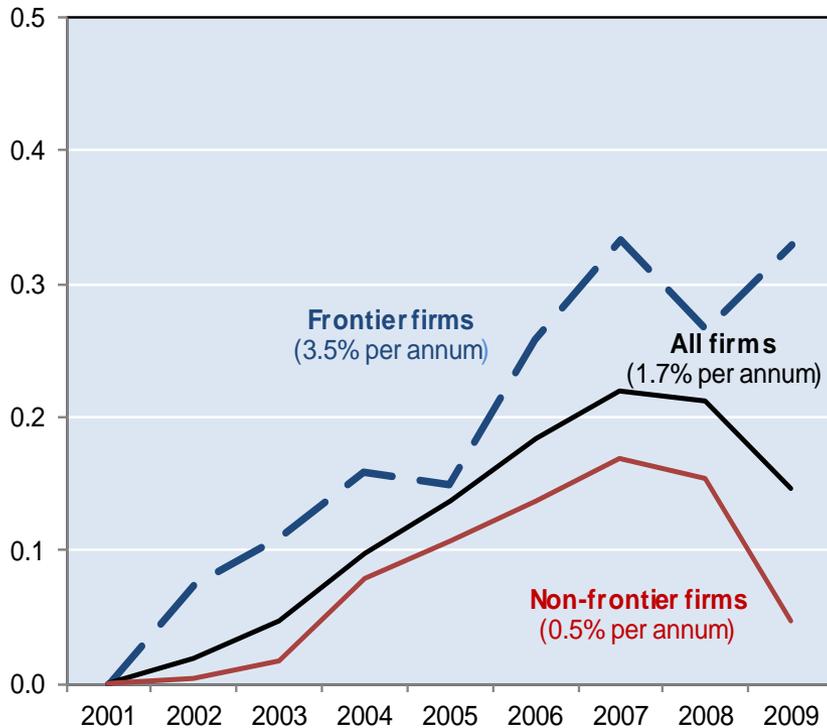
# THE BREAKDOWN OF THE DIFFUSION MACHINE



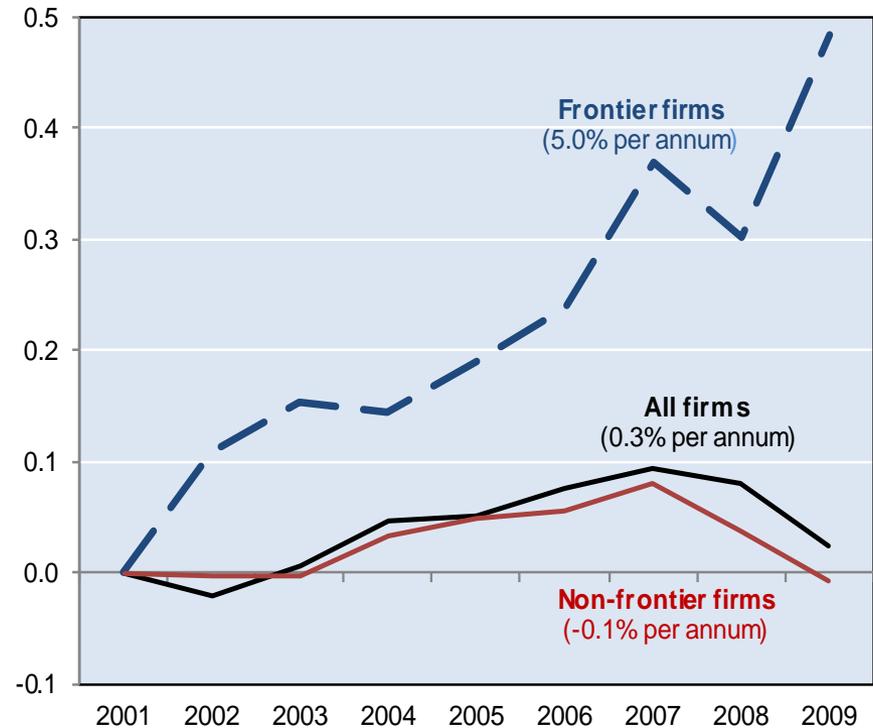
# Problem is not innovation, it's *diffusion*

Solid growth at the global productivity frontier but spillovers disappointed  
Labour productivity; index 2001=0

### Manufacturing Sector



### Services Sector



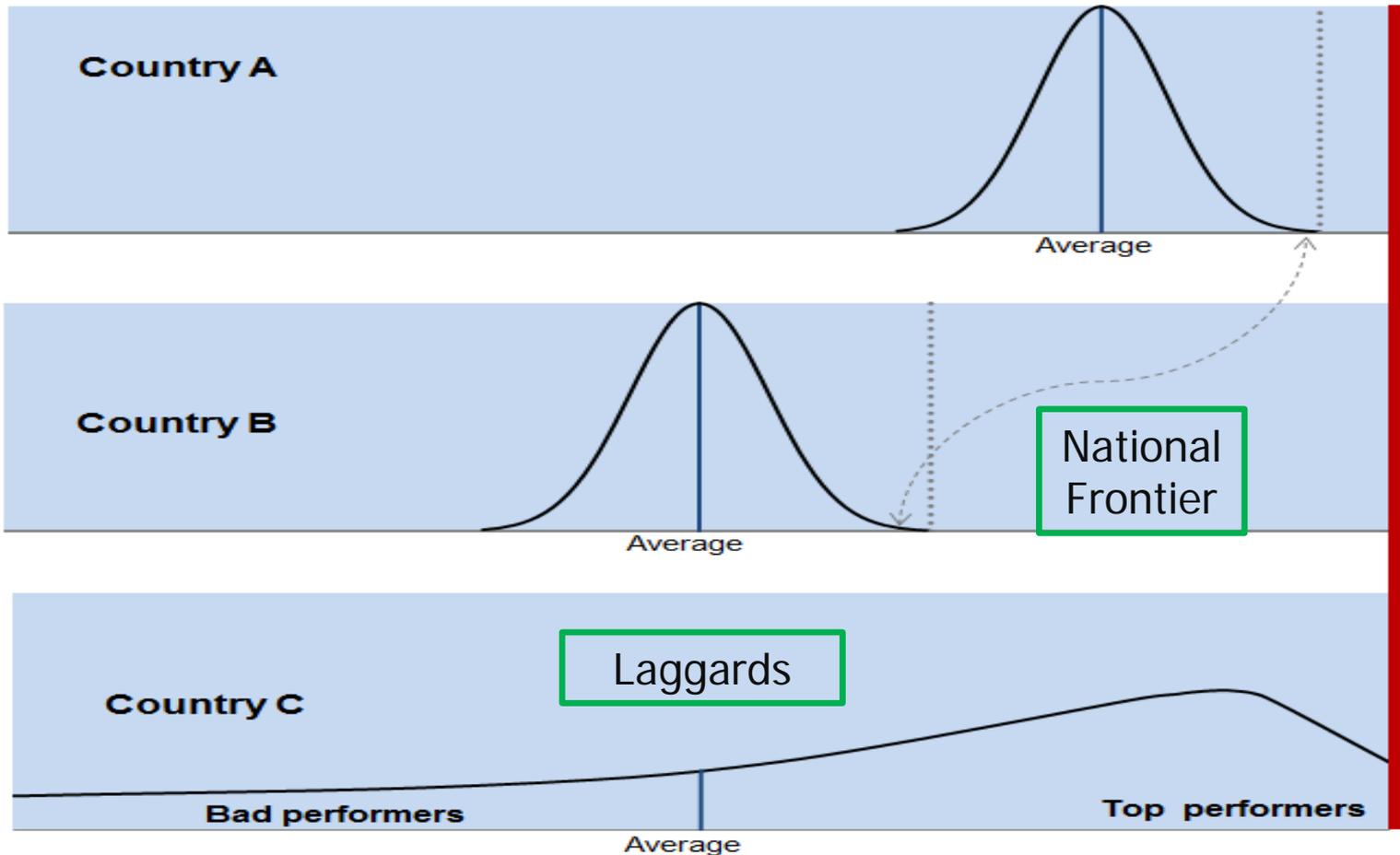
“Frontier firms” corresponds to the average labour productivity of the 100 globally most productive firms in each 2-digit sector. “Non-frontier firms” is the average of all other firms. “All firms” is the sector total. The average annual growth rate is shown in parentheses.



# Thinking about diffusion: global frontier to national frontier to laggards

A stylised depiction of how productivity spreads matter for policy

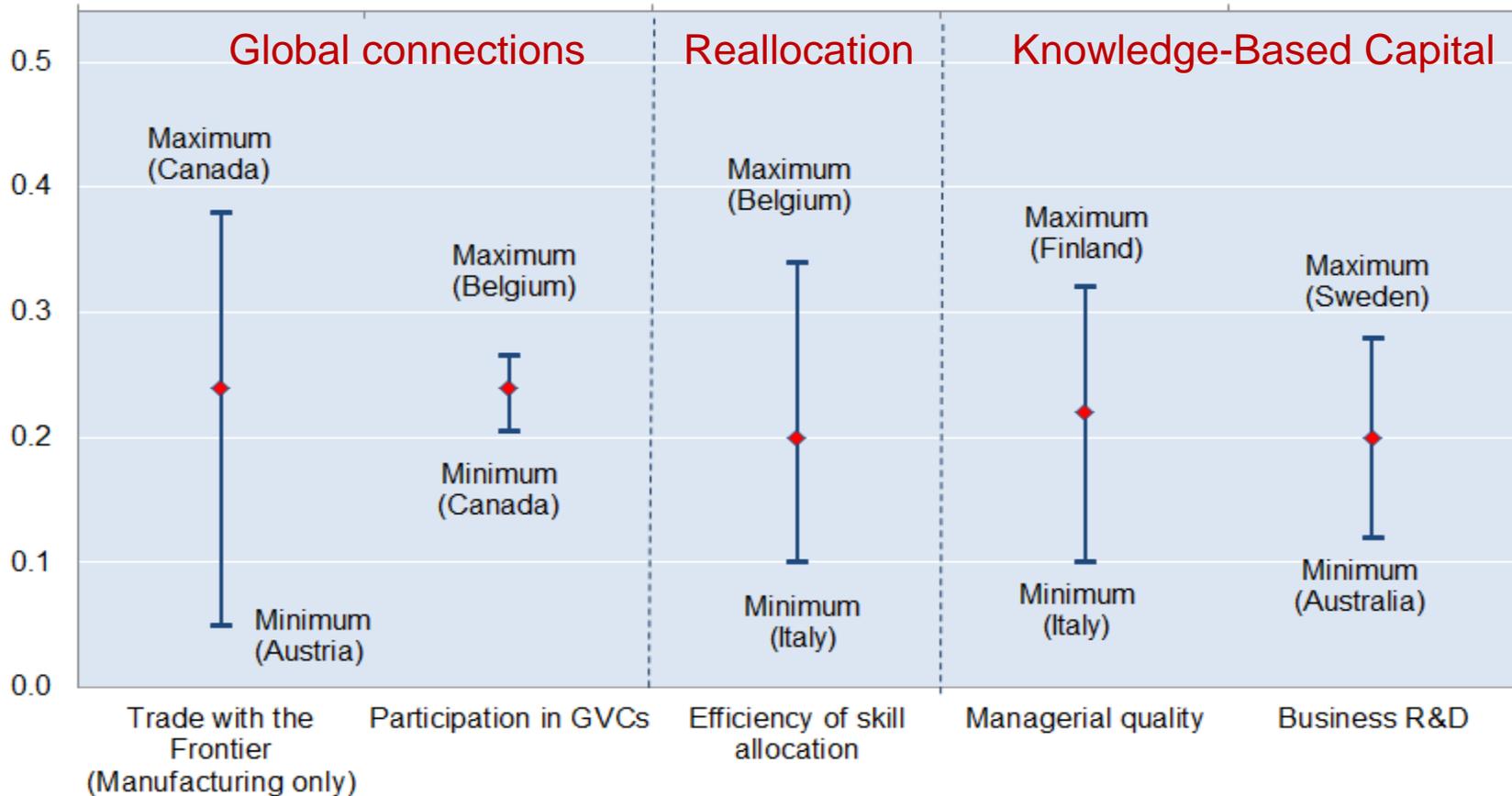
Global frontier





# Structural policies shape diffusion

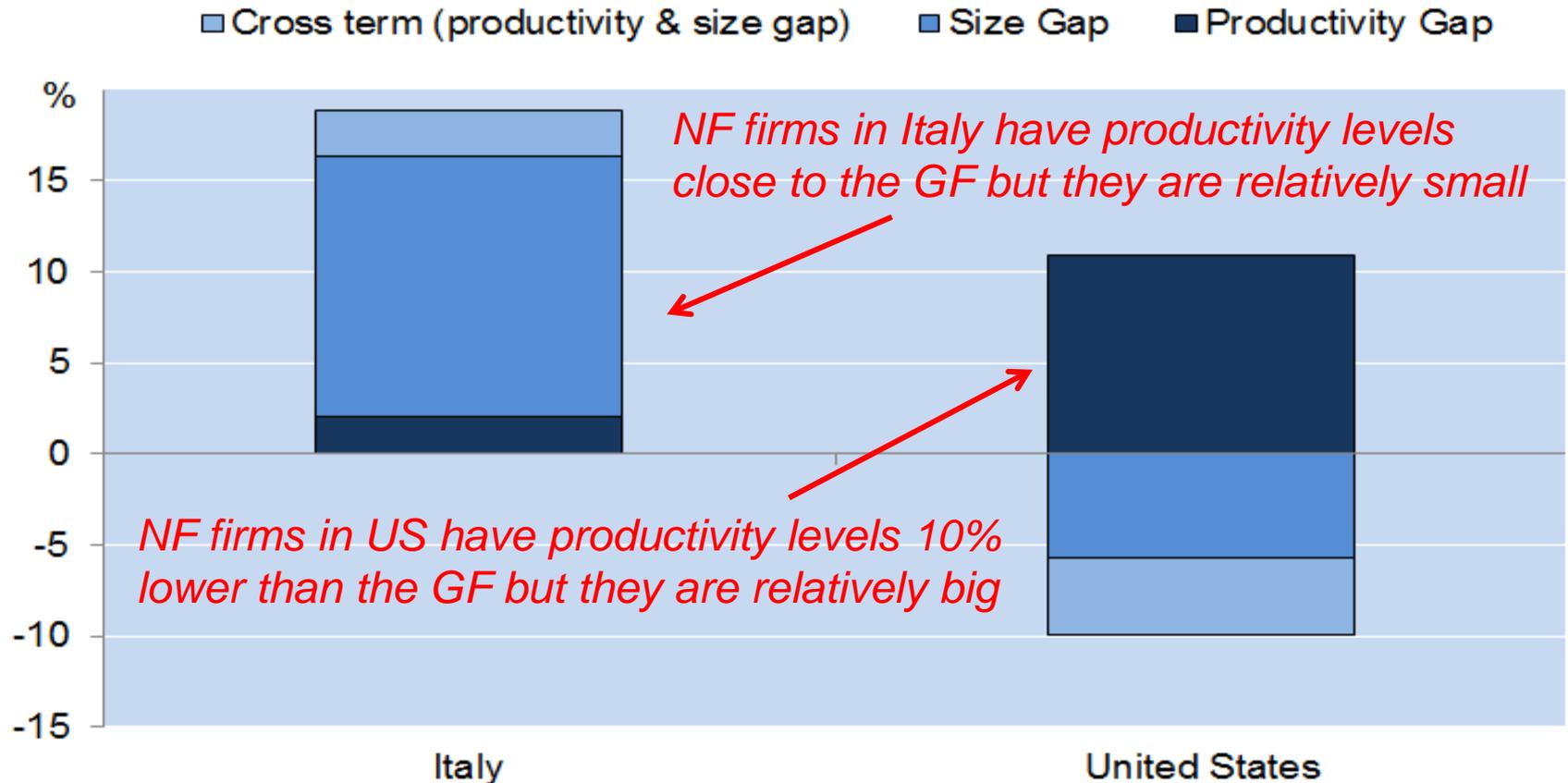
Estimated frontier spillover (% pa) associated with a 2% point increase in MFP growth at the global productivity frontier





# Global frontier to national frontier: different countries, different issues

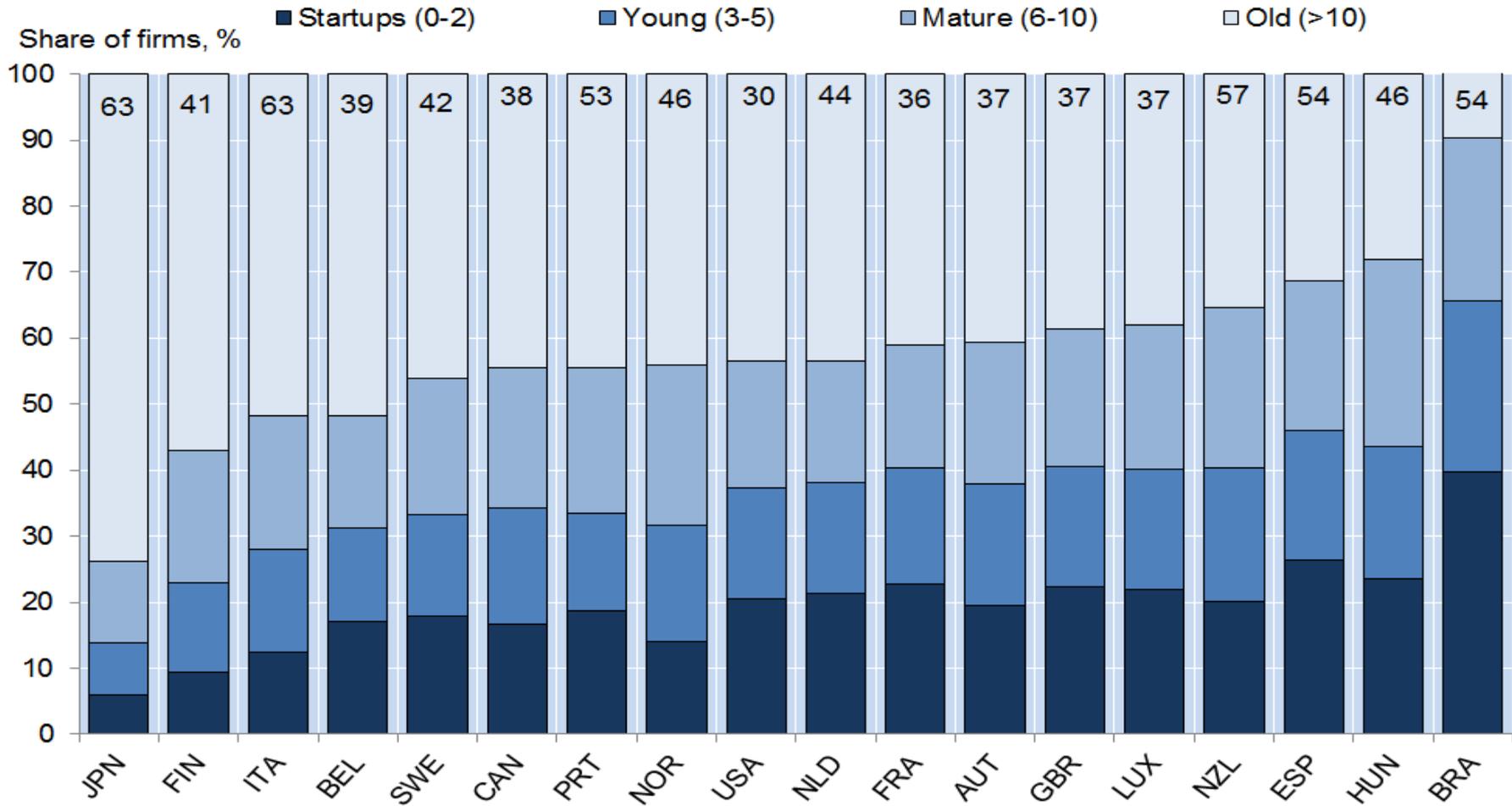
How much higher would be overall manufacturing sector labour productivity if national frontier (NF) firms were as productive and large as global frontier (GF) firms?





# Frontier to average firm

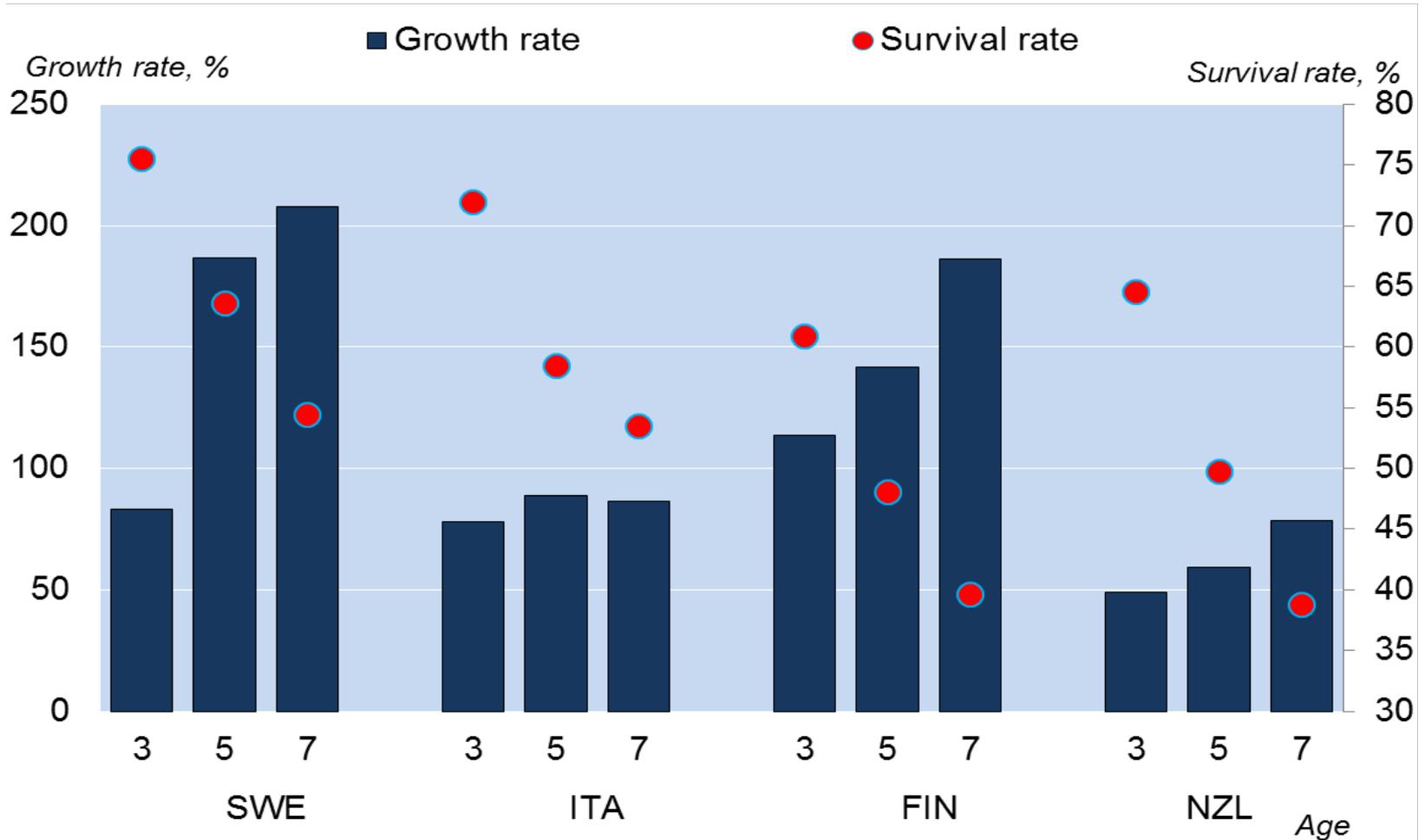
## Old & small are less productive, trap resources





# Survival, growth, or Out the dynamics of creative destruction

Firm growth and survival rates, by firm age





# POLICIES TO REVIVE PRODUCTIVITY GROWTH

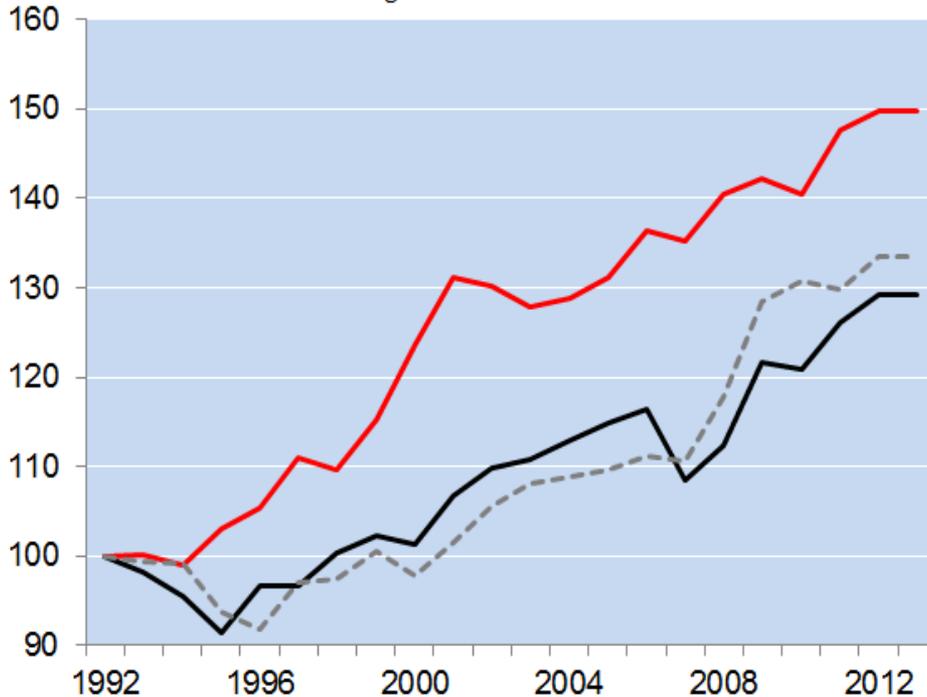


# Keep the innovation engine running

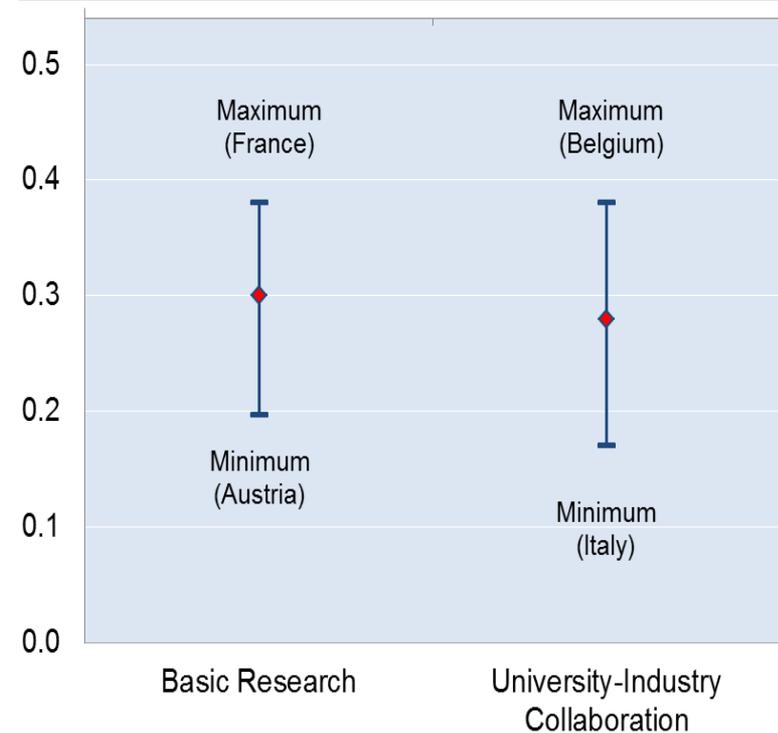
Average across selected OECD countries

Index 1992=100

— Basic Research  
— R&D Business Enterprise Sector  
- - - Higher Education Sector



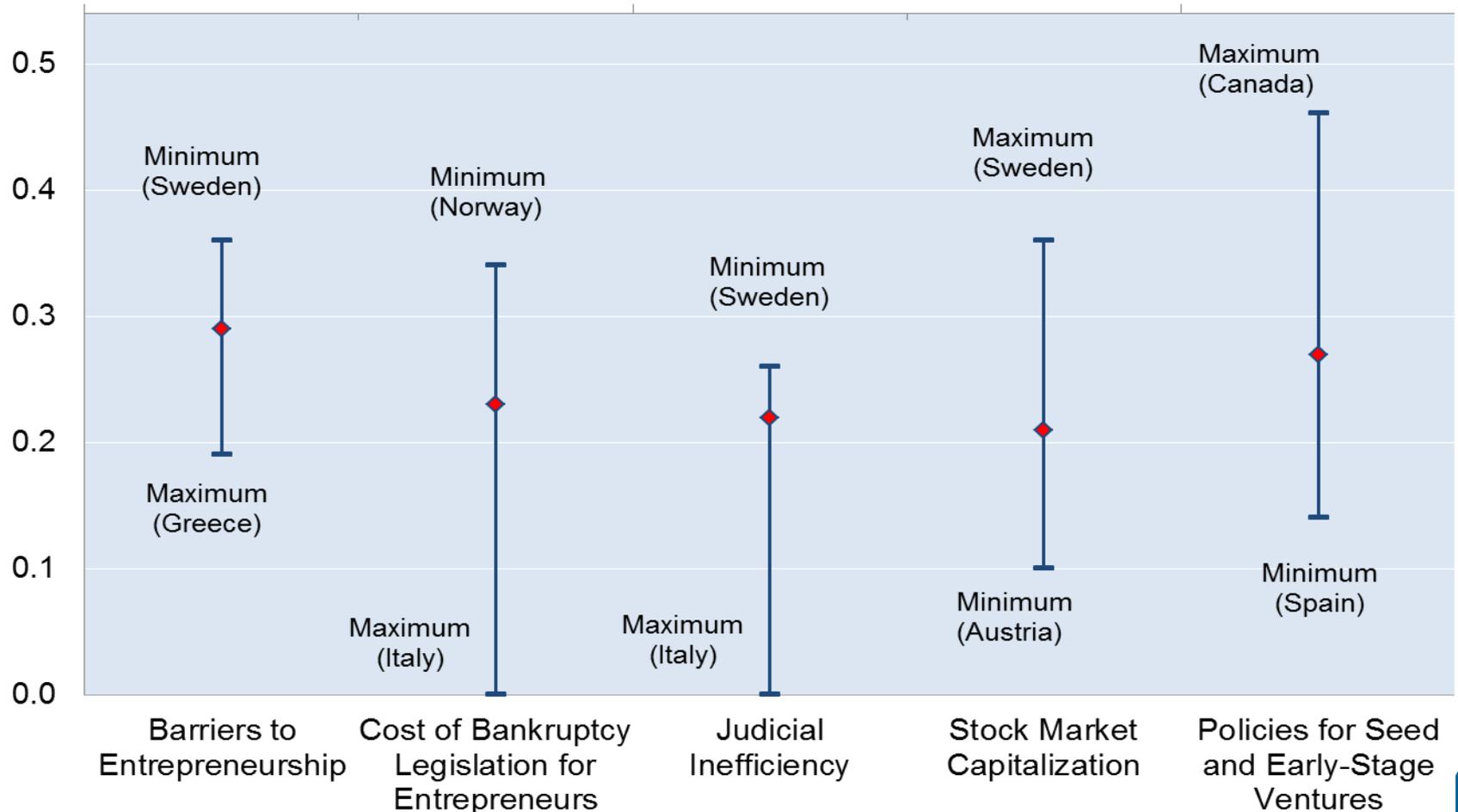
Est. frontier spillover (% p.a.) associated with 2% point increase in MFP growth at the frontier





# Revive the diffusion machine

Estimated frontier spillover (% p.a.) associated with a 2% point increase in MFP growth at the global productivity frontier

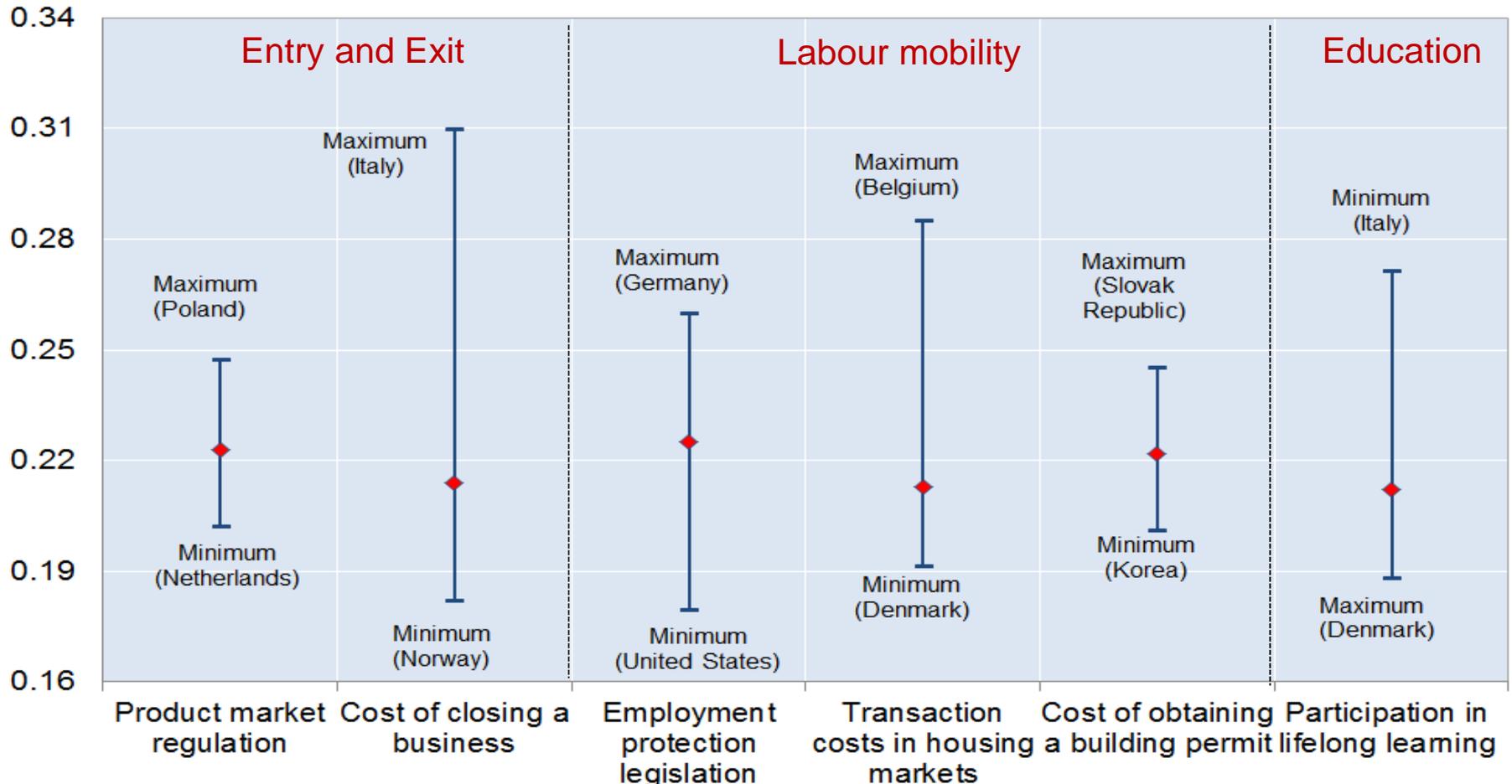




# Reallocate resources to most productive firms and support worker transition

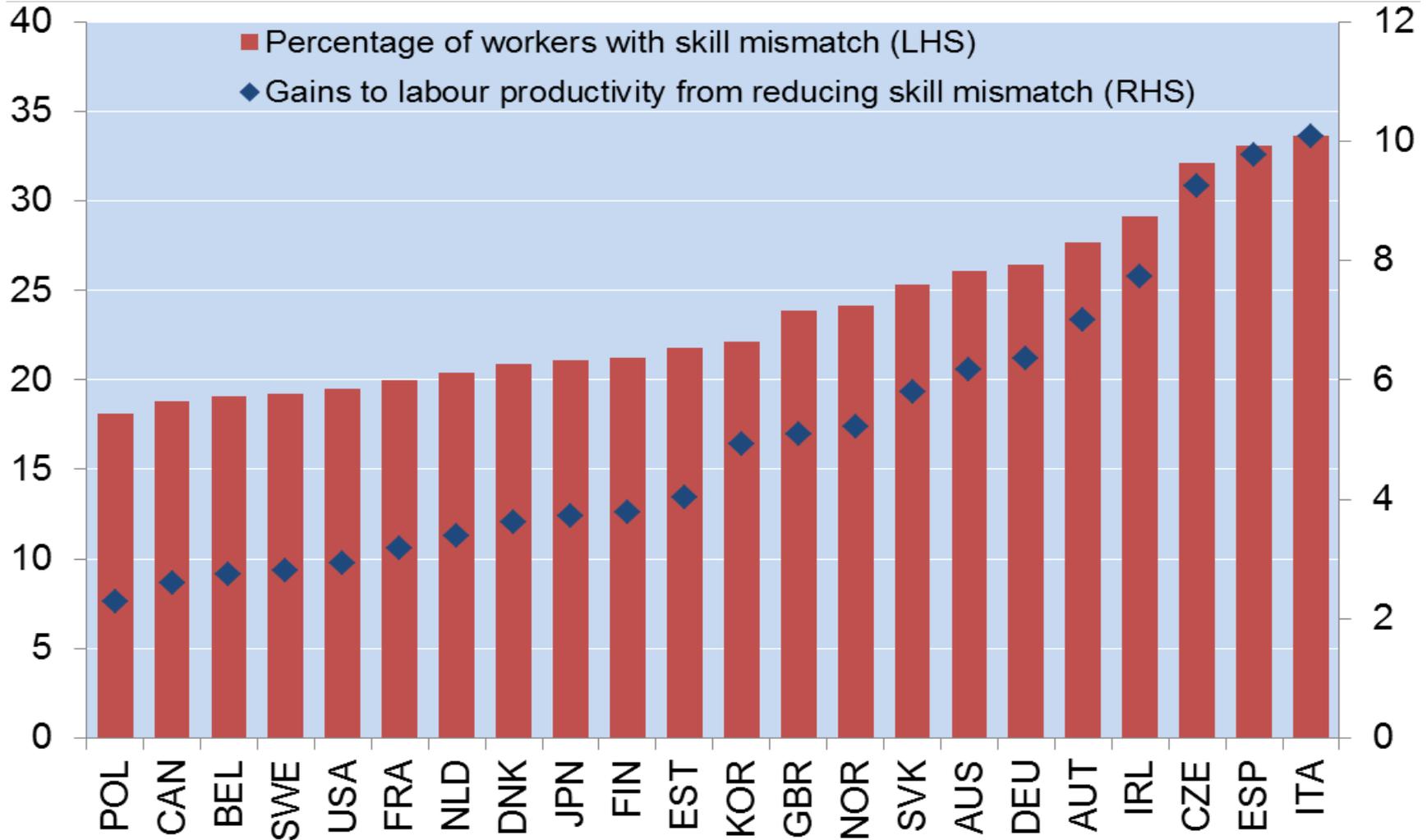
The probability of skill mismatch and public policies

◆ Effect at policy median





# Reducing skill mismatch is a win-win: raises productivity and wages too

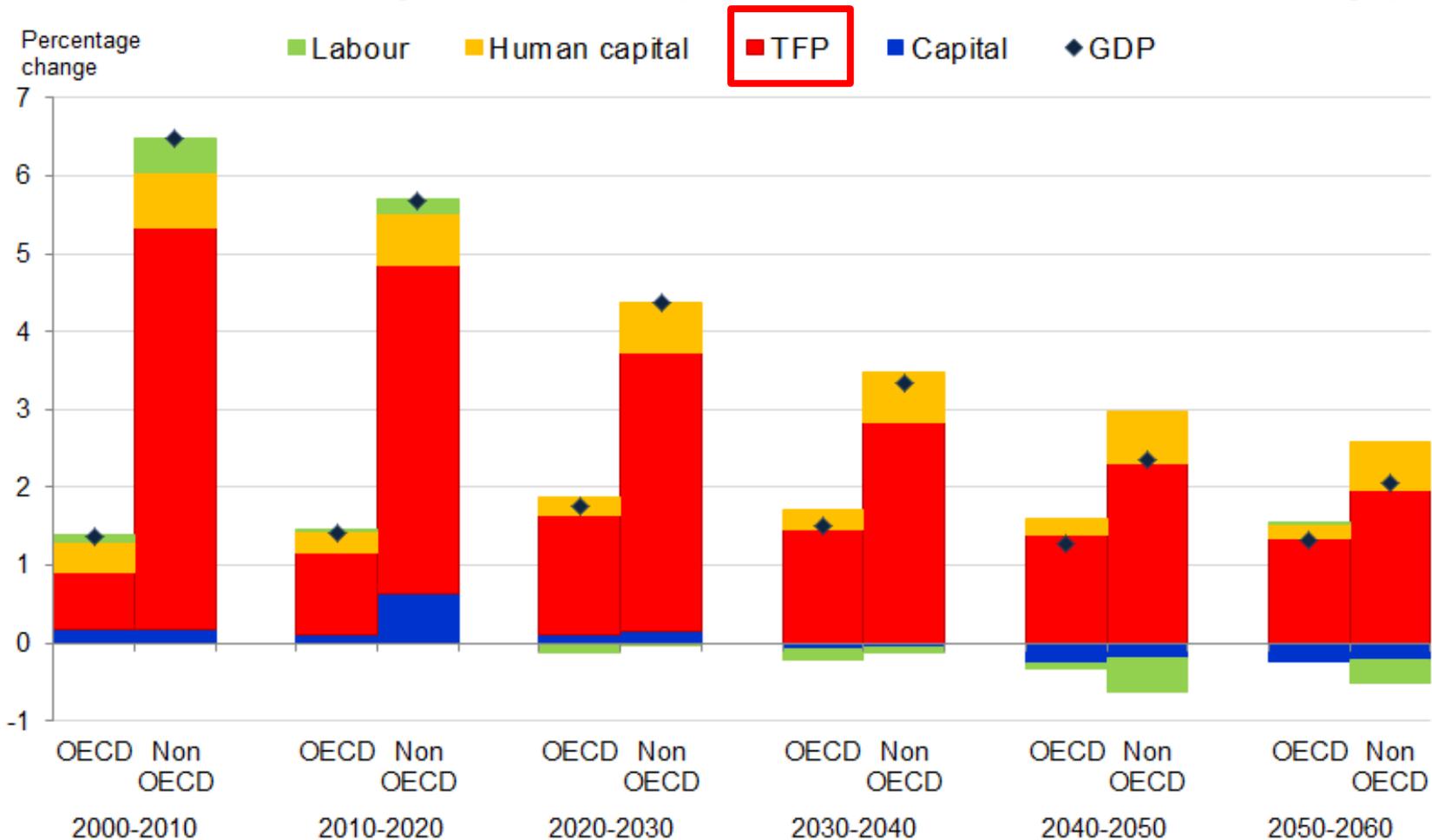




# Future growth depends on productivity

## Framework policies are the key

Contribution to growth in GDP per capita, 2000-2060 (annual average)





# The following reports detail the results:

- OECD (2015), "[The Future of Productivity](#)". OECD, Paris
- Adalet McGowan, M. and D. Andrews (2015a), "[Labour Market Mismatch and Labour Productivity: Evidence from PIAAC Data](#)", *OECD Economics Department Working Papers*, No. 1209.
- Adalet McGowan, M. and D. Andrews (2015b), "[Skill Mismatch and Public Policy in OECD Countries](#)", *OECD Economics Department Working Papers*, No. 1210.
- Andrews, D., C. Criscuolo and P. Gal (2015), "[Frontier Firms, Technology Diffusion and Public Policy: Micro Evidence from OECD Countries](#)", *OECD Mimeo*, forthcoming.
- Calvino, F., C. Criscuolo and C. Menon (2015), "[Cross-country Evidence of Start-Up Dynamics](#)", *OECD Science, Technology and Industry Working Paper*.
- Criscuolo, C., P. Gal and C. Menon (2014), "[The Dynamics of Employment Growth: New Evidence from 18 Countries](#)", *OECD Science, Technology and Industry Policy Papers*, No. 14.
- Saia, A., D. Andrews and S. Albrizio (2015), "[Public Policy and Spillovers From the Global Productivity Frontier: Industry Level Evidence](#)", *OECD Economics Department Working Papers*, No. 1238.