



PRODUCTIVITY GROWTH AND PUBLIC POLICY: *INSIGHTS FROM RECENT OECD RESEARCH*

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1. Roadmap

- Productivity: **now more than ever**
- Productivity: **what's wrong** *and* **how might policy help?**
 - Broken diffusion machine
 - Resource misallocation
- Productivity: **conjectures** and **future work**

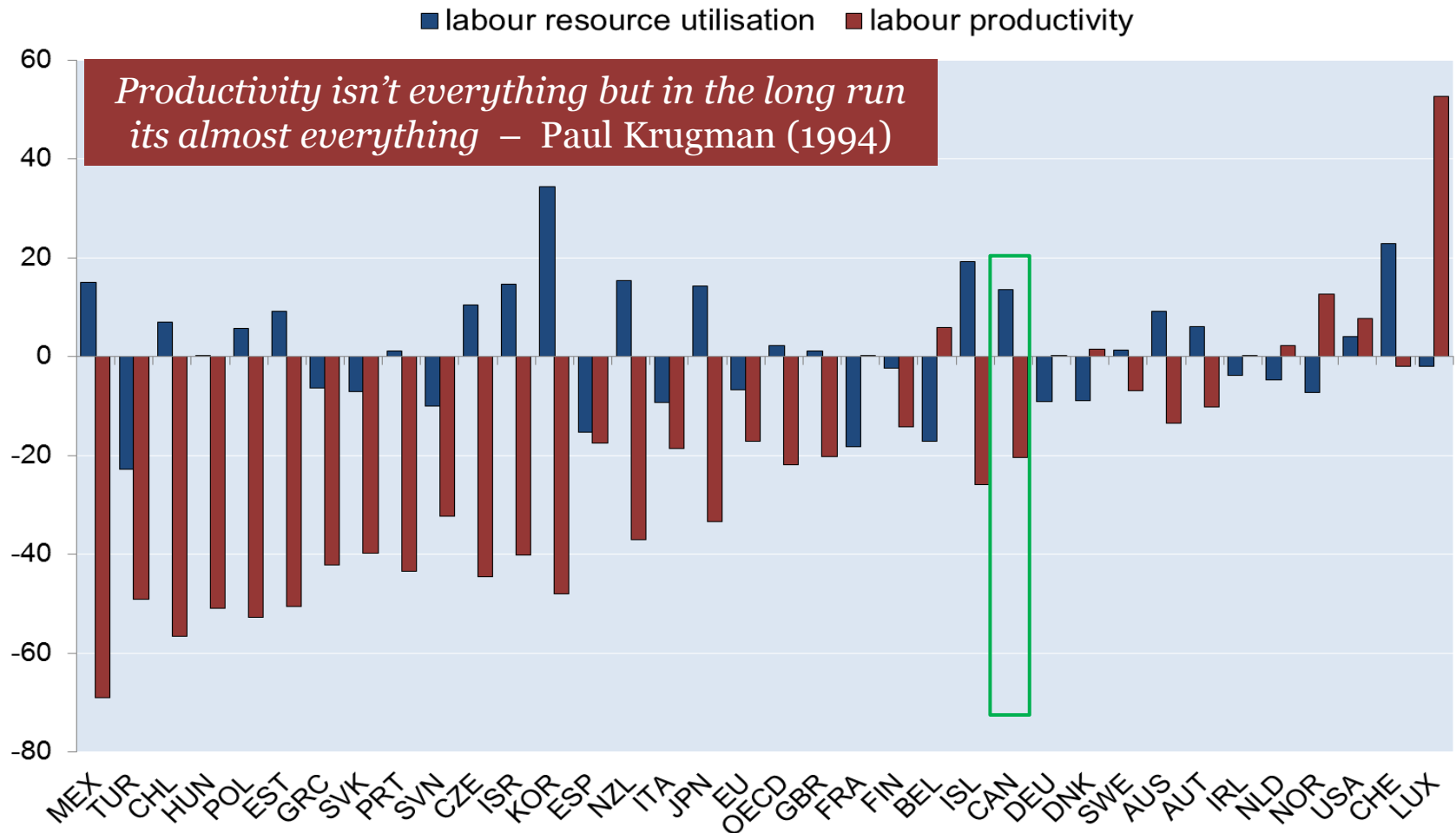


1. PRODUCTIVITY: NOW MORE THAN EVER



2. Differences in GDP per capita mostly reflect labour productivity gaps

Percentage differences compared with the upper half of OECD countries

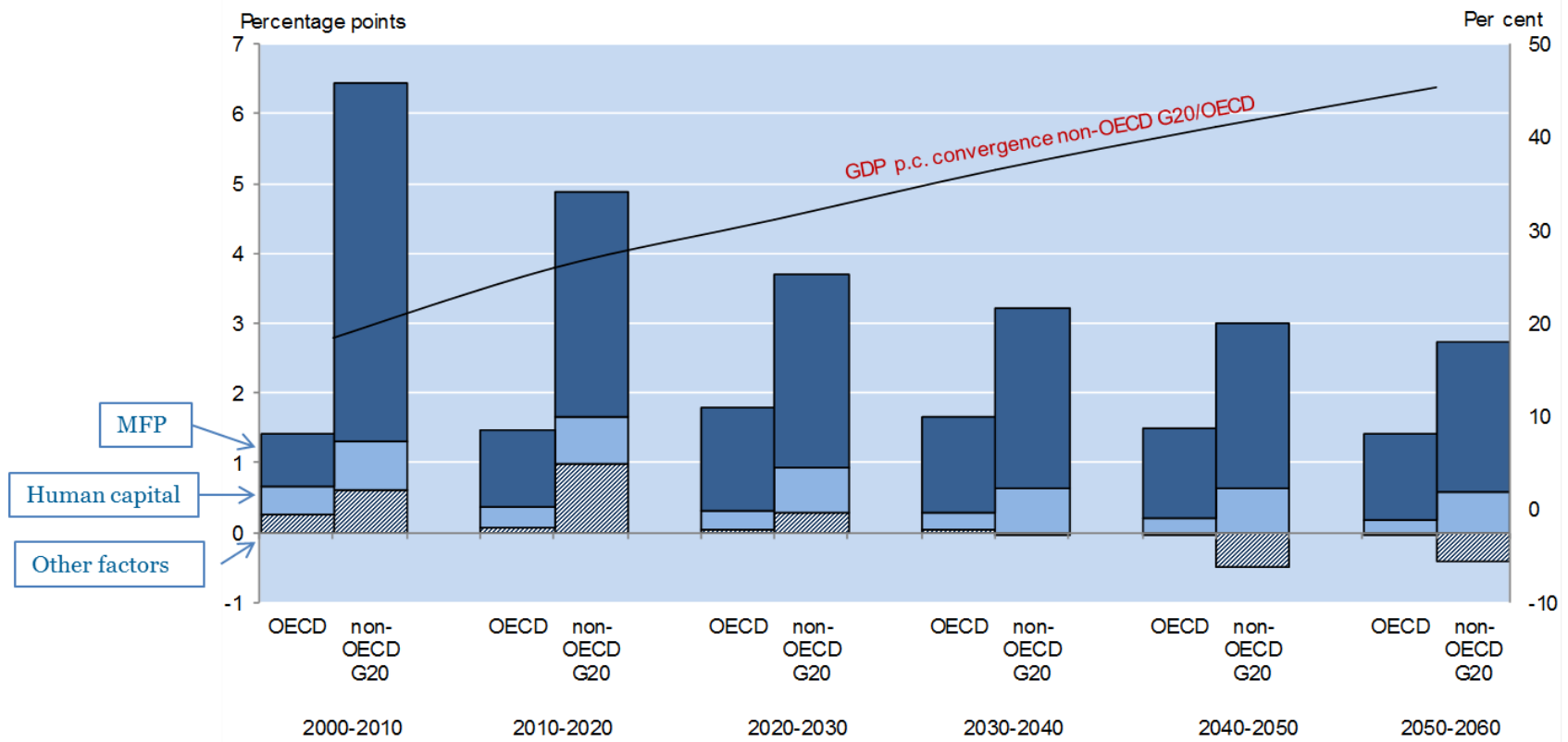




3. Productivity is likely to be the key driver of future growth

GDP per capita, 2000-2060

Contribution to growth and convergence in GDP per capita, 42 countries, 2000-2060



Source: Policy Challenges for the Next 50 Years, H. Braconier, G. Nicoletti and B. Westmore (2013) .

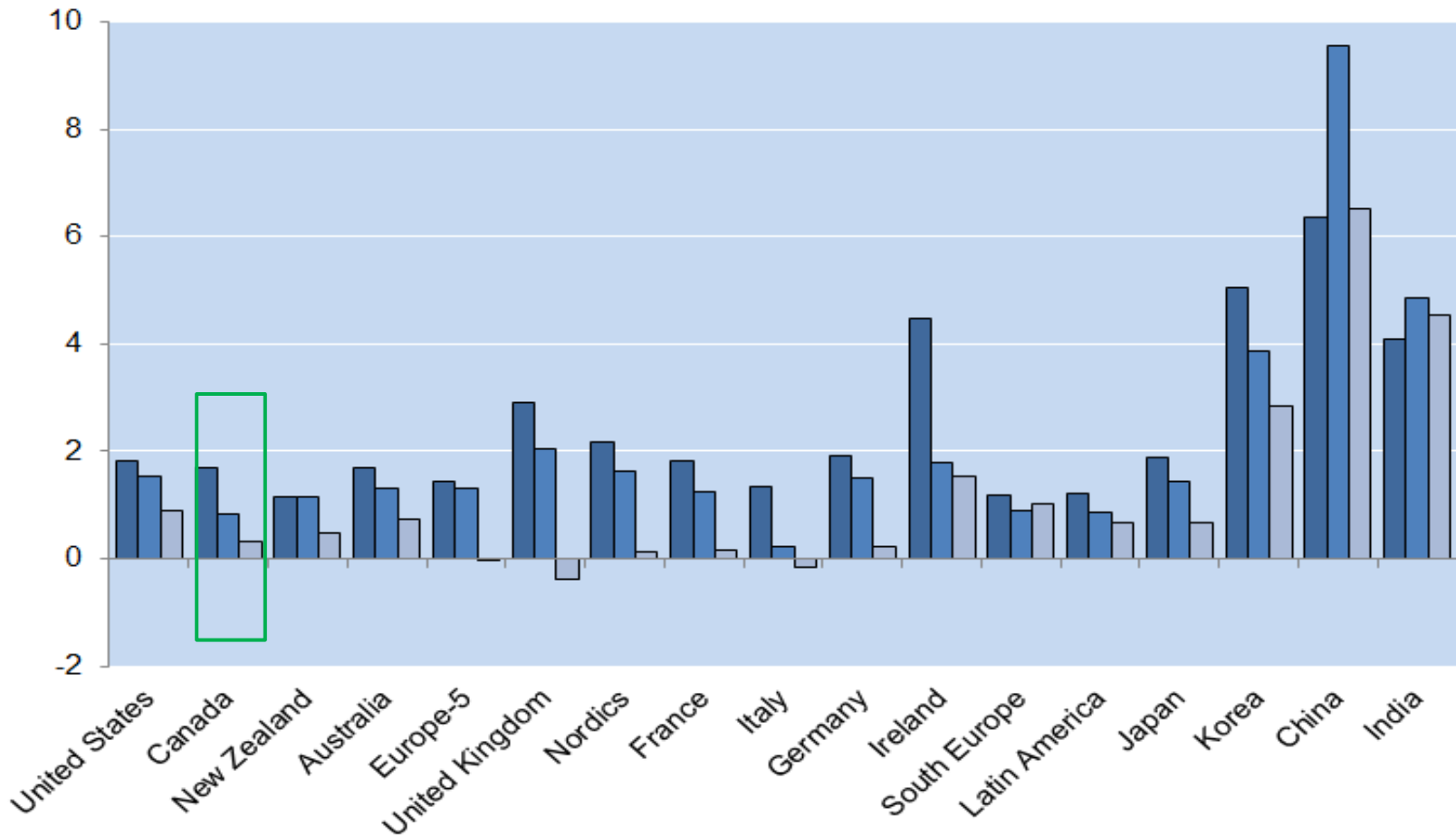


4. But aggregate productivity growth slowed, even before the crisis

Labour productivity growth since 1990

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

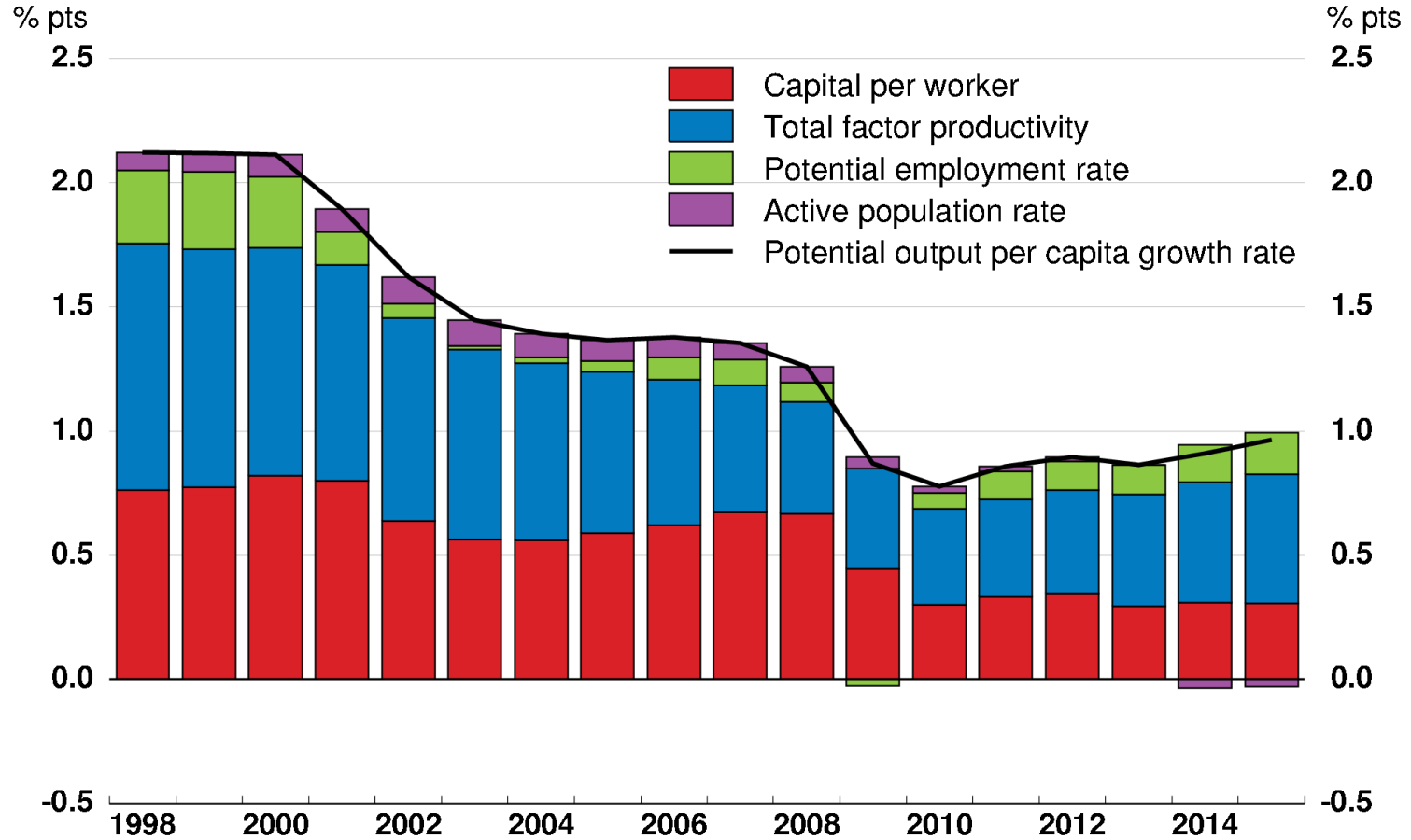
■ 1990-2000 ■ 2000-2007 ■ 2007-2013





5. Driving a decline in potential output growth

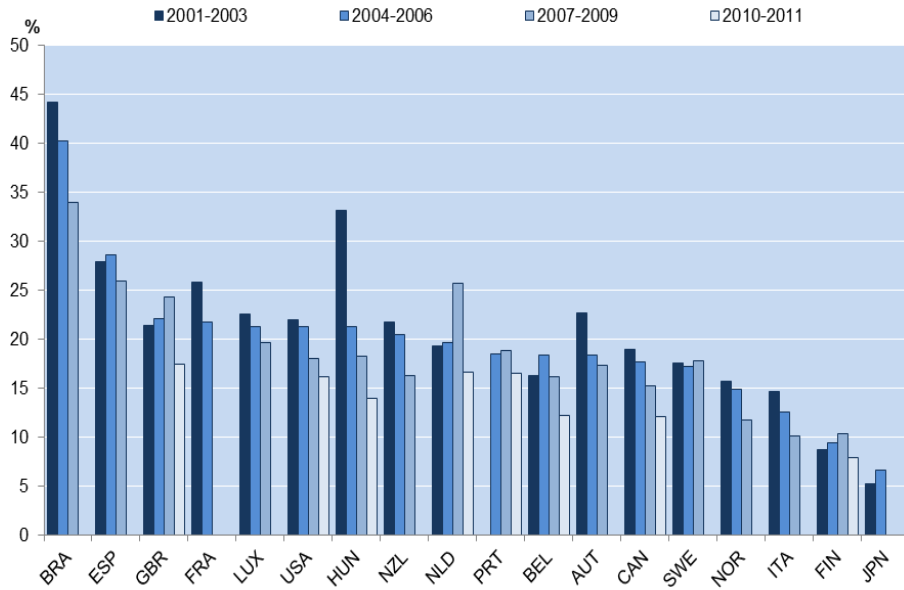
Contributions to potential output per capita growth in the OECD



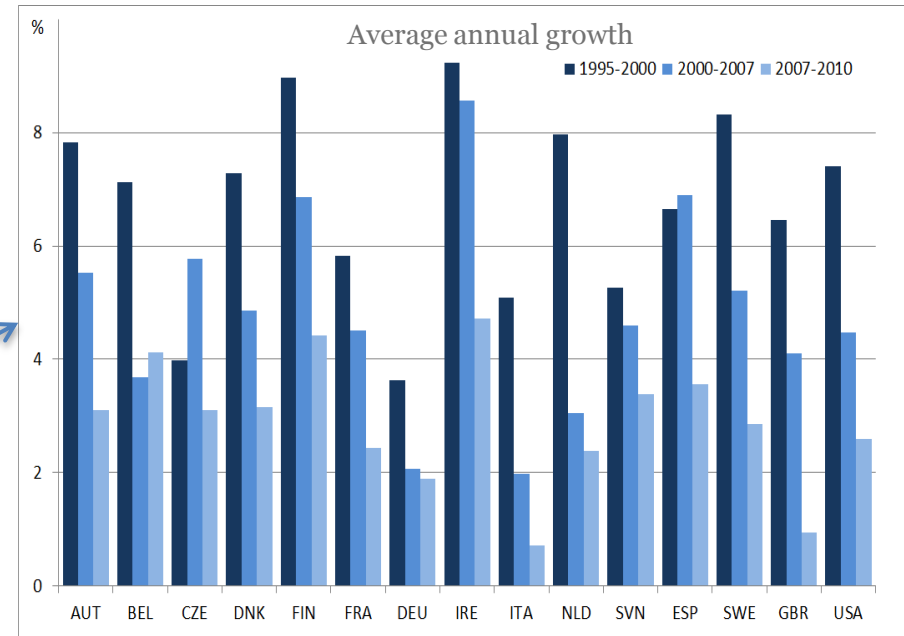
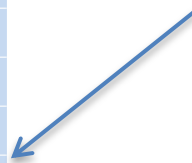
Source: OECD June 2016 Economic Outlook database; OECD calculations.



6. And there are signs that the slowdown is structural



Start-up rates have been declining



Investment in KBC has slowed down significantly



Source: OECD calculations based on Corrado et al., (2012).

Source: C. Criscuolo, P. N. Gal and C. Menon (2014), "The Dynamics of Employment Growth: New Evidence from 18 Countries", *OECD Science, Technology and Industry Policy Papers*, No. 14.



2. PRODUCTIVITY: WHAT'S WRONG AND HOW MIGHT POLICY HELP?



7. Productivity: what's wrong?

- Widespread **heterogeneity** in firm performance means we need to look beyond averages
- In a well-functioning economy, ideally:
 1. Global frontier firms **innovate**
 2. Frontier technologies **diffuse** to other firms, raising productivity growth *within* firms
 3. **Reallocation** to underpin the growth of productive firms, via the downsizing and **exit** of less productive firms
- Much debate has centred on #1 but we know little about frontier firms.
- There is more scope for policy to influence #2 and #3, than #1.



8. Frontier innovation: the debate is not settled...

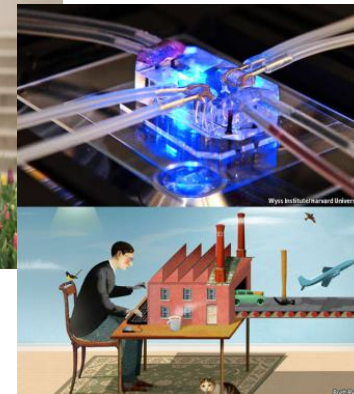
Pessimists:

- Gordon
- Cowen
- Thiel
- Fernald
- ...



Optimists:

- Brynjolfsson
- McAfee
- Mokyr
- Bartelsman
- ...





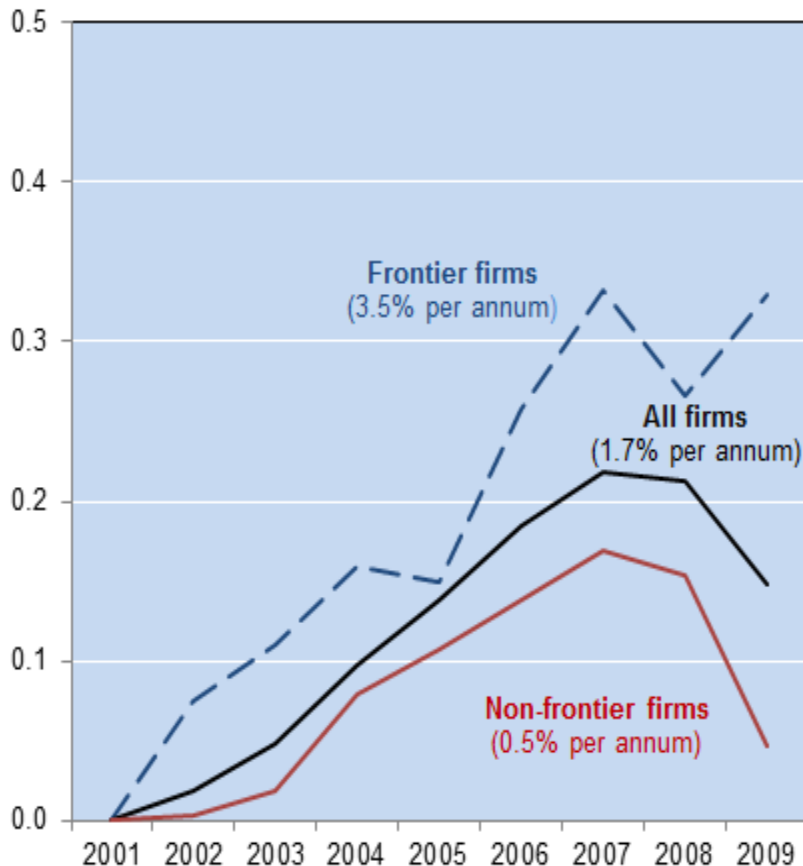
2A. THE BROKEN DIFFUSION MACHINE



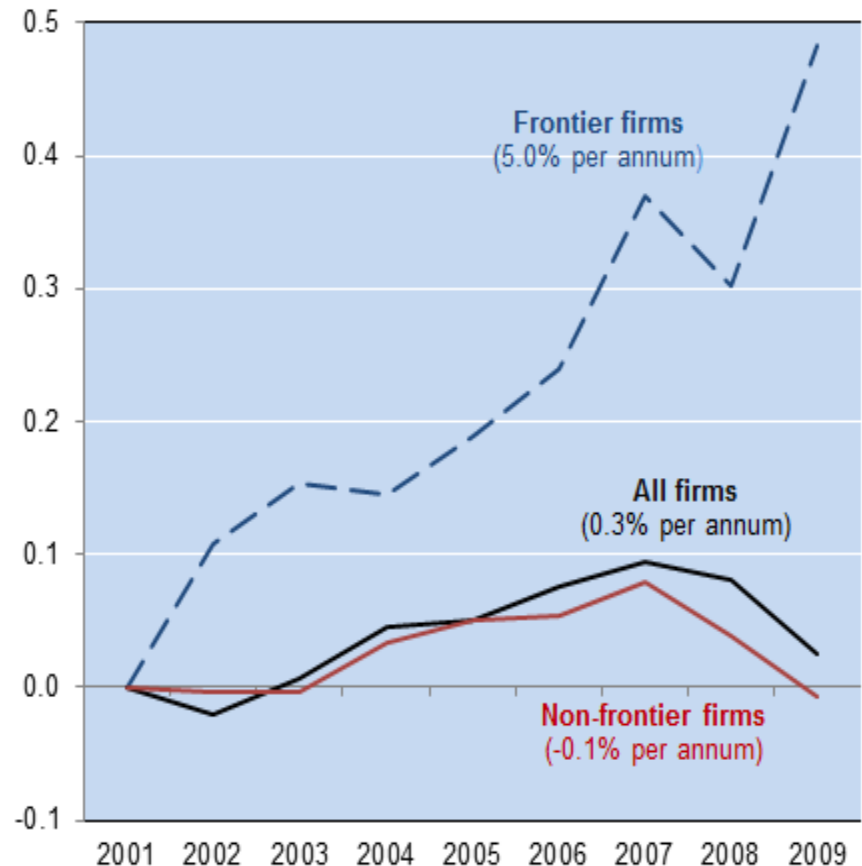
9. Rising productivity gap between firms at global frontier and others

Average of labour productivity across each 2-digit sector (log, 2001=0)

Manufacturing Sector



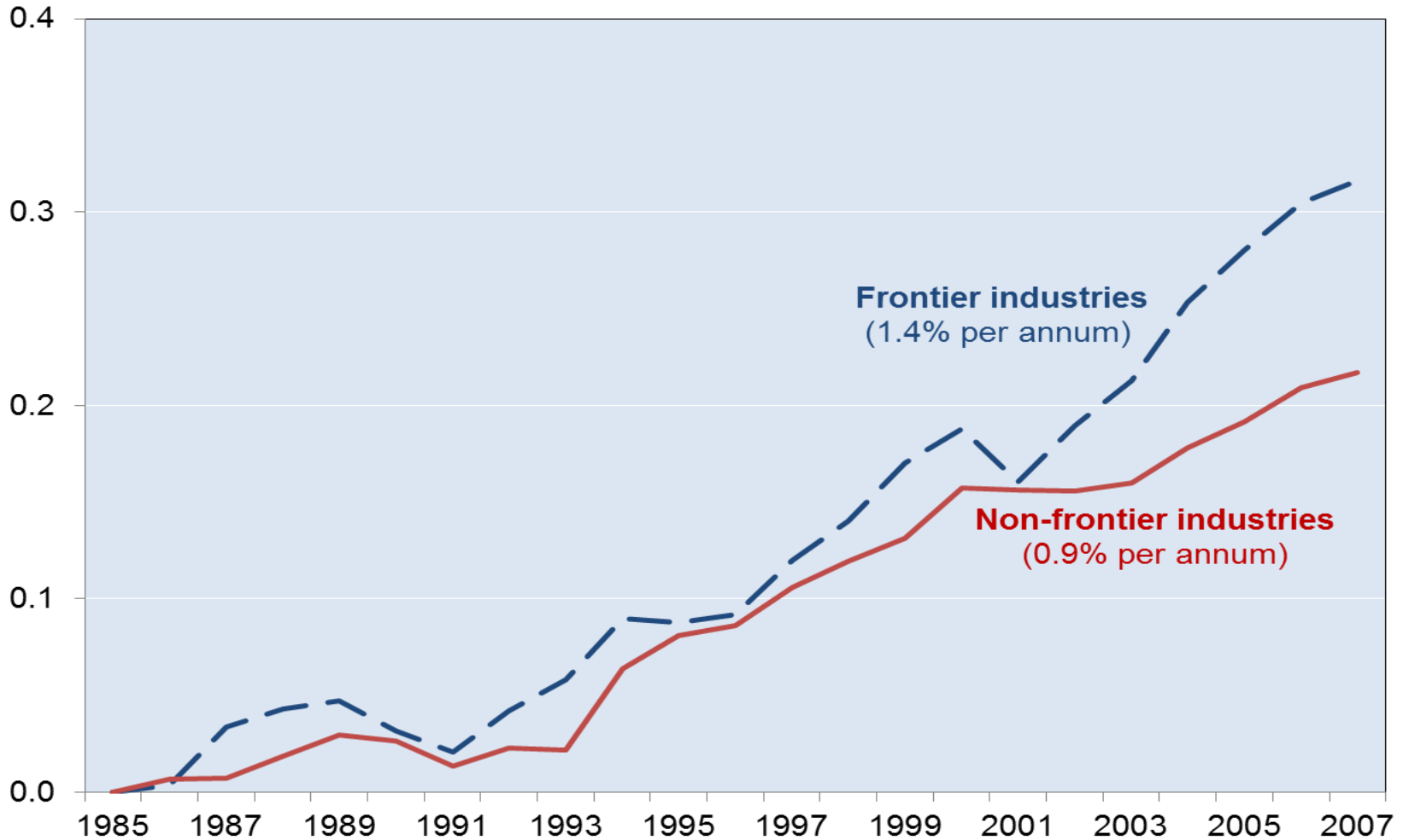
Services Sector





10. Industry-level data also show divergence from early 2000s

Unweighted average of TFP in the non-farm business sector; index 1985=0

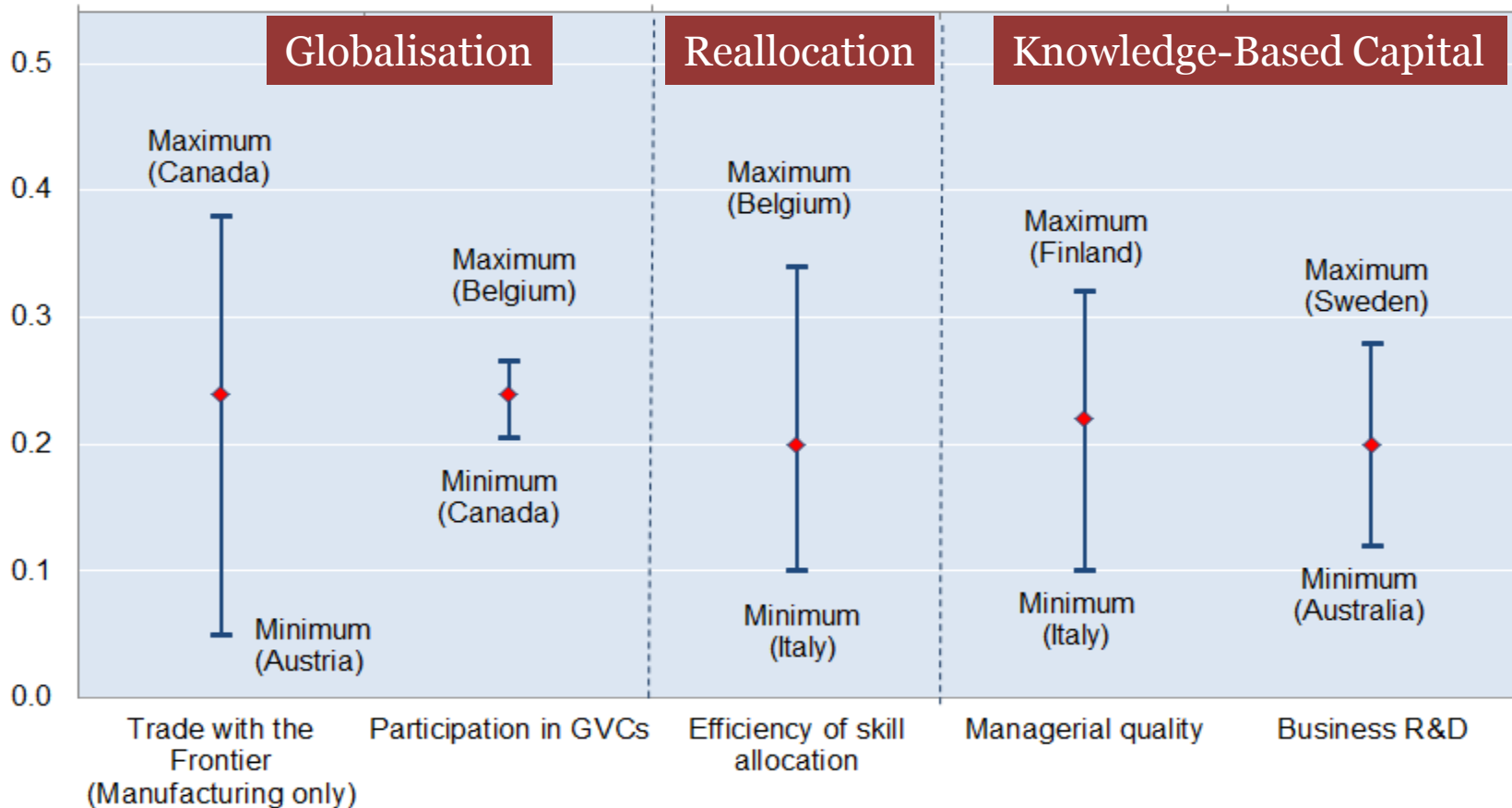


Source: OECD calculations based on Bourles et al (2013) dataset.



11. Diffusion comes easier to some economies than others

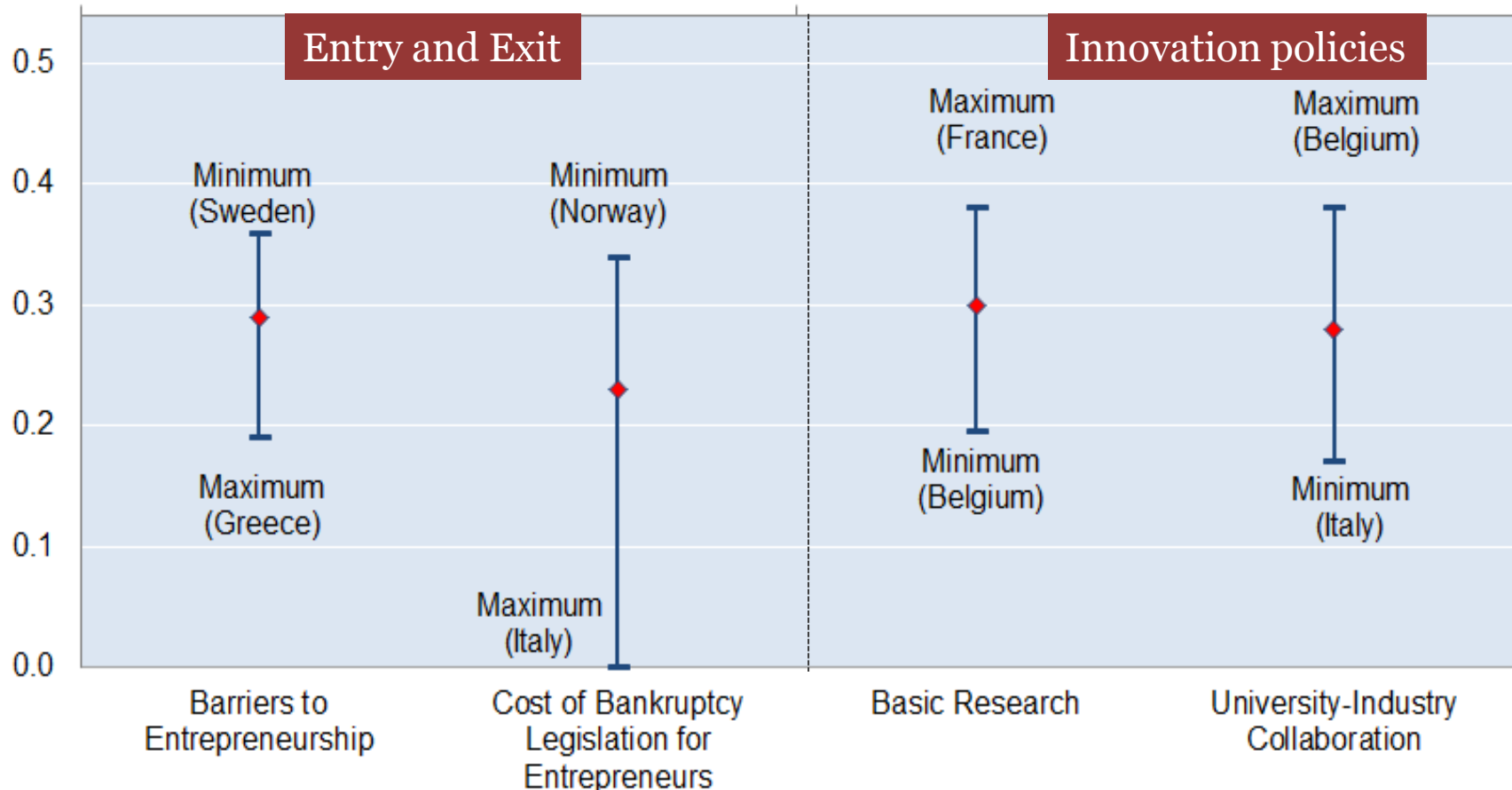
Estimated frontier spillover (% pa) associated with a 2% point increase in MFP growth at the global productivity frontier





12. ...and policies help explain why

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

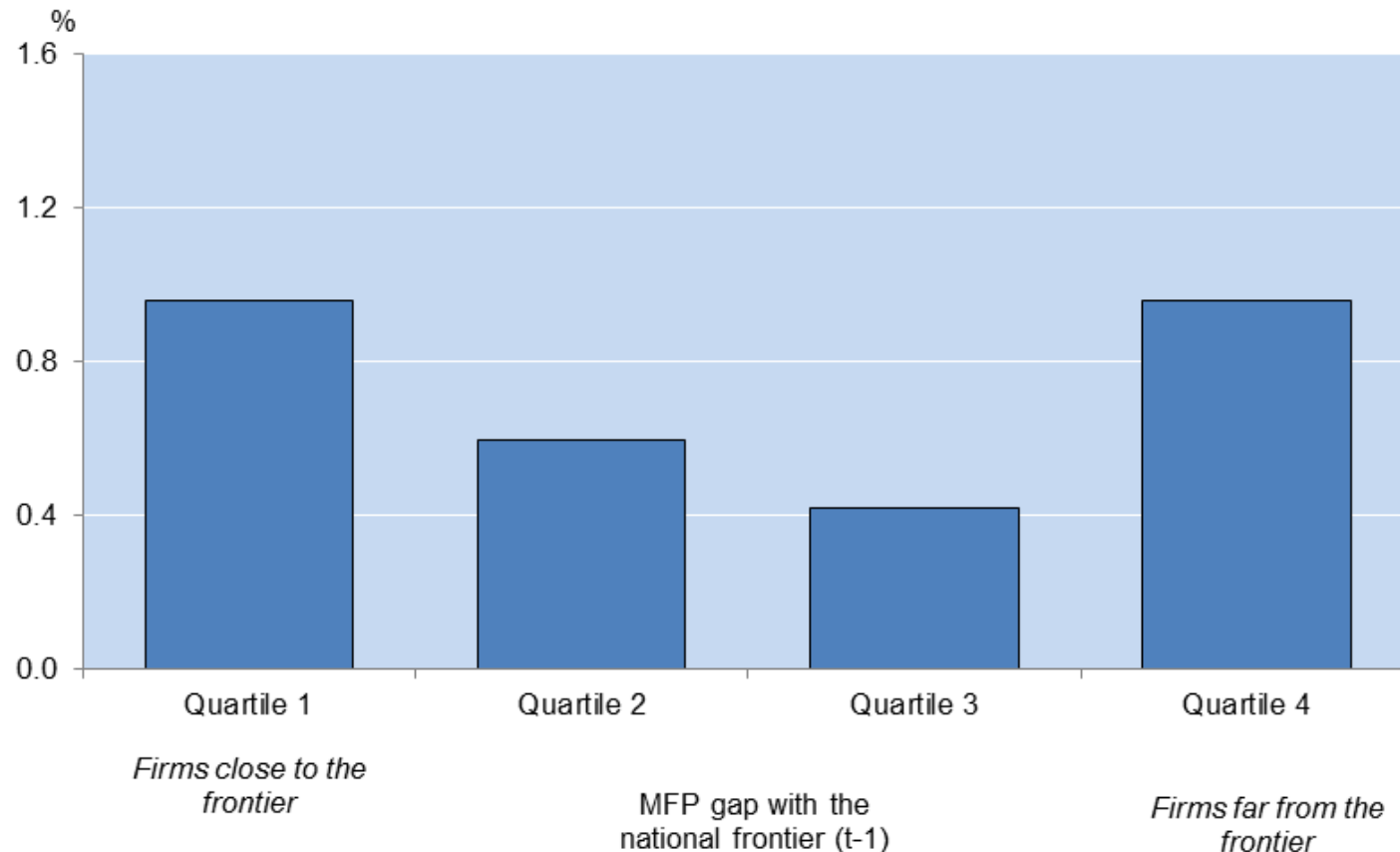




13. With product market regulations particularly important

Impact of reducing PMR on the MFP growth of laggard firms, 2005

Reducing PMR from high level in Greece to the OECD average
% difference between industries with high and low firm churning

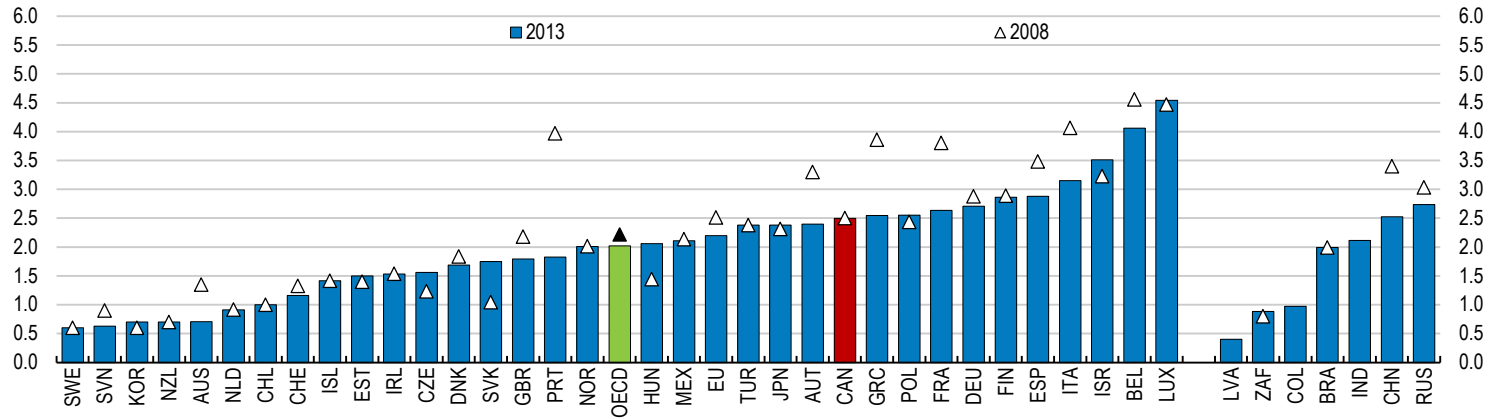




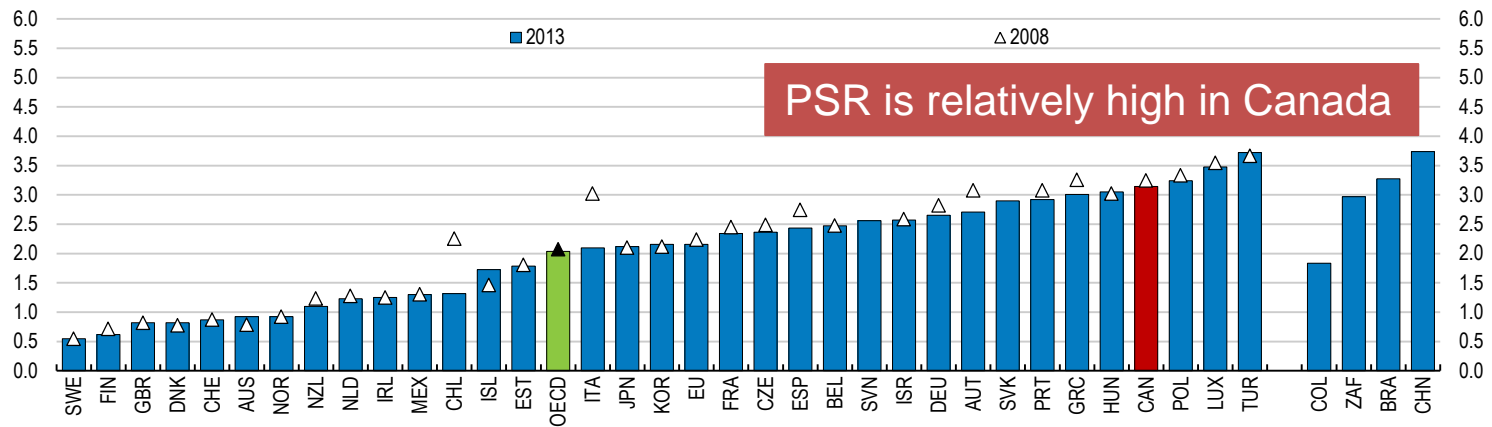
14. But market regulations in services is quite stringent in Canada

Index scale of 0-6 from least to most restrictive market regulation

A. Retail



B. Professional services

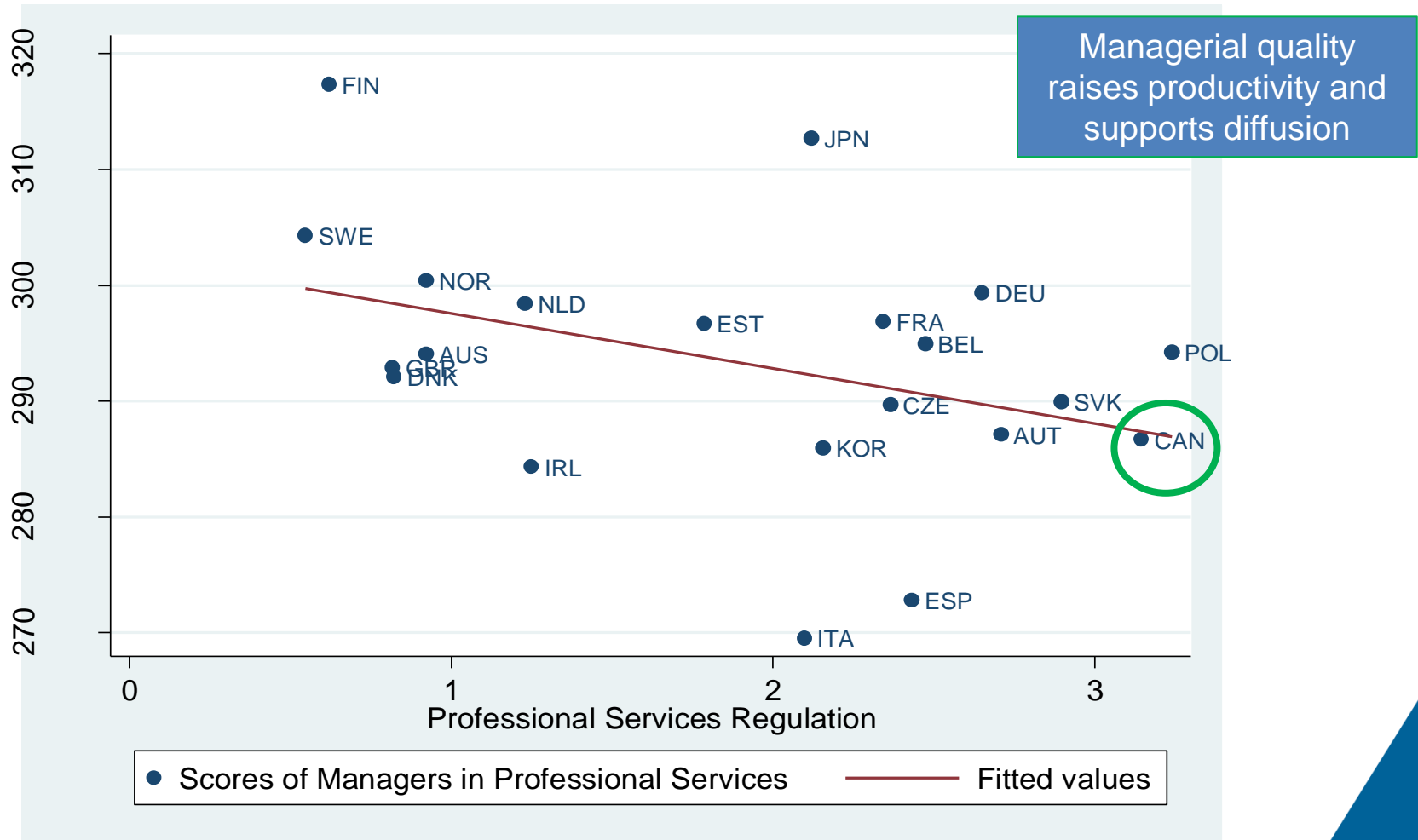


PSR is relatively high in Canada



14. ...which lowers managerial quality in professional services (absolutely)

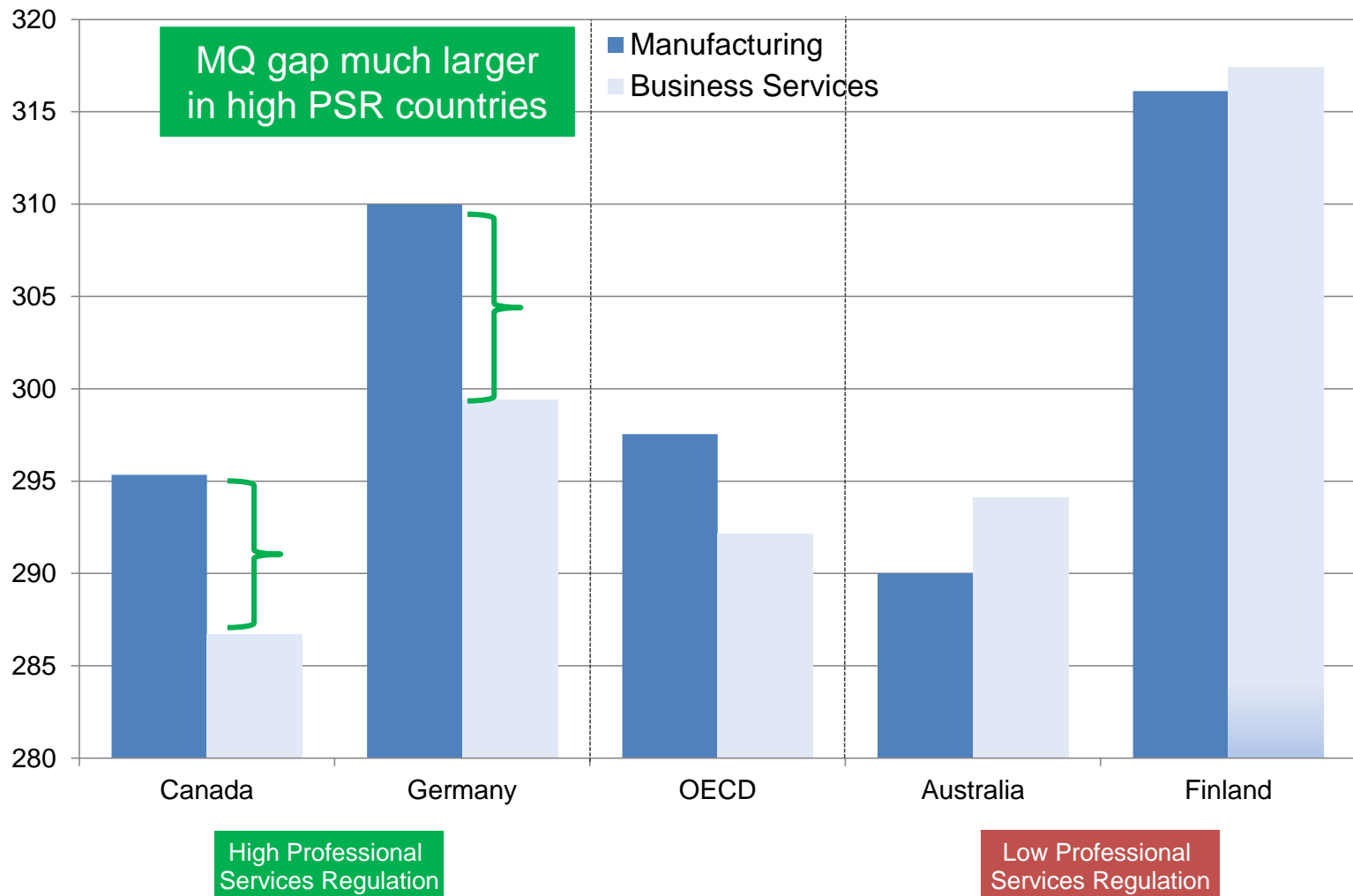
Higher Professional Services Regulation, Lower Managerial Quality





15. ...which lowers managerial quality in professional services (differentially)

Managerial Quality (MQ) and Professional Services Regulation (PSR)

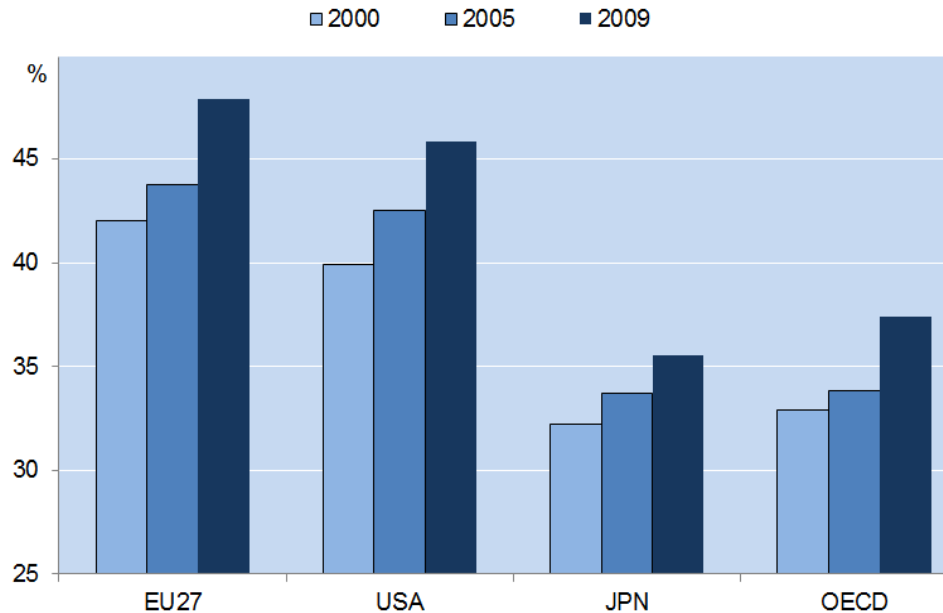




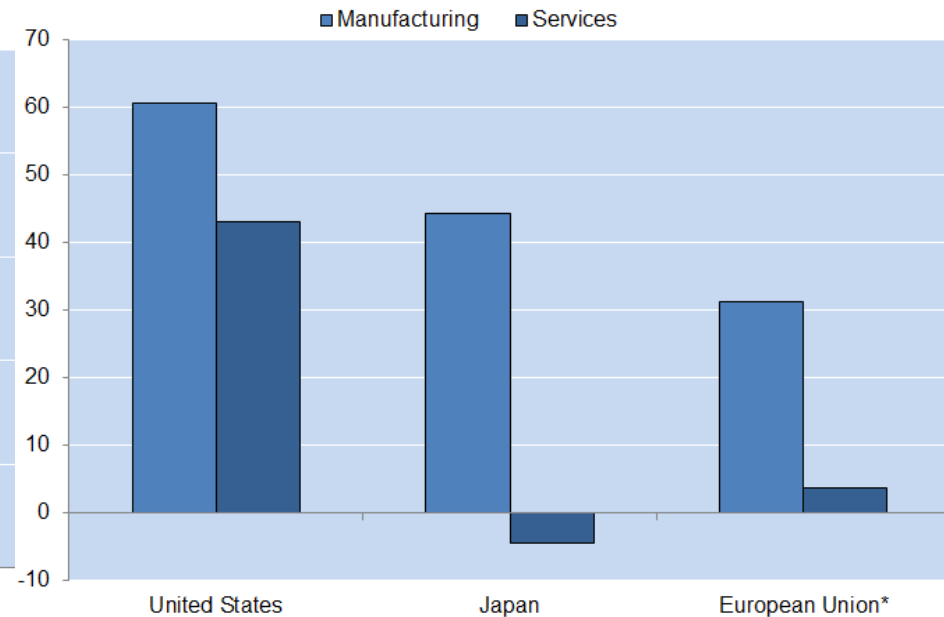
16. ... and high PSR may erode the productivity benefits from globalisation

Domestic services are increasing the oil that greases the wheels of globalisation (Panel A)

A: Value added share of domestic services in gross exports has been rising



B: Resource misallocation in services is a problem



BUT stringent regulation of services reduces efficiency (Panel B) and disproportionately reduces MFP growth in GVC-exposed sectors



2B. RESOURCE MISALLOCATION



17. Resource misallocation may have increased since the early 2000s

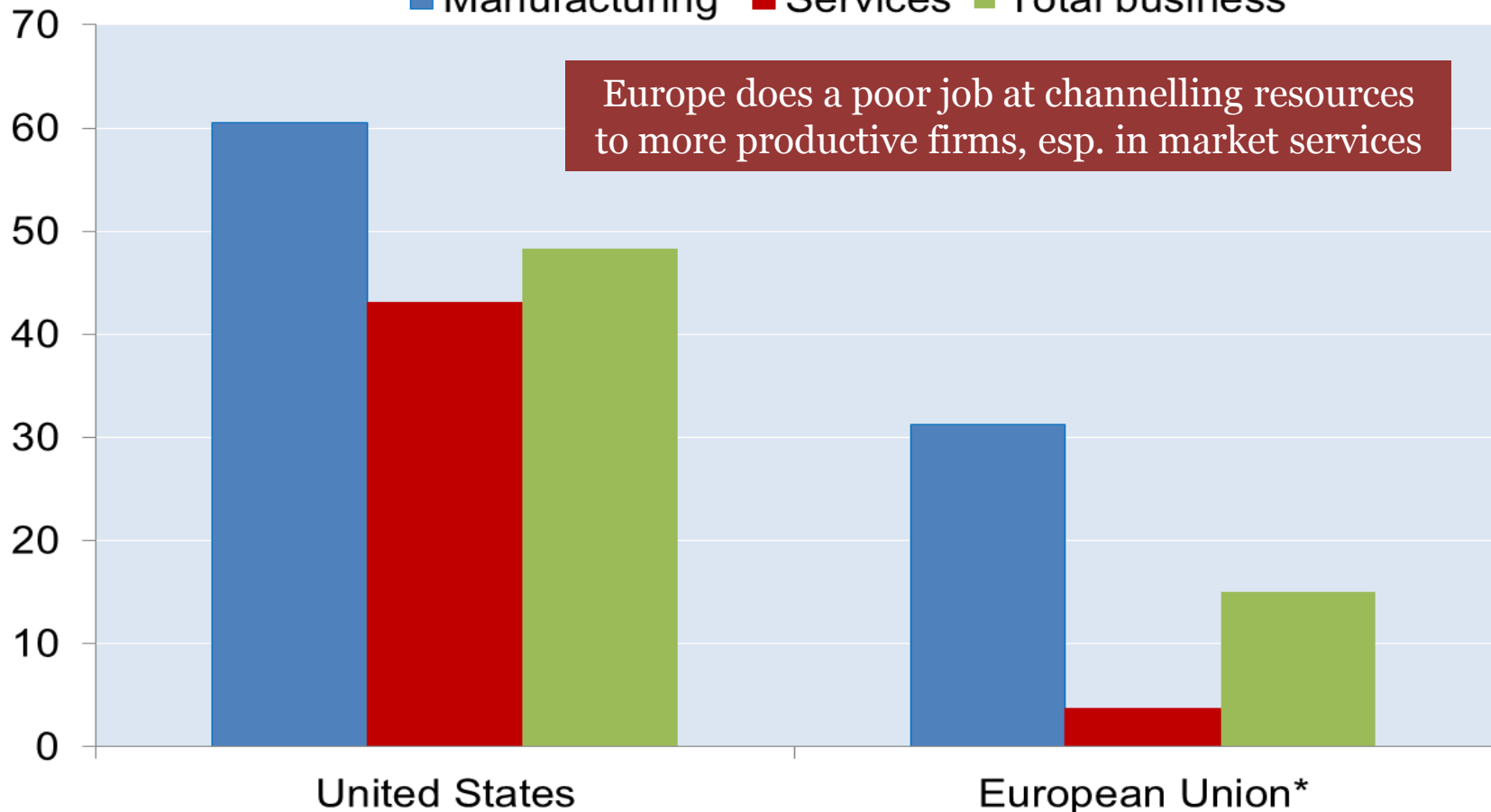
- Preliminary evidence suggests that the efficiency of reallocation has declined in some countries before and during the recent crisis, e.g.:
 - The ability of directing investment towards the most productive firms appears to have decreased in Southern Europe (e.g. Spain, Italy)
 - The “creative destruction” process has become less effective, with start-ups declining and the share of “zombie firms” in many OECD economies increasing
 - The “cleansing” effect of the Great Recession has been more limited than in past recessions (e.g. US)



18. Misallocation, big time!

Contribution of the allocation of employment across firms to the level of labour productivity; per cent

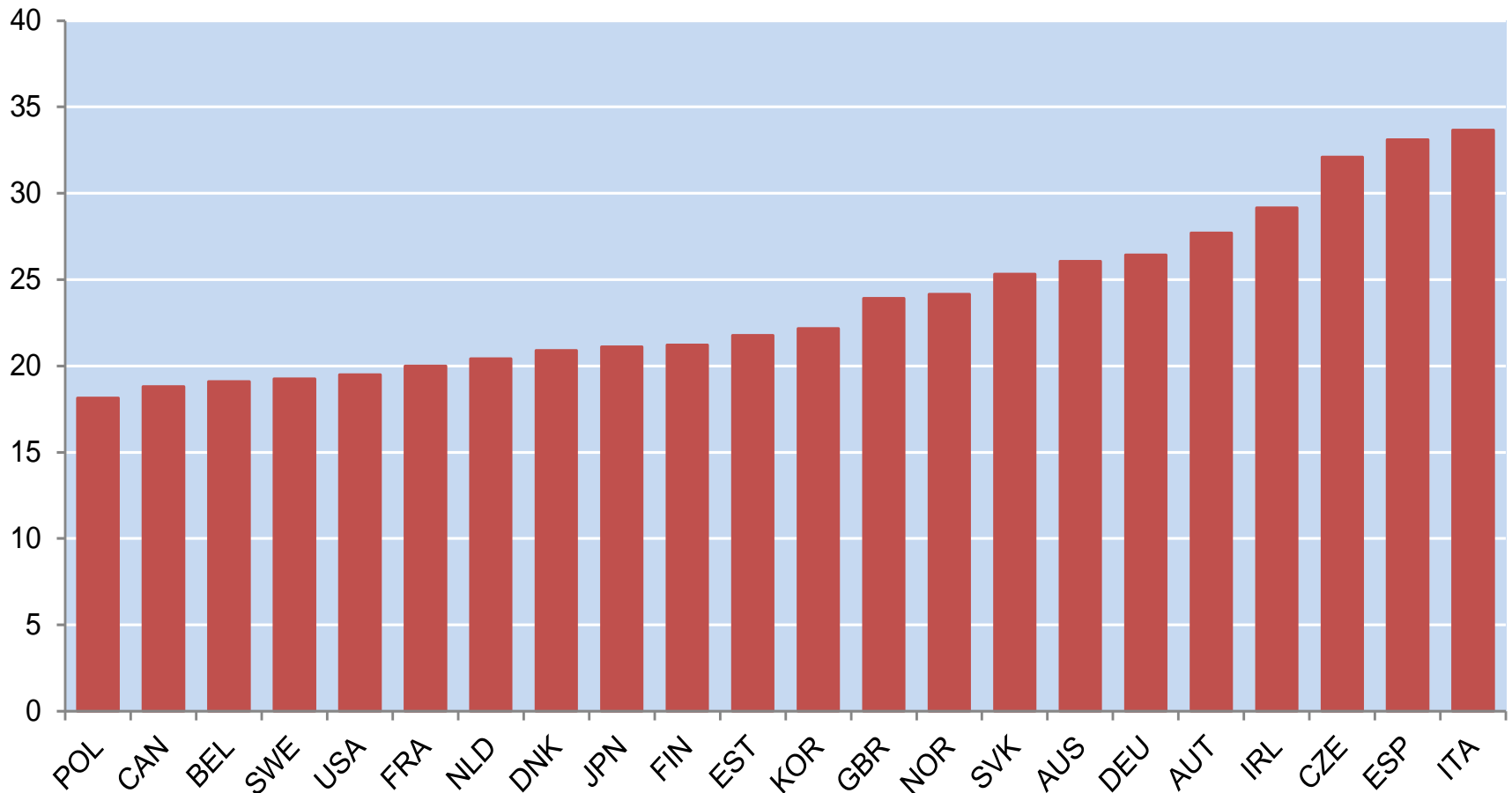
■ Manufacturing ■ Services ■ Total business





19. With big differences in the efficiency of skill allocation

Percentage of workers with skill mismatch

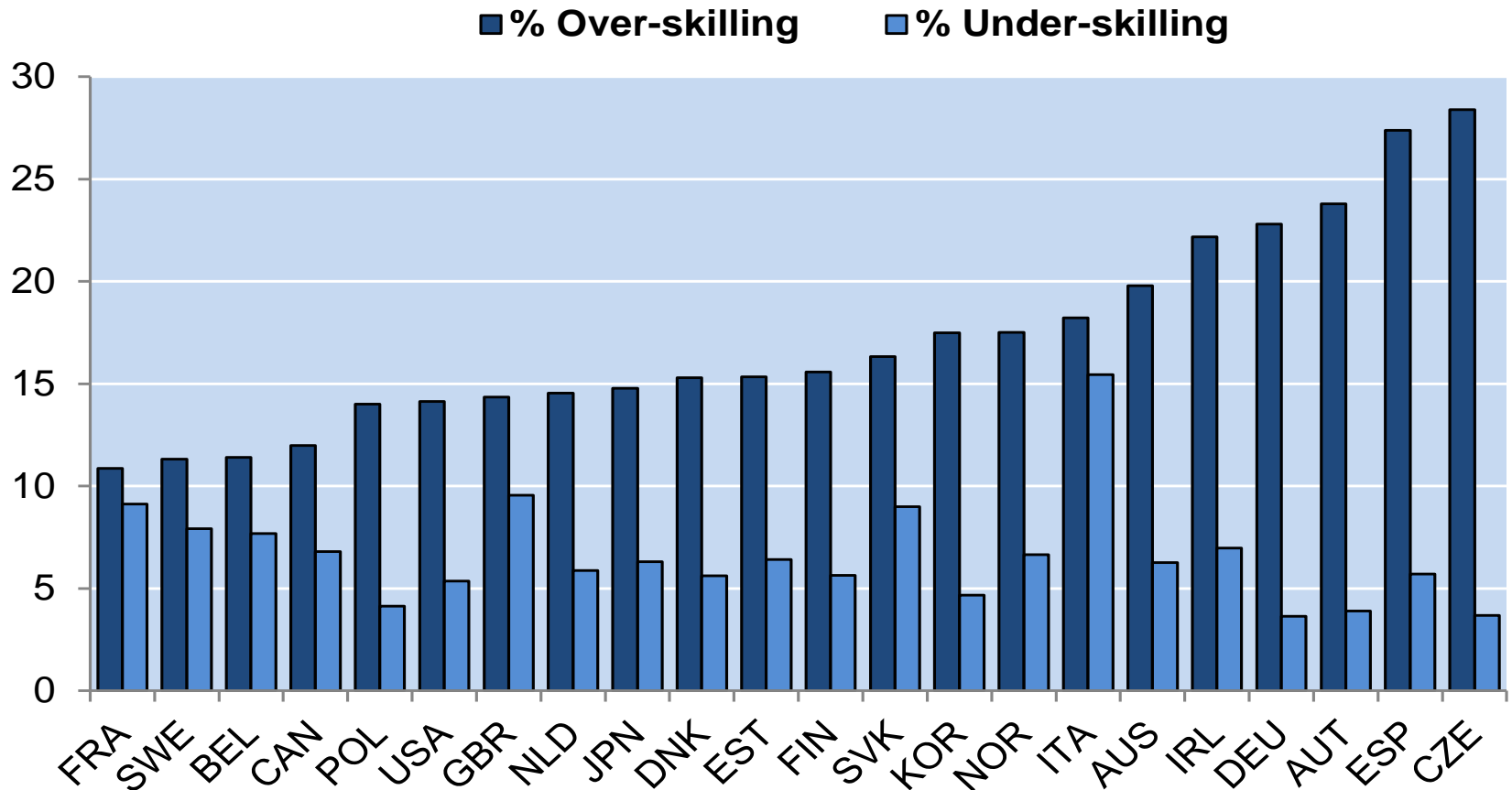


Source: Adalet McGowan, M and D. Andrews (2015), "Labour market mismatch and labour productivity: evidence from PIAAC data" *OECD Economics Department Working Paper*, No. 1209.



20... with over-skilling more prevalent than under-skilling

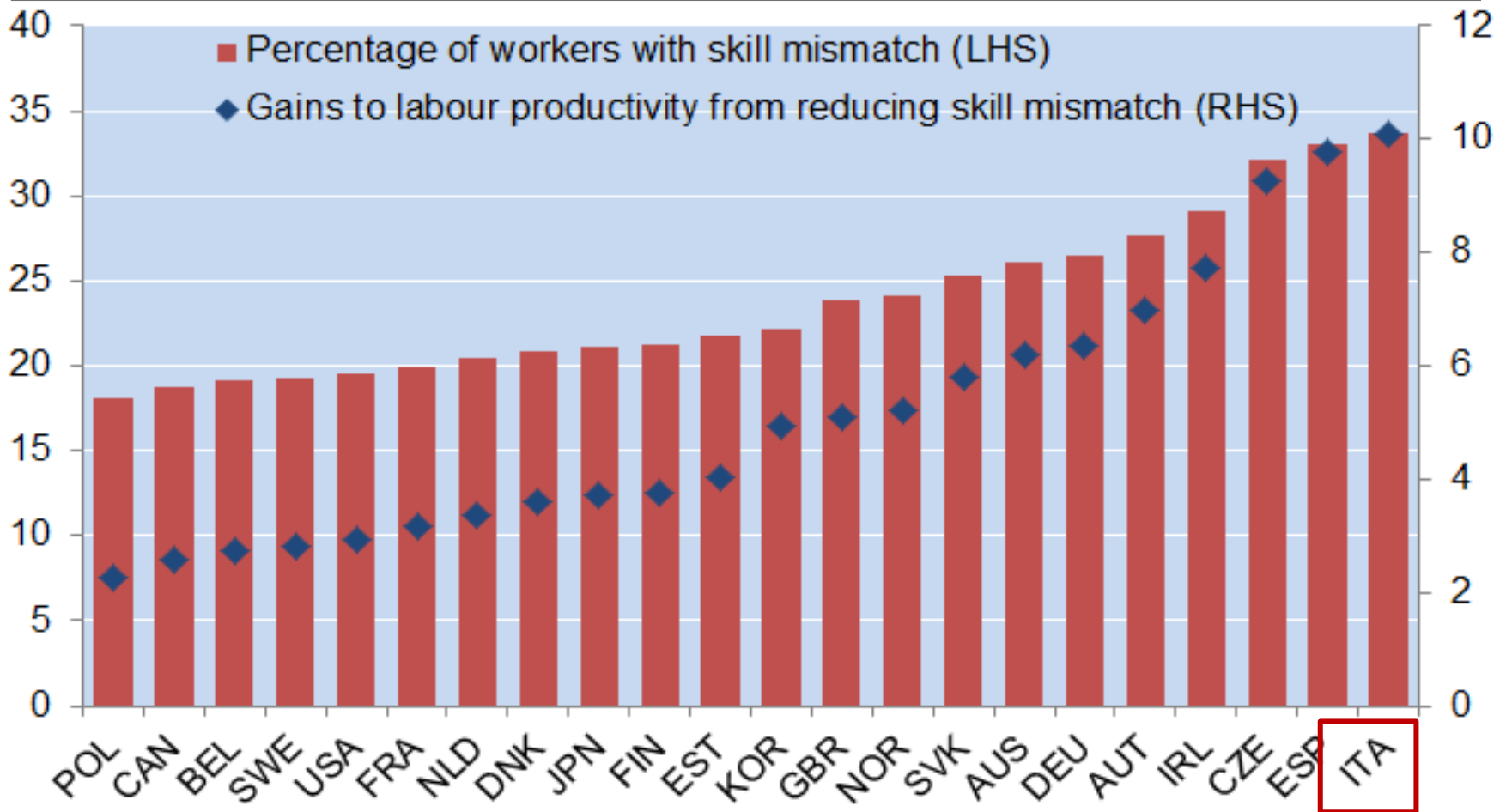
Percentage of workers with skill mismatch



On average, over-skilling is ~2½ times more likely than under-skilling



21. Creating a significant barrier to higher labour productivity

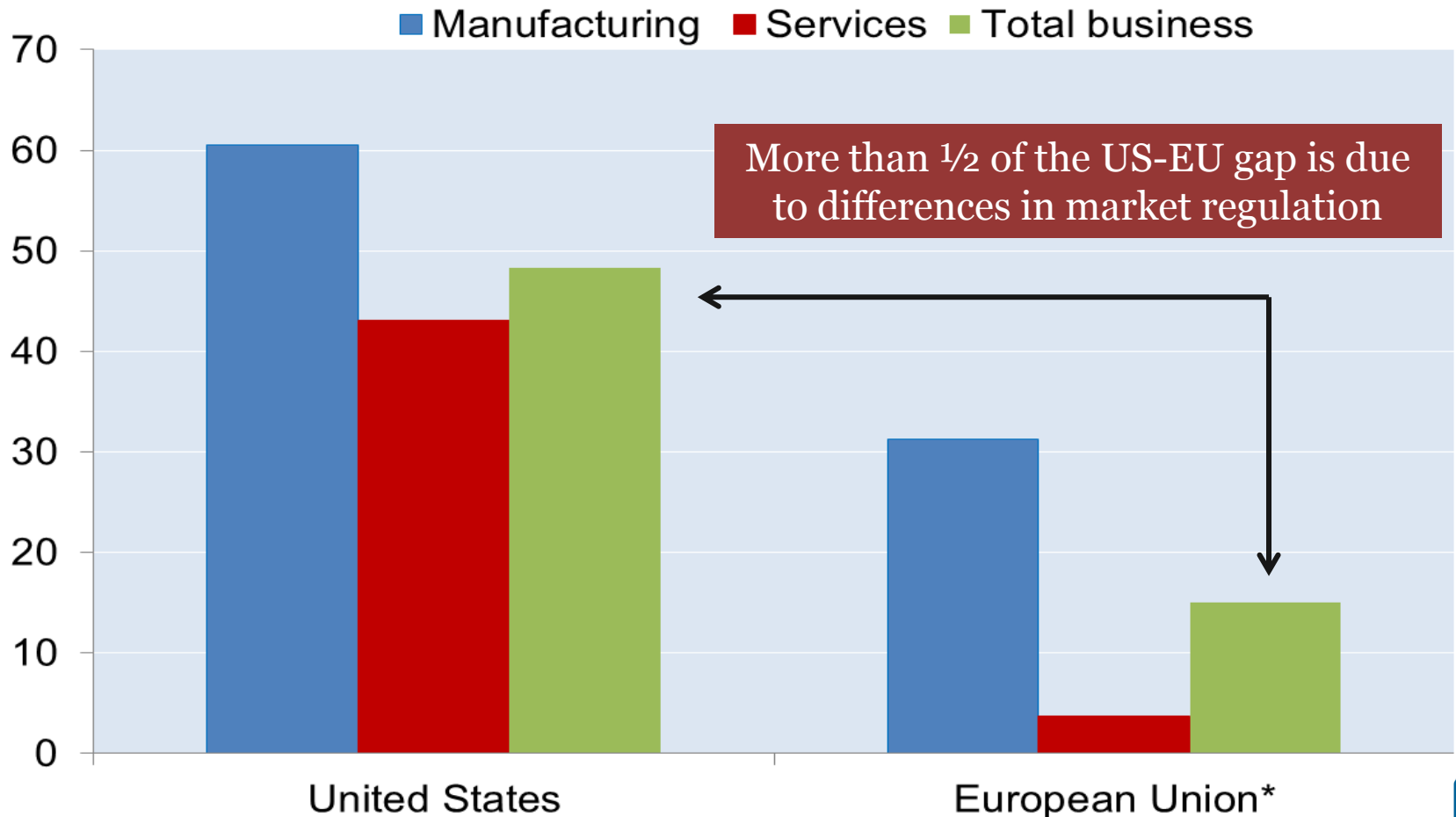


Skill mismatch, particularly over-skilling, is harmful for productivity because it constrains the ability of innovative firms to attract skilled workers and grow



23. Misallocation is policy-induced

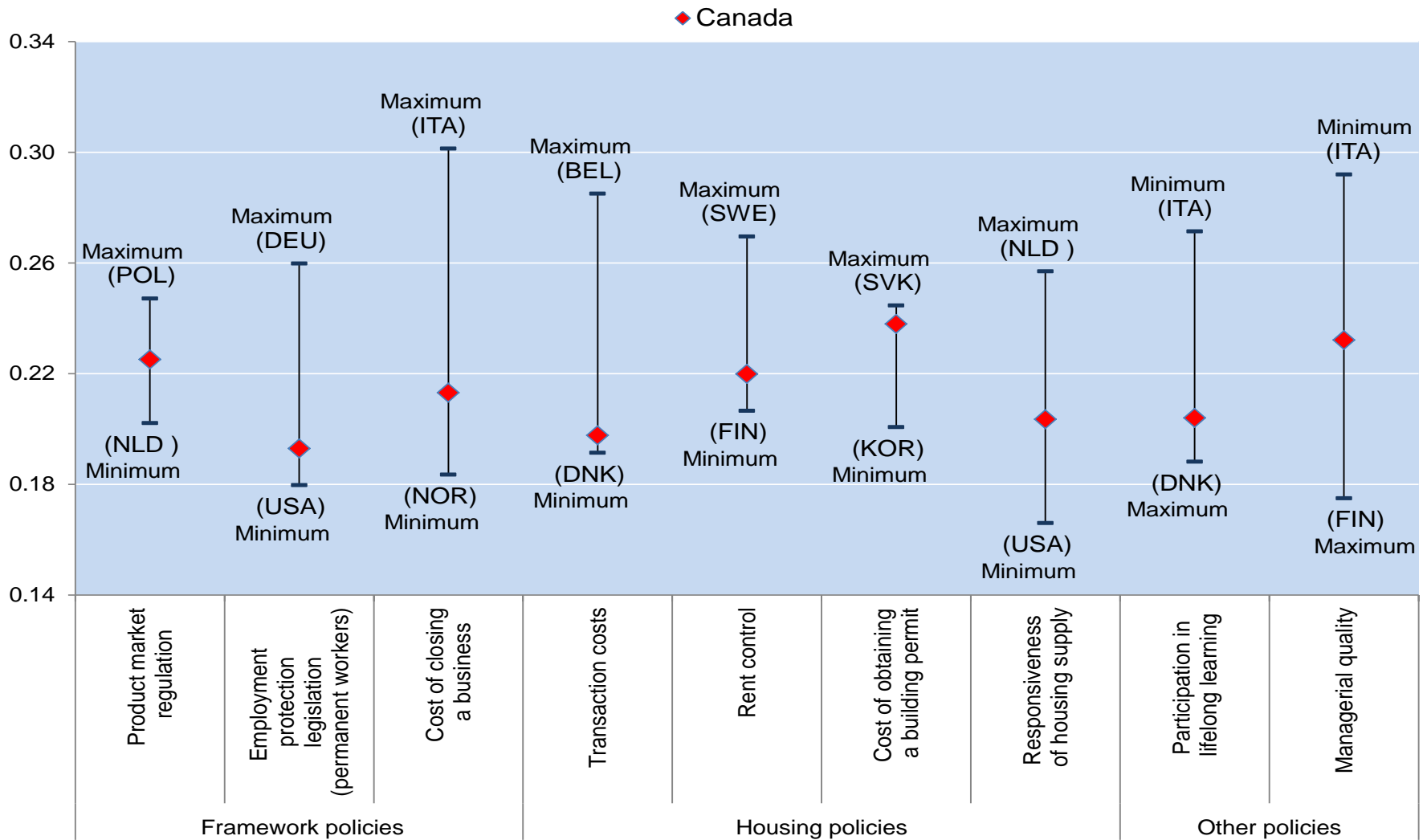
Contribution of the allocation of employment across firms to the level of labour productivity; per cent



Andrews, D. and F. Cingano (2014), "Public Policy and Resource Allocation: Evidence from Firms in OECD Countries", *Economic Policy*, No. 29(78), pp. 253-296.



24. The probability of skill mismatch and public policies: Canada



Source: Adalet McGowan, M. and D. Andrews (2015), "Skill mismatch and public policy in OECD countries", *OECD Economics Department Working Paper*, No. 1210.



3. PRODUCTIVITY: FUTURE WORK



25. Work ahead and some conjectures

- More accurate data and more work is needed to explore the evolution of diffusion and reallocation and the role of structural and policy factors
- Why would productivity spillovers and the efficiency of resource reallocation decline over the past decade or so?
 - *Technology-related factors?*
 - “Winner takes all”
 - *Replication and diffusion of the “magic bundle” (tech+skills) more difficult*
 - *Incentives and opportunities thwarted by inadequate institutions?*
 - *Inappropriate design of IPRs*
 - *Obsolete regulations and barriers to entry, especially in services, especially in Europe*
 - *Market size a limiting factor in some areas, e.g. EU internal market for services*
 - *Vested interests and lobbies resisted the penetration of new business models using new technologies, especially in services*
 - *Easy credit, bank forbearance (linked to NPLs) and inappropriate insolvency regimes contributed to capital misallocation and the survival of zombie firms*
 - *Declining competitive pressures in the most dynamic sectors*



26. Takeaways

- The productivity slowdown is a serious structural issue that deserves the attention of researchers and policy-makers
- There are signs that slowing diffusion and rising misallocation of resources have played a role and may have been aggravated by the crisis
- As the causes and drivers of the slowdown are multifaceted, a combination of structural (and perhaps macro) policies are needed
- There is evidence that a number of structural policies can help reverse the slowdown, independent of its precise causes
- But better understanding the nature and sources of the slowdown as well as the specific weaknesses in each country via a granular approach is essential to identify the most effective mix of policies

 **For more
details, go to:**

Available at:

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

Book + 5 page policy note +
technical paper + videos

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**THE FUTURE OF
PRODUCTIVITY**





Spare



A1. Skill mismatch: combining self-assessment with skill proficiency

1. Create a quantitative scale of the skills required to perform the job for each (1 digit ISCO) occupation using the literacy scores of well-matched workers – *those who neither feel they have the skills to perform a more demanding job nor require further training to perform their current job satisfactorily.*
2. Use this scale to identify *min* and *max* threshold values (e.g., based on the 10th and 90th percentile), which bounds what it is to be a well-matched worker.
3. Workers with scores lower (higher) than this *min* (*max*) threshold in their occupation are under (over) skilled.



A2. Qualification mismatch

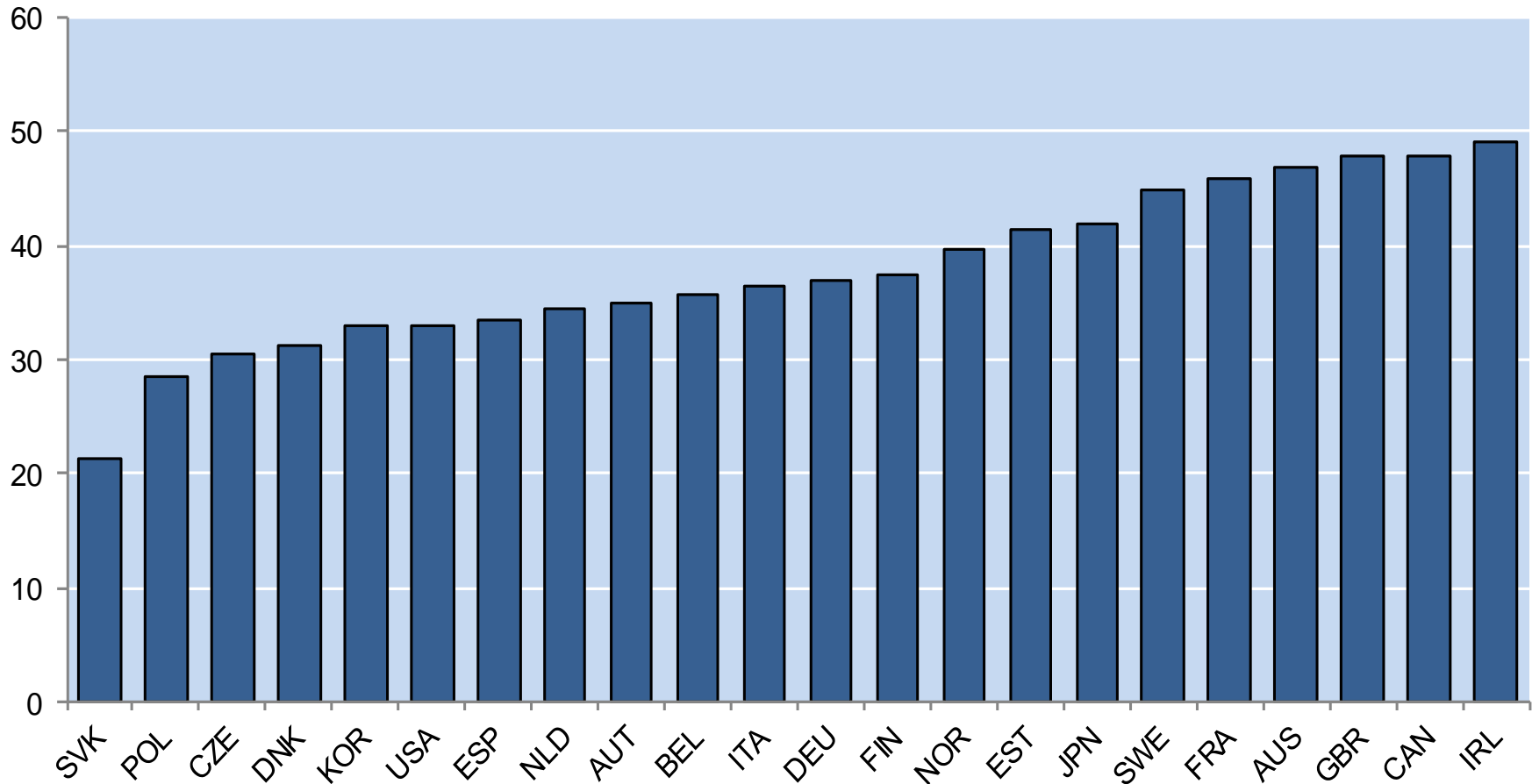
There are different approaches (each with their pros and cons) BUT we follow the approach used in OECD (2013):

- Create a benchmark of “appropriate” qualifications based on: *“If applying today, what would be the usual qualifications, if any, that someone would need to get this type of job?”*.
- Workers whose qualification (measured by ISCED level) is above (below) this benchmark is over (under) qualified.



A3. Cross-country differences in qualification mismatch are significant

Percentage of workers with qualification mismatch



On average, over-qualification is ~2 times more likely than under-qualification ³⁸