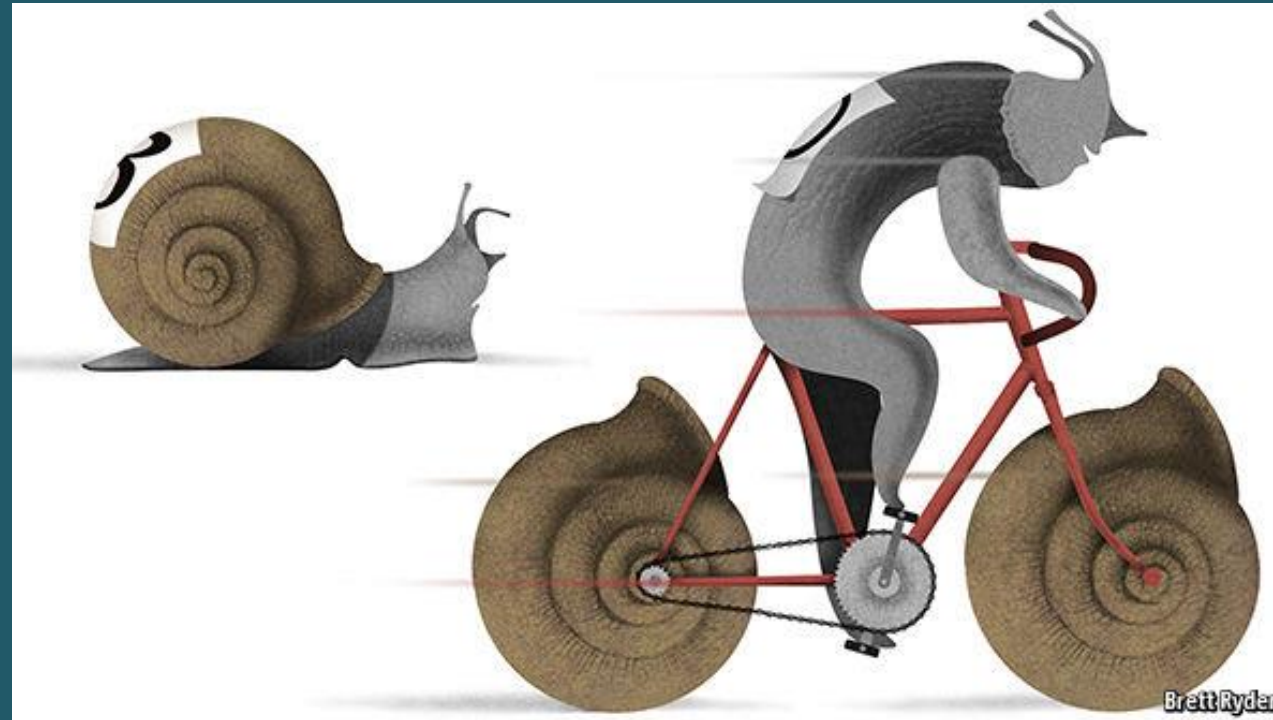




Investment, Technological Transformation and Skills
EIB-ECB Conference, Luxemburg 28-29 November 2018



DIGITALISATION – THE PRODUCTIVITY PUZZLE

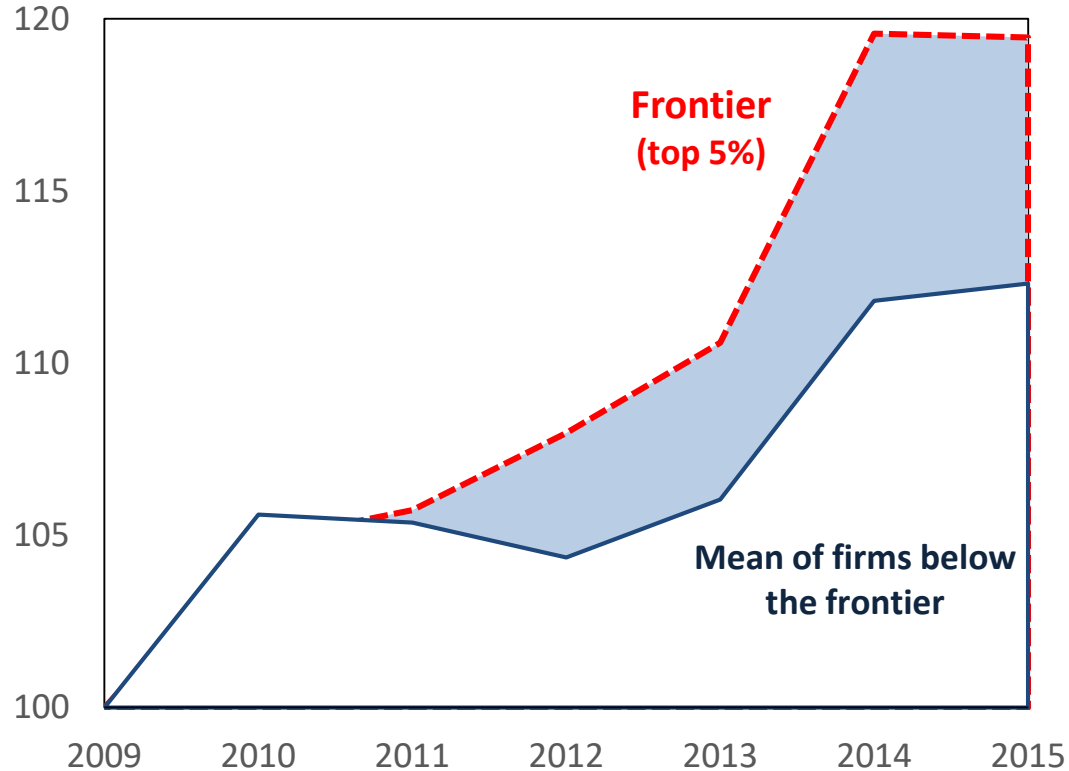
Giuseppe Nicoletti, OCDE

Productivity dispersion is rising

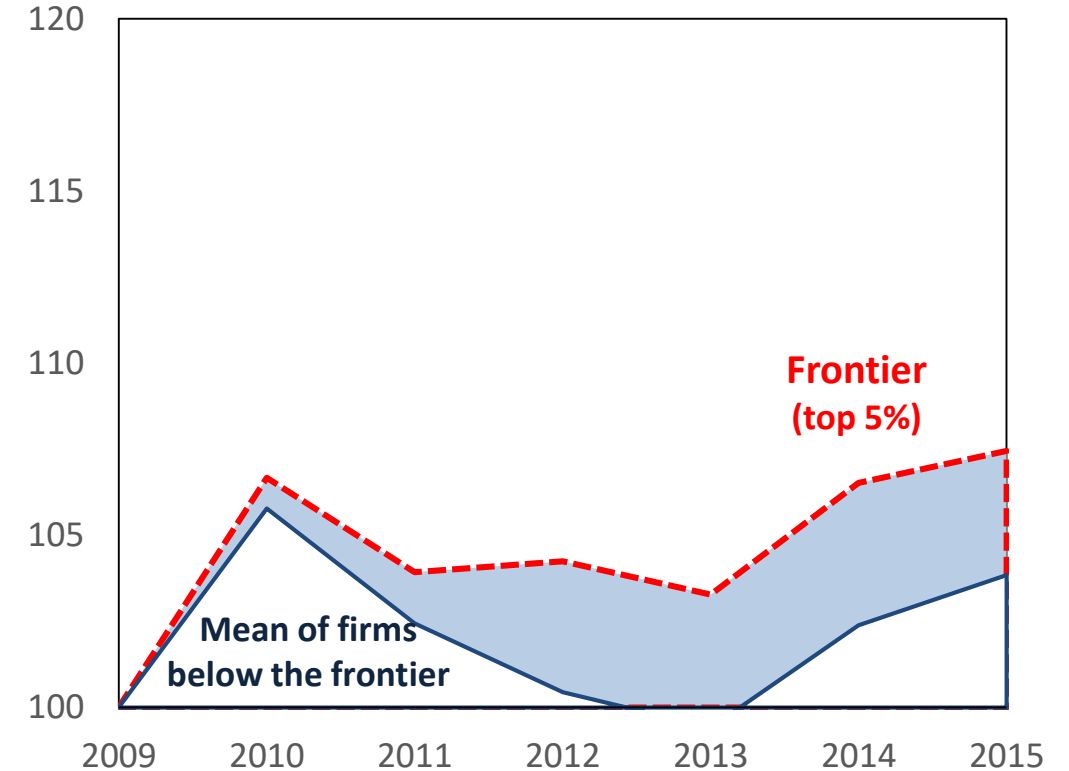


Firm-level productivity growth at frontier and at the mean in the EU Index 2009=100

High digital intensity industries



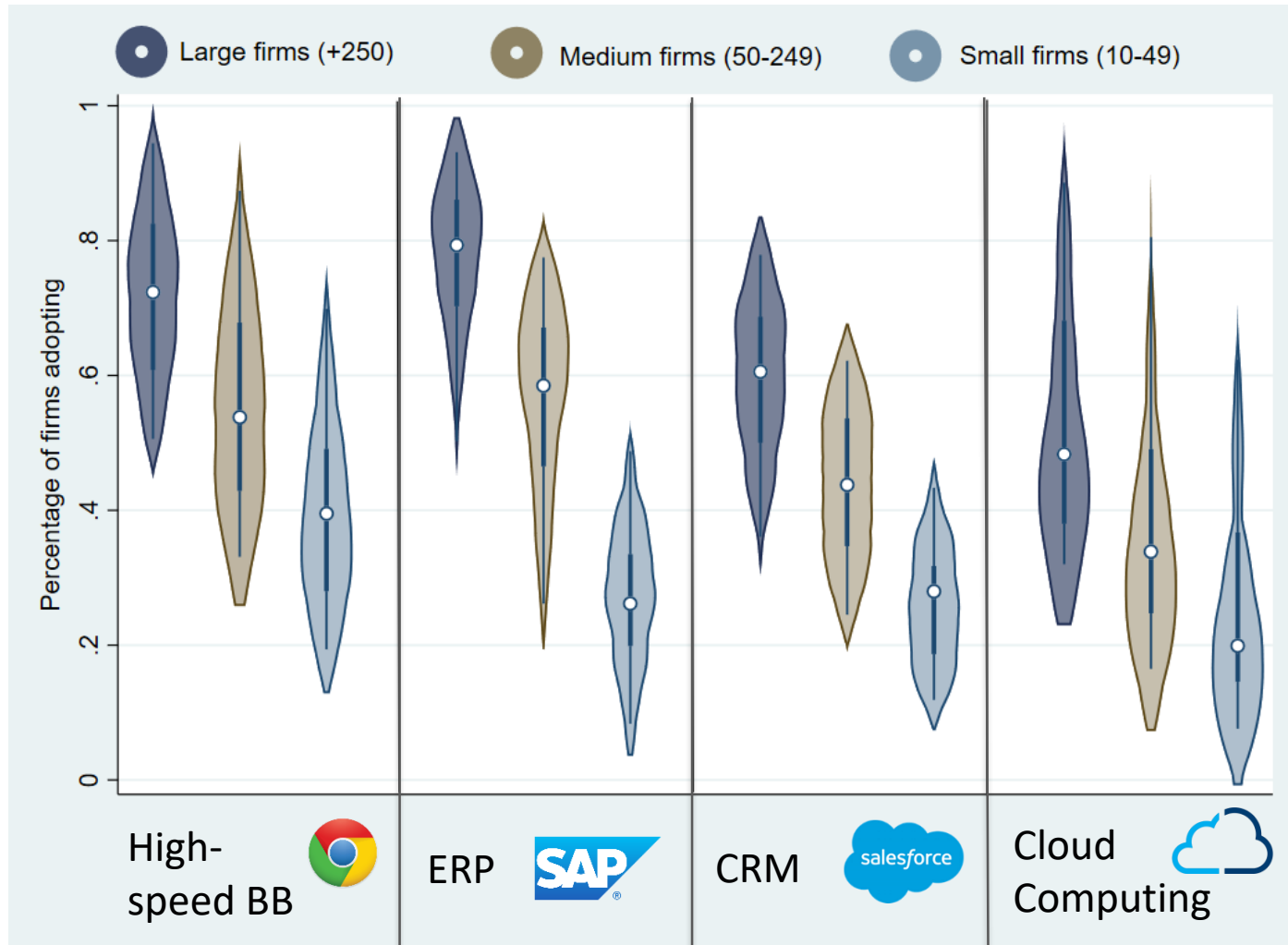
Low digital intensity industries



Digital technologies are not so spread out



Digital technology diffusion across EU countries by firm size, 2017



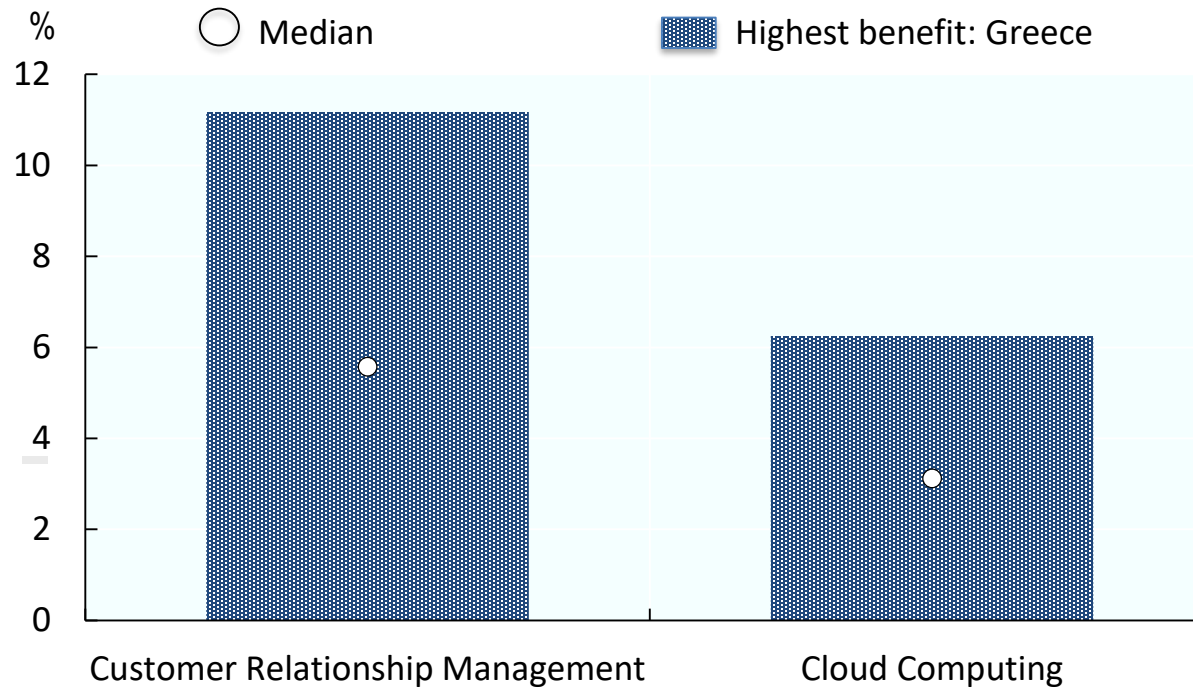
1. High-speed broadband and ERP systems are relatively widespread, while CRM systems and Cloud Computing are not (yet).
2. The share of **large firms** adopting is higher for all digital technologies (dark blue).
3. The diffusion **across countries is uneven**, e.g. only few countries have CC adoption rates >50%, the majority lags behind.

Digital technologies are strongly complementary with other intangibles (1)



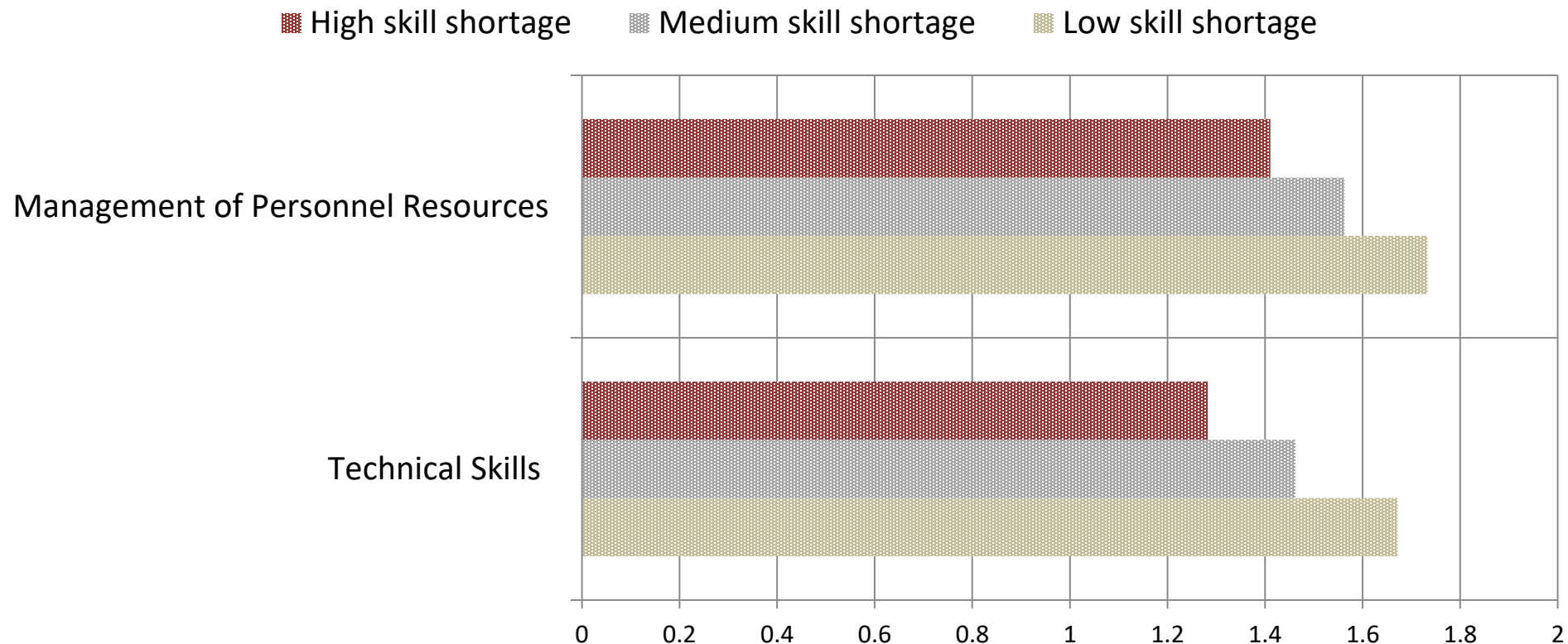
Increase in digital adoption rates are associated with **managerial and skills** upgrades

Increasing the diffusion of high performance work practices to Danish levels



Skill shortages curb the returns from digitalisation

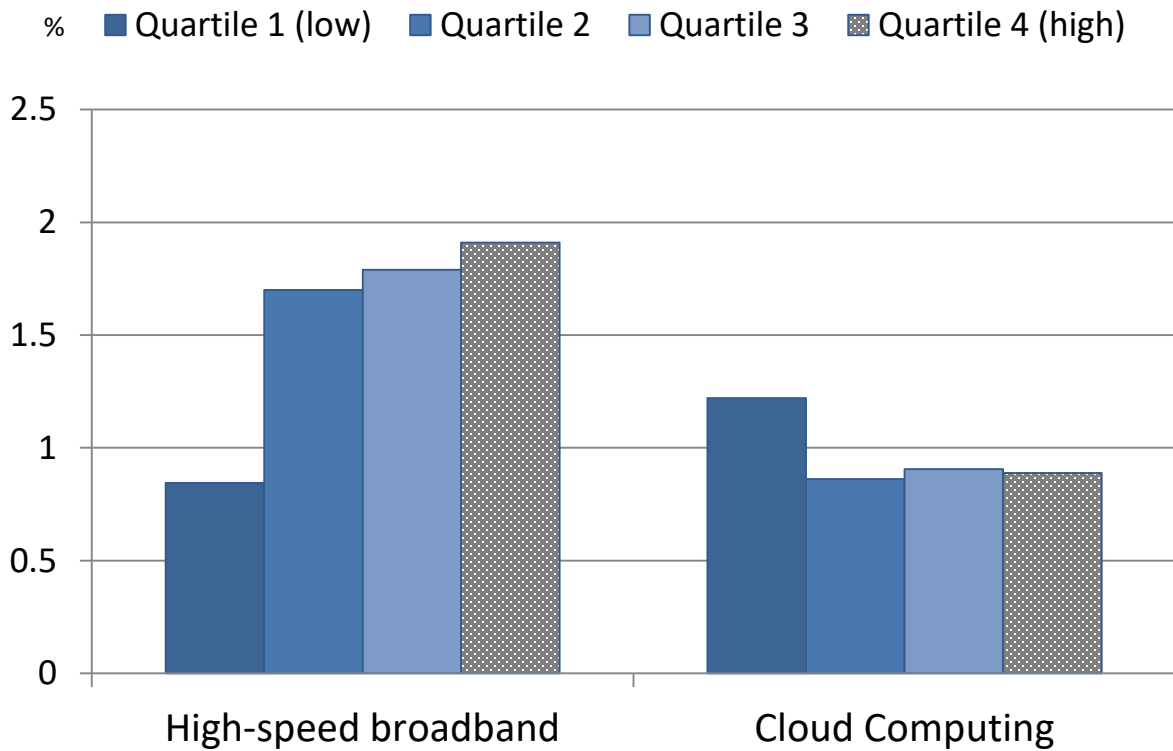
Increase in MFP associated with 10 ppt increase in high-speed broadband under different skill shortages



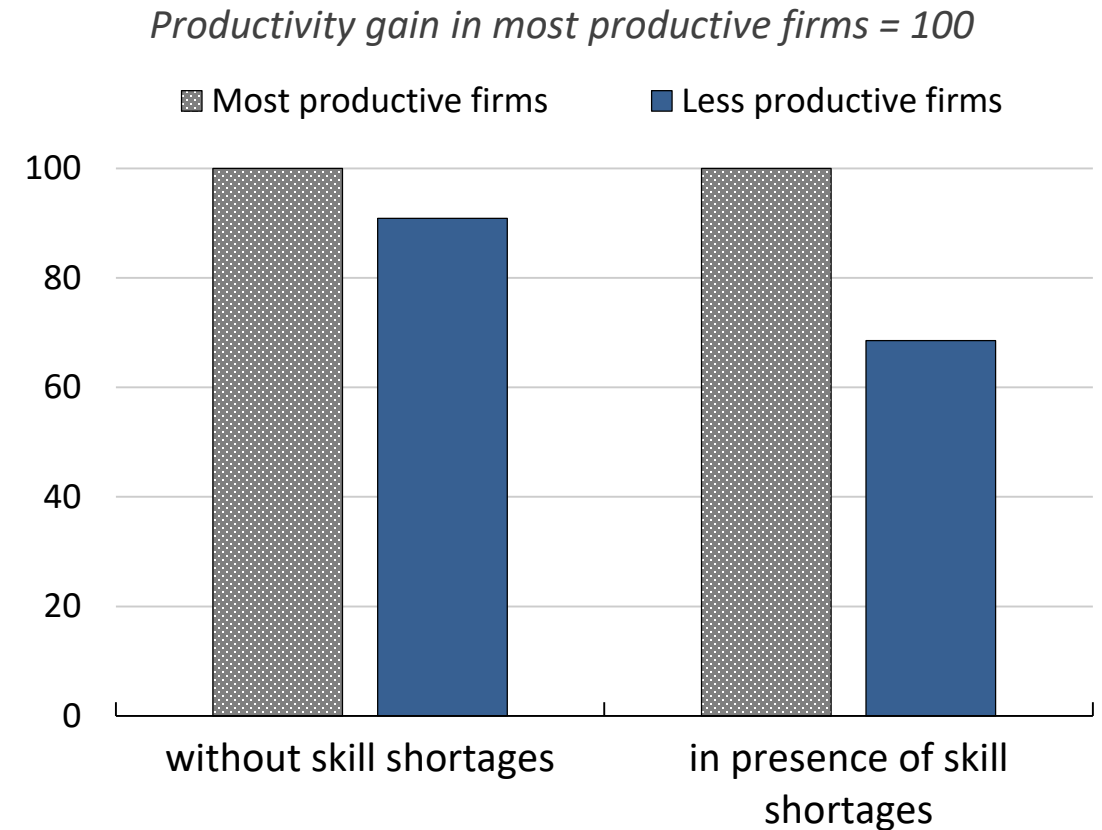
Does digitalisation contribute to productivity dispersion?



Gains in MFP growth by productivity quartile from increasing digital adoption rates by 10 ppt



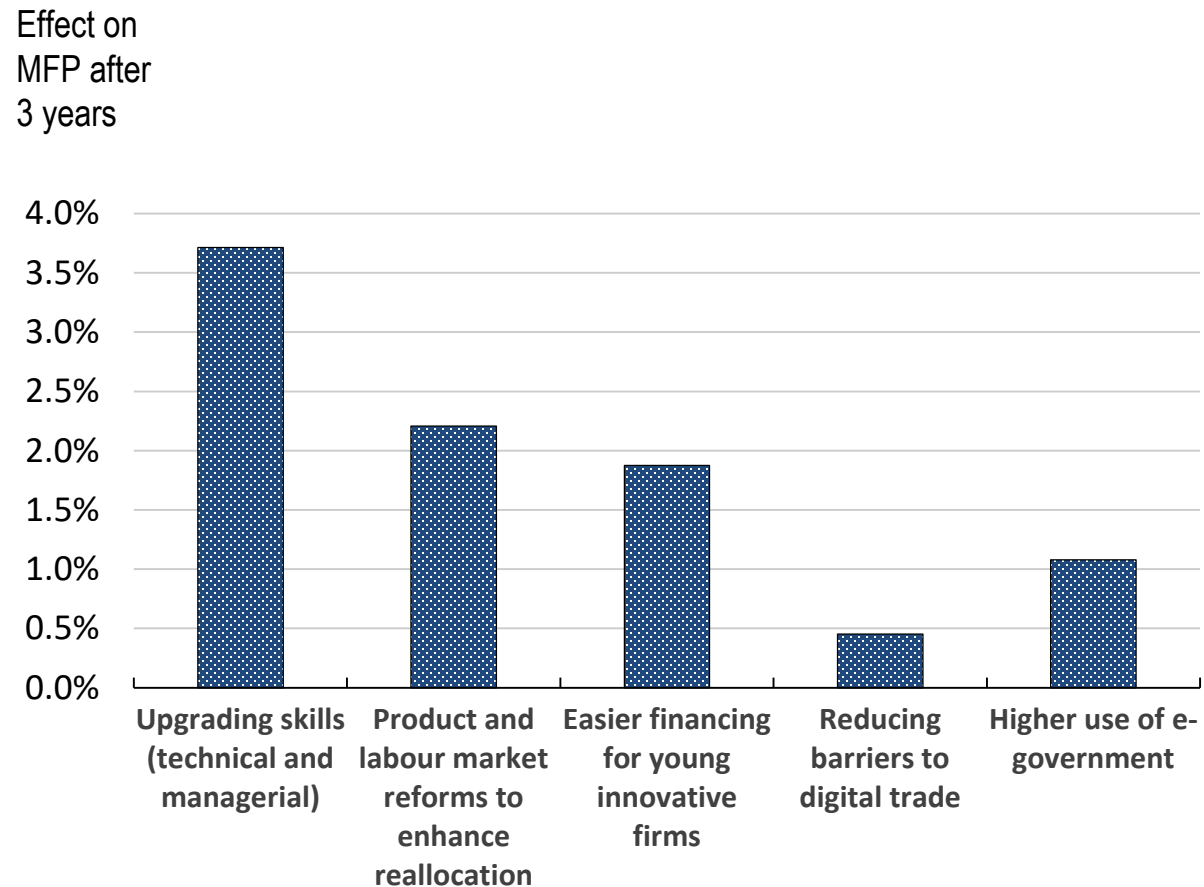
Productivity gains from increasing digital adoption with and without skill shortages



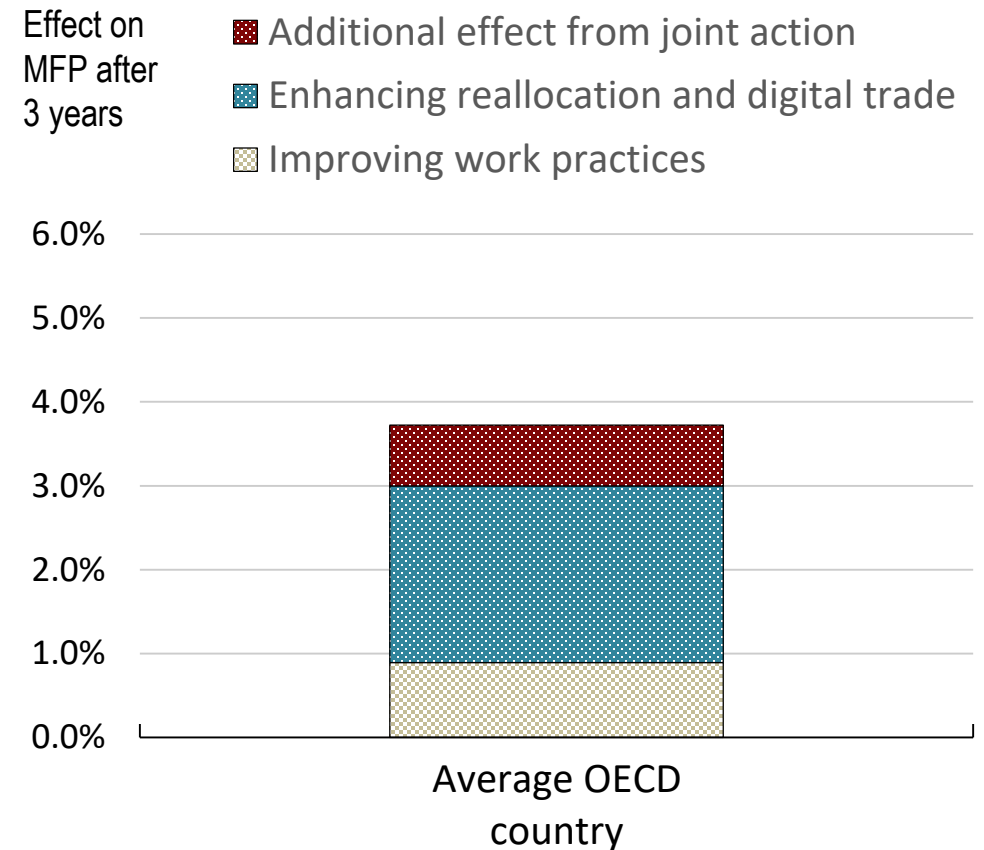
Policies can help, especially if they are packaged



Effect on firm productivity through digital adoption of closing half of the gap with best performing countries in a range of areas.

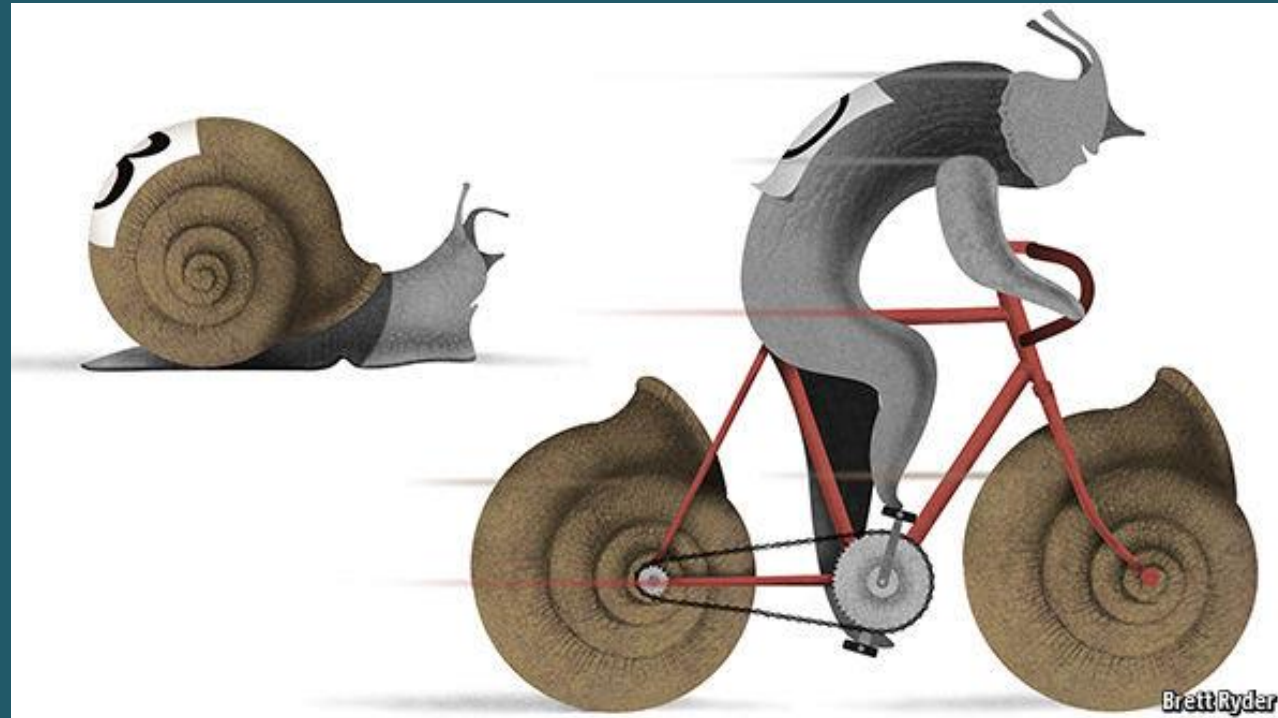


Illustrating policy complementarities



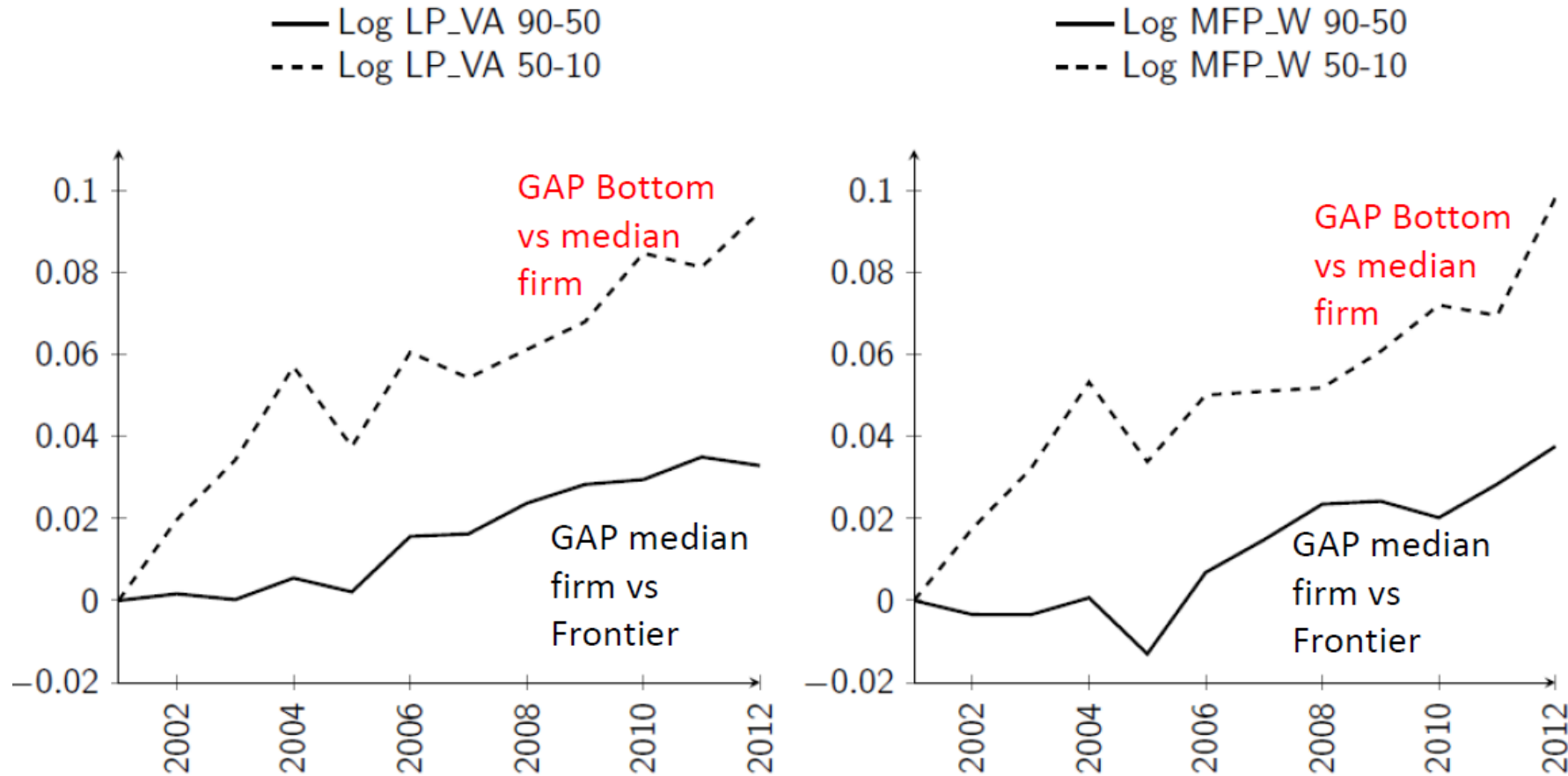


THANK YOU!



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Productivity dispersion is highest at bottom



Source: Berlingieri et al., 2017 based on OECD MultiProd project, March 2017.

Note: The figure plots the estimated year dummies of a regression of log-productivity dispersion (labour productivity, LP, on the left, and multifactor productivity à la Wooldridge, MFP_W, on the right), respectively, at the top (90th and 50th percentiles ratio, solid line) and at the bottom (50th and 10th percentiles ratio, dashed line) within country-sector pairs, using data from the following countries: AUS, AUT, BEL, CHL, DNK, FIN, FRA, HUN, ITA, JPN, NLD, NOR, NZL, SWE. The graphs can be interpreted as the cumulated growth rates of dispersion at the top and the bottom of the distribution within each country and sector over the period. For instance, in 2012 LP dispersion in manufacturing is roughly 3% higher than in 2001 for the top, and 10% for the bottom.

The effects of complementarities and policies on the speed of catch up by laggards

