

COVID, technology and climate change: How are societal trends shaping the future of education



OECD Parliamentary Network
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Many disconnects

Infinite growth imperative

Finite resources of planet

Financial economy

Real economy

The wealthy

The poor

Gross domestic product

Well-being of people

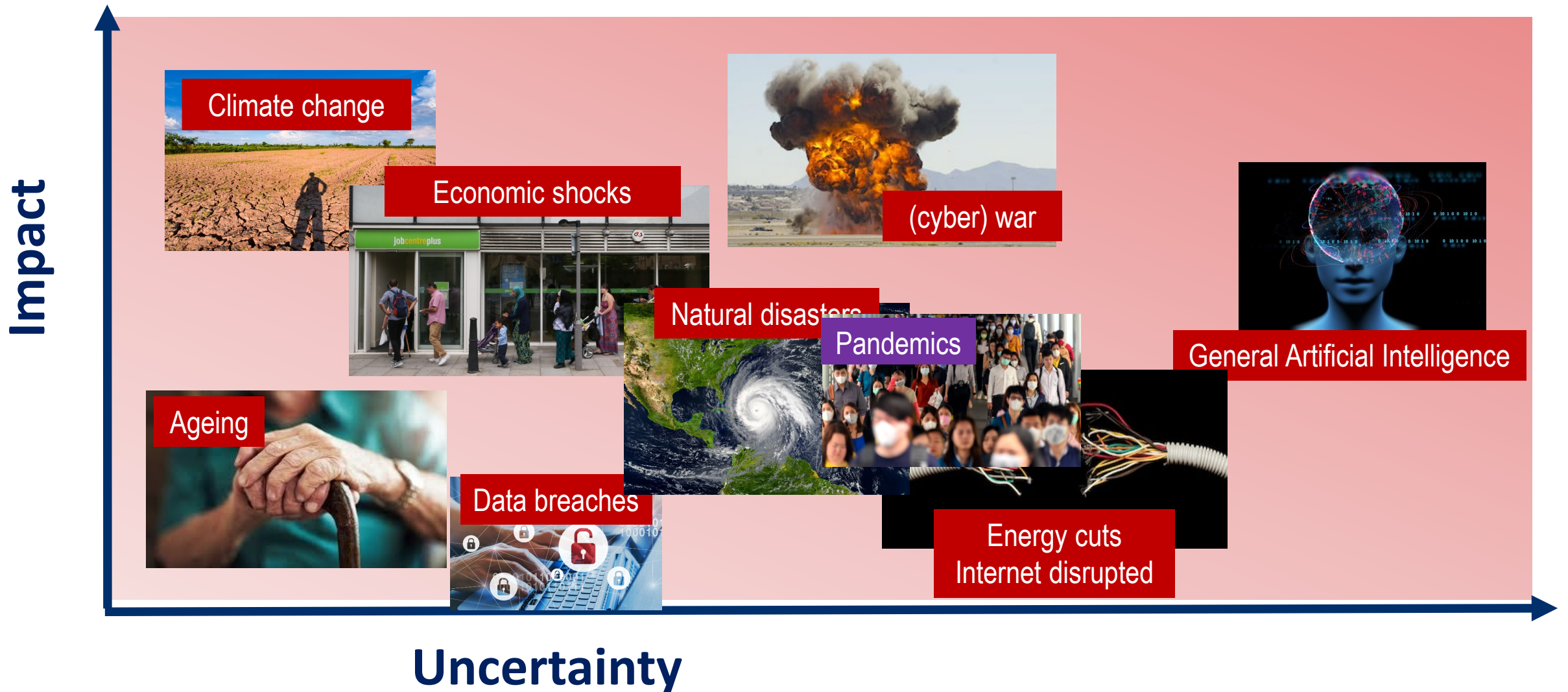
Technology

Social needs

Governance

Voicelessness of people

The future will always surprise us



New sources of growth

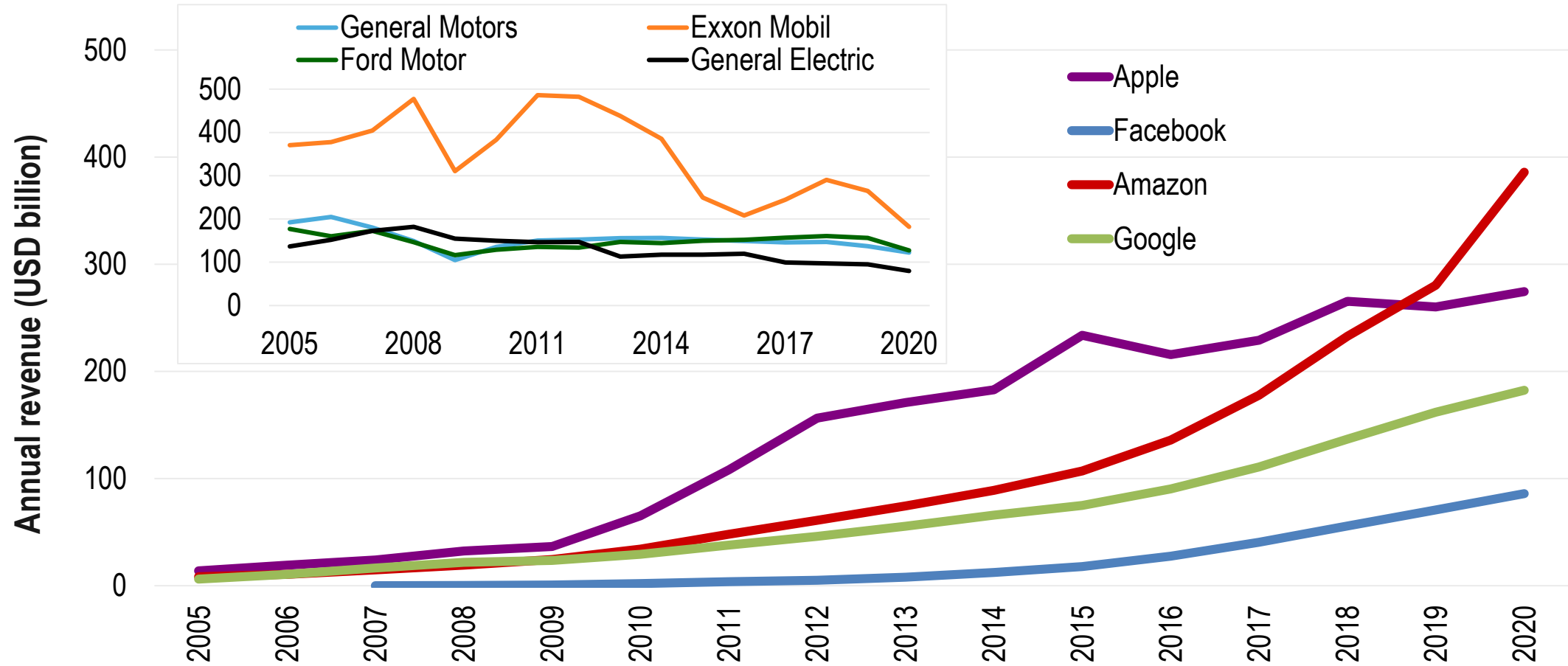


Growth



The rise of Big Tech

Annual revenue of top four companies from the Fortune 500 in 1960 vs “Big Four” tech companies, 2005-2020

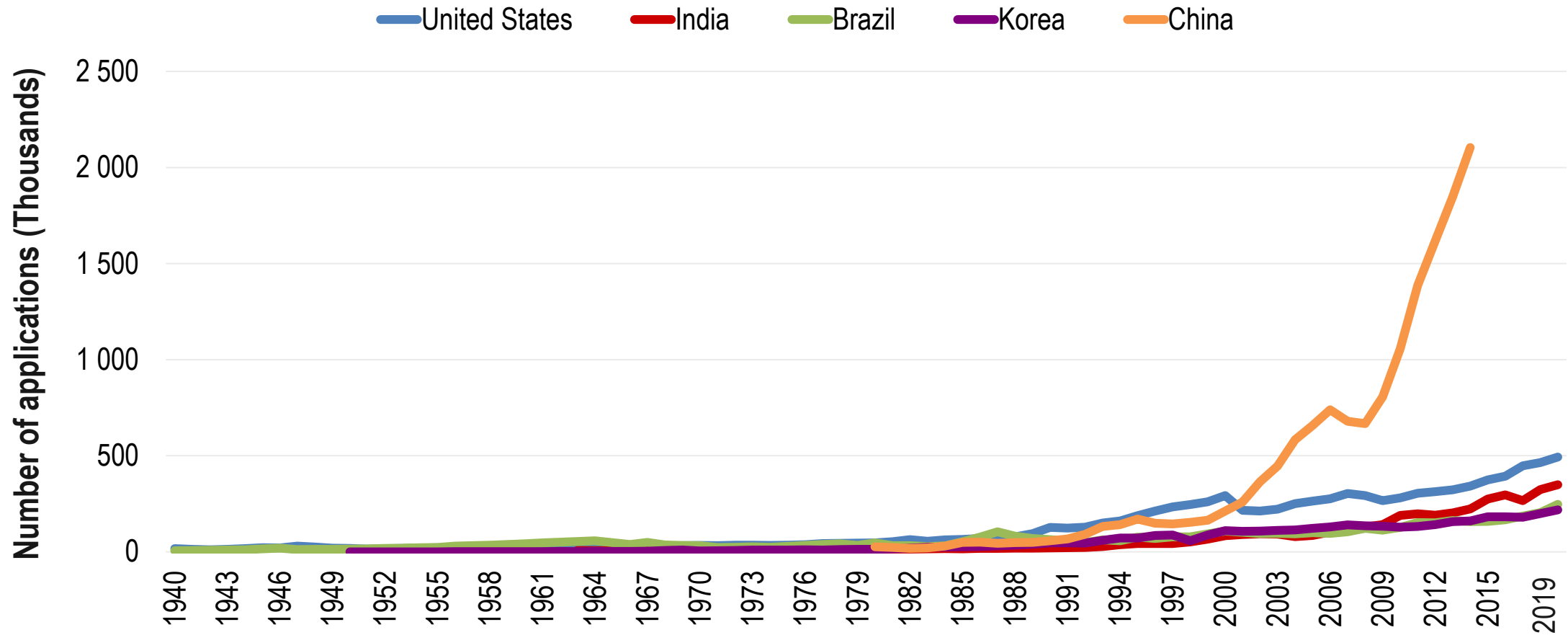


Source: OECD(2019), *An Introduction to Online Platforms and Their Role in the Digital Transformation*, <https://doi.org/10.1787/53e5f593-en>; companies' annual reports; and <https://macro trends.net>



Intangible innovation

Trademark applications for the top five offices, 1940-2019



Source: WIPO (2020), *World Intellectual Property Indicators 2020*, <https://www.wipo.int/>

Figure 1.3

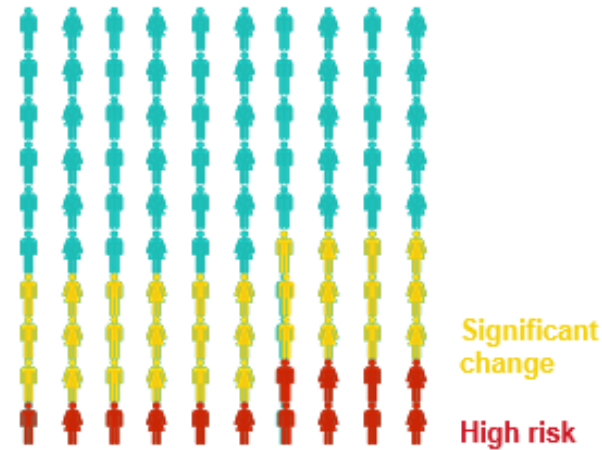
Work to live or live to work?



Working and living

Labour markets undergoing rapid, fundamental change

Jobs are at risk of automation

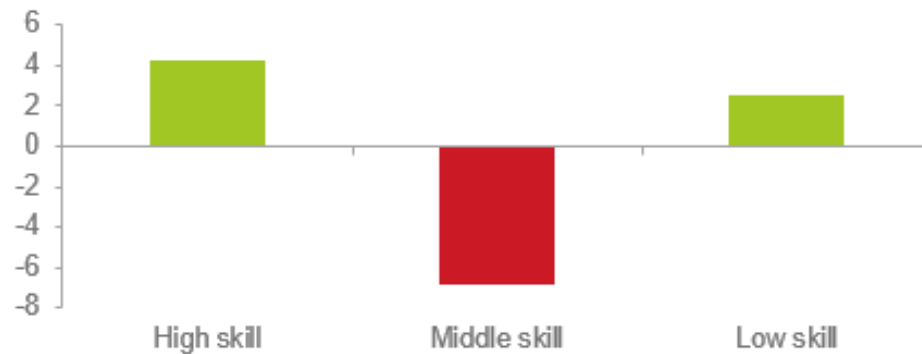


New forms of work are emerging



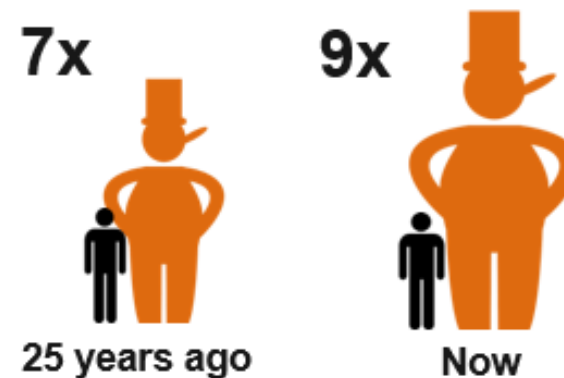
Labour markets are polarising

Percentage point change in share of total employment (OECD average), 1995 to 2015



Inequality is rising

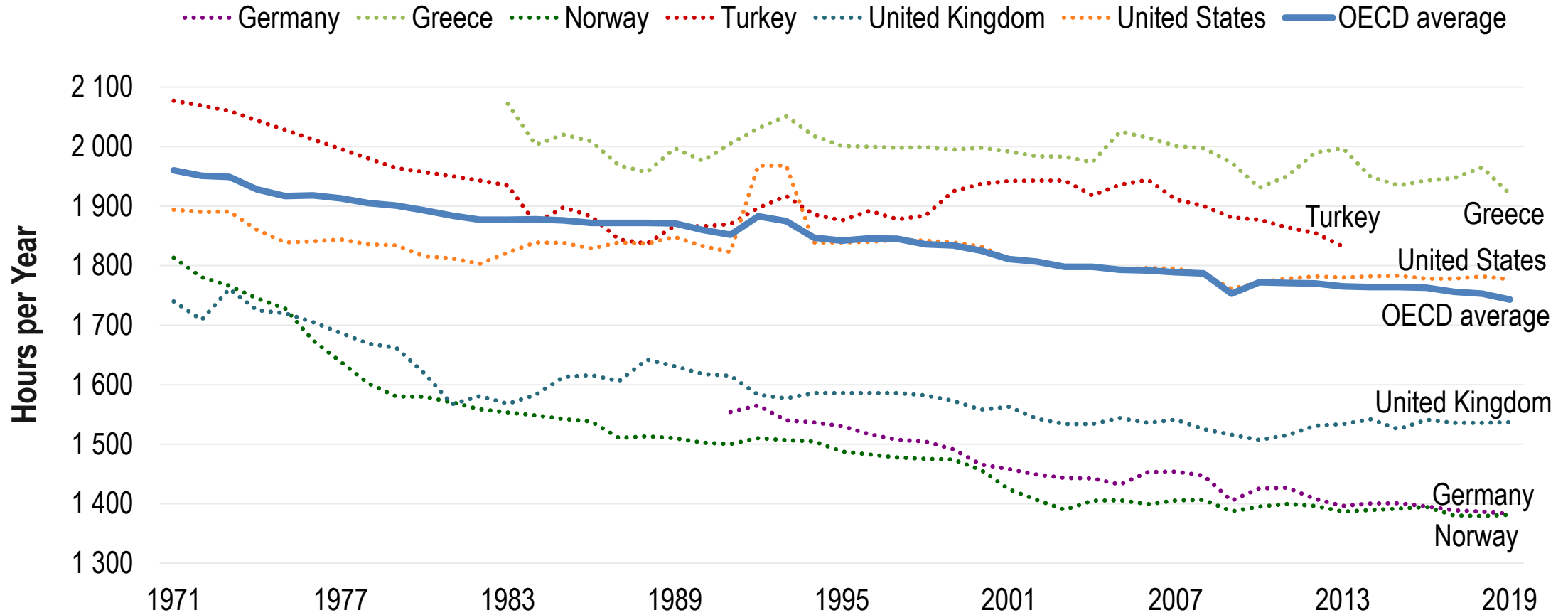
Richest 10% v. poorest 10%





In pursuit of a work-life balance

Average annual hours actually worked per worker, 1971-2019



Source: OECD (2021), *OECD Labour Force Statistics* (database), <https://stats.oecd.org/>

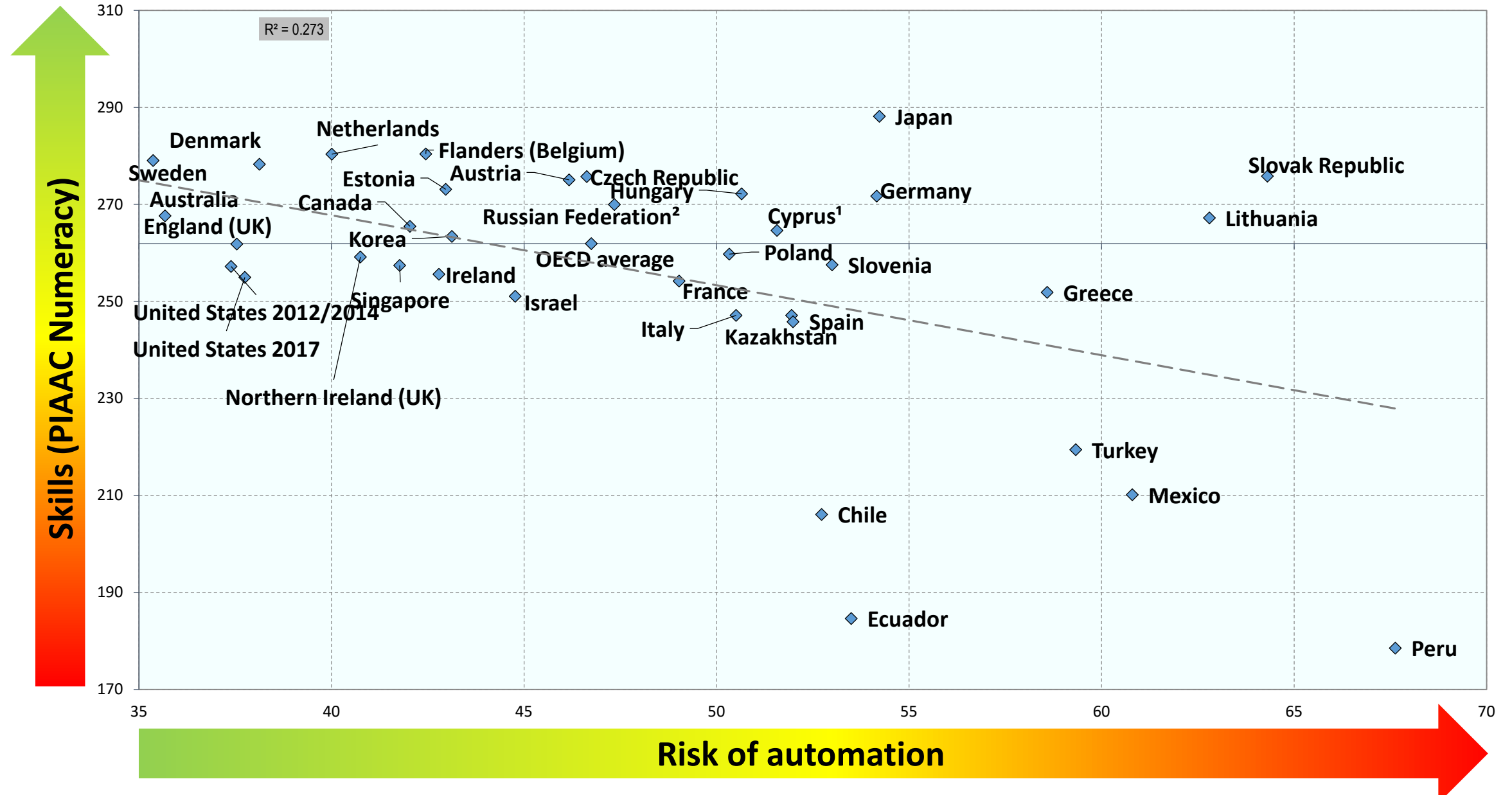
New employment for a new age?

Working and living

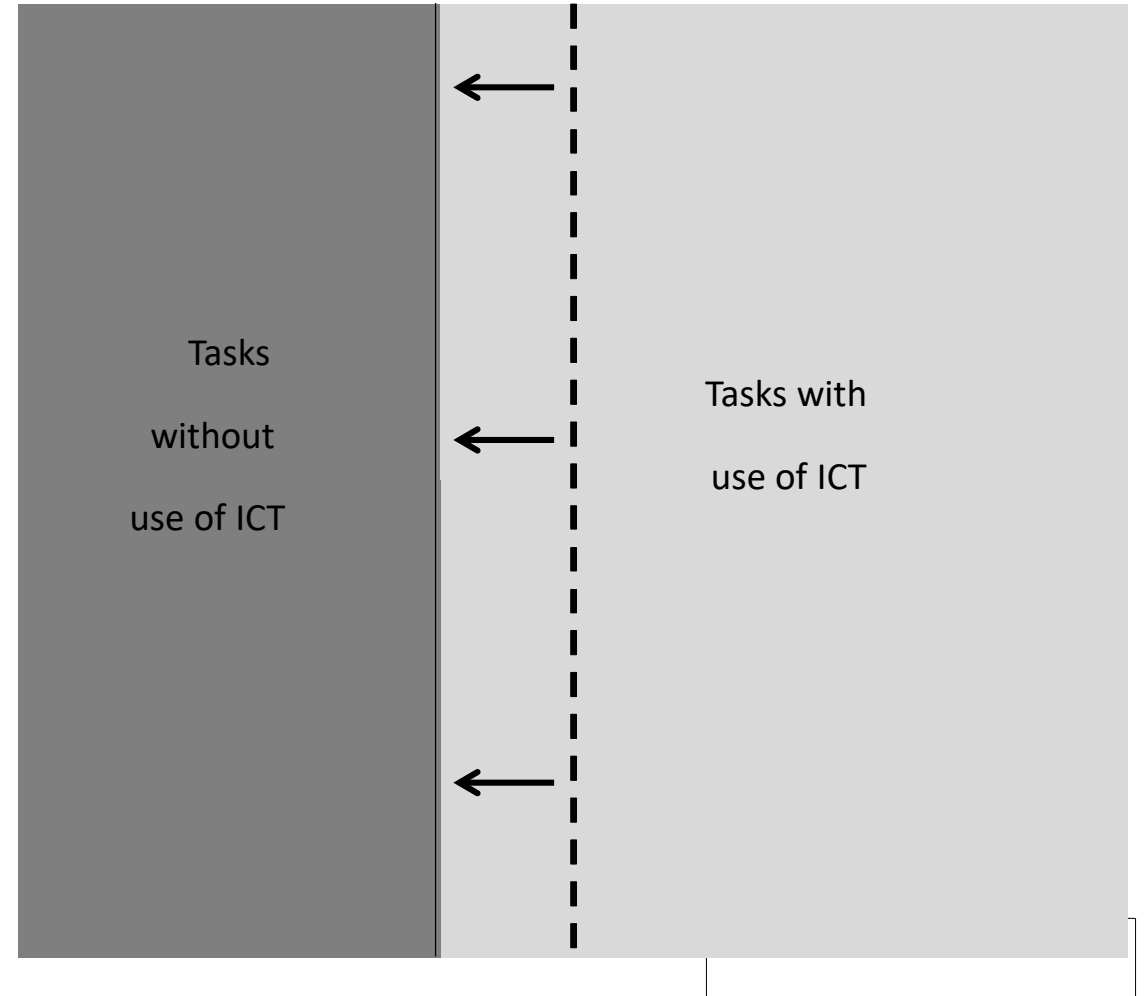
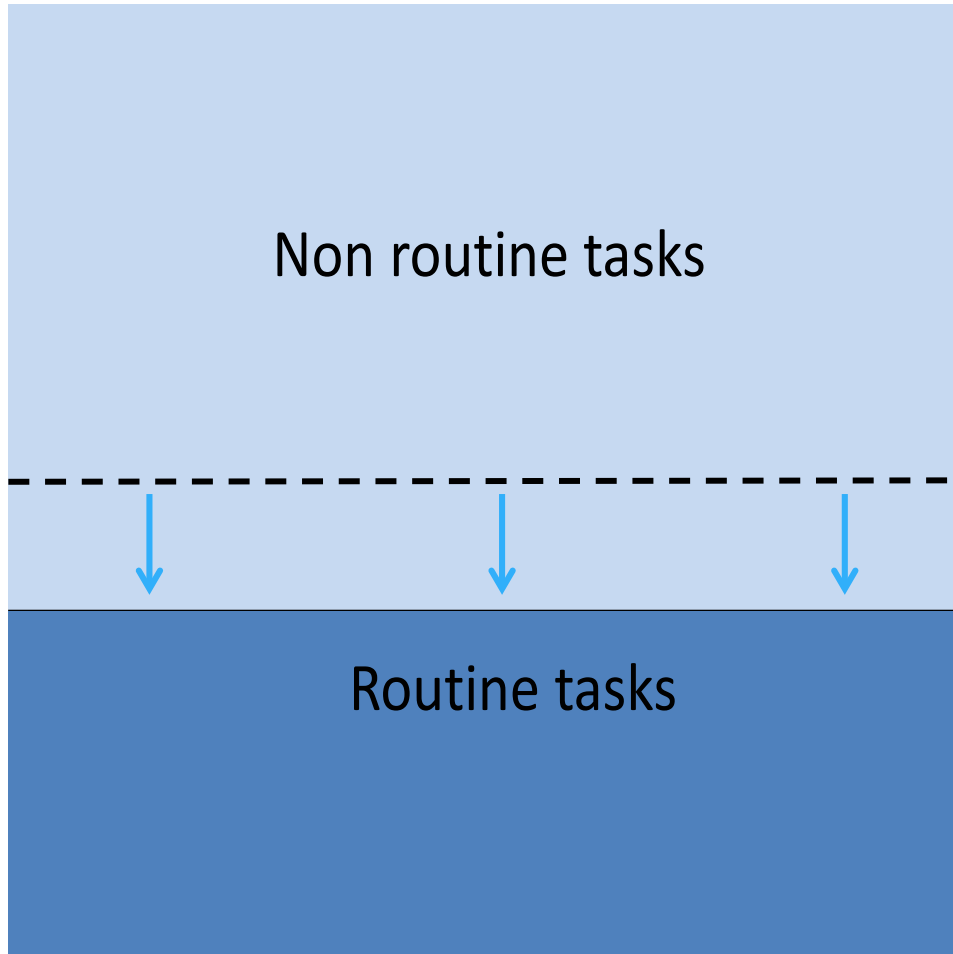
The new nature of the firm

- Digital “**platform**” technology drives the (re)organisation of firms
- **Small units** of employment with global reach require re-think of what “small” means (employment or revenue to market share)
- Peer-to-peer markets are **blurring the distinction between a consumer and a business**
- Governments **work with platforms** to implement policies

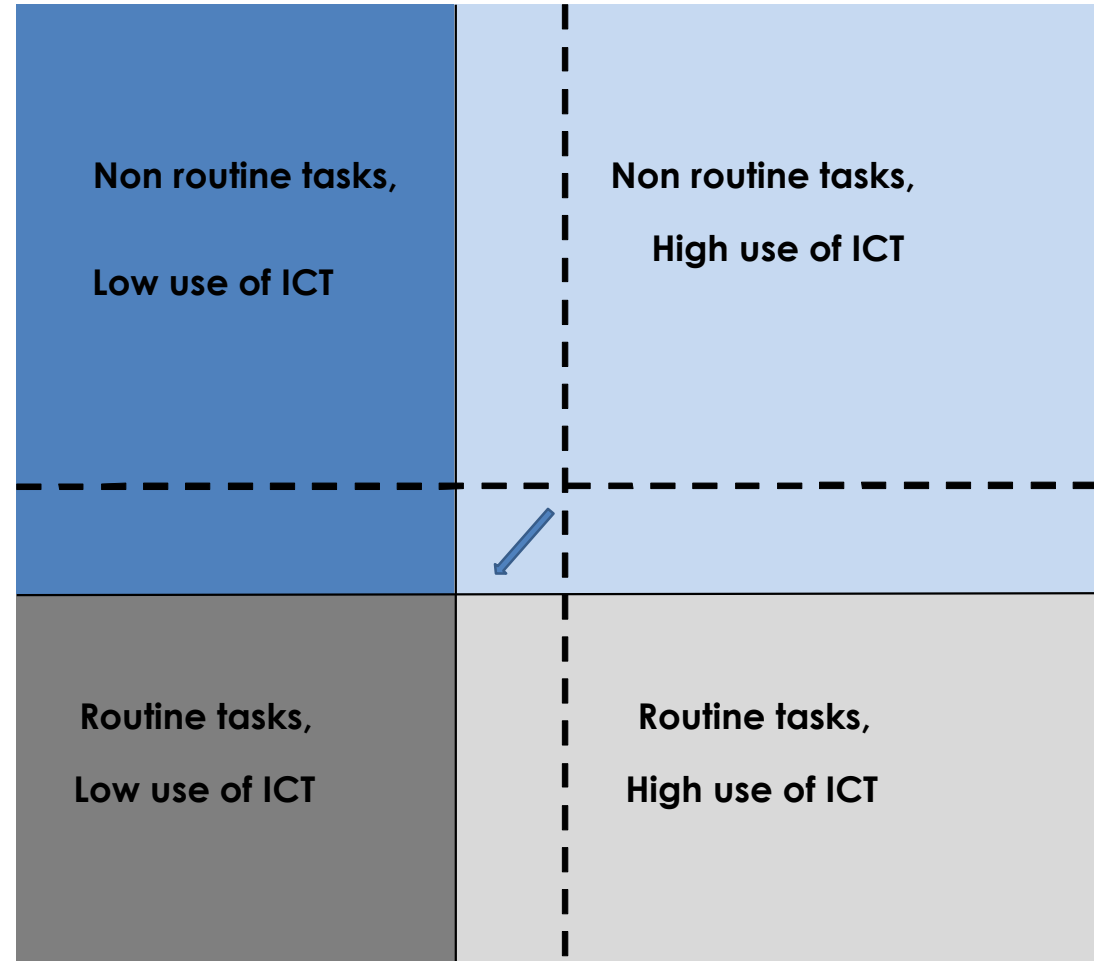
Skills and the risk auf automation



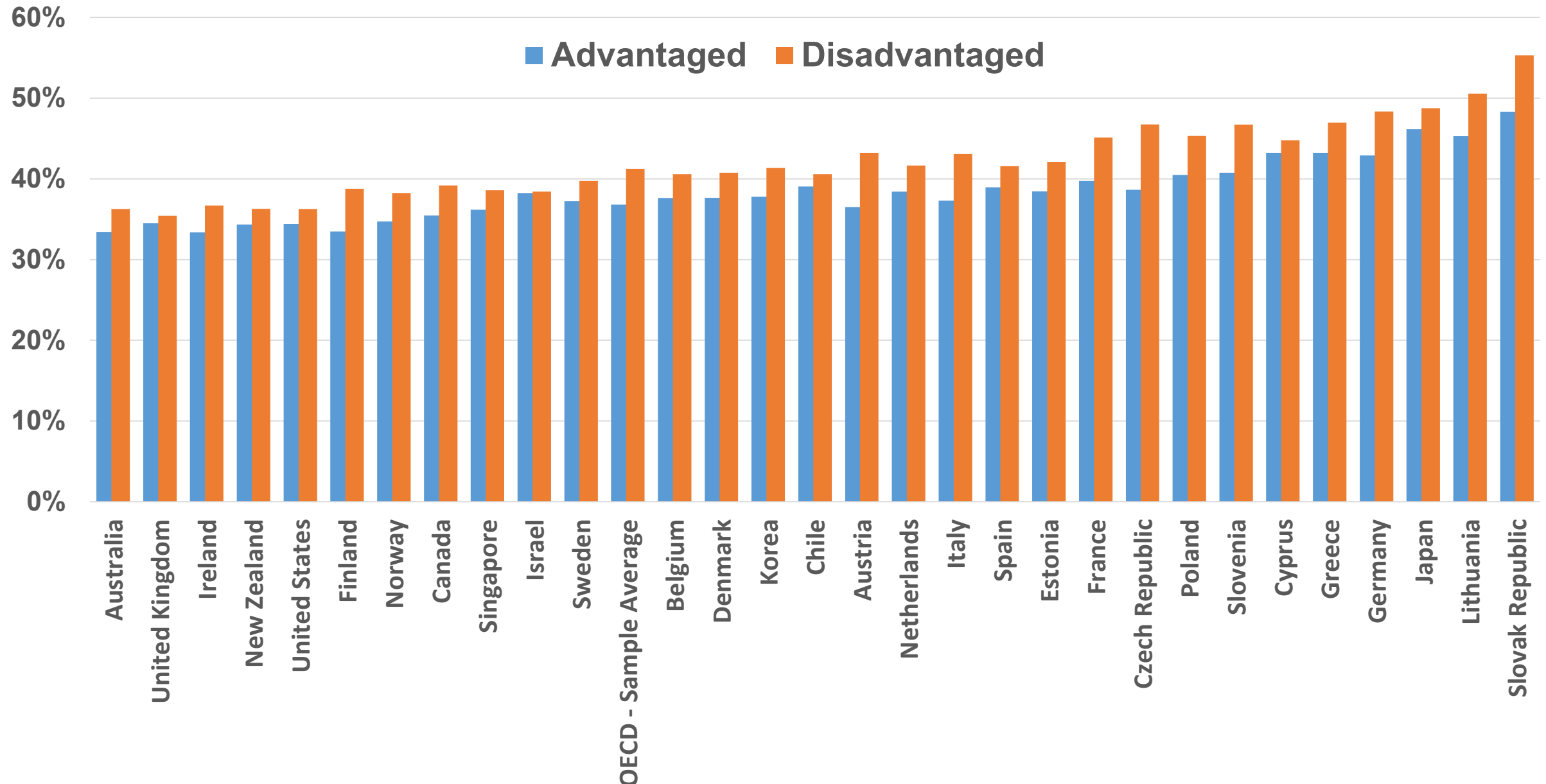
Two effects of digitalisation



Two effects of digitalisation



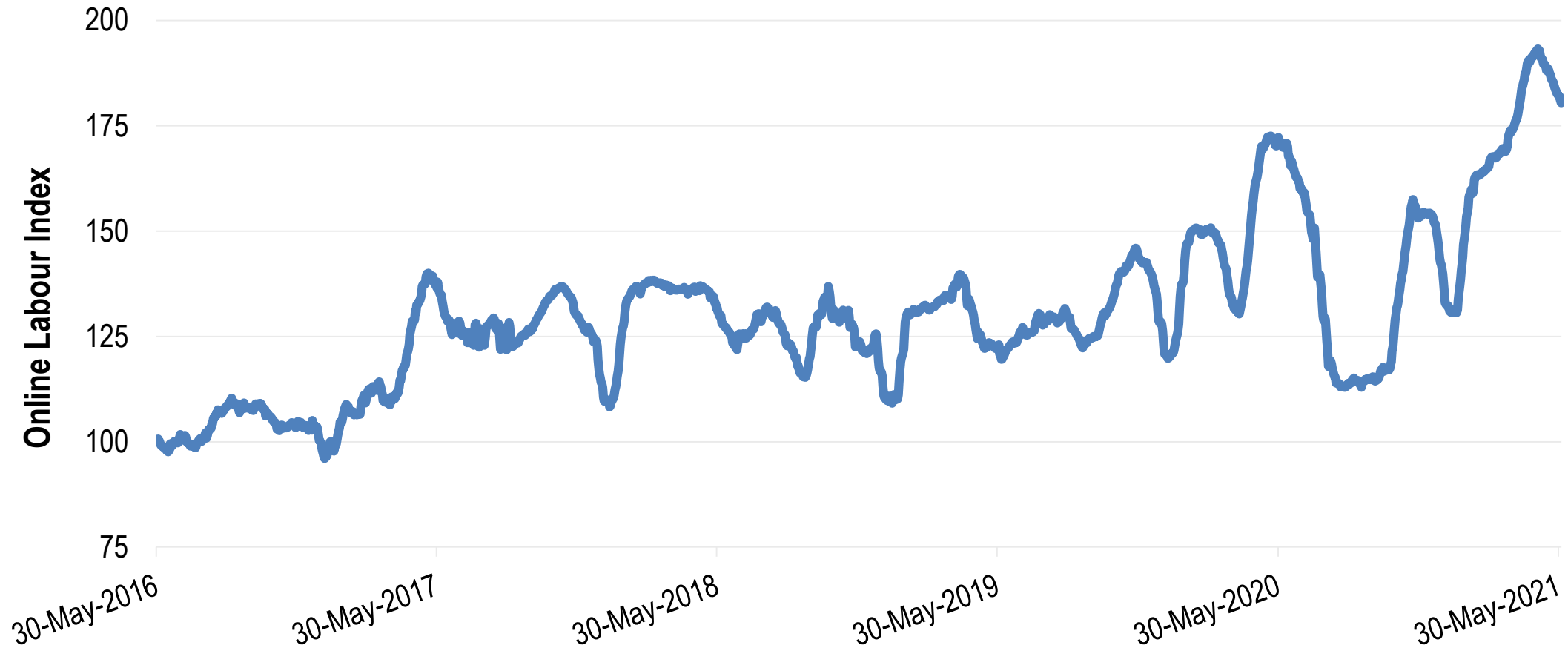
Many teenagers aspire to jobs that are at high risk of automation (PISA)





Digital Taylorism

Online Labour Index (OLI), May 2016-May 2021



Source: Kässi, O., C. Hadley and V. Lehdonvirta (2019), *Online Labour Index: Measuring the Online Gig Economy for Policy and Research*, figshare Dataset. <https://doi.org/10.6084/m9.figshare.3761562.v1842>.

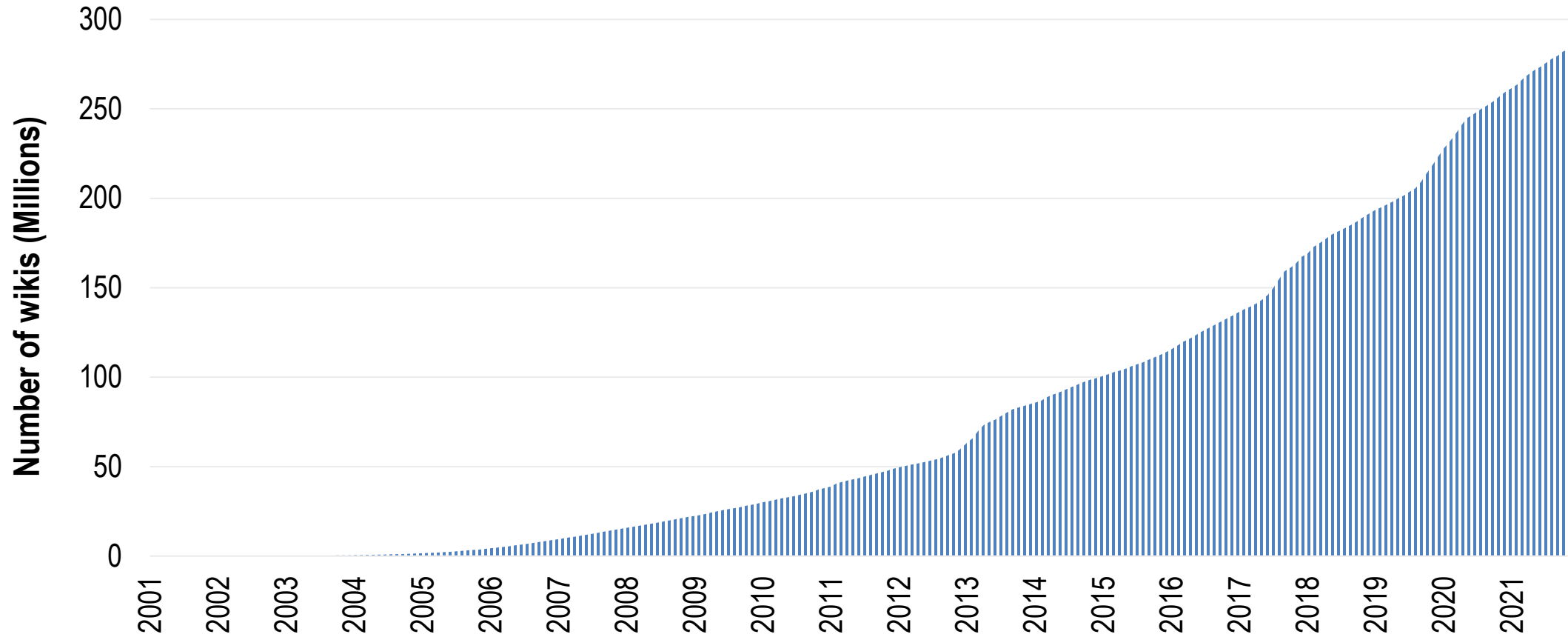
Knowledge societies

Knowledge and power



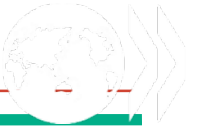
The wisdom of crowds

Number of pages in all wikis, 2001-2021

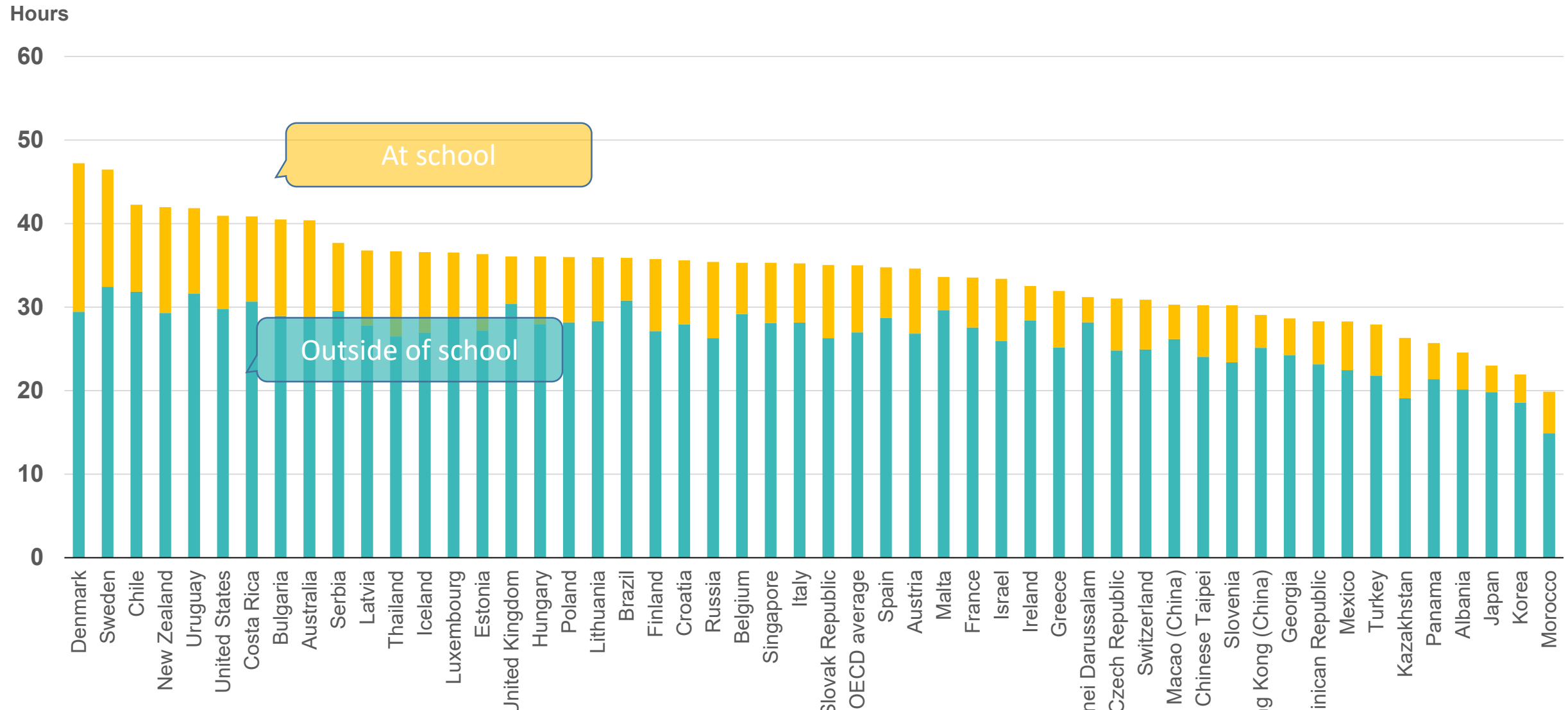


Source: Wikimedia (2021), Pages to Date, All Wikis, <https://stats.wikimedia.org/>

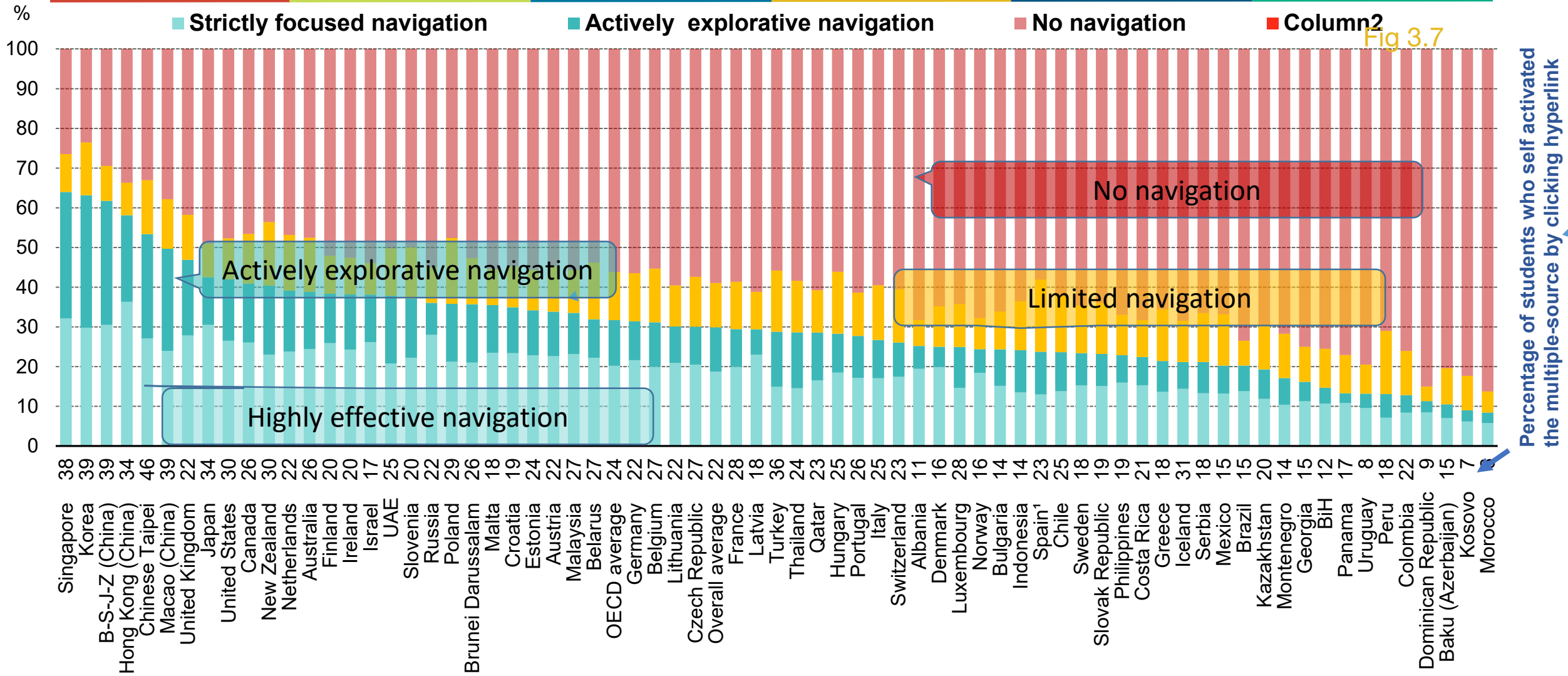
The digital world has become the real world



Number of hours per week 15-year-olds spent using the Internet (PISA 2018)



Digital navigation skills (PISA)



Speak your mind

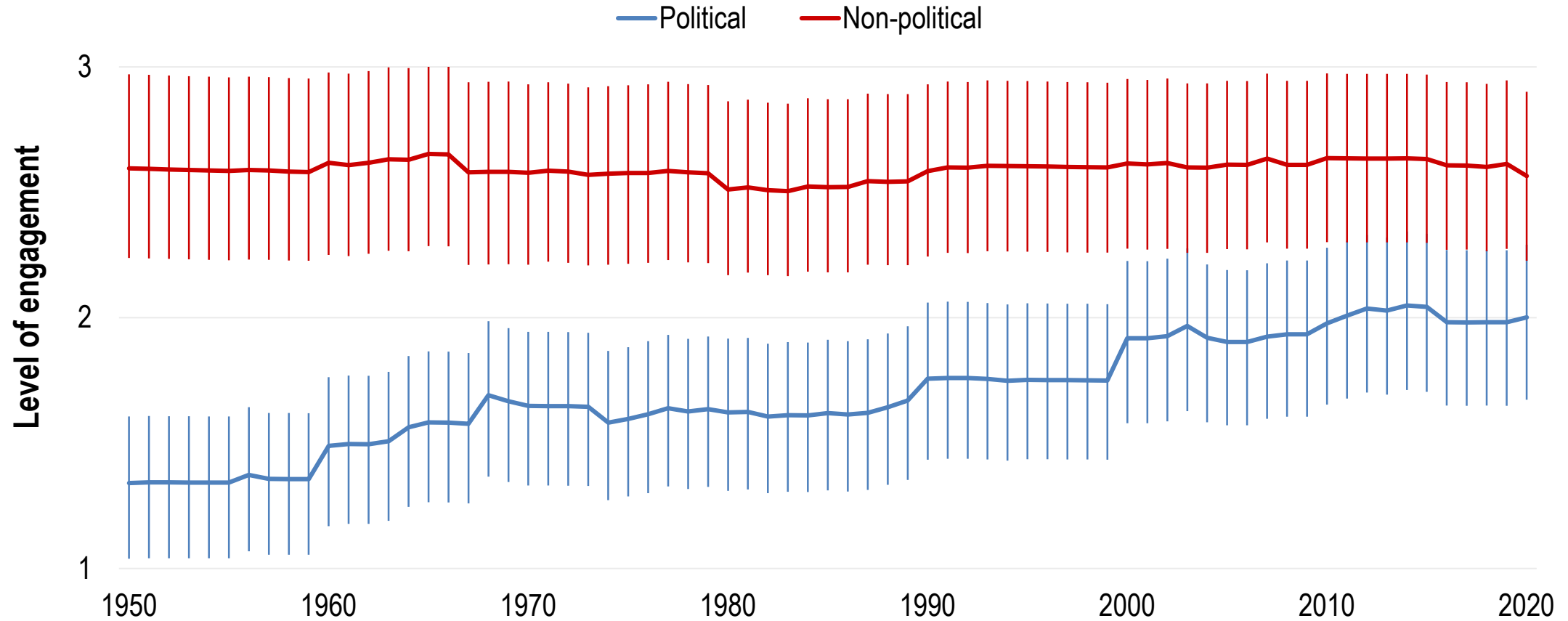


Identity and belonging



Get up, stand up

Engagement in political and non-political independent associations, OECD countries, 1950-2020

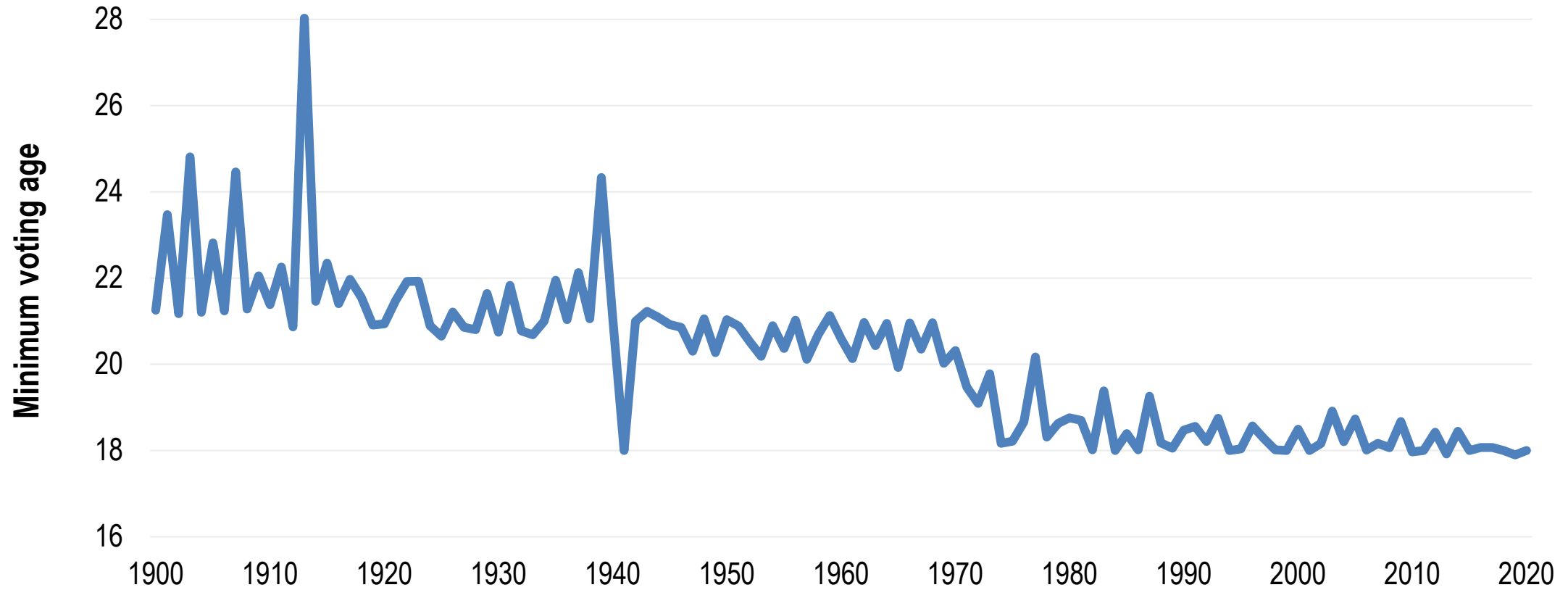


Source: Coppedge et al. (2021), "V-Dem Dataset v11.1", Varieties of Democracy Project, <https://doi.org/10.23696/vdemds21>.



From the schoolyard to the ballot box

Average minimum voting age across OECD countries, 1900-2020



Source: Coppedge et al. (2021), "V-Dem Dataset v11.1", Varieties of Democracy Project, <https://doi.org/10.23696/vdemds21>.

There is no Planet B

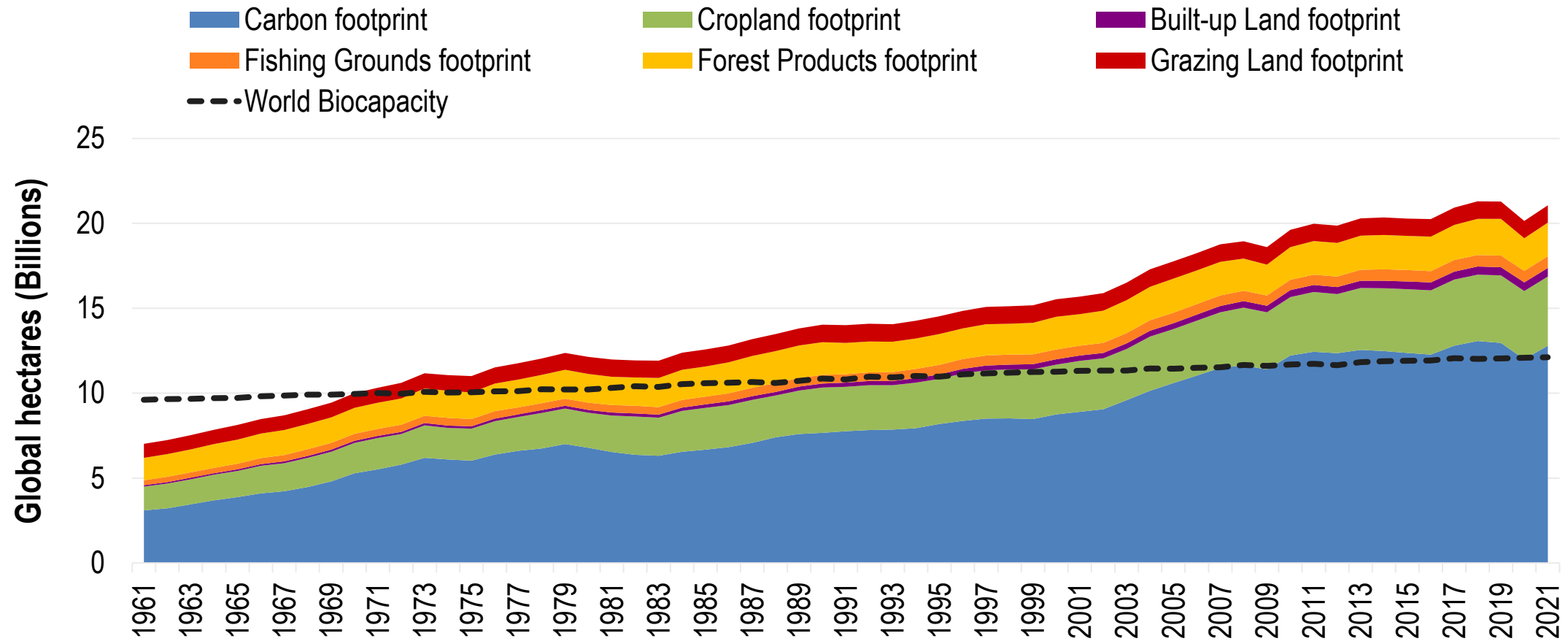


Our changing nature



An outsized ecological footprint

Humanity's ecological footprint by land type against Earth's biocapacity, global hectares (gha), 1961-2021



Source: Global Footprint Network (2021), *National Footprint and Biocapacity Accounts*, <https://data.footprintnetwork.org>;
Lin, Wambersie and Wackernagel (2021), "Estimating the Date of Earth Overshoot Day 2021", <https://www.overshootday.org/>

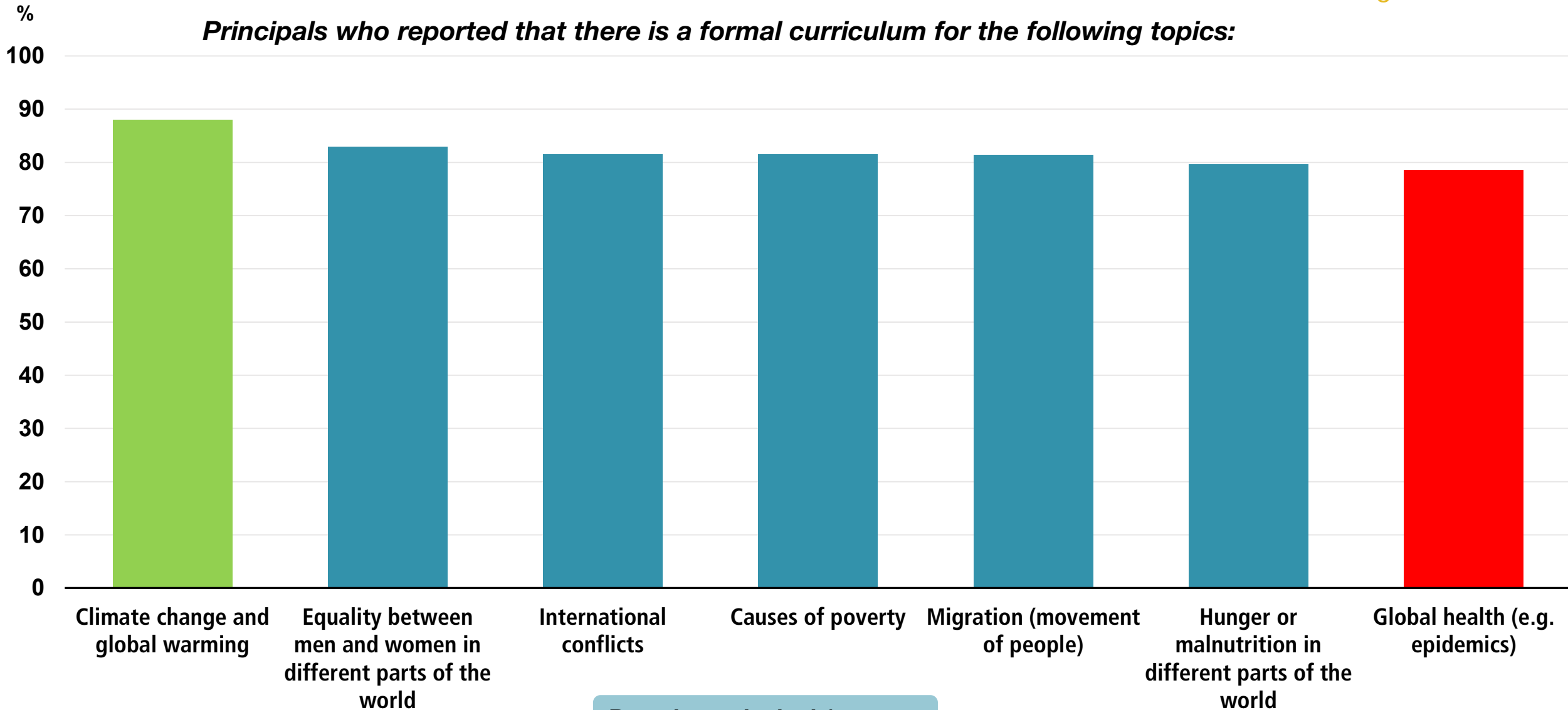
Figure 5.1



Sustainability issues covered in the curriculum (PISA, OECD average)

Fig VI.7.8

Principals who reported that there is a formal curriculum for the following topics:



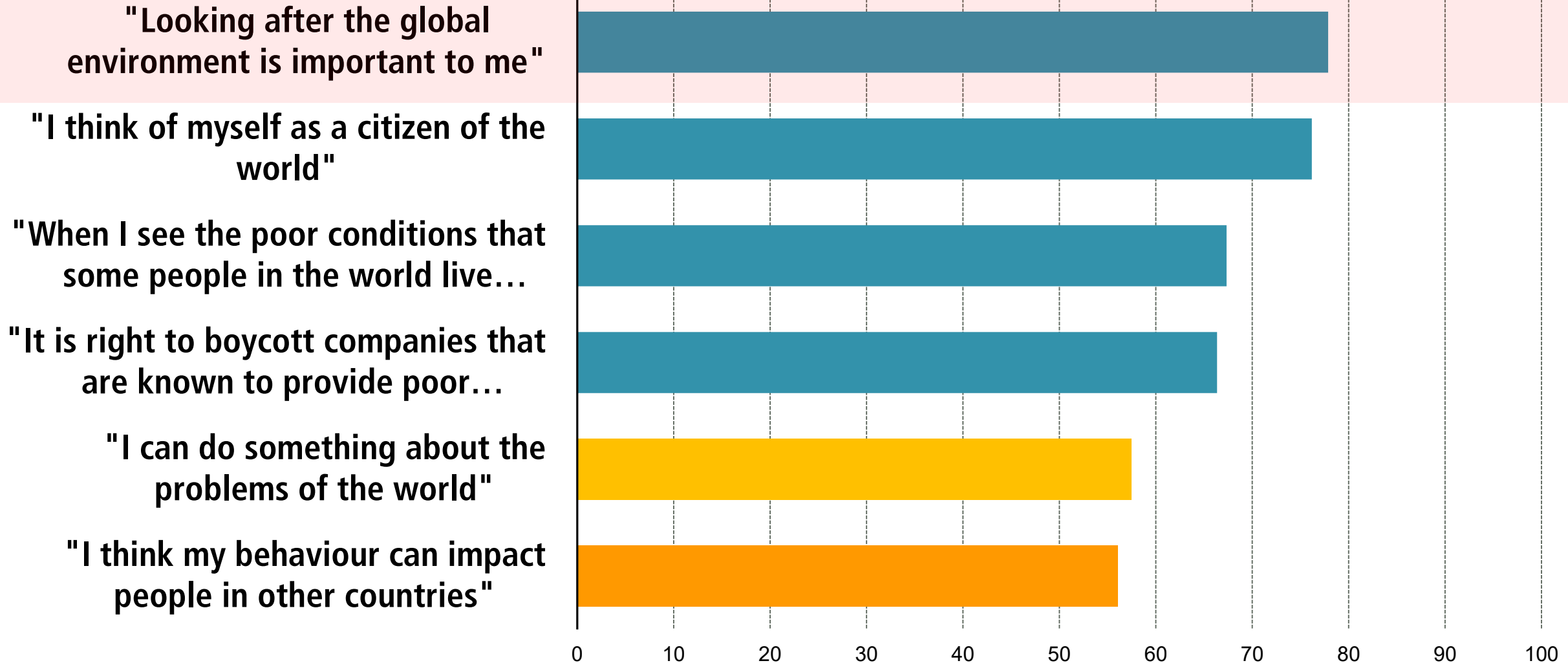
Based on principals' reports



Students' agency regarding global issues (PISA, OECD average)

Fig VI.5.1a

Percentage of students who agreed or strongly agreed with the following statements:

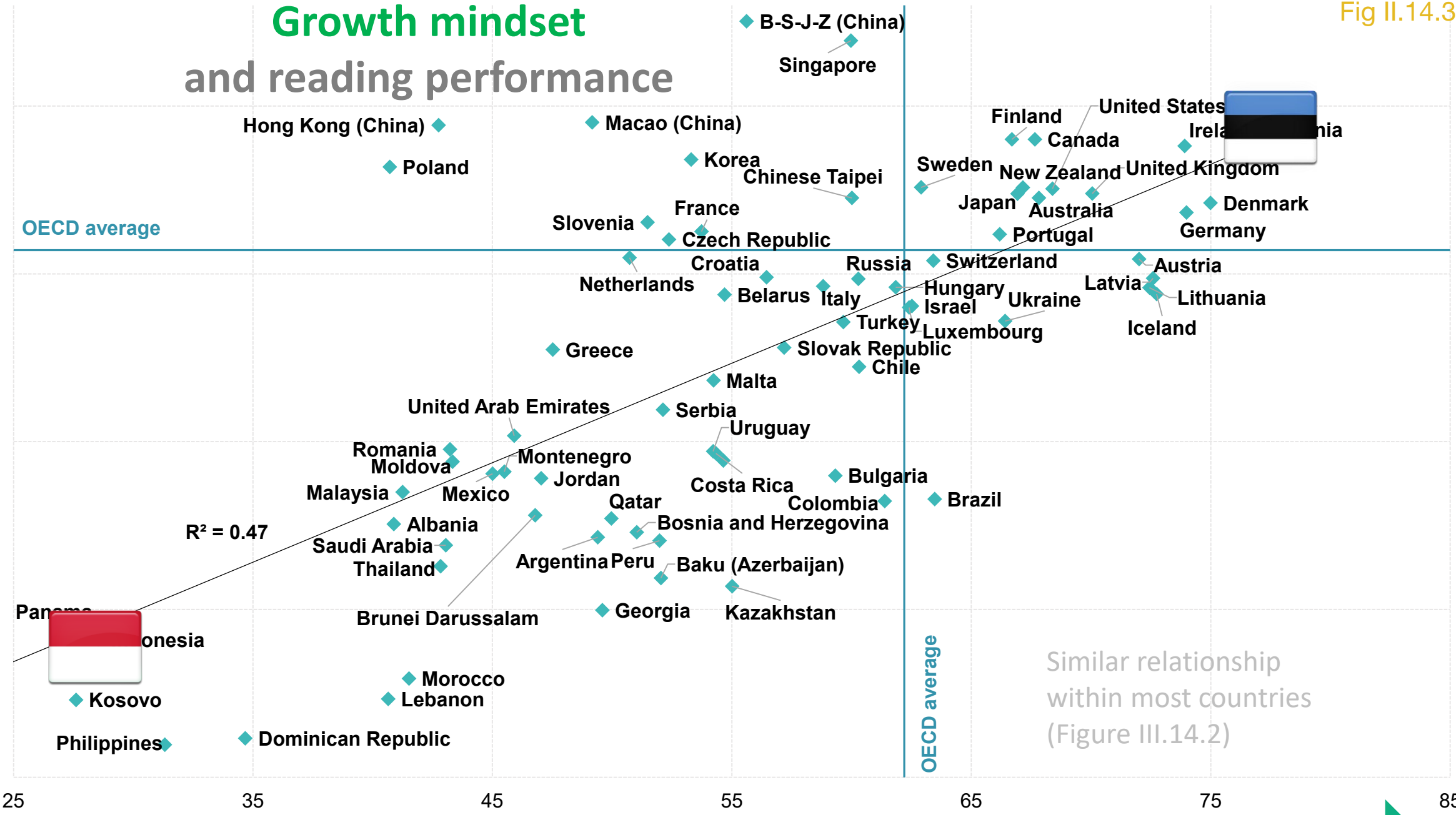


Growth mindset and reading performance



Average reading score

Higher performance



OECD average

Similar relationship within most countries (Figure III.14.2)

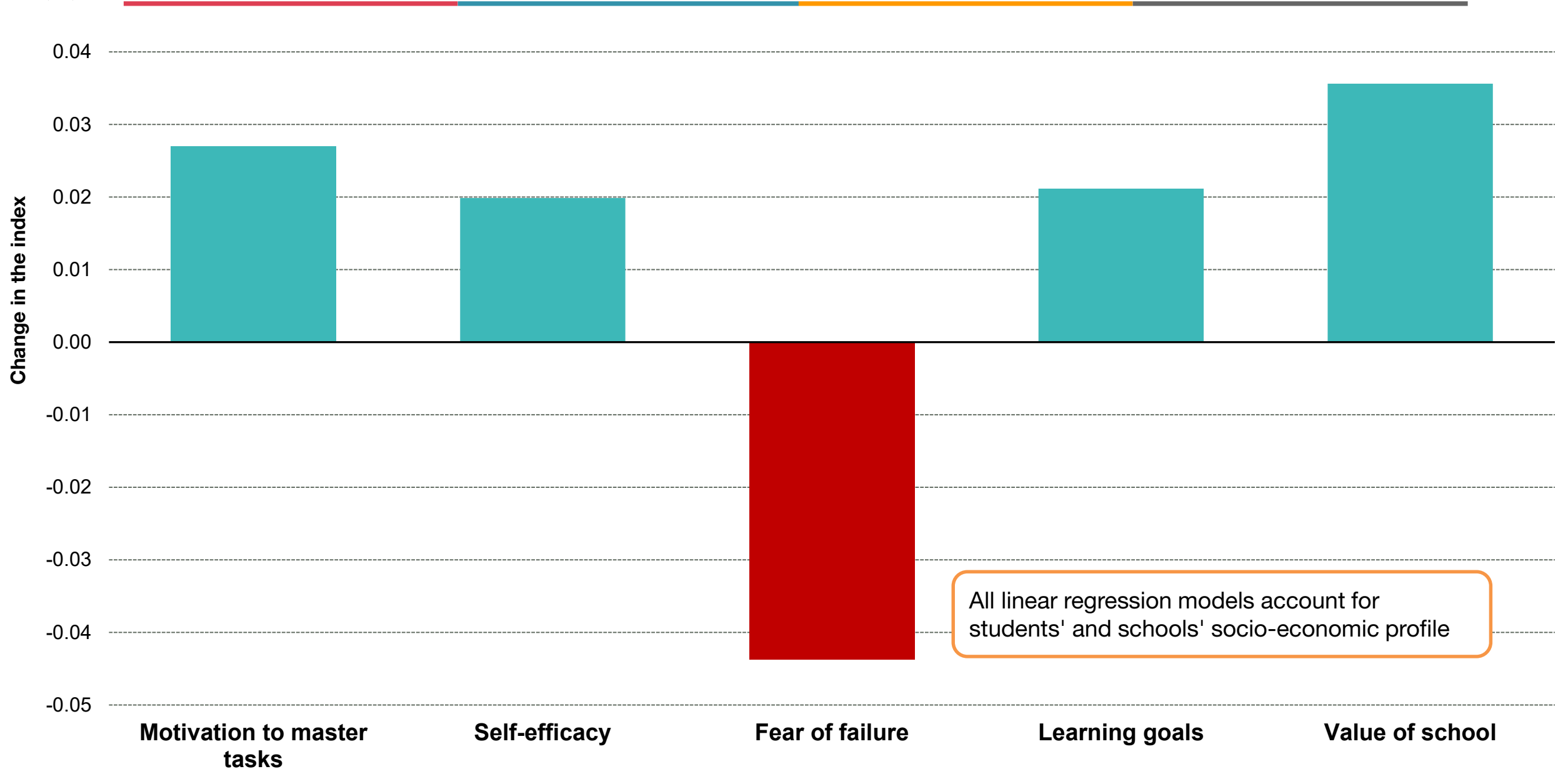
More students holding a growth mindset

Percentage of students who disagreed or strongly disagreed that their intelligence cannot change very much (%)



Growth mindset and student attitudes

Change in the following indices when students disagreed or strongly disagreed that "your intelligence is something about you that you can't change very much": Fig III.14.5





15-year-olds report **lower creativity** than 10-year-olds

Age gaps in creativity

mean scale difference (students and parents)

mean scale difference (teachers)

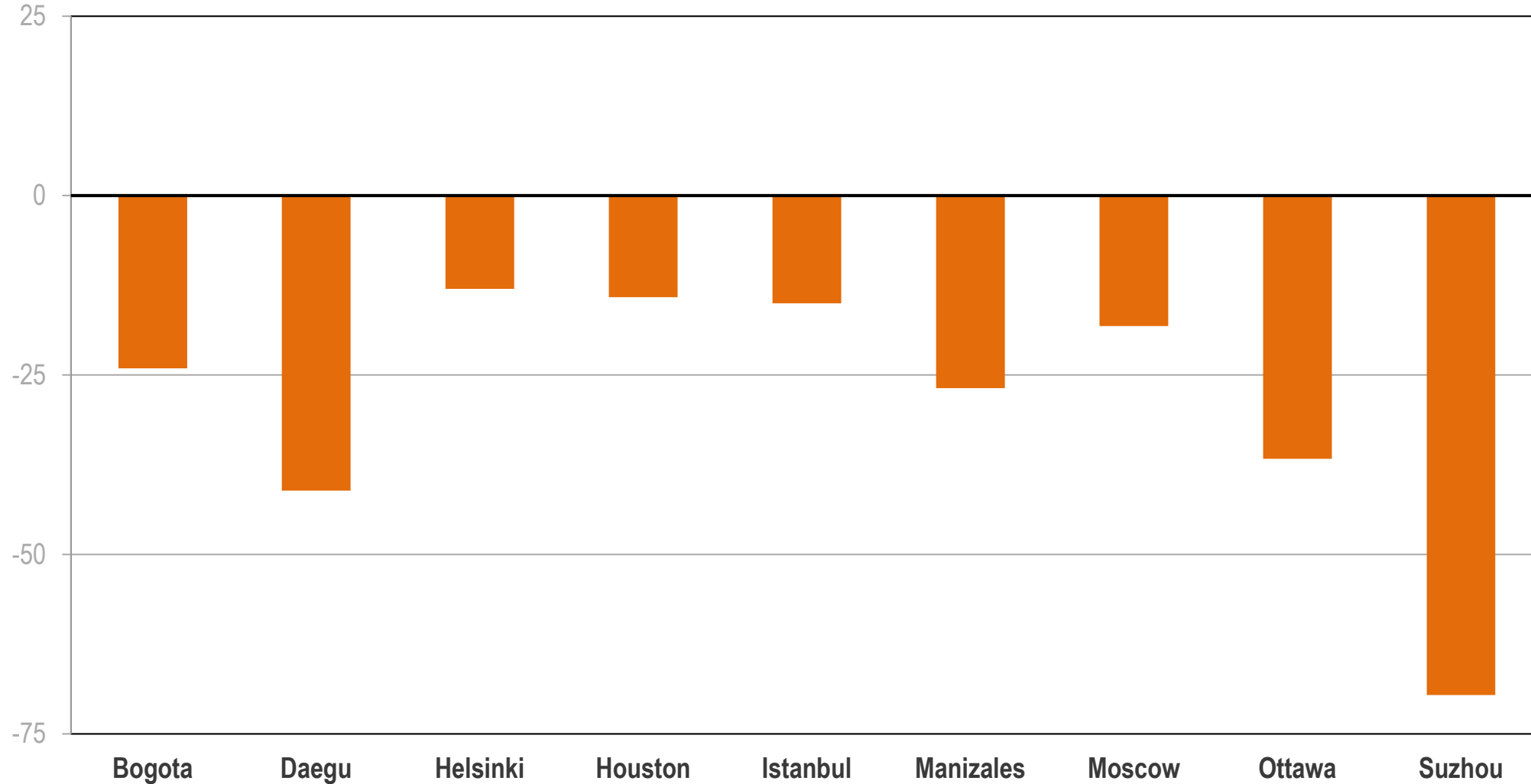
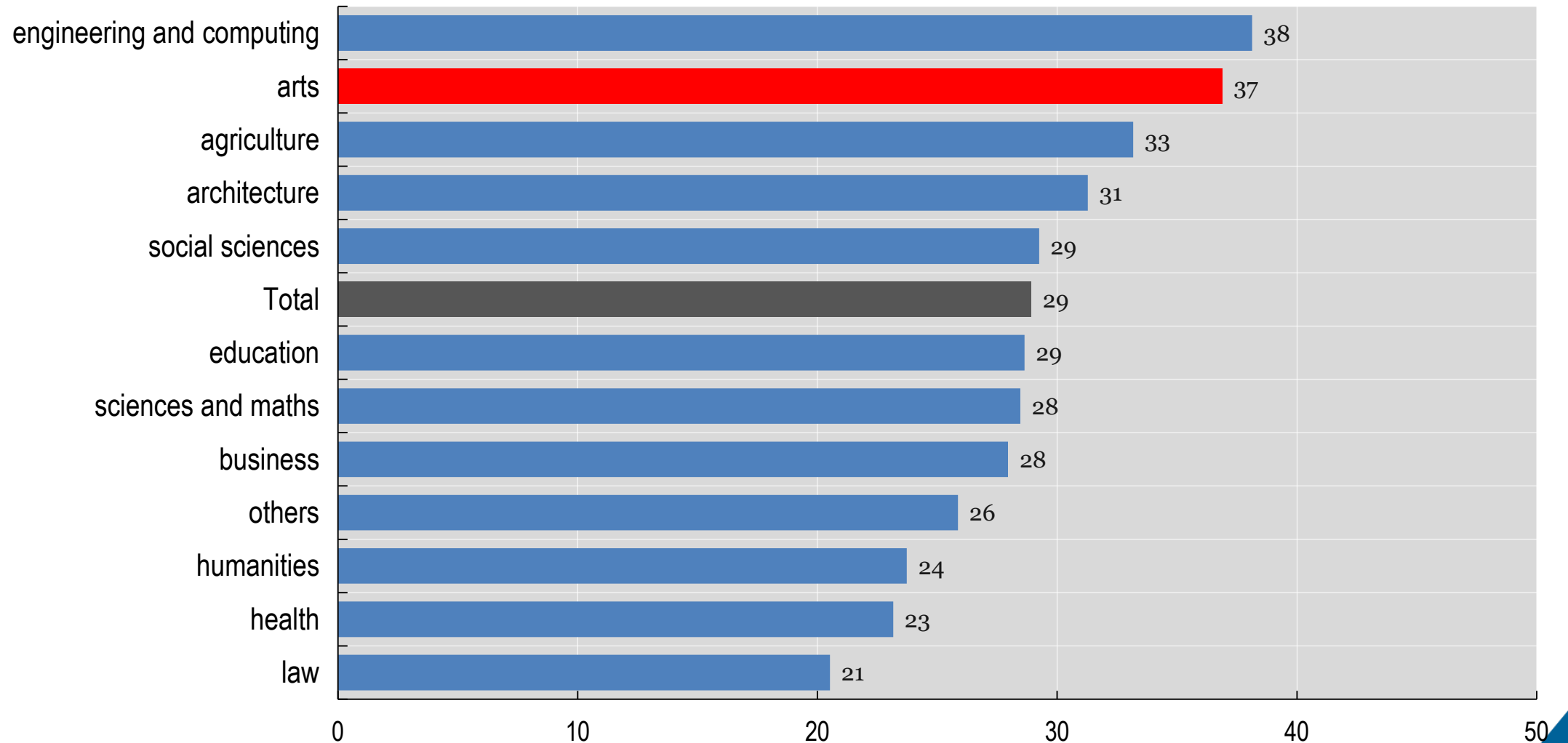


Figure 4.3

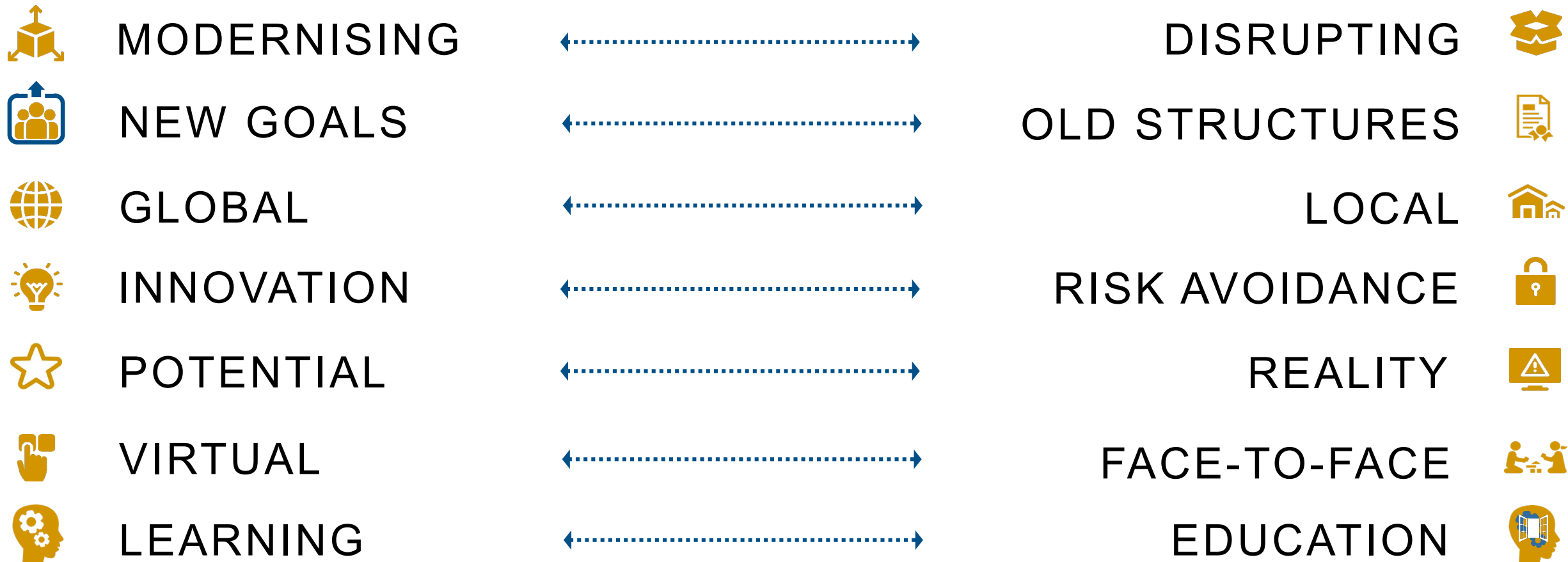
Share of graduates having a highly innovative job (Product /service innovation)



Source: OECD, based on REFLEX and HEGESCO data

Assessing risks, leveraging opportunities

Tensions and paradoxes require smart responses



Thank you

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and remember:

Without data, you are just another person with an opinion