Some Recent and Forthcoming OECD Work - AI, business and diffusion

Alistair Nolan
Directorate for Science, Technology and Innovation

NIC.br 11th Annual Workshop on Survey Methodology

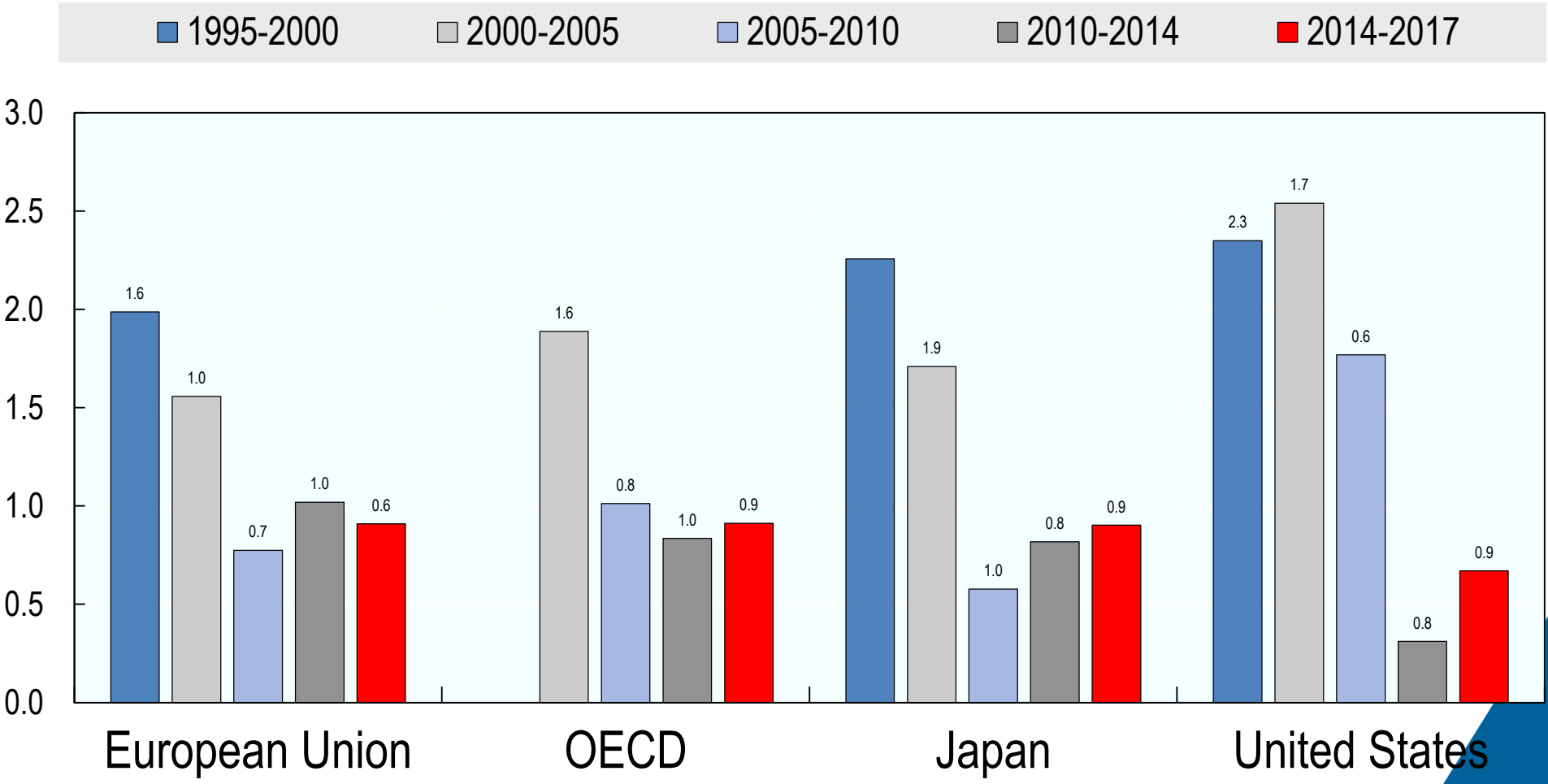
OECD
BETTER POLICIES FOR BETTER LIVES

56 national/supranational AI initiatives (2021) oecd.ai/dashboards

Why does AI in production matter ?

The potential productivity benefits of AI is urgently needed

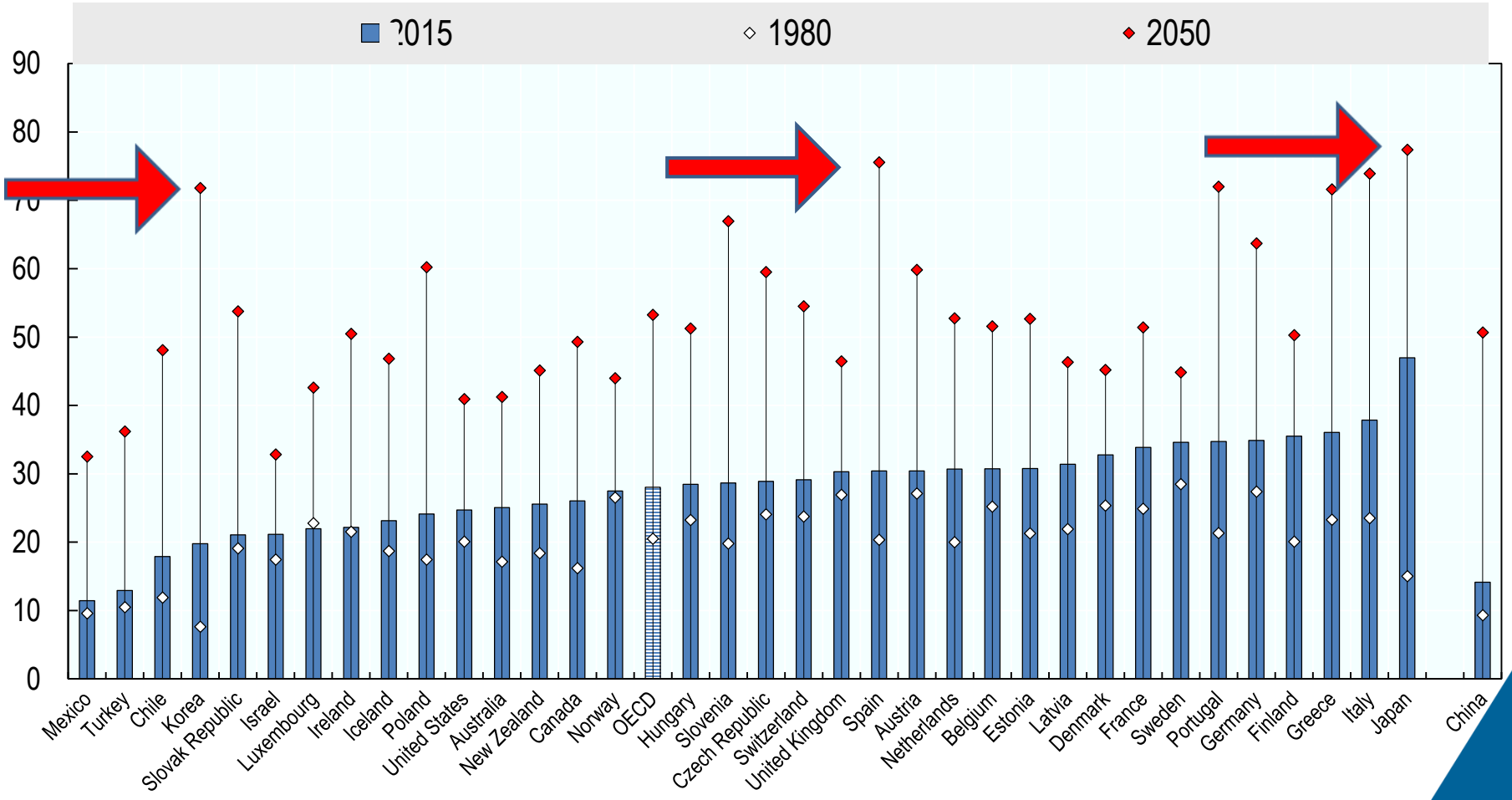
Annualised rate of growth of labour productivity (output per hour worked)



Source: OECD estimations using OECD National Accounts database; OECD Productivity database; International Labour Organisation database. Statlink: *http://dx.doi.org/10.1787/888933367500*

The old-age dependency ratio will almost double in the next 35 years

Number of people older than 65 years per 100 people of working-age (20-64), 1980-2050



Source: United Nations World Population Prospects: The 2015 Revision.

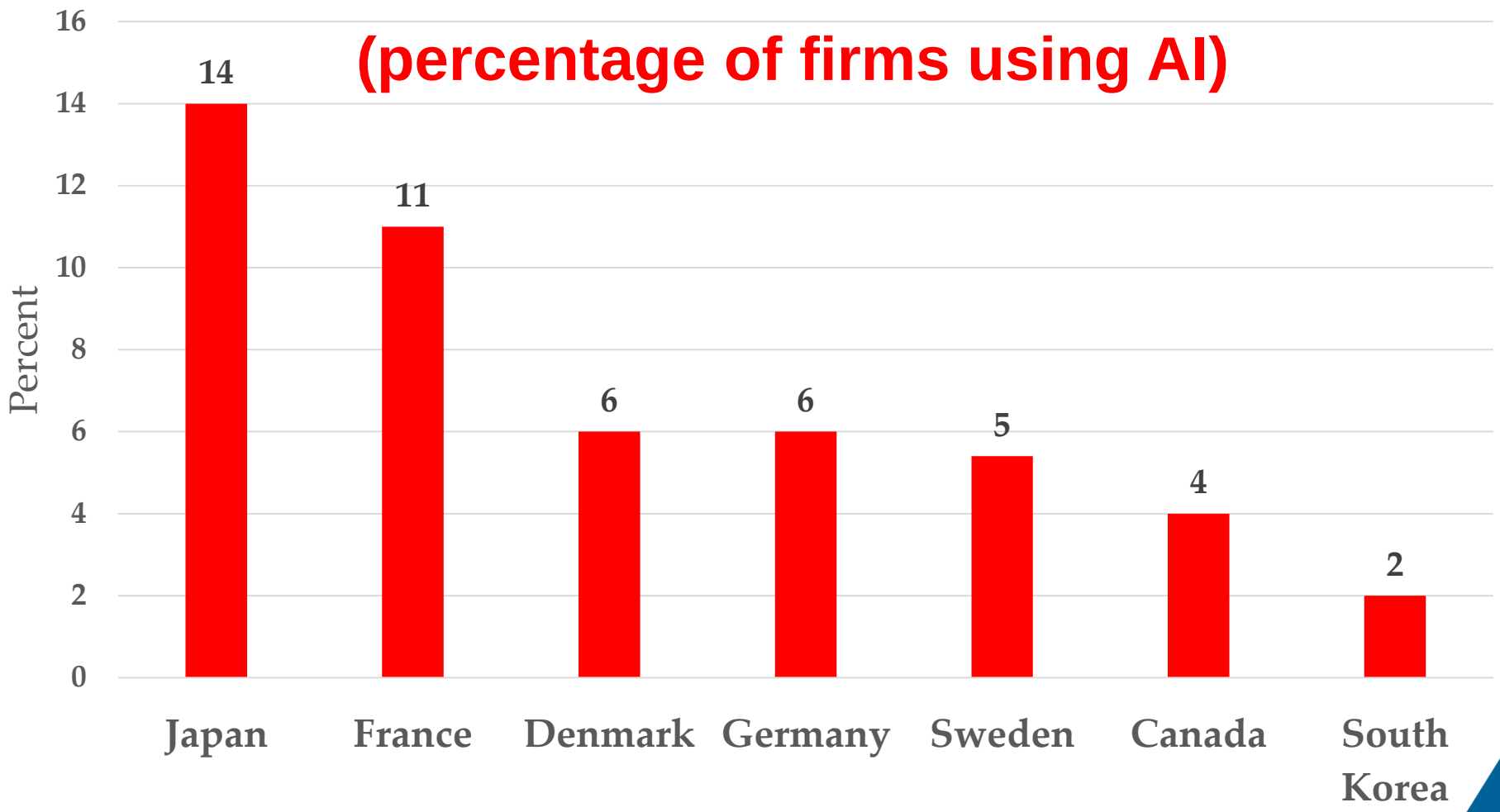
So why is productivity growth stagnant ?

The pace of technology (AI) diffusion

A range of survey types

- **NSOs, other national agencies, embedded in established surveys of ICT use, expenditure, R&D, etc.**
- **Management consultancies – BCG, McKinsey, PwC, etc.**
- **NGOs/academia/foundations**

Large-scale surveys of AI in firms conducted by National Statistics Offices



Source: Statistics Sweden ICT usage in firms 2020, Montagnier and Ek (2021) and Rammer, Czarnitzki, and Fernández (2021)
Note: The figure from Germany is based on the Community innovation survey (CIS) from 2018

AI diffusion

For 60 US manufacturing firms with turnover between $ 500 m and $ 10 bn

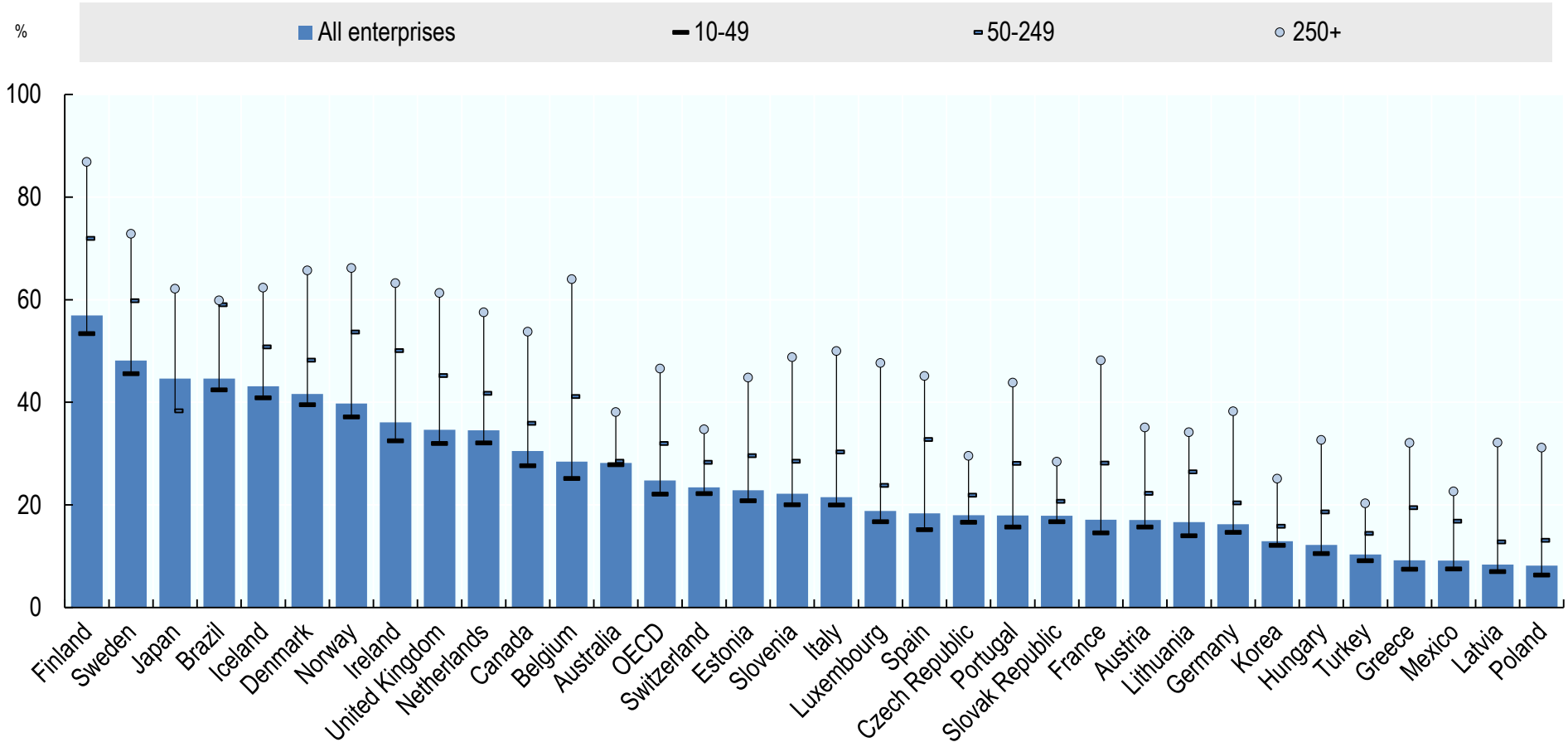
"Just 5% of respondents have mapped out where AI opportunities lie within their company and developing a clear strategy for sourcing the data AI requires, while 56% currently have no plans to do so."

Information Technology and Innovation Foundation, 2019.

Large differences in diffusion of (even mature) digital technologies

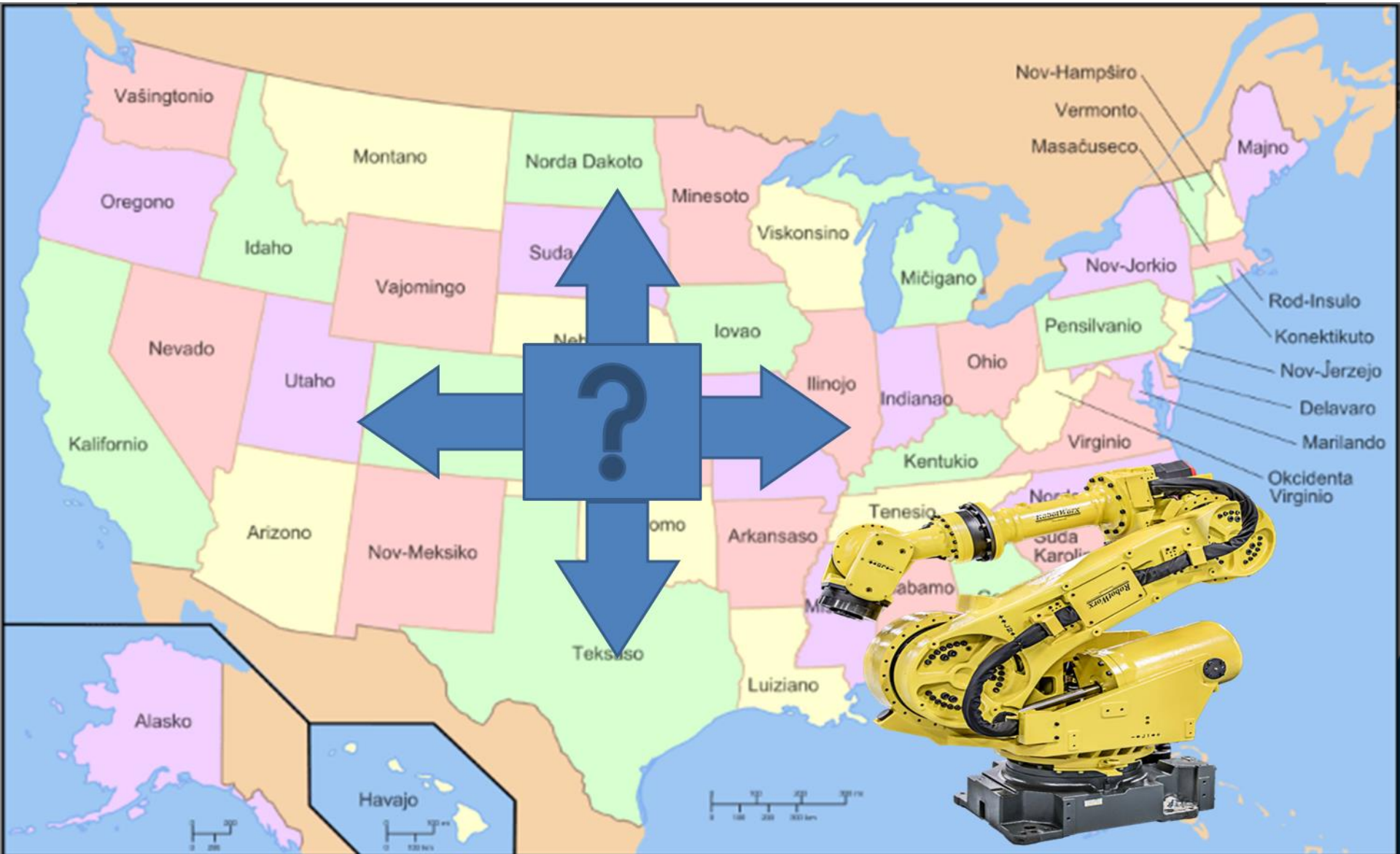
Enterprises using cloud computing services by employment size class, 2016

As a percentage of enterprises in each employment size class



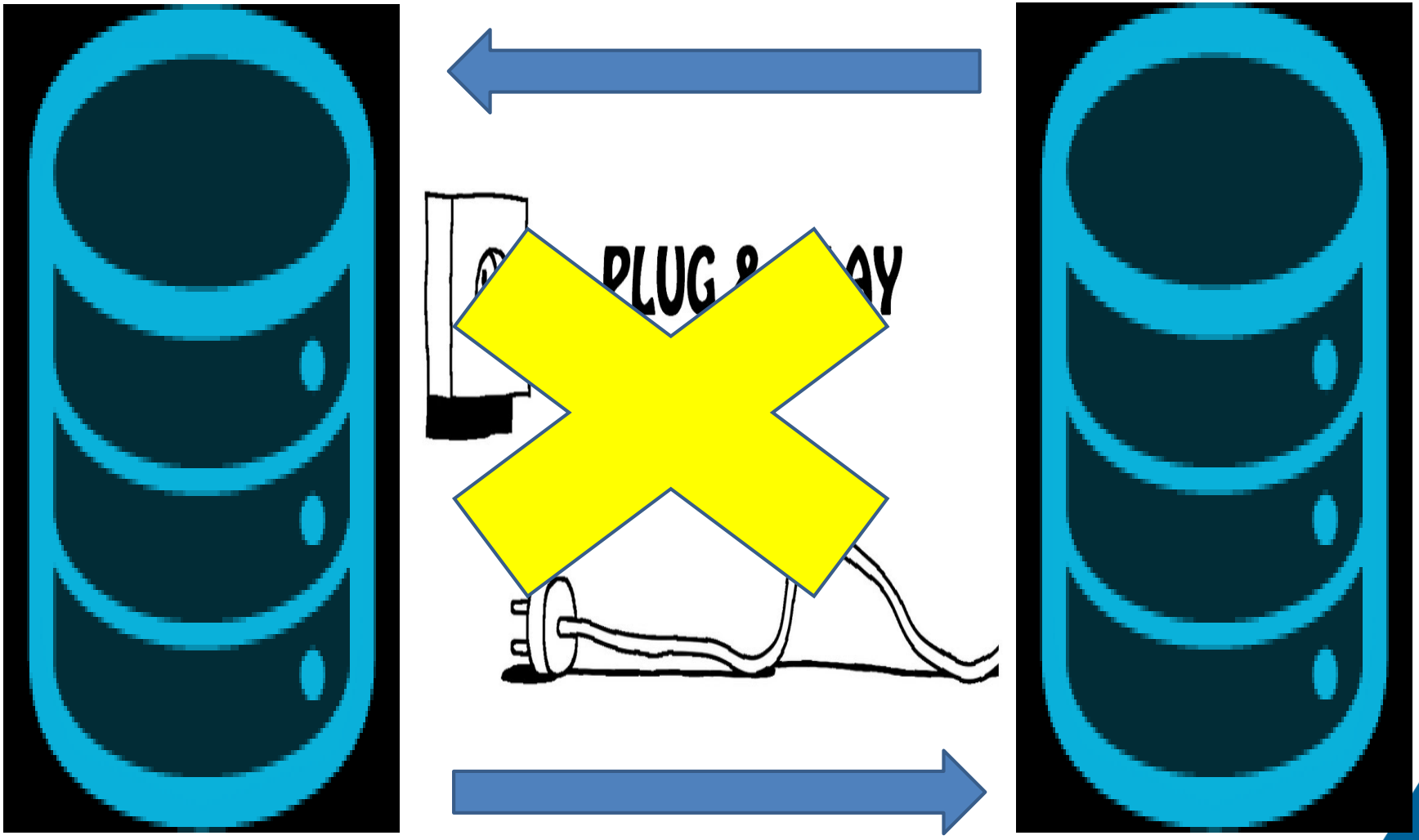
Source: OECD Science, Technology and Industry Scoreboard 2017.

AI and firm location ?



AI in Industry - The Nature of the Challenge

AI diffusion



AI diffusion

ML modeling is like an art, a science, and software engineering at the same time

Industry is different from retail in terms of required system accuracy

And what is the ROI ?

Build an in-house AI team?

SAMSUNG VINCI BOSCH

- How to identify and attract the right and best AI talent?
- How long before they start producing results?
- How to retain specialists ?

Thanks to Benoit Bergeret, Strategies.ai

New Survey Work

OECD, BCG and INSEAD

Objective of the Survey

Generate a variety of new cross-country data and policy analyses on the diffusion and use of AI in firms, doing so in a way that adds to existing survey evidence

Institutions for technology diffusion

Diffusion mechanisms
Dedicated field Services
Technology-oriented business services
Applied technology centres
Targeted R&D centres
Knowledge-exchange and demand-based instruments
Open technology mechanisms

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BioBricks FOUNDATION

Possible survey components….by way of illustration

Firms that use AI have engaged in public tenders related to AI?

Do firms use any public service (for advice, information, finance, capacity building) during AI

Firms have high/no/low awareness of national AI strategies ?

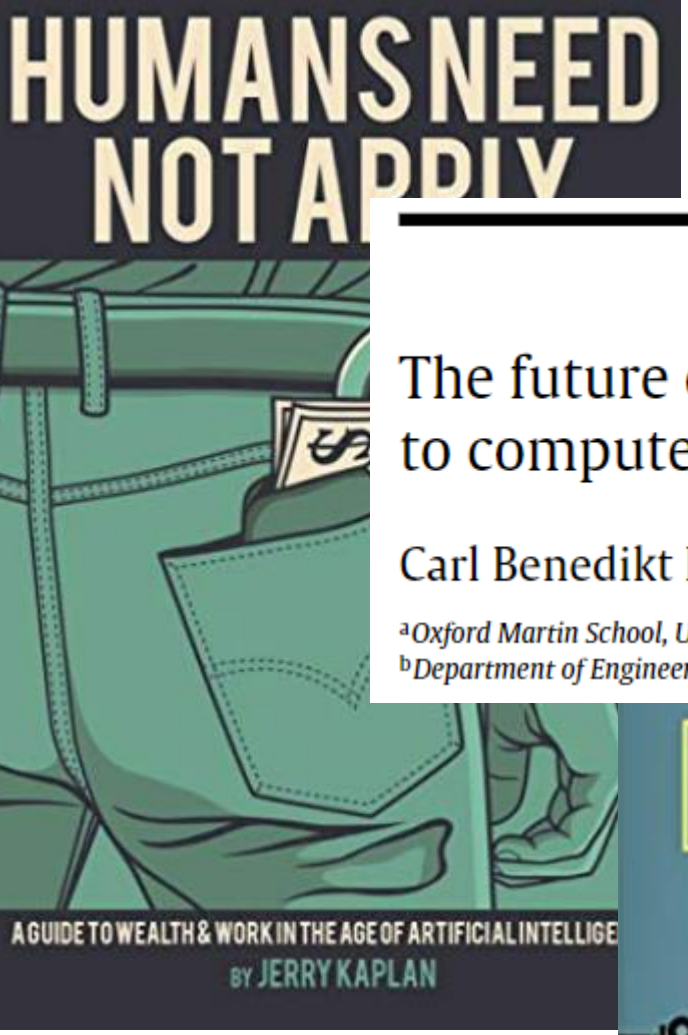
(including use of AI in training)?

Do firms consider that public agencies could assist AI adoption, and are there priority actions?

Recruiting the right staff is problematic – because of qualifications frameworks ?

AI diffusion – Case studies

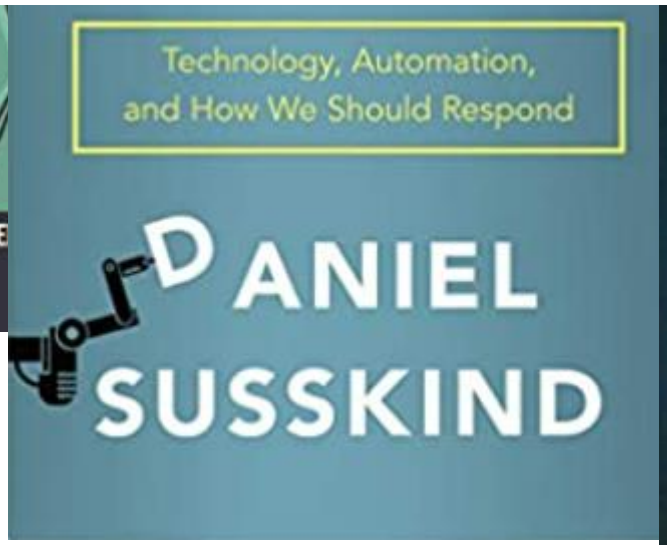
Measuring the Scale of the Challenge – A Novel Approach



The future of employment: How susceptible are jobs to computerisation?☆

Carl Benedikt Frey[a,*], Michael A. Osborne[b]

[a]*Oxford Martin School, University of Oxford, Oxford OX1 1PT, United Kingdom*
[b]*Department of Engineering Science, University of Oxford, Oxford OX1 3PJ, United Kingdom*



OECD and US National Academies Research

Examines how AI could affect jobs and skills by looking at:

- Distribution of human proficiency, relative to AI.
- Practical limits of education systems in raising skills to required levels.

Survey of Adult Skills in brief

215 thousand adults…

Representing 815 millions 16-65 year-olds in 33 countries/economies (Singapore citizens and Singapore permanent residents)

Took an internationally agreed assessment…

in literacy, numeracy and problem solving in technology-rich environments.

The assessment was administered either in computer-based or paper-based versions.

PIAAC Literacy: OECD Adults vs. AI

Proficiency Level	OECD Adults	AI
2 and below	53%	
3	35%	
4-5	11%	

PIAAC Literacy: OECD Adults vs. AI

Proficiency Level	OECD Adults	AI
2 and below	53%	Yes
3	35%	Close
4-5	11%	No

Source: Elliott, 2017, *Computers and the Future of Skill Demand*, OECD

Policy implications ?

- **The OECD average of 11% can be improved:**
  - For example, adults with tertiary education: 21%
  - For example, adults in Japan with tertiary education: 37%
- **But improvements are hard**
  - Decreased 2 percentage points since 1990s
- **No examples of a country getting most adults to Level 4-5**
  - This would all be a major problem if literacy was the only work skill.

Thank you

alistair.nolan@oecd.org

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