International Labour Organization



Impact of digitalization on labour markets and implications for fiscal policies

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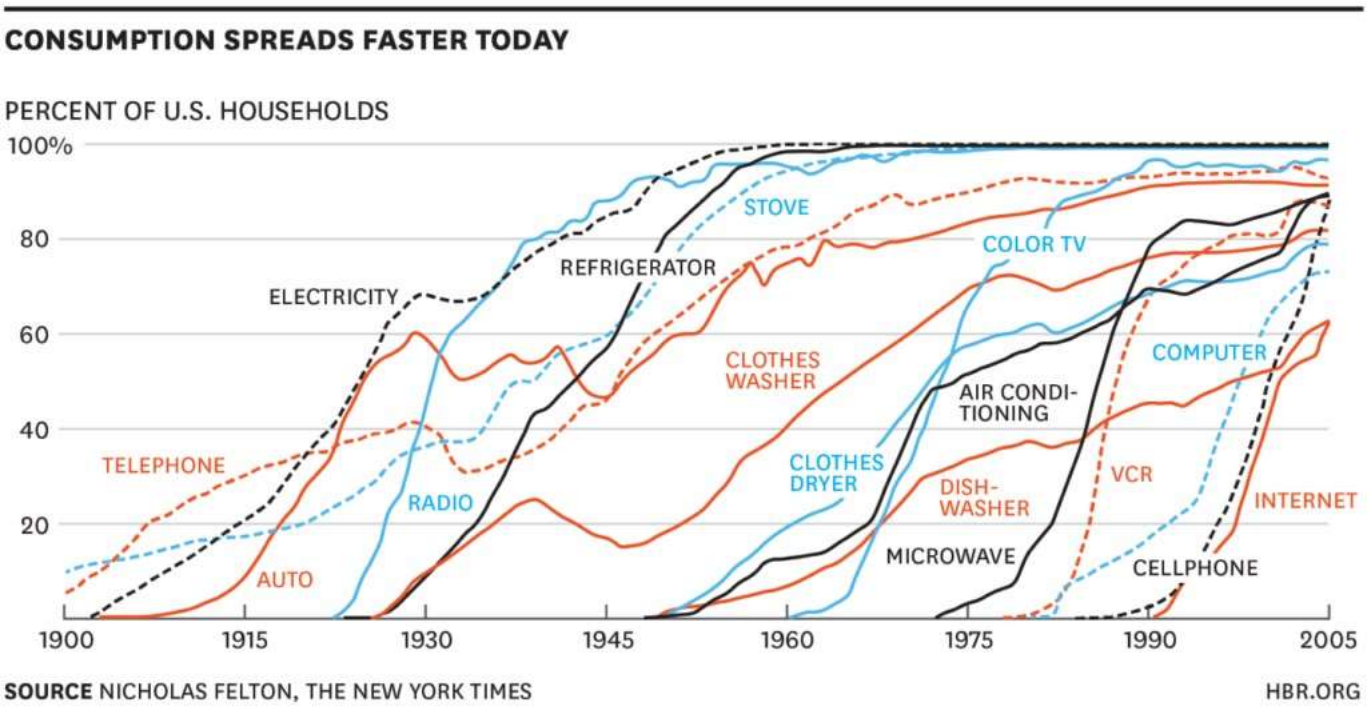
Overview

1. Technological change - Digitalization

2. Labour market impact

3. Implications for fiscal policy

Pace of technological diffusion has accelerated

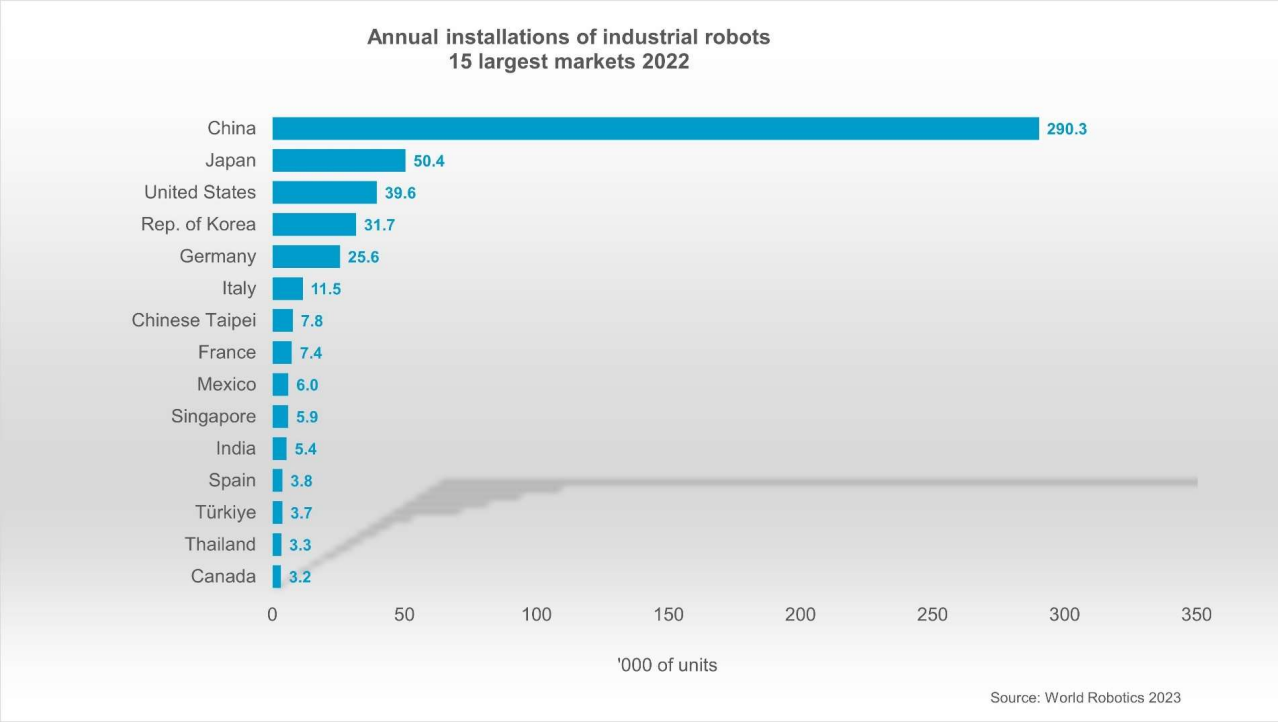


It took around 50 years for US households to be **fully electrified** but around 15 years for more than 90% of households to have a **mobile phone**

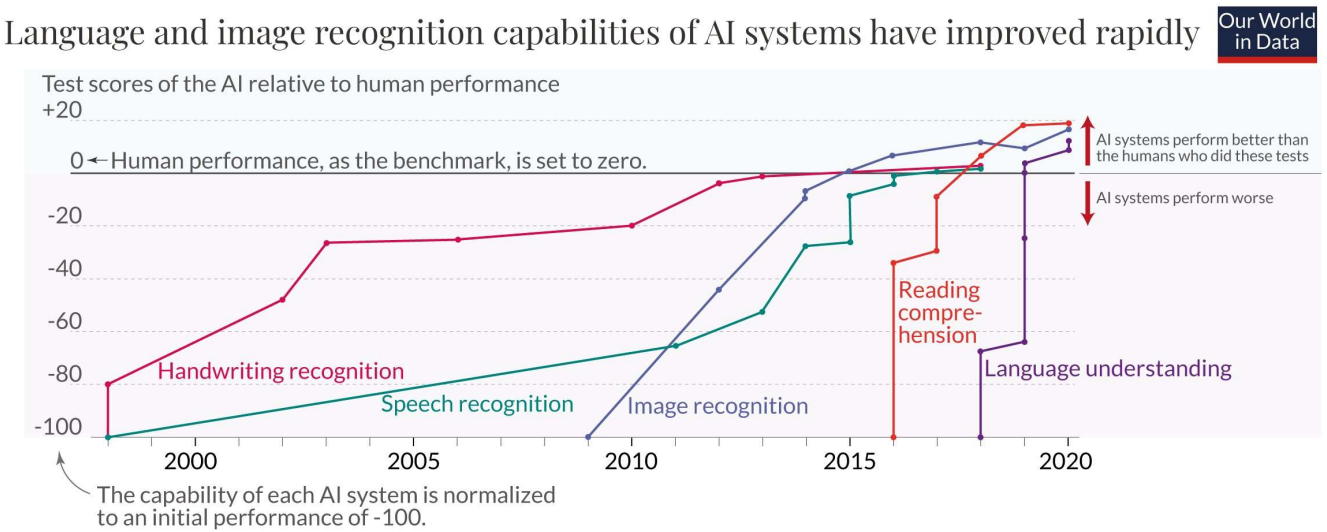
"**Digitalization**" of economic activities has meant that technology is embedded, albeit to varying degrees, **across all sectors of the economy**

Robotics is growing rapidly but only in a few countries, including China, Japan and Korea (IFR, 2023)

Acemoglu and Restrepo (2022) find a strong relationship between an aging work force and robot deployment in 60 countries - Aging explains about 35% of the cross-country variation in robot adoption.



Performance of AI is improving rapidly but diffusion of technologies is not automatic

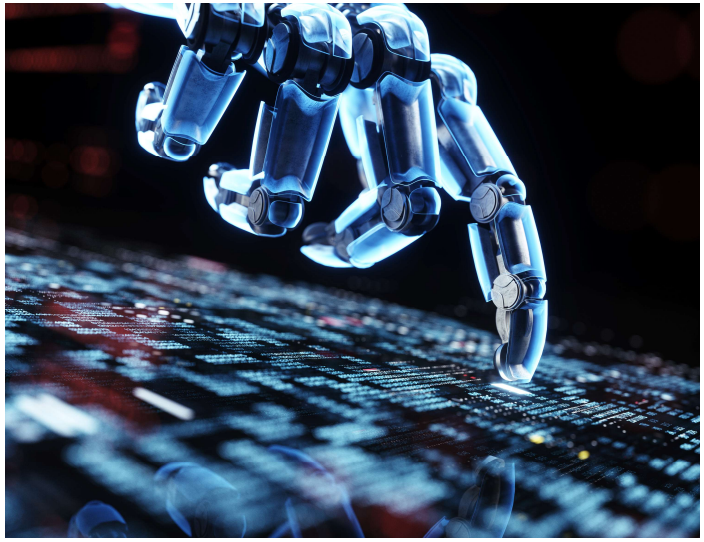


Beyond the hype, it is important to recognize that the **diffusion of new technologies, including AI,** depends on many factors and it **doesn't happen automatically** within and between countries!

Impact on the labour market – historical evidence and likely trends

Technological change has impacted labour markets for centuries

- Net impact of technology = **substitution (displacement)** and **productivity** effects
- Evidence indicates **aggregate effect on employment has been, on average, positive**
- But there have been **different effects across occupations due to the nature of tasks being done** – see the literature on **polarization of jobs** in the US and Europe (Autor, etc.)

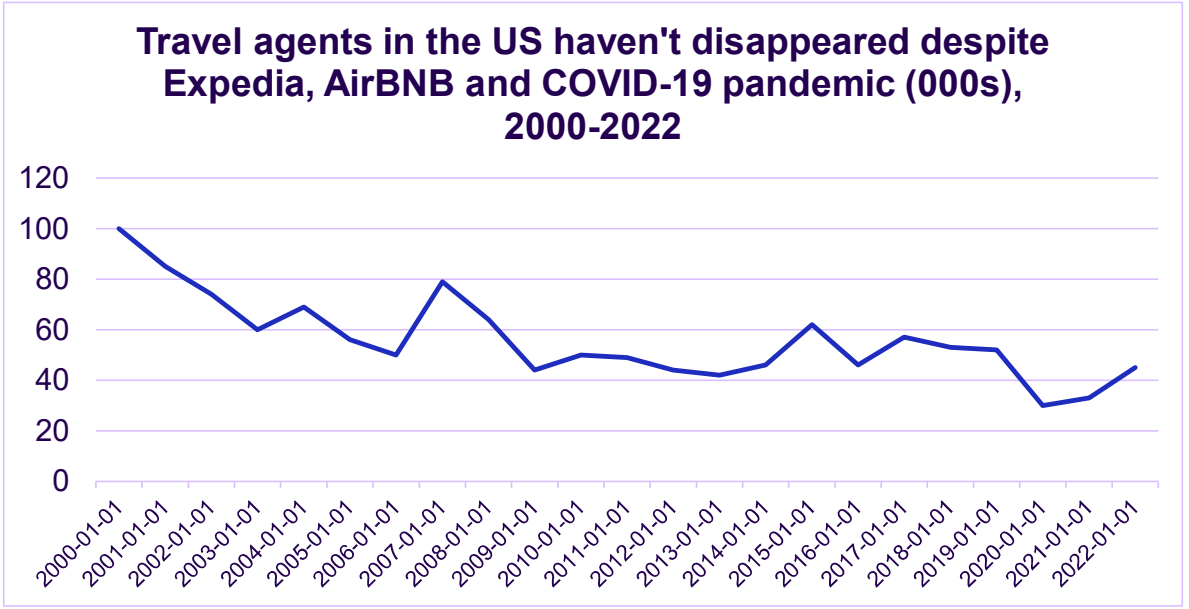


Impact on the labour market – historical evidence and likely trends

Vast majority of jobs have not been fully automated since **certain tasks get automated** while others not or adapt to changes (complementarities) (Bank tellers in Bessen (2015), etc.)

Occupations don't just disappear in the short-run – there are still telephone operators according to the BLS data for the US!

But **wages, inequality, hours worked, working conditions** and other dimensions can also be affected



Complex implications for quality of employment – platform economy

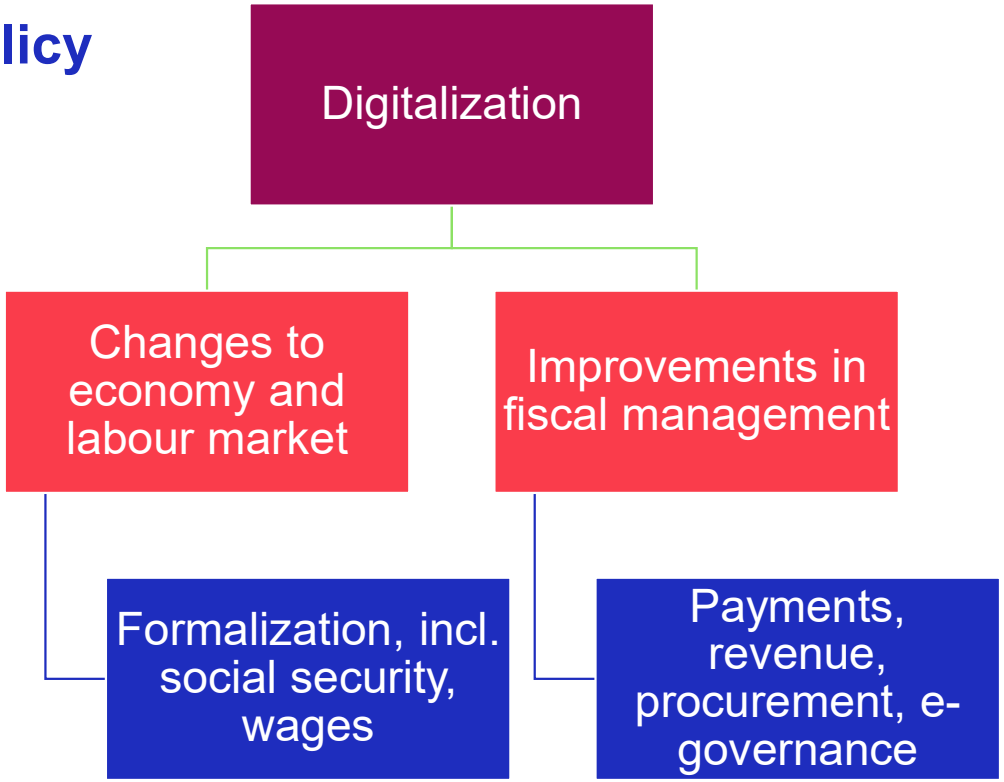
Digital labour platforms have increased five-fold worldwide in the last decade - ILO *World Employment and Social Outlook* 2021 report.

- **Opportunities:** Flexible work schedules, freedom to choose tasks, and the choice to work anytime anywhere make platforms popular. Workers also join platforms to earn additional income or due to the lack of other employment opportunities.

- **Challenges**: Low earnings and income volatility, unfair termination of workers' accounts, limited access to work and social protection, etc.



Implications for fiscal policy



Implications for fiscal policy

Changes in production and forms of employment have implications for **taxation and social protection**

- Effects on **social security and taxation status –** going from worker to self-employed (e.g., on digital labour platforms)
- **Sectoral/occupational changes** may have implications for tax revenue (digital platforms versus international trade in digital services outside jurisdiction)

Interactions with demographics – **ageing and declining labour force** increases incentives to automate – multiple implications for fiscal policy

Digitalization is leading to changes in **management of fiscal policy which can improve efficiency and transparency** through the use of technology to improve

- **Government payments** to individuals/businesses
- **Collection of taxes and nontax** (user charge) revenue
- **Public procurement**
- **Tax intelligence and enforcement**
- **E-governance and e-formalization** – see cases of China, India, etc.

This can lead to **savings and increased government revenue**

Comments on Chapter 2

The chapter covers technology and digitalization, and its link to fiscal policy, covering two angles – its impact on the labour market and fiscal policy management.

Impact:

- Empirical evidence should be referred to in terms of previous waves of technological change and its likely implications for digitalization and labour market outcomes
- Further emphasis is needed on the longer-term effects of automation on the labour market – it does not happen automatically or at the same speed
- There is considerable regional and sectoral variation in automation, which needs to be recognized
- Including coverage of digital labour platforms is essential

Comments on Chapter 2

Digitalization and fiscal policy management – it is important to highlight a range of dimensions:

- Government payments to individuals/businesses
- Collection of taxes and nontax (user charge) revenue
- Public procurement
- Tax intelligence and enforcement
- E-governance and e-formalization – see cases of China, India, etc. – see the work of the ILO on the latter

Thank you!

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