



# OPPORTUNITIES AND CHALLENGES FOR TRADE IN THE DIGITAL ERA

Javier Lopez-Gonzalez  
Trade and Agriculture Directorate, OECD

Seminario UIA  
Digitalizzazione e contratti de commercio internazionale  
31 March 2023

## Digital trade is different

- Reductions in the cost of sharing information are leading to unprecedented changes in *what* and *how* we trade (although not why we trade).
- This means:
  - More traditional trade (lower trade costs).
  - More digitally ordered parcels crossing borders → helping SMEs and individuals be more directly connected to importing and exporting activities.
  - More digitally delivered trade → including new services (e.g. intermediation or cloud computing services) and smaller value services (Apps) often delivered through new tech (platforms).
  - More bundled or 'smart' products → combining the characteristics of goods and services and constantly connected (smart speakers, IoT).
- This implies that more and more data is supporting international trade and crossing international borders, raising a range of new issues (will come back to this).

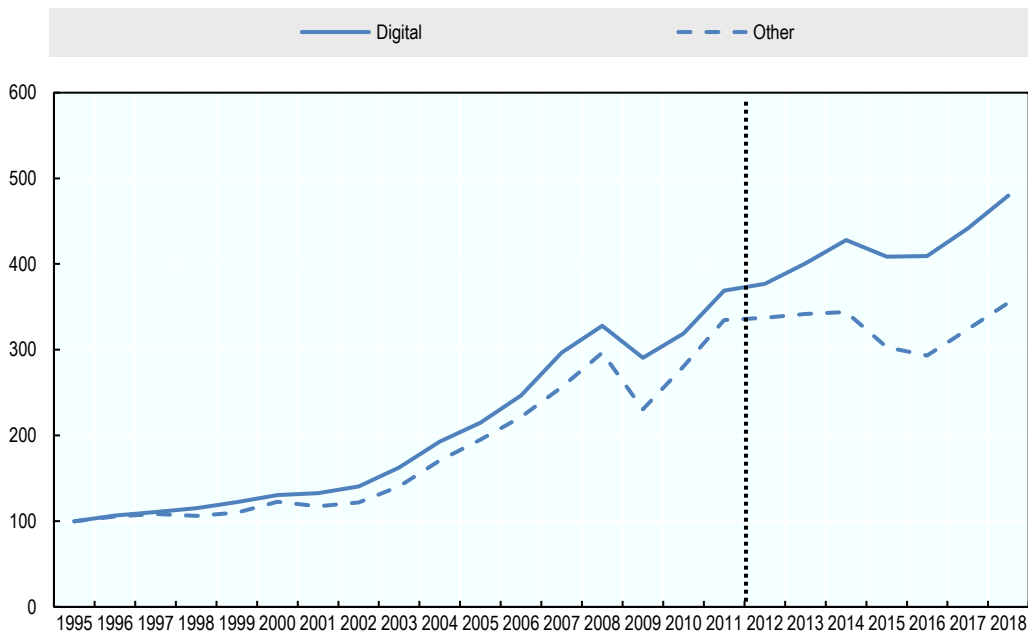


# WHAT DO WE LEARN FROM EXISTING DATA ON THE NATURE AND EVOLUTION OF DIGITAL TRADE?

## » Measuring digital trade is difficult

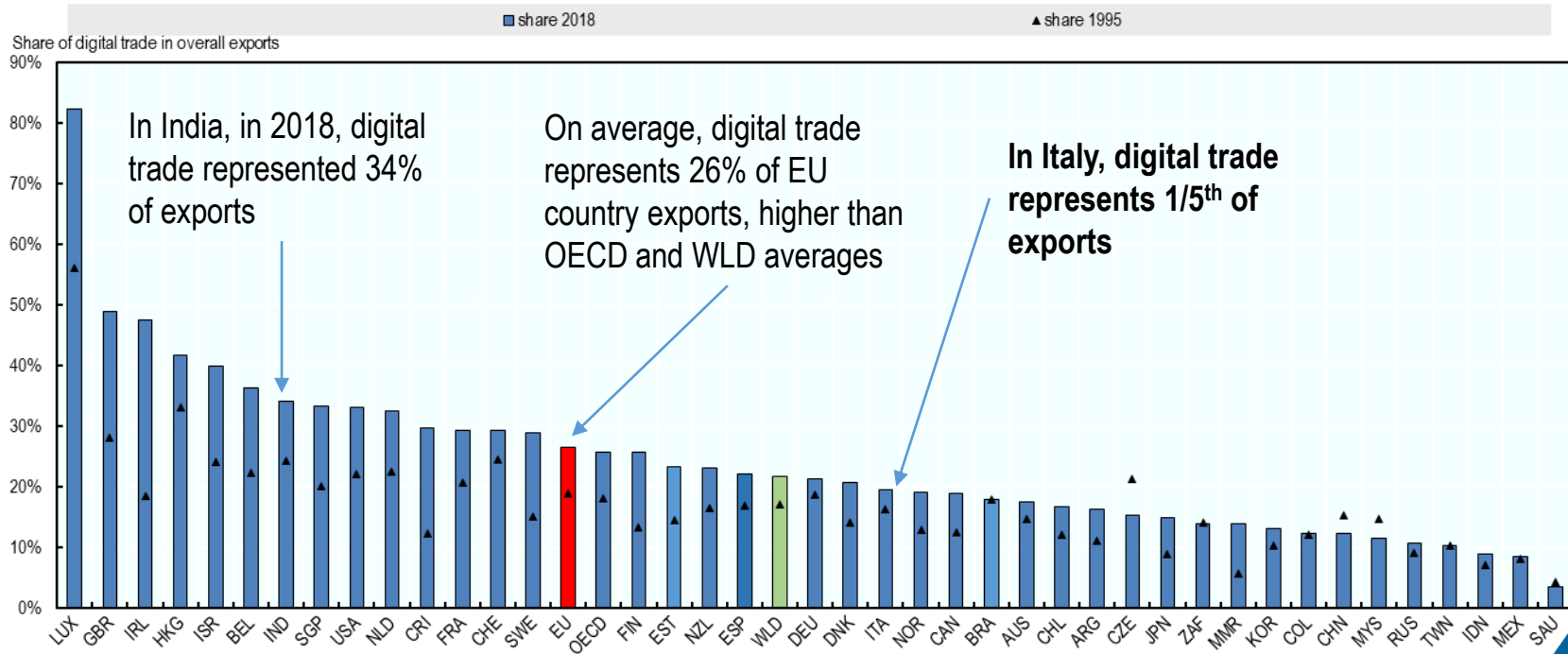
- Digital trade is defined as: digitally ordered or delivered trade.
- Measurement challenge not about underestimation (although de minimis trade is likely less well covered). It is **about visibility** (what trade has actually been digitally ordered or digitally delivered).
- In the absence of official statistics, proxy variables can be useful:
  - **Digitally delivered trade** → ICT services (ISIC 61, 62, 63) and digitally delivered services (ISIC 58 to 60, 64 to 66 and 69 to 82)
  - **Digitally ordered trade** (more difficult) → digital inputs into non-digital sectors (domestic value added – to minimize issues of double counting)

## Digital trade is growing faster than 'non-digital' trade

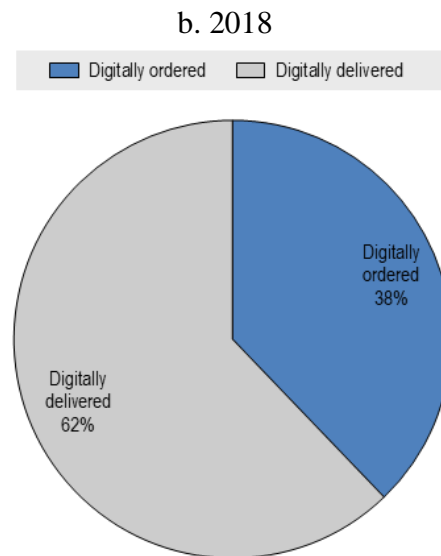
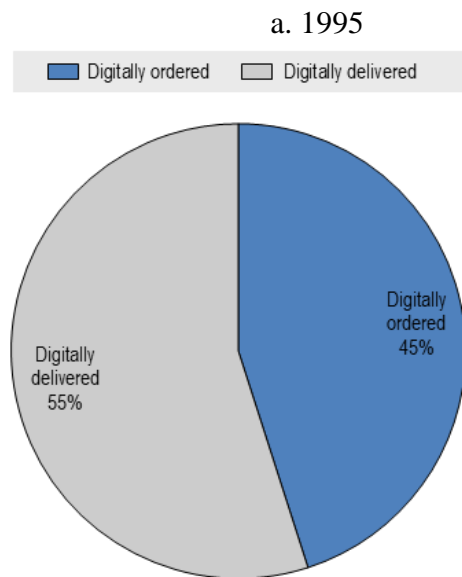


Digital trade could represent USD 4.75 trillion in 2018, 22% of total trade (up from 17% in 1995).

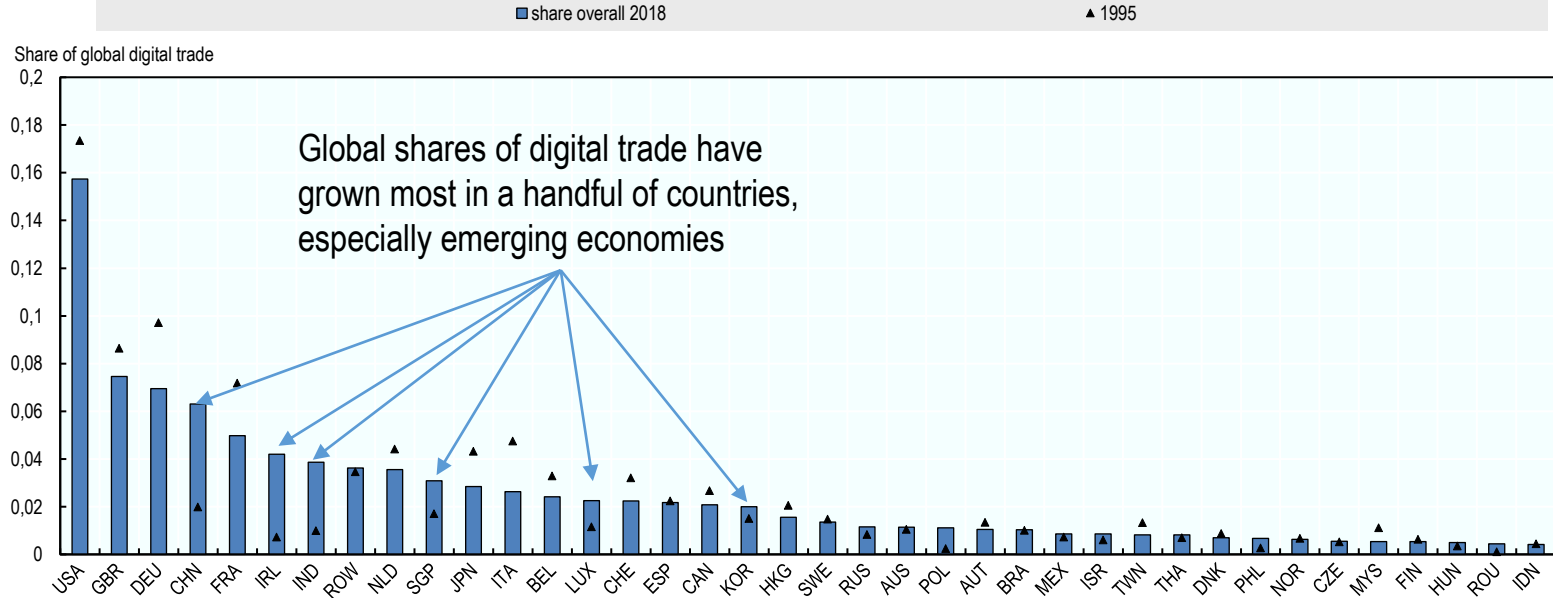
## Digital trade represents a growing share of country exports – 20% of Italy's exports are digital



# Digitally delivered trade is increasingly important

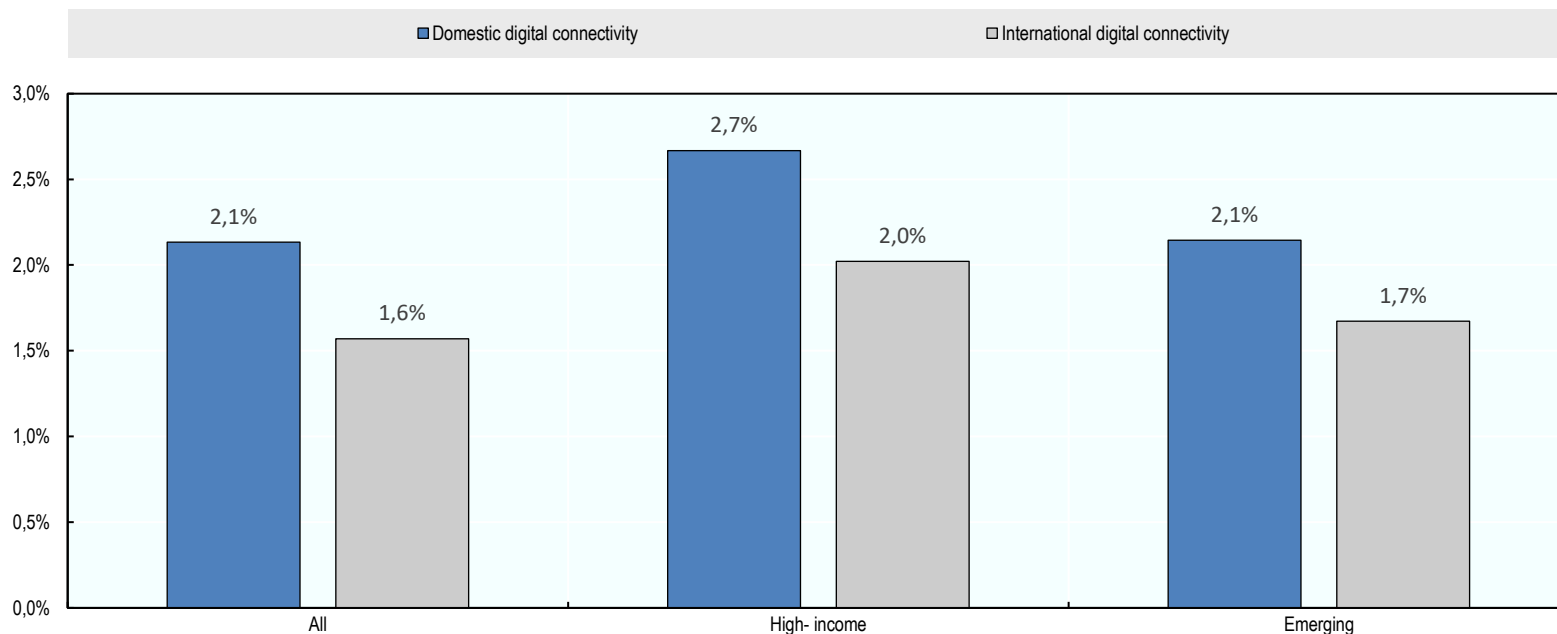


# The geography of digital trade is changing



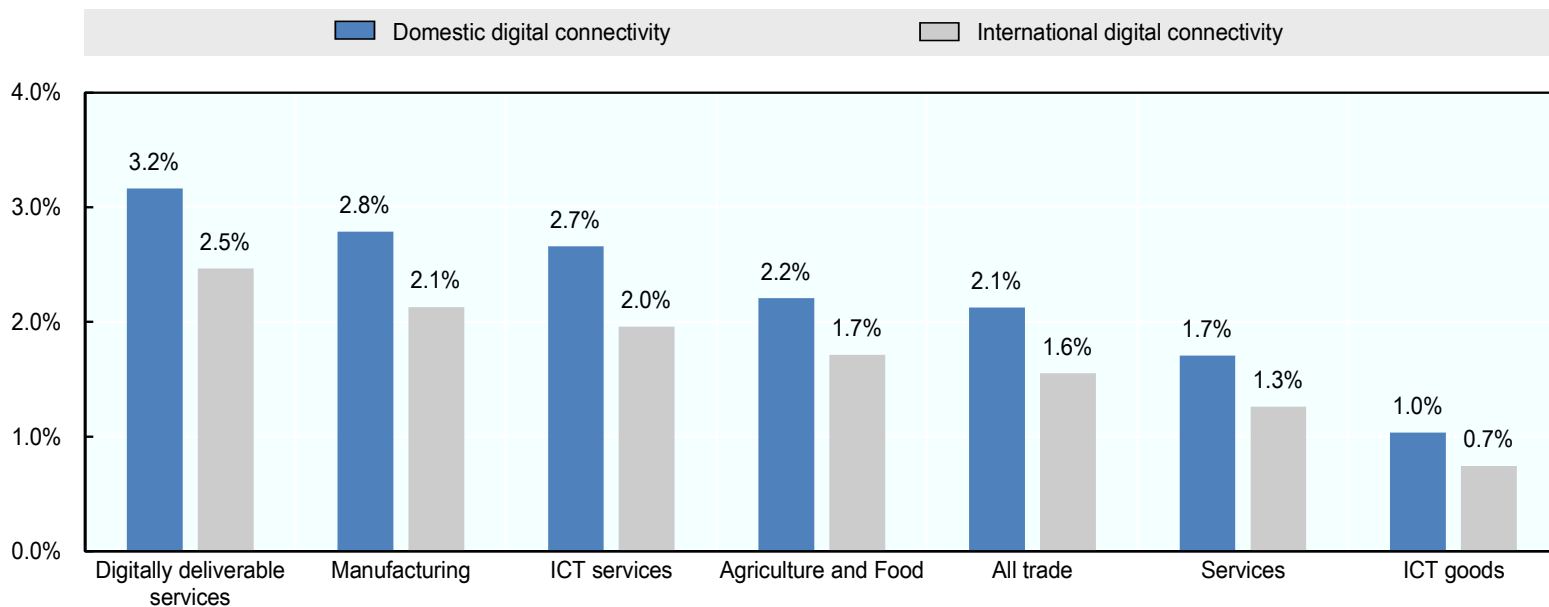


# Digitalisation delivers a double dividend for countries at all levels of development



Note: Results show impact of increasing bilateral digital connectivity (calculated as the minimum of the shares of the population with access to the internet between two countries) by 1%. Estimates from a gravity model for the period 1995-2018 using the USITC ITPDE database and using PPML and reporter-sector-year and partner sector-year fixed effects.

## ... and across all sectors of the economy



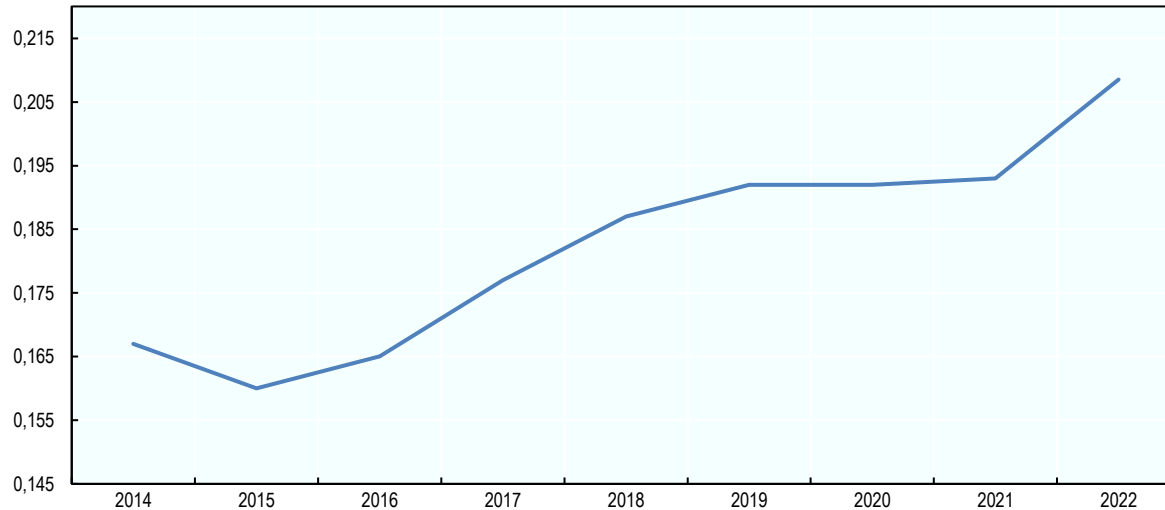
Note: Results show impact of increasing bilateral digital connectivity (calculated as the minimum of the shares of the population with access to the internet between two countries) by 1%. Estimates from a gravity model for the period 1995-2018 using the OECD TiVA database and using PPML and reporter-sector-year and partner sector-year fixed effects.



# **CHALLENGES FOR TRADE IN THE DIGITAL ERA: GROWING REGULATORY FRAGMENTATION**

## Barriers to digital trade are growing

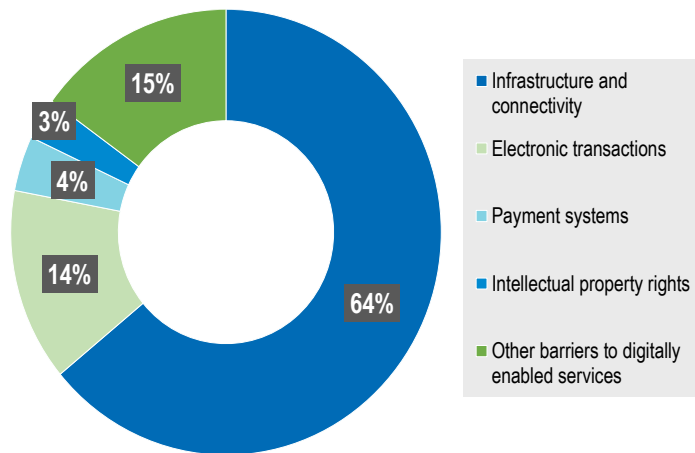
- **Digital Services Trade Restrictiveness Index (DSTRI)** tracks cross-cutting barriers that affect trade in digitally enabled services since 2014



Source: OECD Digital STRI (2023)

# » These are mainly in the area of infrastructure and connectivity (incl. data flows)

Contribution of different policy areas to overall DSTRI (2021)



Source: OECD Digital STRI (2021)

## 1. Infrastructure and connectivity

Interconnection is regulated

Vertical separation is required

Memo: Non-discriminatory Internet traffic management

Restrictions on the use of communication services

Cross-border data flows

## 2. Electronic transactions

Discriminatory conditions for e-commerce licenses

Online tax registration and declaration

National contract rule deviate from international rules

Laws or regulations explicitly protect confidential information

Legal validity of e-signatures

Dispute settlement mechanism

## 3. Payment systems

Discriminatory access to payment settlement methods

National payment security standards deviate from international standards

Restrictions on internet banking or insurance

## 4. Intellectual property rights

Foreign firms are discriminated against on trademark protection

Discriminatory treatment on copyrights and related rights

Memo: Exceptions to copyright protection

Enforcement of intellectual property rights

## 5. Other barriers affecting trade in digitally enabled services

Performance requirements

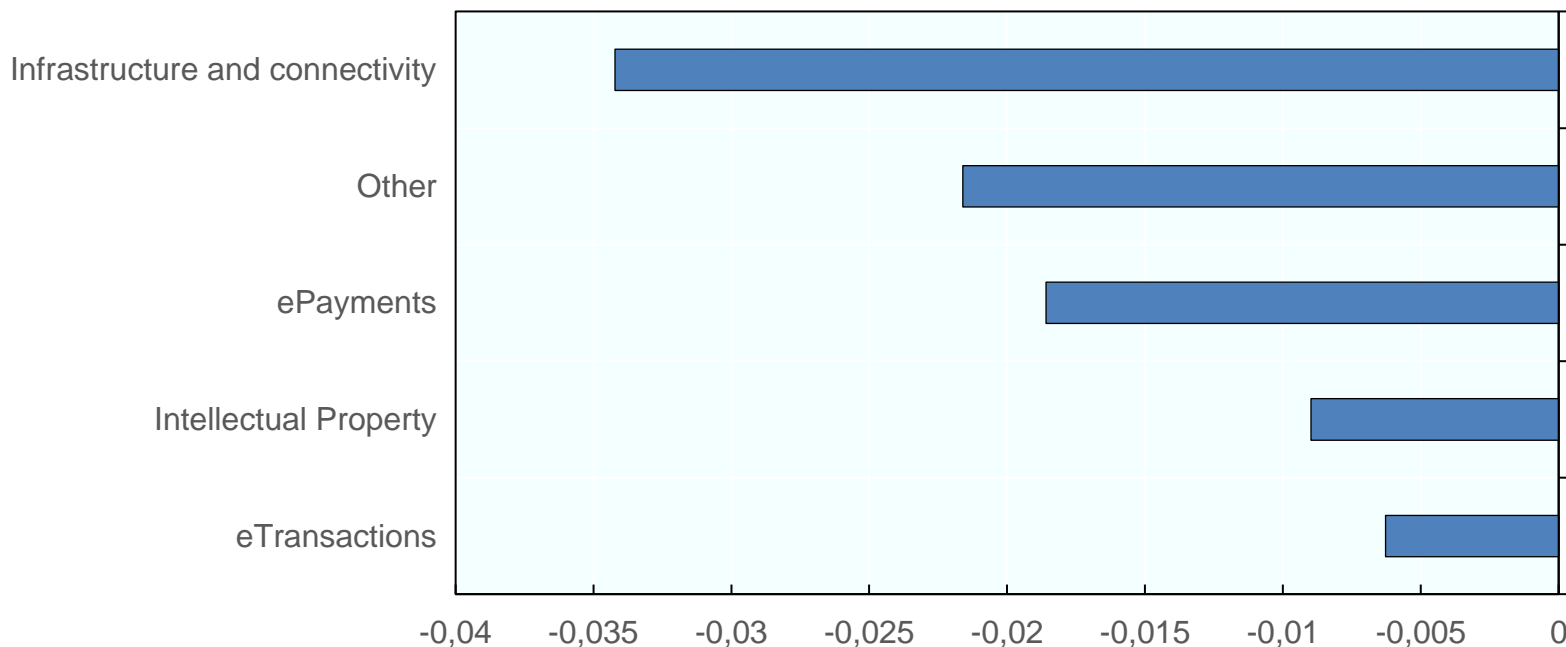
Limitations on downloading and streaming

Restrictions on online advertising

Commercial or local presence requirements

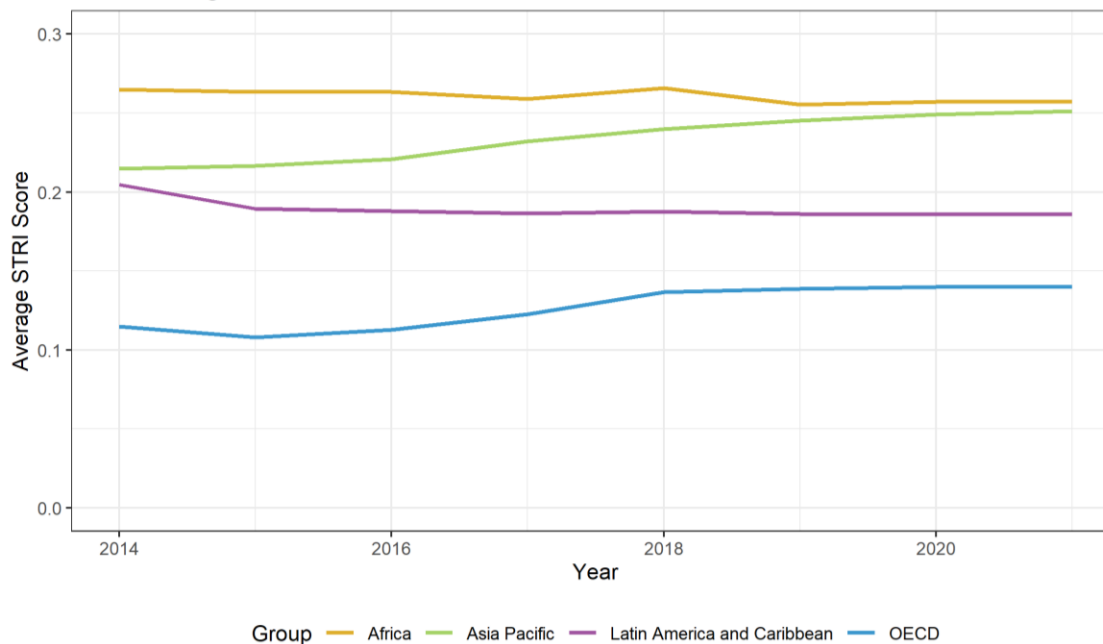
Firms have redress when business practices restrict competition in a given market

## Unsurprisingly, infrastructure and connectivity matters most for trade impact



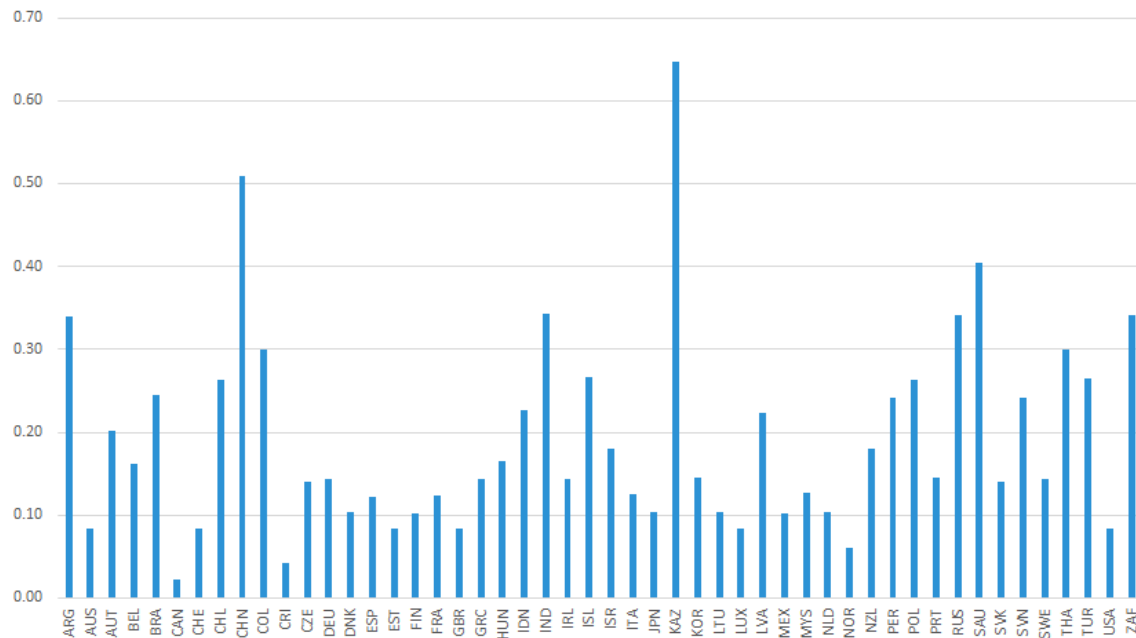
Source: Lopez-Gonzalez et al (ongoing) of bytes and trade

## There are wide differences across regions



Source: OECD Digital STRI (2021)

# Digital trade is global but regulations are not → Fragmentation is growing



Source: OECD Digital STRI (2022)



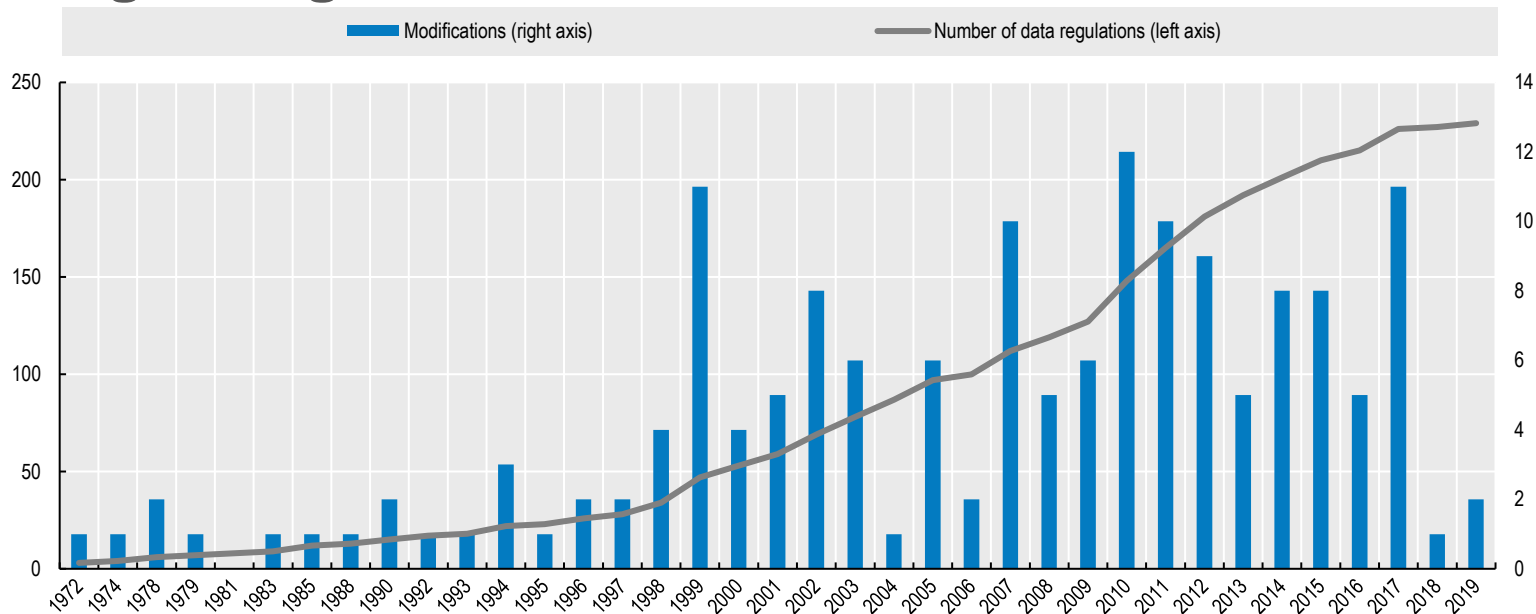


# CHALLENGES FOR TRADE IN THE DIGITAL ERA: CROSS-BORDER DATA FLOWS

## Data flows underpin modern day economic and social interactions

- Today's digitised and globally interconnected world is underpinned by the movement of data across borders.
- They
  - Enable the **coordination of production along Global Value Chains**;
  - allow firms, including smaller ones, to **access global markets**; and
  - Change **how goods and services are produced** and delivered.
- This means that today, it is increasingly difficult for an international trade transactions to take place without a cross-border data transfer for some sort.

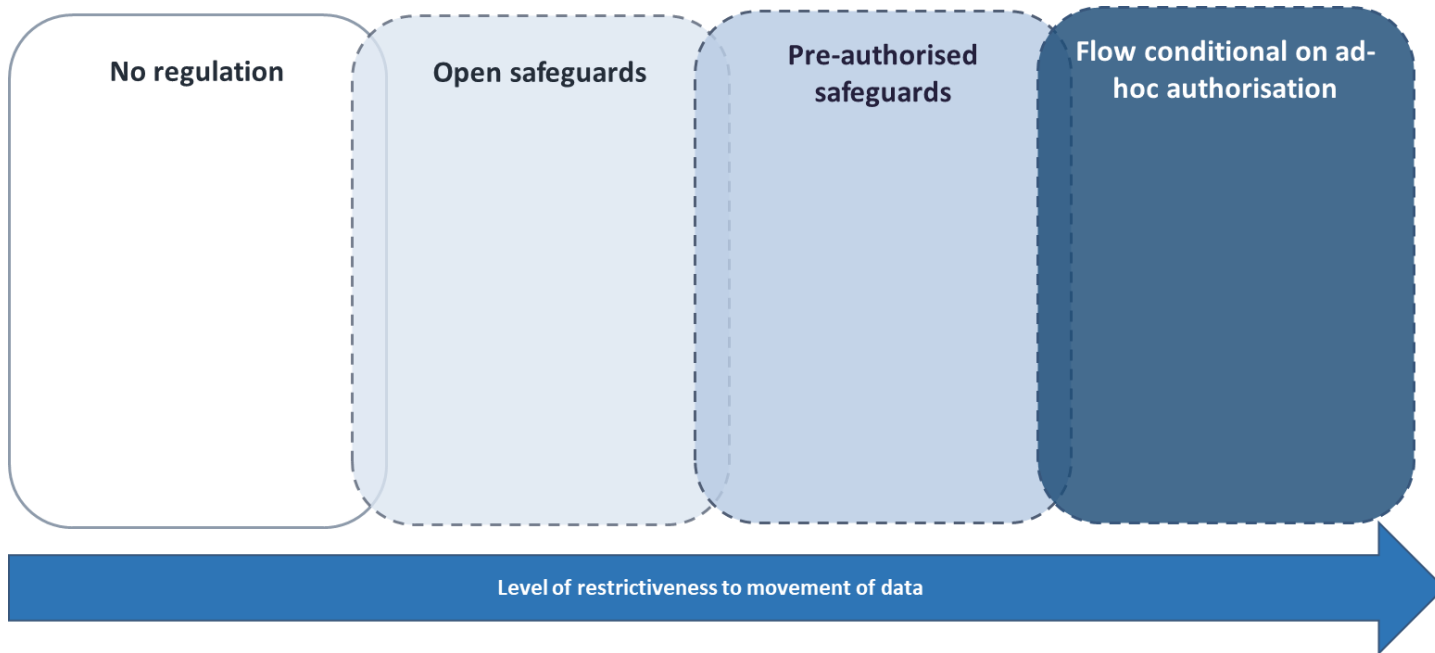
# However, measures that condition the movement of data or which mandate that data be stored domestically are growing



## » Why regulate data?

- Data regulation can apply to **different types of data** or sectors, reflecting **a number of objectives**:
  - Much of the debate involves movement of *personal data* raising concerns about **privacy**.
  - Some aimed at meeting **regulatory objectives** (access for audit purposes) and involve sector-specific data.
  - Others relate to **national security**, protection of information deemed *sensitive*.
  - Others still aim to develop domestic capacity in digitally intensive sectors, a kind of **digital industrial policy**.

## Conditions on data flows vary widely

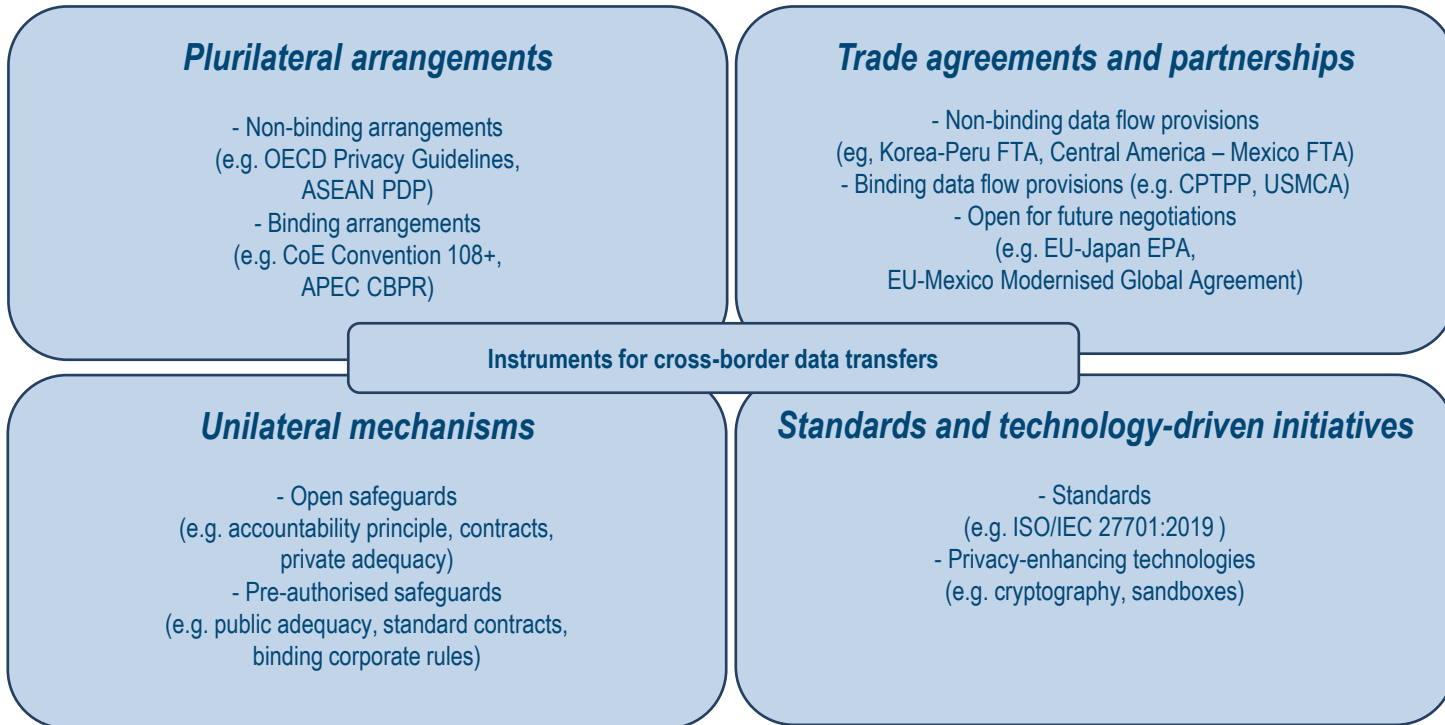




## The emerging patchwork of regulation is creating challenges

- Although there are legitimate reasons for diversity in regulation, the landscape that underpins cross-border data flows is becoming increasingly complex.
  - For **governments and individuals** there is growing uncertainties related to the applicable rules in any given situation.
  - For **firms** challenges relate to their ability to internationalise (more difficult and costly to operate across different markets, affecting SMEs more), AND more difficult to know what level of data protection to afford to consumers in different markets.
- Governments have turned to a range of ‘instruments’ to enable the movement of data across borders while ensuring that, upon crossing a border, data is granted the desired degree of protection or oversight.  
→ DATA FREE FLOWS WITH TRUST

## » How are governments approaching DFFT?



## » What do we learn from this analysis?

- There is **no one, single mechanism** to enable the free flow of data with “trust”. Governments pursue different, or even multiple and complementary, approaches.
- **Commonalities** are found between and within instruments:
  - The dual goals of safeguarding data and enabling its flow across borders is common across all instruments.
- There is growing evidence of **convergence**:
  - Trade agreements increasingly combine data flow provisions with requirements for privacy
  - The principles that underpin domestic privacy and personal data protection have a high degree of overlap
- There is a high degree of **complementarity** between instruments:
  - Unilateral mechanisms draw from, and contribute to, plurilateral arrangements
  - Trade agreements increasingly reference plurilateral arrangements.





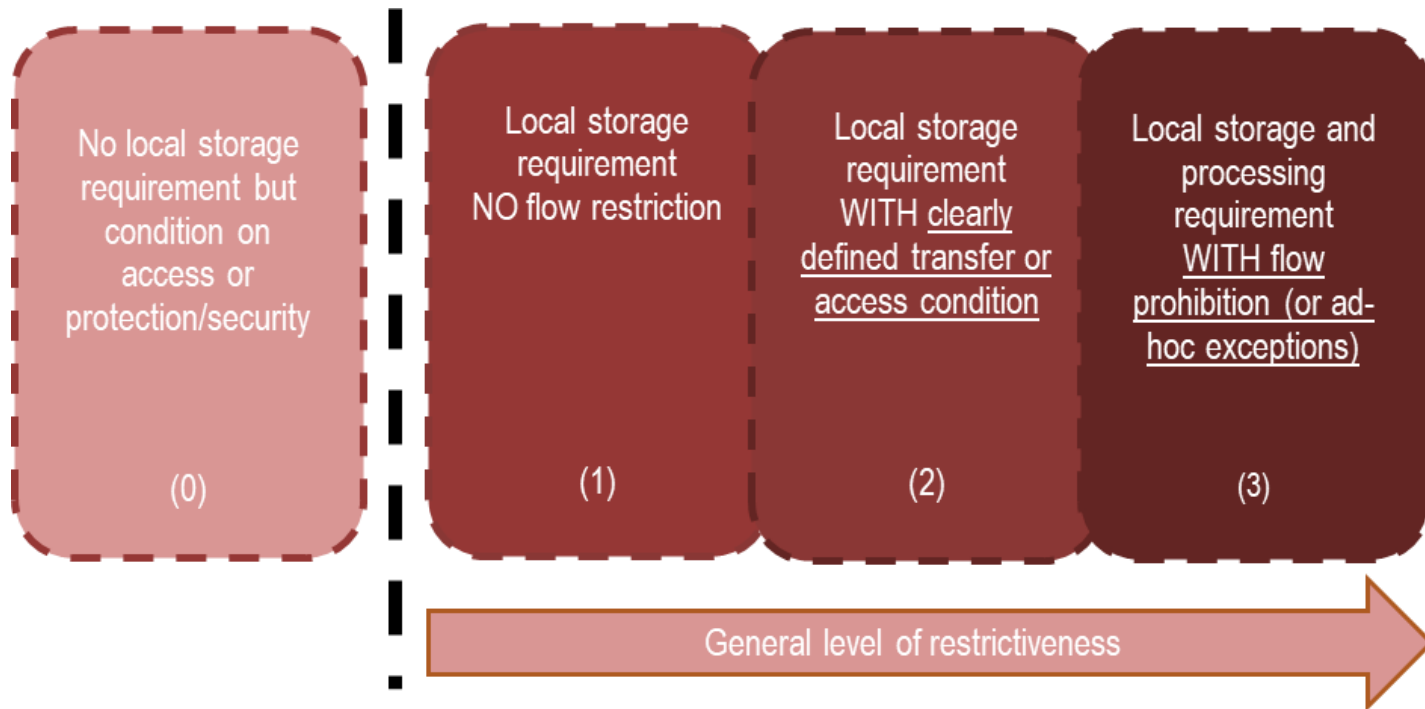
# CHALLENGES FOR TRADE IN THE DIGITAL ERA: DATA LOCALISATION

## What is data localisation?

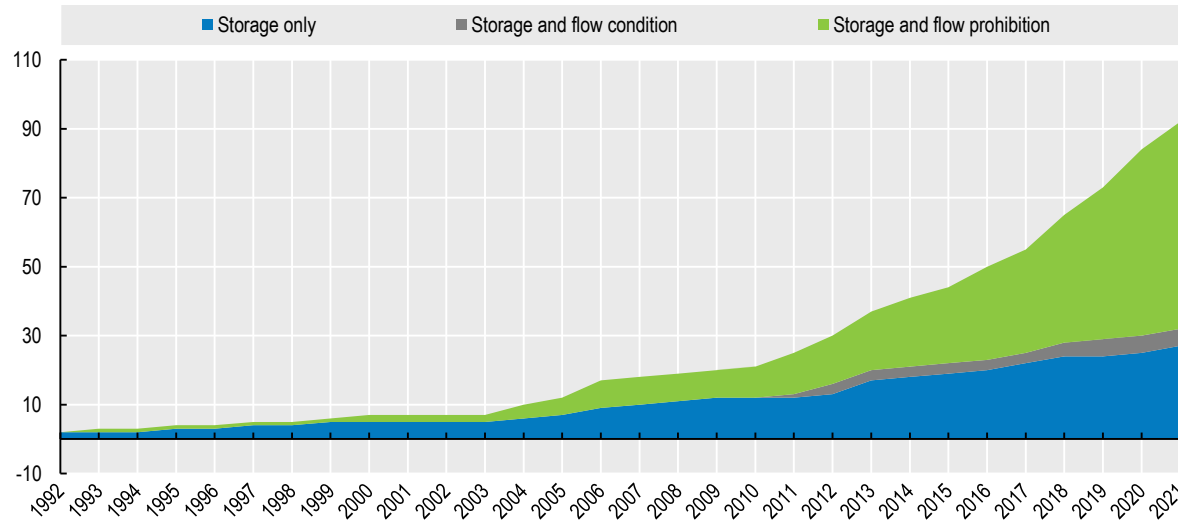
- There is **no single definition** of data localisation. However, it tends to refer to (implicit or explicit) requirements that **data be stored and/or processed within the domestic territory**.
- Measures tend to reflect a number of objectives.
  - Regulatory objectives and audit (e.g. data retention, transposing analog rules to the digital world);
  - Safeguarding privacy (e.g. health data);
  - National security and cybersecurity (e.g. sensitive information);
  - New forms of digital industrial policy.
- Data localisation therefore comes in many different forms, targeting different types of issues, data and sectors.
- Often, and even within a particular jurisdiction, different local storage and processing rules apply to different data types.



## What types of data localisation measures are emerging?

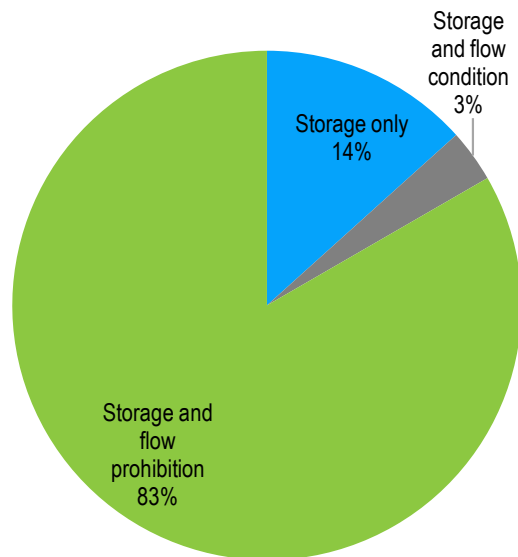


## Data localisation measures are growing and becoming increasingly restrictive

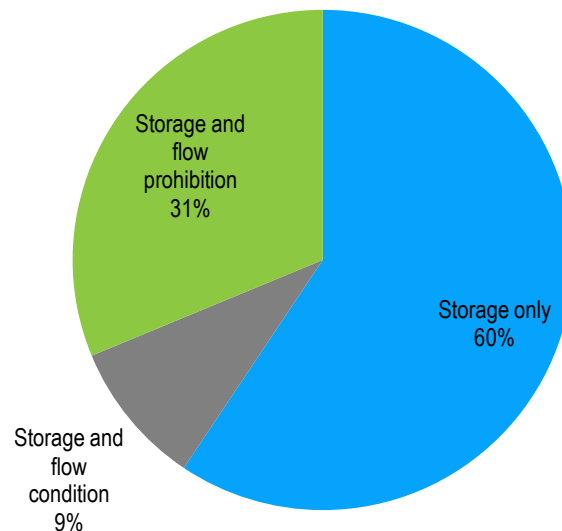


## Especially in non-OECD countries

a. Non-OECD countries



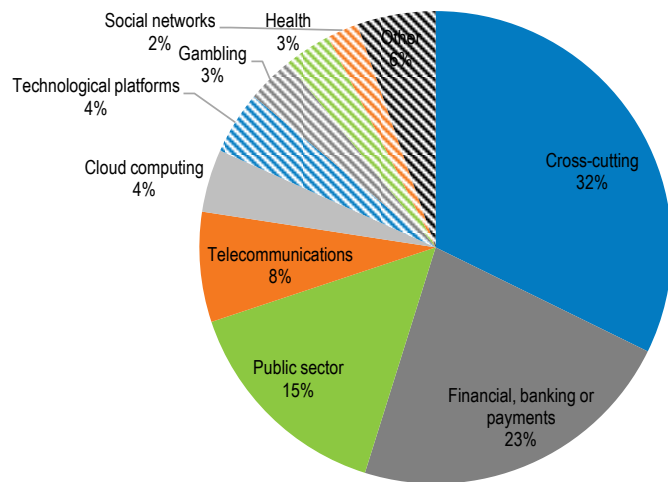
b. OECD countries



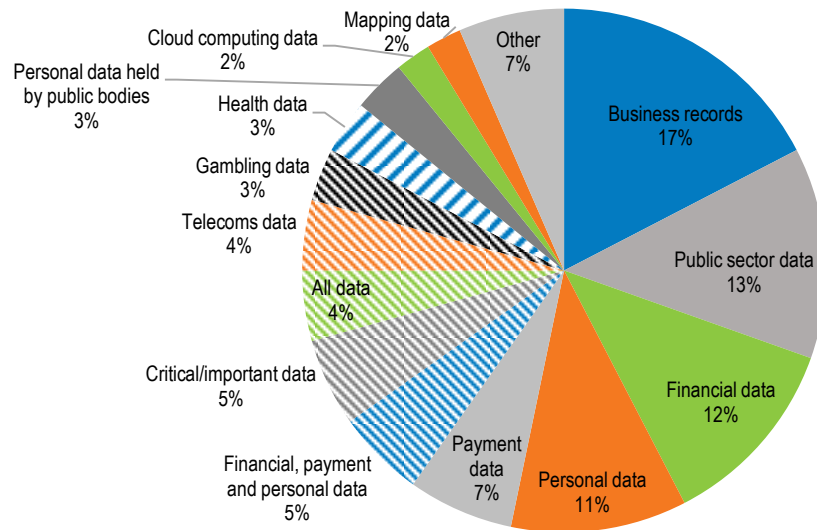


# Data localisation measures target specific sectors and types of data

a. targeted sectors



b. targeted data





## More work needed to understand economic and societal implications

- Identifying the economic and societal impact of data localisation is complex.
  - **Assessing benefits:** Many measures in place to meet legitimate public policy objectives (hard to put ‘dollar value’ on these and to assess what is or is not a legitimate public policy objective).
  - **Assessing costs:** can be more straightforward. Storage requirements will affect costs, depending on the type of measure and extent to which businesses rely on digital solutions



**WHAT DOES THIS ALL MEAN?**



## What do we learn from this analysis?

- There are important benefits from engaging in digital trade, but these are not automatic.
- Digital trade can:
  - help keep cost of access to the Internet down by promoting more competition.
  - enable access to the devices and technologies through which we connect to the internet.
  - Increase supply-chain resilience
  - Enable SMEs to maintain and widen international activities.
- The Internet is global, but regulations tend not to be. We need better and more global rules of the road.
- There is strong value in engaging in international discussions, including at the WTO but also with regional partners, in order to reduce fragmentation and increase the benefits of digital trade for all.
- After all, digital trade is not just the trade of tomorrow, it is the trade of today!

## The OECD in this area

- The OECD and the Trade And Agriculture Directorate will continue promoting an evidence based policy-making approach to these issues by:
  - Continuing to **map the evolving environment** (DSTRI, DTI, data flows and data localisation);
  - Analysing the **implications of policy and technology changes** (AI, 3D printing);
  - **Convening stakeholders** to discuss better policies (FDT).
- The OECD will continue to support the multilateral rules-based system by feeding into WTO discussion under the e-commerce Workprogramme and the JSI on e-commerce



## Contact us

We look forward to hearing from you!



Access all of the information from the Trade & Agriculture Directorate at:

[www.oecd.org/tad](http://www.oecd.org/tad)



You can reach us via e-mail by sending your message to the following address:

[tad.contact@oecd.org](mailto:tad.contact@oecd.org)



We invite you to connect with us on Twitter by following:

[@OECDtrade](https://twitter.com/OECDtrade)