MEASURING DIGITAL
(CROSS-BORDER) TRADE.
THEORY AND PRACTICE

Connectivity in the Digital Age. Digital Futures of Trade and Economic Cooperation in Eurasia

International Institute for Applied Systems Analysis (IIASA)
Laxenburg, Austria

2-3 December 2019
Rise of digital trade

• Digital trade raises important trade policy questions
  – Size and importance of cross-border digital trade flows?
  – Potential new opportunities > for SMEs, developing countries?
  – Barriers to international digital trade > Data flows/privacy?
  – Market access, trade facilitation, competition,....?
Workshop objectives

• Overview of available estimates of the effects of digital technologies on **cross-border trade** in the Eurasian region;

• Explore opportunities and **challenges** of the introduction of digital technologies in cross-border trade in the Eurasian region;

• **Evaluate** broad impacts of digitalization of trade on the society;
However…

• Available estimates of digital trade are scarce and non-comparable.
• One challenge is to properly measure digital imports and exports (huge task).
• This is a prerequisite to evaluate the impacts of digital trade in other areas.
WHAT DO WE WANT TO MEASURE?
What do we want to measure???
- Size of e-commerce
- Size of transactions delivered digitally
- Share of value-added provided by ‘digital industries’
- Share of digital goods and services as a share of GDP
- What is the value of data?
- What is the size of investment in digital tools?

All look at different aspects and cannot be pulled together into a single statistic.
A common aspect of what users want however.....

....is information on whether goods/services were

- ordered digitally
- and whether they were digitally delivered
- with particular interest in those that were ordered and provided via digital intermediation platforms.
Digital intermediaries

Underling activities are not new

But rise in ‘informal’ (occasionally employed) activities may require reviews of estimation methods
Based on the organising principle: the **nature** of the transaction

- **Digitally ordered**: The sale or purchase of a good or service, conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders (*follows OECD e-commerce definition*)

- **Platform enabled**: Transactions that are facilitated via **online intermediary platforms** that match buyer and supplier (e.g. eBay, Amazon, Uber); platform may be based domestically or abroad, foreign or domestically owned

- **Digitally delivered**: ‘downloadable’ services and data flows (software, data, database services, etc.)
But this is not enough

• Users also want to know **who** is producing and **who** is consuming (actors) and they also want to know **what** is being produced and consumed (the product)
Digital Trade Framework

**Scope** (Where)
- Digitally ordered
- Digitally delivered
- Digital intermediary platform enabled
- Included in conventional trade statistics
- Not included
- Non-monetary digital trade

**Nature** (How)
- Goods:
  - ICT goods, digitally ordered
  - Other goods, digitally ordered
- Services:
  - Digitally ordered services, not digitally delivered
  - Via platforms
  - Other digitally ordered
  - Not digitally ordered
  - Information/data*

**Product** (What)
- Goods
- Services

**Actors** (Who)
- Corporations
- Government
- Households
- NPISH
Digital Trade is defined as all trade that is digitally ordered and/or digitally delivered.
Why do we care about DIPs?

• Potential ‘source’ of under-recording of trade
• Households (and firms) increasingly use platforms for direct imports, and these may not be picked up in current statistics as imports (especially if the platform operates a local domain (name) site).
  – De minimis trade concerns but also imports of digital services.
• Charging a fee: Online interfaces that facilitate the direct interaction between multiple buyers and multiple sellers.
• NOT Charging a fee: Platforms providing ‘free’ digital services to multiple end-users that are financed through advertising and data revenues paid by units seeking to sell goods and services to end-users receiving free digital services.
Digitally delivered services

• All cross-border transactions that are **delivered remotely over ICT networks**
  – fully consistent with the concept of ICT-enabled services developed by UNCTAD

• A significant share of digitally delivered transactions is likely to be DO
  – Software, music, e-books, data and database services.

• But many digitally delivered services are **not DO**.
  – Roaming mobile communications charges, most large-scale transactions in services between firms.
## Potentially ICT-enabled services

<table>
<thead>
<tr>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insurance and pension services</td>
</tr>
<tr>
<td>Financial services</td>
</tr>
<tr>
<td>Charges for the use of intellectual property n.i.e.</td>
</tr>
<tr>
<td>Telecommunications, computer, and information services</td>
</tr>
<tr>
<td>Research and development services</td>
</tr>
<tr>
<td>Professional and management consulting services</td>
</tr>
<tr>
<td>Architectural, engineering, scientific and other technical services</td>
</tr>
<tr>
<td>Other business services n.i.e.</td>
</tr>
<tr>
<td>Audiovisual and related services</td>
</tr>
<tr>
<td>Health services</td>
</tr>
<tr>
<td>Education services</td>
</tr>
<tr>
<td>Heritage and recreational services</td>
</tr>
</tbody>
</table>
A Handbook to guide compilation- ‘A living document’

Chapter 1. Introduction
Chapter 2. Conceptual framework for digital trade
Chapter 3. Compiling digitally ordered goods and services
Chapter 4. Compiling digitally delivered transactions
Chapter 5. Compiling transactions facilitated by digital intermediary platforms
Chapter 6. Complementary measures
Chapter 7. Conclusions and next steps
WHERE TO GET INFORMATION
Information Sources

• Enterprise surveys
  – Focus almost exclusively on measuring the scale (and size) of e-commerce transactions in the economy as a whole and not the cross-border dimension.

• Household surveys
  – Source for DIP imports information
  – Respondent won’t be able to accurately determine if a transaction is cross-border, because many platforms or online sellers appear to have a domestic presence.
Information Sources

• Credit card data
  – Promising area for **B2C cross-border transactions** and cost effective.

• International Trade in Services Statistics (ITSS) surveys
  – Best existing vehicle to develop estimates of **digitally delivered trade in services**
  – But, they struggle to capture household-to-household transactions, in particular, facilitated by DIPs.
Information Sources

• International Transaction Reporting System (ITRS)
  – Allows to estimate DD services, at least for large enterprises that are known to provide these services (Facebook or Google).

• Mini One-Stop-Shop (MOSS) Data
  – Because of its focus on digitized services, data derived from MOSS has already been explored to measure digital trade transactions in Hungary and Denmark.
  – Might be useful to estimate household’s imports of DD services
Other possible sources

- VAT data
- Direct information from MNE DIPs
- Customs data (China)
- Private data sources (the Netherlands)
- ITSS surveys linked to Modes of Supply (USA and UK)
- Administrative records
THEORY + PRACTICE
## Reporting Template. Exports

<table>
<thead>
<tr>
<th>(i) Digital Trade (ii + iv + vi + ix)</th>
<th>By Exporter</th>
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<tbody>
<tr>
<td>(ii) Digitally ordered ICT goods</td>
<td>Firms (by industry)</td>
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<td>of which via DIPs</td>
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<td>(iv) Digitally ordered goods (other)</td>
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**ES** = Enterprise surveys  
**HS** = Household survey  
**CC** = Credit card data  
**ITSS** = International Trade in Services Statistics Survey  
**DIP** = Data collected directly from Digital Intermediation Platforms  
**ITRS** = International Transaction Reporting System  
**VAT** = Value added tax (especific for digital activities)  
**MOSS** = Mini One Stop Shop  
**AR** = Administrative records
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OECD “Measuring the Digital Transformation”

- As technological change and new business models are changing the e-commerce landscape, policy faces challenges in a range of areas, including consumer protection, tax, competition and environmental policy. Sound statistics on e-commerce are necessary to design, monitor and implement these policies.
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