



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

Rodolfo Ostolaza

Statistics & Data Directorate (SDD/TPS)





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?



Digital economy

- **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

Digital intermediaries

Dwelling services



Transport



Distribution



**Underling activities
are not new**

**But rise in 'informal'
(*occasionally
employed*) activities
may require reviews of
estimation methods**





Nature of transaction ('how')

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.)





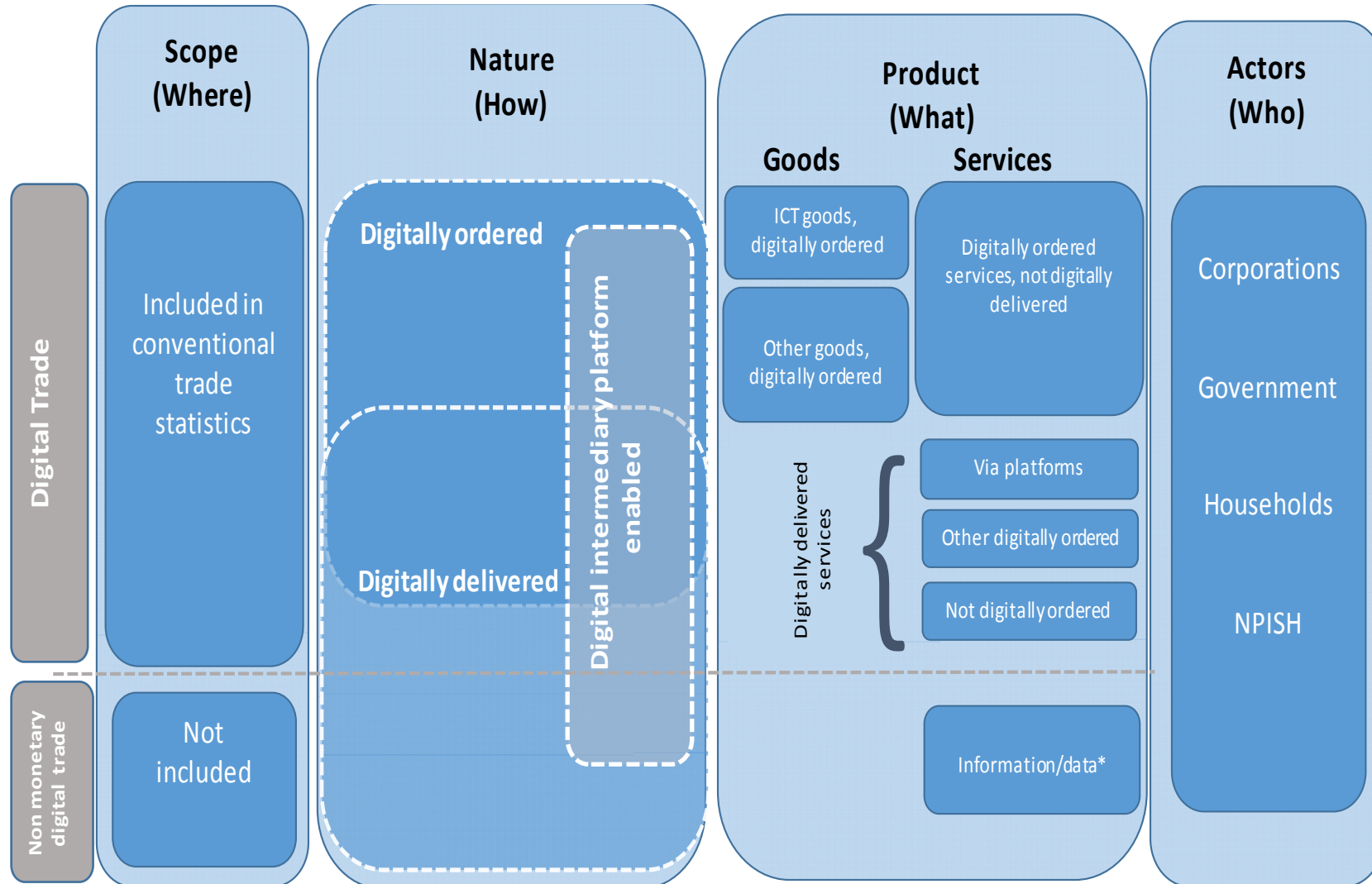
But this is not enough

- 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





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.





Digitally delivered services

Potentially ICT-enabled services

Insurance and pension services

Financial services

Charges for the use of intellectual property n.i.e.

Telecommunications, computer, and information services

Research and development services

Professional and management consulting services

Architectural, engineering, scientific and other technical services

Other business services n.i.e.

Audiovisual and related services

Health services

Education services

Heritage and recreational services





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

		By Exporter		
		Firms (by industry)	Government	Households
(i) Digital Trade (ii + iv + vi + ix)				
(ii)	Digitally ordered ICT goods	ES		HS/CC
(iii)	<i>of which via DIPs</i>	+ DIP		+ DIP
(iv)	Digitally ordered goods (other)	ES	AR	HS/CC
(v)	<i>of which via DIPs</i>	+ DIP		+ DIP
(vi)	Digitally delivered services	ES/ITSS/ITRS	AR	HS/CC
(vii)	<i>of which via DIPs</i>	+ DIP		+ DIP
(viii)	<i>of which digitally ordered (including via DIPs)</i>	↓		↓
(ix)	Digitally ordered services (not delivered digitally)	ES		HS
(x)	<i>of which via DIPs</i>	+ DIP		+ DIP

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





Reporting Template. Imports

		By Importer		
		Firms (by industry)	Government	Households
(i)	Digital Trade (ii + iv + vi + ix)			
(ii)	Digitally ordered ICT goods	ITSS/ES	AR	HS/CC
(iii)	<i>of which via DIPs</i>	+ DIP		+ DIP
(iv)	Digitally ordered goods (other)	ITSS/ES	AR	HS/CC
(v)	<i>of which via DIPs</i>	+ DIP		+ DIP
(vi)	Digitally delivered services	ITSS/ITRS/VAT	AR	HS/CC/MOSS
(vii)	<i>of which via DIPs</i>	+ DIP		+ DIP
(viii)	<i>of which digitally ordered (including via DIPs)</i>	↕		↕
(ix)	Digitally ordered services (not delivered digitally)	ITSS		HS/CC
(x)	<i>of which via DIPs</i>	+ DIP		+ DIP

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

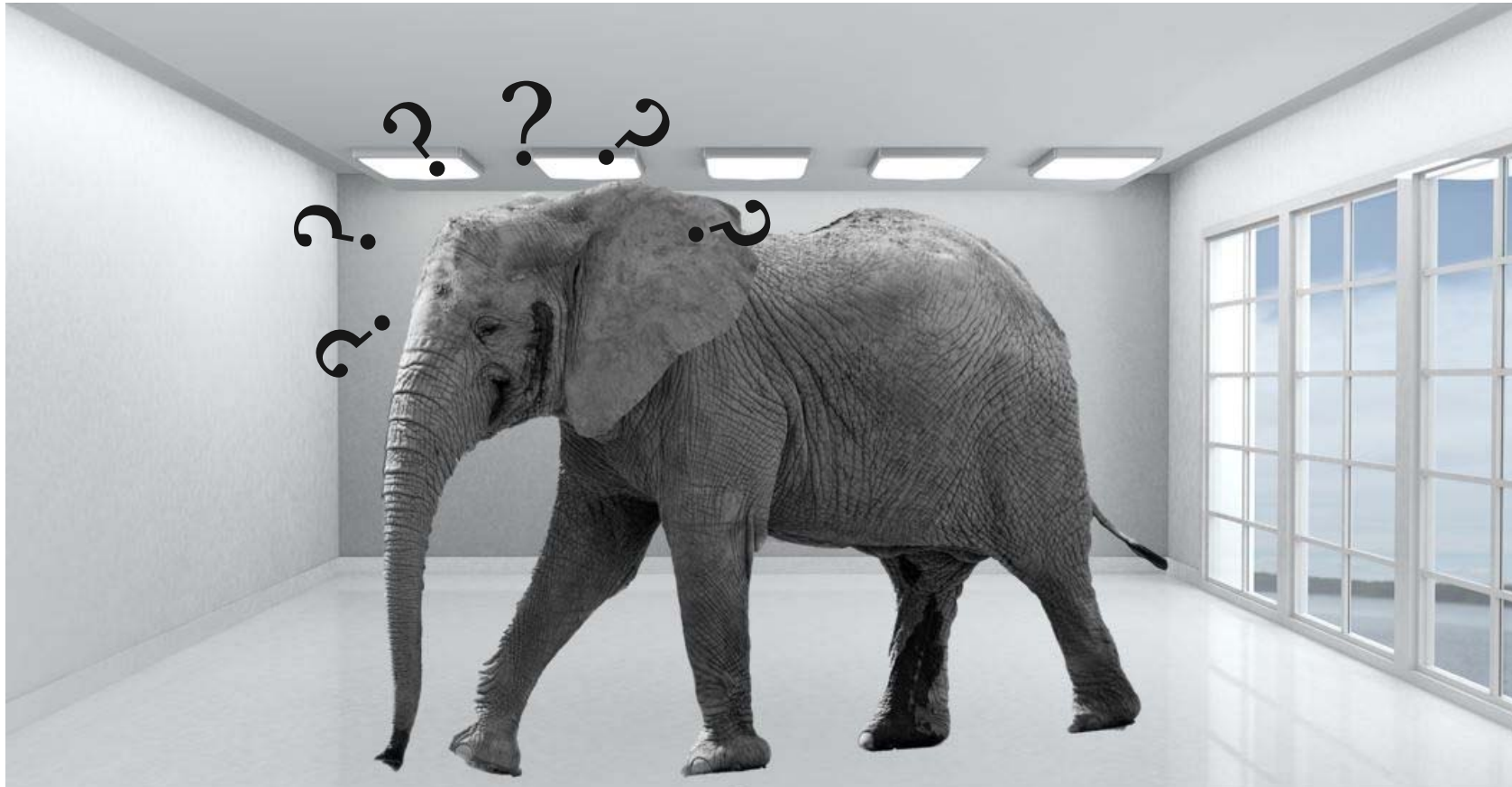
ITRS = International Transaction Reporting System

VAT = Value added tax (especific for digital activities)

MOSS = Mini One Stop Shop

AR = Administrative records







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



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

Rodolfo Ostolaza

Statistics & Data Directorate (SDD/TPS)

