

# Measuring the value of e-commerce

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# Overview

- Background
- Report: Measuring the value of e-commerce
- Task Group on Measuring e-commerce Value (TG-eCOM)
- Take-aways

# E-commerce has been growing in importance - for over 4 decades!

- E-commerce is not “new”
  - 1979: Invented
  - 1982: First e-commerce company
  - 1995: Amazon.com; 1999: Alibaba
- 1998: WTO Work Programme on Electronic Commerce
- Early 2000s: OECD definition of e-commerce for measurement purposes
- 2015-2019: UNCTAD estimates indicate global e-commerce marketplace rapidly increasing in value
- 2019/20: OECD and G20 measurement roadmaps highlight the need for more information on e-commerce
- COVID-19 pandemic
  - Acceleration in the uptake and importance of e-commerce ordering
  - Further clarity on the limitations of existing e-commerce statistics
- 2023: *IMF-OECD-UNCTAD-WTO Handbook on Measuring Digital Trade* links measuring e-commerce value and digitally ordered trade
- **Despite this, relatively little is known about the economic value facilitated via e-commerce!**

# Background: what is e-commerce?

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Includes orders placed through:

- ✓ The seller’s own web sites or apps
- ✓ Third party web sites or apps (e.g. online marketplaces, online platforms)
- ✓ Machine generated/readable messages (EDI)
- ✓ Voice commands issued to virtual assistants
- ✓ Chatbots

Excludes orders placed by:

- ✗ Telephone calls
- ✗ Fax
- ✗ Manually typed messages (e.g. email, WhatsApp)
- ✗ Offline transactions formalised using digital signature

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*...while these may be “conducted over computer networks” they are not “specifically designed for the purpose of receiving or placing orders”*

# What is e-commerce?

*“The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online.”*

*(OECD, 2009)*

The defining feature of e-commerce is **digital ordering**

Means of payment do not matter

- ✓ Card payment
- ✓ Bank transfer
- ✓ Cash on delivery
- ✓ Cheque
- ✓ Etc.

Mode of delivery does not matter

All goods and services can be ordered via e-commerce

- ✓ All physical items
- ✓ Commodities, electricity
- ✓ Digitally delivered services e.g. streaming media, telehealth
- ✓ Physically delivered services e.g. cleaning, transport, delivery
- ✓ Financial, insurance and pension services
- ✓ Etc.



# Who does e-commerce?

- All institutional units can engage in e-commerce
  - both as sellers and buyers

*“An e-commerce transaction can be between enterprises, households, individuals, Governments, and other public or private organisations”  
(OECD, 2009)*

Businesses



Government bodies



Households / individuals

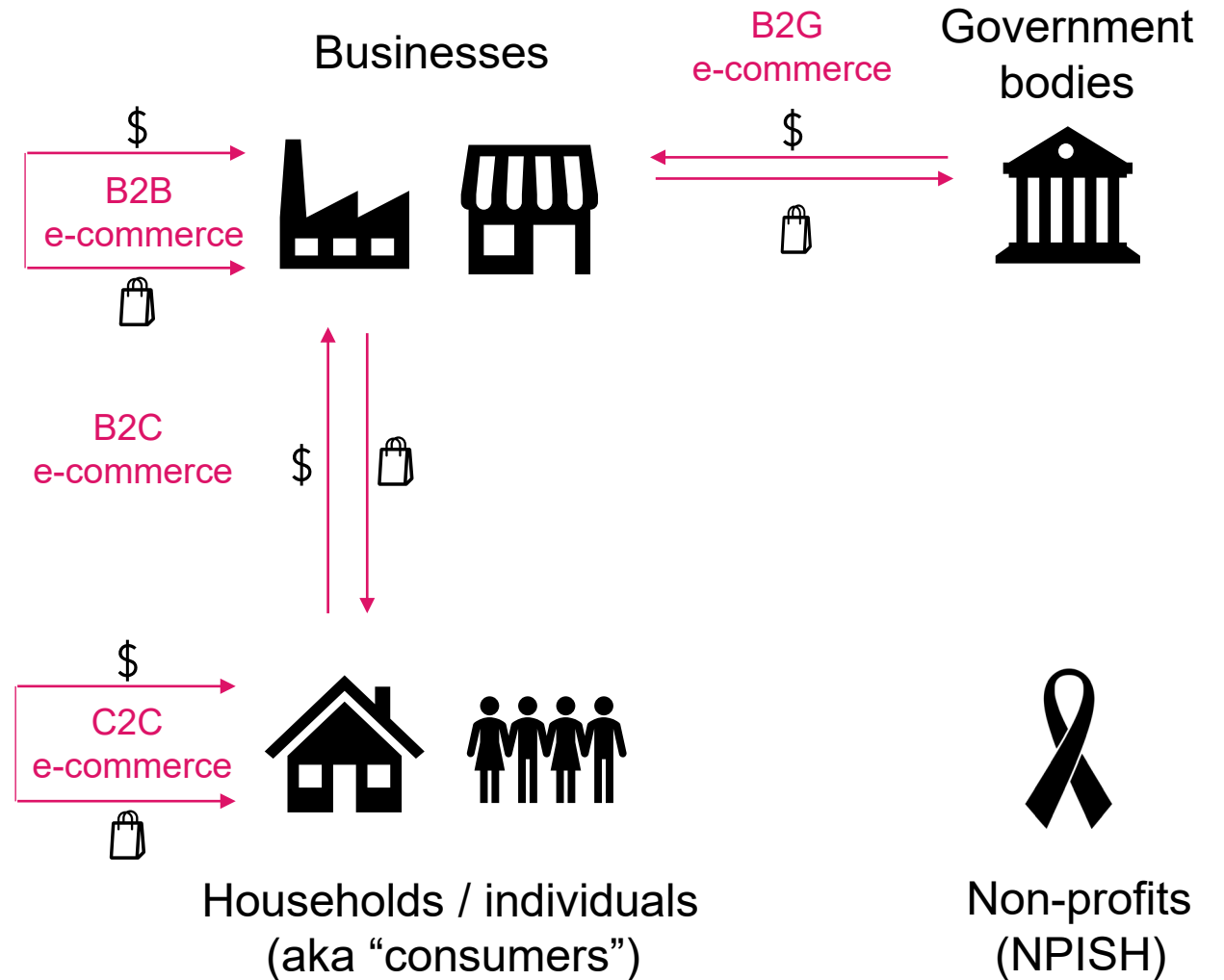


Non-profits  
(NPISH)

# Who does e-commerce?

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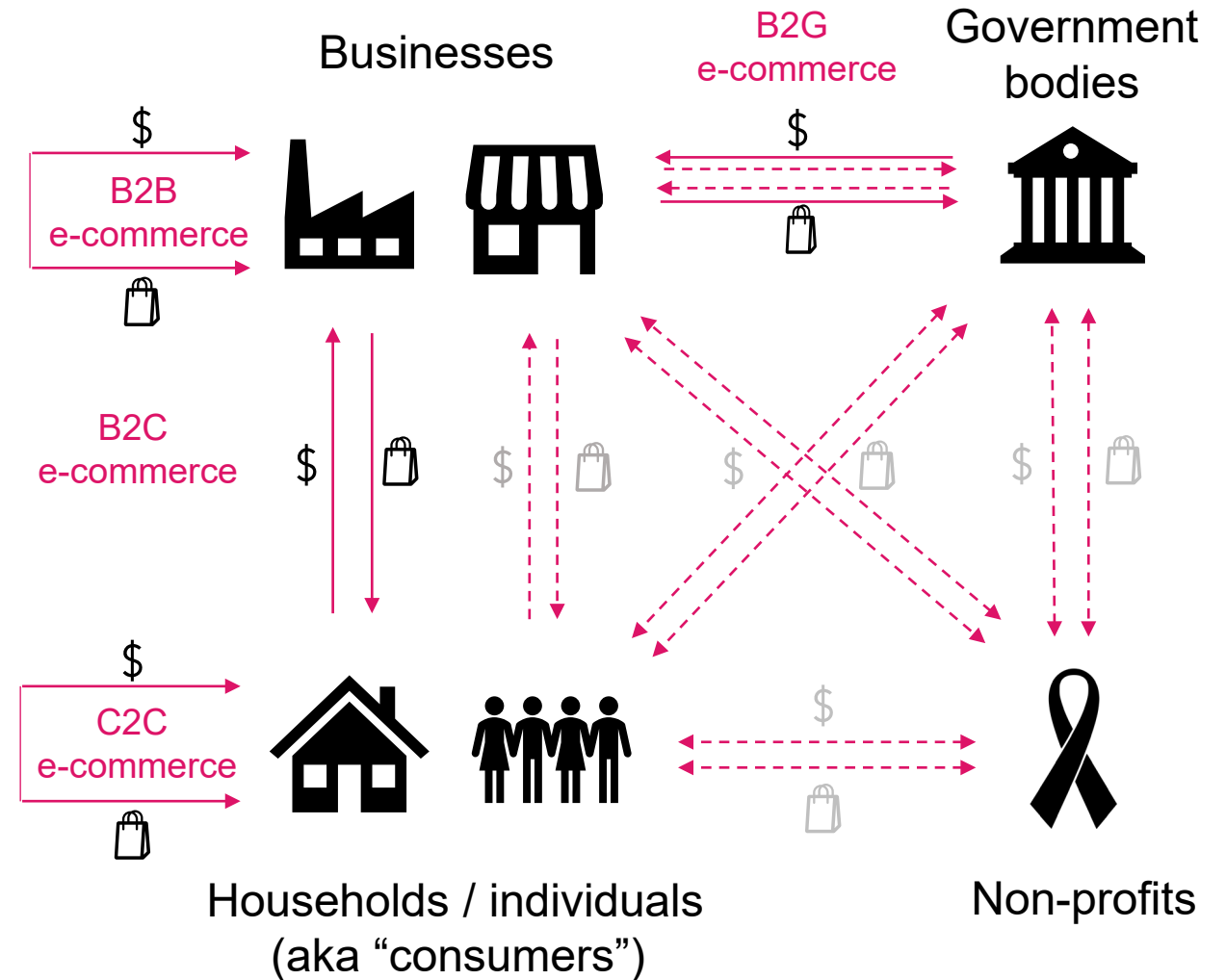
- All institutional units can engage in e-commerce
  - both as sellers and buyers
- Businesses are the main e-commerce actors
  - both as sellers and buyers
  - Most e-commerce transactions are *between* businesses
- The “most important” relationships have been given names
  - B2B, B2C, B2G, C2C



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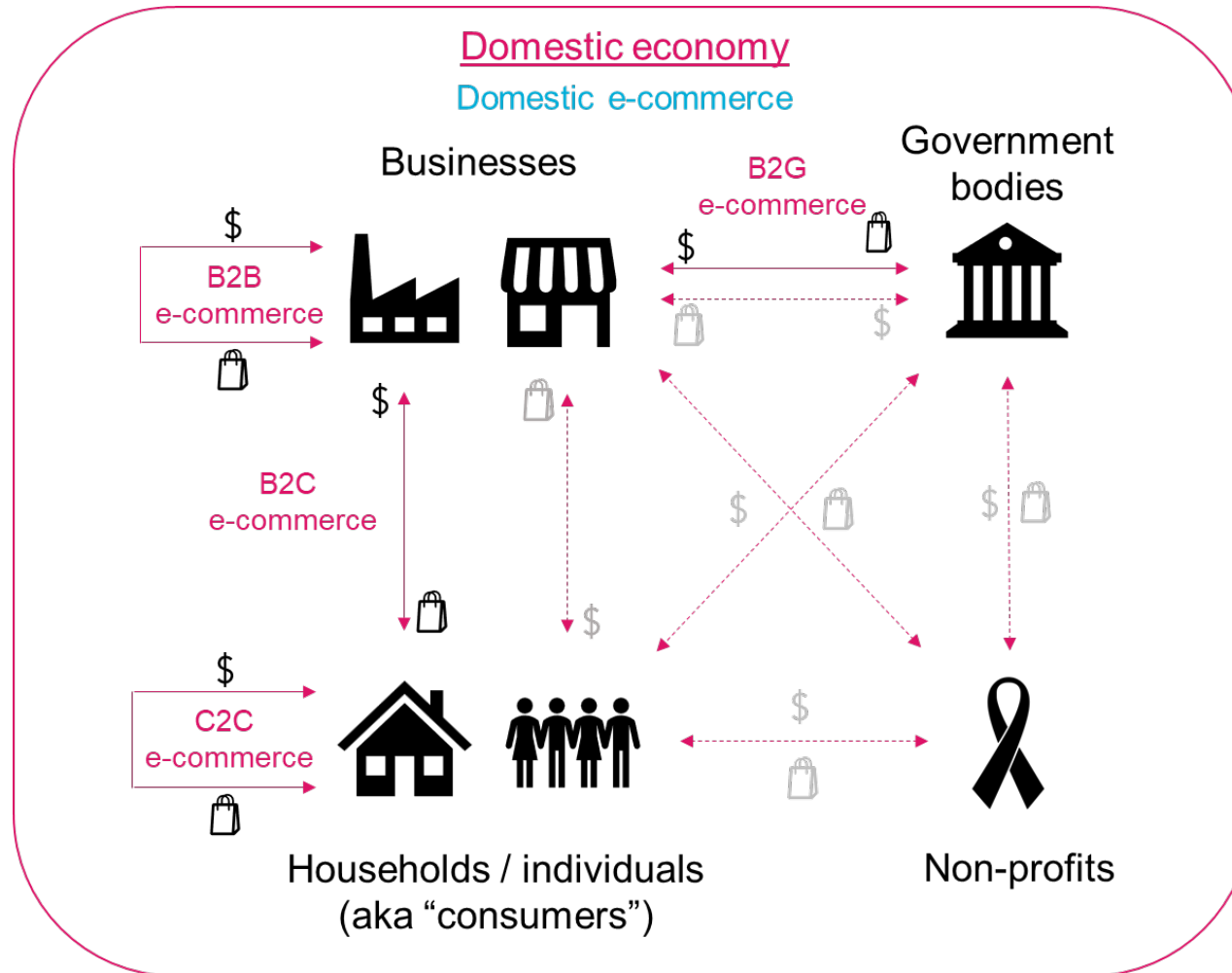
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- The “most important” relationships have been given names
  - B2B, B2C, B2G, C2C
- Other relationships exist e.g.:
  - Households selling Airbnb stays to people travelling for work
  - Government bus company selling tickets online
  - Non-profit selling health services to government



# E-commerce: domestic and international

Crucial for understanding the role e-commerce plays in trade and development e.g.:

- Does digital ordering promote exports?
- Does it lead to domestic products being substituted with cheaper imports?
- etc.



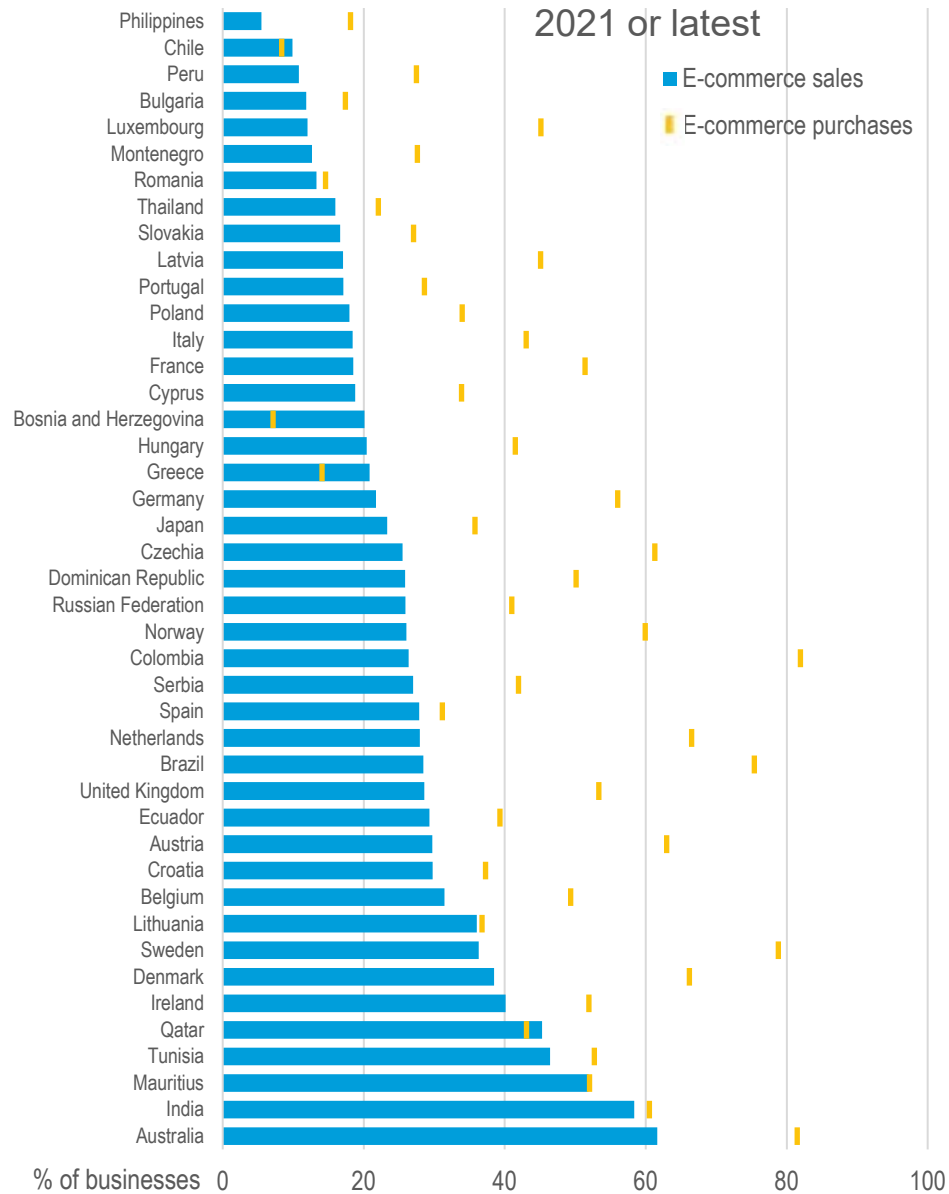
## Rest of the World

International e-commerce = digitally ordered trade



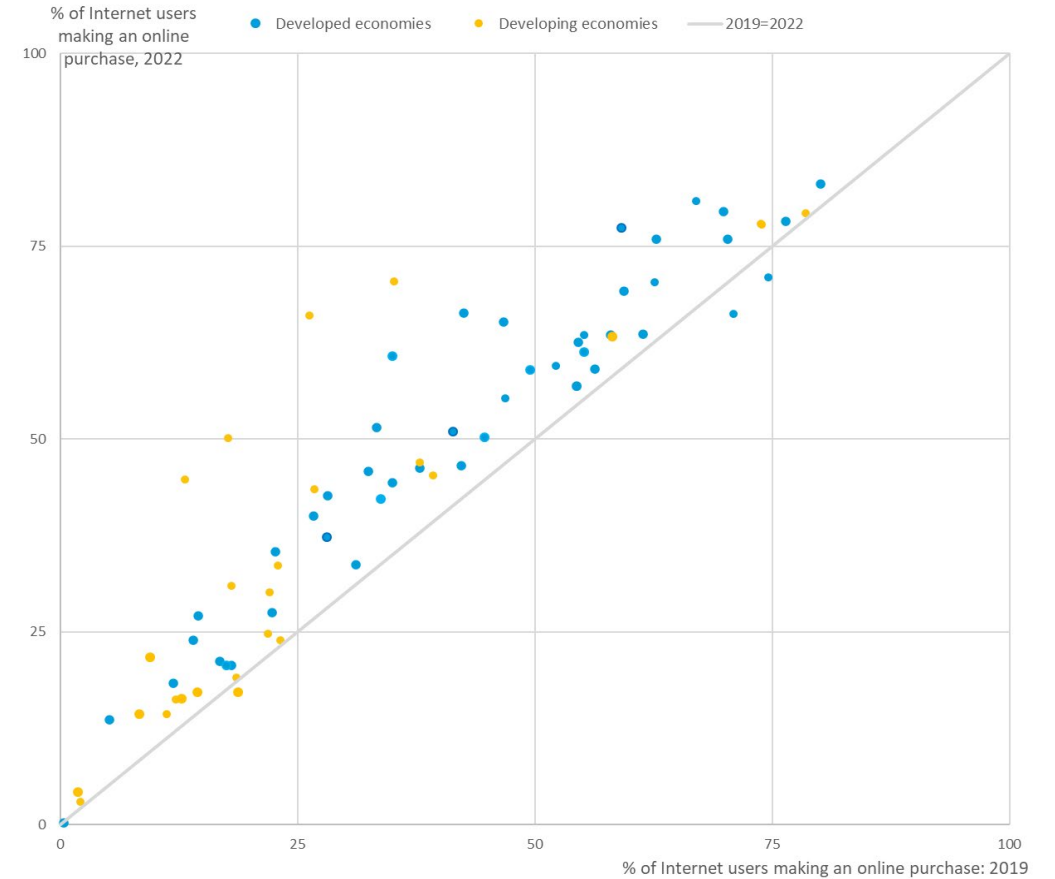
# Partnership on measuring ICT for development: core indicators on e-commerce

## Businesses using e-commerce



Source: UNCTAD core indicators on ICT usage in business.  
 Note: businesses with 10+ persons employed. Most common reporting years: sales 2020; purchases 2018.

## Individuals shopping online



Source: UNCTAD based on Eurostat Digital Economy and Society Statistics database, OECD ICT Access and Usage by Households and Individuals database, ITU (World Telecommunication/ICT Indicators database).

Note: For most European/OECD countries, data relate to individuals aged 16-74 years who used the internet/shopped online in the 12 months prior to survey. For other countries, wider age ranges and different recall periods may apply. For Canada, Colombia, Hong Kong, China; Kuwait, Macao, China; Mauritius, Morocco, Ukraine, Uzbekistan 2018 instead of 2019 and for Iran Islamic Rep of, Jamaica 2017 instead of 2019. For El Salvador, Mauritius, Qatar, Thailand 2020 instead of 2022 and Azerbaijan, Bahrain, Indonesia, Iran, Islamic Rep of, Israel, Kuwait, Macao, China, Mexico, Morocco, Ukraine, Uzbekistan 2021 instead of 2022.



# Countries are asking for guidance and support to measure e-commerce *value*

- UNCTAD has received multiple requests for **support implementing the “international guidelines” on measuring e-commerce value**
- Requests specifically go beyond measuring the **uptake** among businesses, households, etc. to **capture the economic value facilitated by online ordering**
- Some countries with no e-commerce statistics at all have indicated a desire to go straight to exhaustive “whole economy” measures of e-commerce value
- Problem: **those guidelines do not yet exist**

# Measuring the value of e-commerce

- Stock-taking report collating published official statistics/estimates of the value of e-commerce sales by businesses
- Looks in detail at:
  - Definitions used
  - Approaches to measuring value
  - Breakdowns
  - Cross-border e-commerce
  - Sources, coverage, methods
- First draft discussed at WG-ECDE in November 2022
- Published in April 2023



# Key focus: measuring the value of *business e-commerce sales*

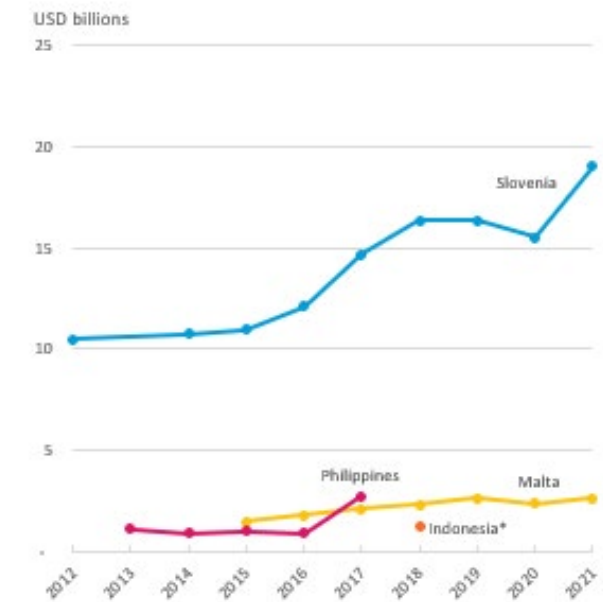
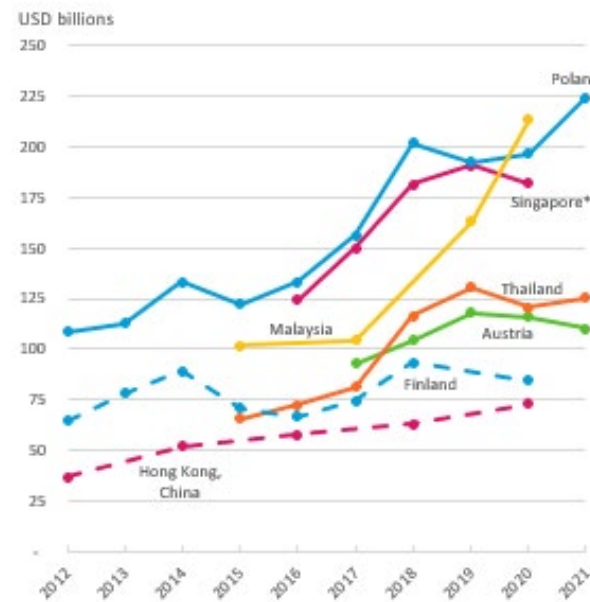
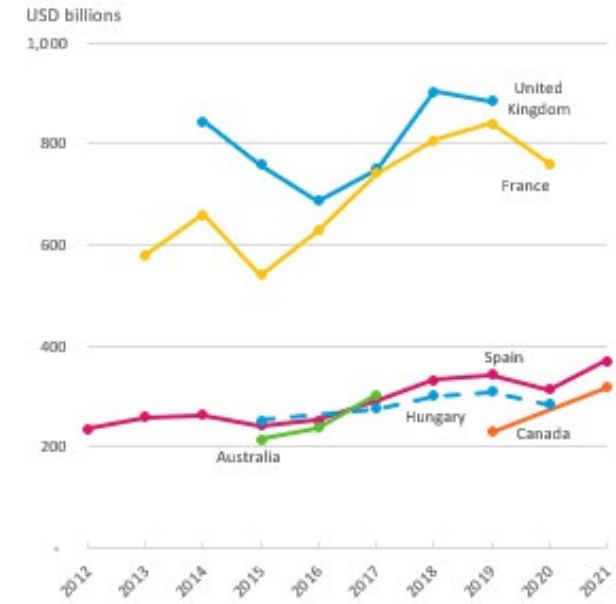
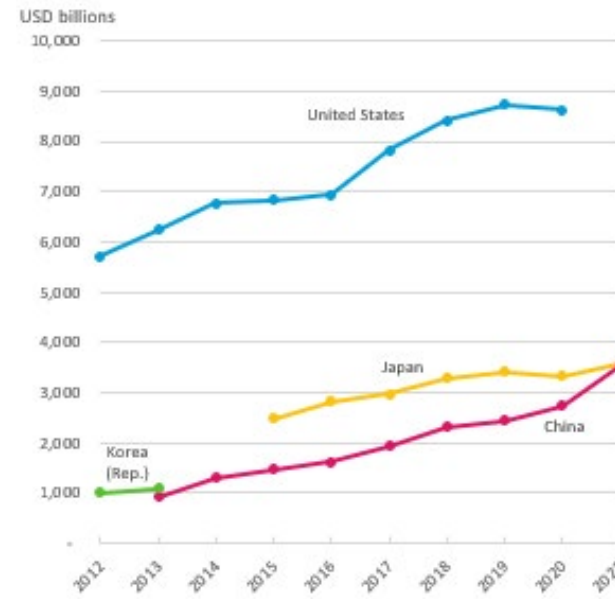
- Why?
  - E-commerce is a means of selling goods and services
  - Businesses are the main actors selling goods and services
  - Available evidence suggests that:
    - Businesses account for the strong majority of e-commerce sales by value
    - Most e-commerce sales are *from* businesses *to* businesses (B2B)
- Focusing on e-commerce sales and purchases involving businesses targets the biggest components of the e-commerce landscape on both demand and supply sides
- Report focusses on sales because these are more widely measured



# Business e-commerce sales

USD billions, current prices, 2012-2021

- Various National Statistics organisations have published estimates of the value of business e-commerce sales.
- The sources, measurement approaches, industry/firm size coverage, etc. used vary in ways that are likely to impact comparability.



Source: UNCTAD (2023), "Measuring the value of e-commerce", based on national sources.

Note: Sales by businesses only. Figures in national currency converted to USD using UNCTAD annual exchange rates (<https://unctadstat.unctad.org/>). The comparability of the series presented is limited. For most economies, the underlying source is a business ICT usage/e-commerce survey or other business survey (e.g., business activity survey). The series for Japan is based on a somewhat different approach, see box in section 3.5. \* Singapore: services only, Indonesia: based on a "profiling survey" sampling businesses in 3,504 of over 800,000 census blocks across 34 of 37 provinces; as such these figures are not representative of all business e-commerce. For Australia, the reporting year ends in June of the year shown.

# Using the definition in practice

Most specify the OECD definition as basis – but there are **variations in operationalisation in surveys**:

- “Computer networks” vs “Internet”
  - Some countries only ask about orders placed via Internet
- Manually typed emails: included vs excluded

Classification of selected economies by features of e-commerce definitions applied in business surveys

|                         | Excludes orders via manually typed email  | Includes orders via manually typed email     |
|-------------------------|---|--|
| All “computer networks” | Austria<br>China<br>Finland<br>France<br>Hungary<br>Hong Kong, China<br>Japan<br>Korea (Rep.)<br>Malta<br>Philippines<br>Poland<br>Singapore<br>Slovenia<br>Spain<br>United Kingdom | United States                                |
| Internet only           | Canada<br>Malaysia  | Australia<br>Indonesia<br>Mexico<br>Thailand |

Source: UNCTAD (2023) “Measuring the value of e-commerce”, based on national sources.

# Manually typed messages

Orders placed via “manually typed emails” are explicitly excluded  
→ logically, this would extend to **all manually typed messages**

**But ordering via manually typed messages has become important in many developing countries**

e.g., in Brazil between 2019 and 2021, businesses selling via:

- Messaging apps: **42% → 78%** - Email: **39% → 62%** - Social networks: **20% → 39%**

+ Firms which only sell online via one channel usually choose one of these

- The exclusion of manually typed messages is a **recurring question/issue raised by countries** UNCTAD works with on e-trade readiness, e-commerce strategies, e-commerce action plans etc.

# It's not just manually typed emails

- Some surveys ask respondents to break down e-commerce revenues by **sales channel**
- Some of these would not meet the OECD definition of e-commerce
  - e.g. elements of “online system sales”
- In some cases, it is likely that respondents would include transactions meeting the definition with those that do not
  - e.g. “social media”, “live streaming platforms”

→ Room for discussion

Table 3. Respondent options for categorising e-commerce revenues according to sales channels on survey questionnaires in different economies

Simplified overview, precise terminology used may vary

| Sales channel  | Austria, Finland, France, Hungary, Malta, Poland, Slovenia, Spain, Hong Kong SAR | Korea (Rep.)          | Malaysia              | Thailand                            | United Kingdom | United States (wholesale trade only) |
|--|--|-----------------------|-----------------------|-------------------------------------|----------------|--------------------------------------|
| Own websites /apps   | ✓<br>(incl. extranet*)   |                       | ✓                     | ✓<br>(Websites and apps separately) | ✓              |                                      |
| Online market places /intermediary platforms /3rd parties                      | ✓  | ✓**                   | ✓                     | ✓                                   | ✓              |                                      |
| EDI-type   | ✓  |                       |                       |                                     | ✓              | ✓                                    |
| Private network (e.g., extranet, EDI over closed network)                      |  | ✓<br>(incl. extranet) | ✓<br>(incl. extranet) |                                     |                |                                      |
| Social media   |  |                       |                       | ✓                                   | ✓              |                                      |
| Live streaming platforms   |  |                       |                       | ✓                                   |                |                                      |
| Dropship merchant sellers  |  |                       |                       | ✓                                   |                |                                      |
| Foreign websites   |  |                       |                       | ✓                                   |                |                                      |
| “Other platforms” / “others”   |  |                       | ✓<br>(specify)        | ✓<br>(specify)                      | ✓              |                                      |
| Online system sales (Internet, mobile, extranet, email, instant messaging)     |  |                       |                       |                                     |                | ✓<br>(incl. extranet)                |
| Open sales: bidding method or sales to a large number of unspecified companies |  | ✓                     |                       |                                     |                |                                      |

Source: UNCTAD based on national survey questionnaires and published statistics.

Note: \* unknown for Hong Kong, China. \*\* Measured by surveying marketplace operators directly. “specify” – respondents are asked to name the platforms used and specify the value/share of sales through them.

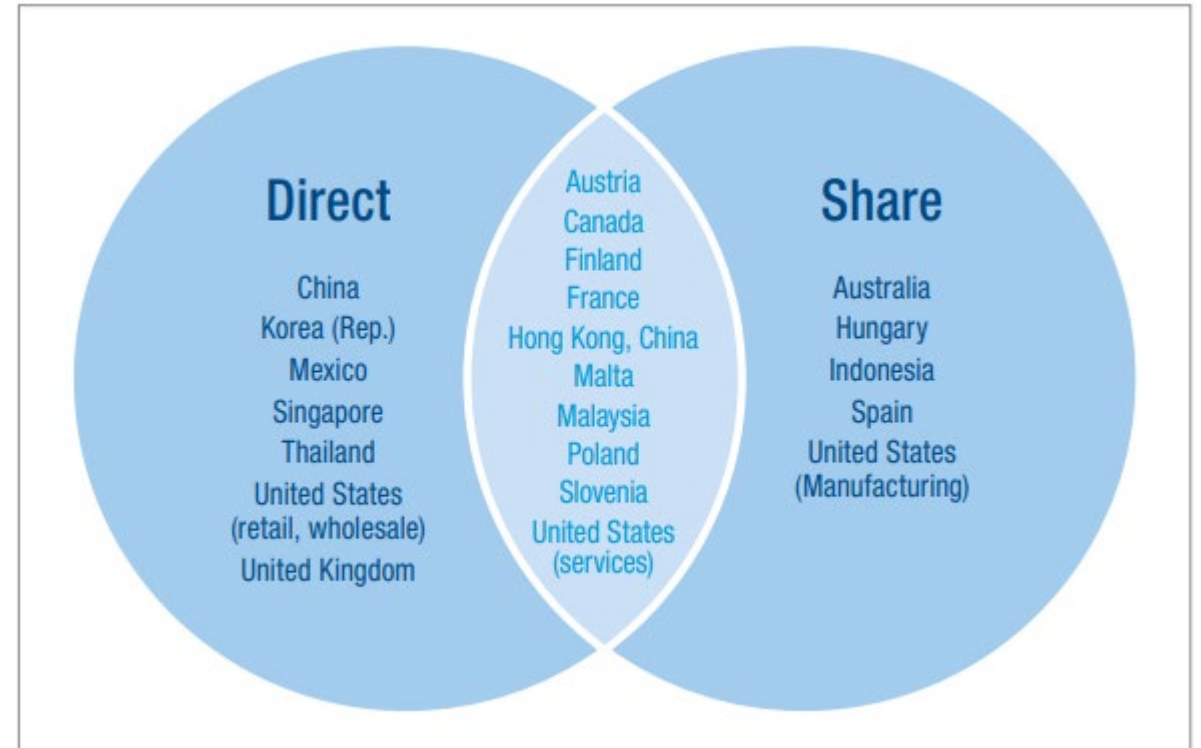
# Social media plays several roles in “selling online”

Only some meet the definition of e-commerce

- Marketing
  - Online shop (e.g. checkout on Instagram; WeChat shops)
  - Social media marketplace (e.g. Facebook marketplace)
  - Sales via social media messaging (e.g. agreeing to purchase a customised cake from a local bakery, to be collected and paid in person)
  - Sales via social media chat bots (e.g. ordering pizza through a “structured conversation” that populates an order form)
- Difficult to place in common categorisations of e-commerce channels
- Difficult to distinguish social media sales meeting the definition from those that do not
- Need for clear guidance

# Approaches to measuring value

- Aim: find out the responding business' e-commerce sales revenue
  - 2 approaches:
    - **Direct**
      - Ask for amount directly in \$€¥
    - **Share**
      - Ask for % of revenue from e-commerce
      - Apply that share to a measure of revenue in \$€¥ (from same or other source)
  - Many surveys offer **both**, but most encourage direct reporting in \$€¥
  - Another important variation is **what is included in the value of e-commerce sales**:
    - sales taxes (e.g. VAT/GST up to 21%)?
    - discounts given (e.g. for early payment)?
    - Items returned?
- Area for discussion of practices



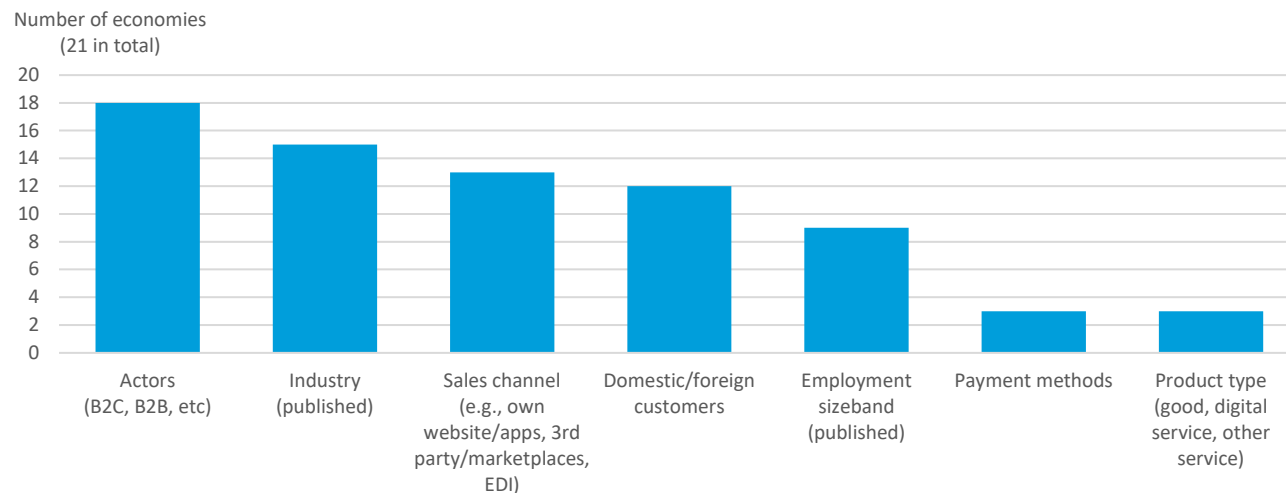
Source: UNCTAD (2023) "Measuring the value of e-commerce", based on national survey questionnaires and details provided by statistical agencies

# Breakdowns for additional insights

- Top-down approach:
  1. collect total e-commerce
  2. break down to provide additional insights
- “standard” breakdowns reflecting firm characteristics (industry, employment size-band) not always available
- Others are e-commerce specific e.g. actors, sales channel
- Actors most common, but **considerable variation in implementation**
  - e.g. whether B2G separated; treatment of sales to non-profits

→ potential for recommendations

Number of economies by type of e-commerce value breakdown collected/published



Source: UNCTAD (2023), “Measuring the value of e-commerce”. based on national sources.

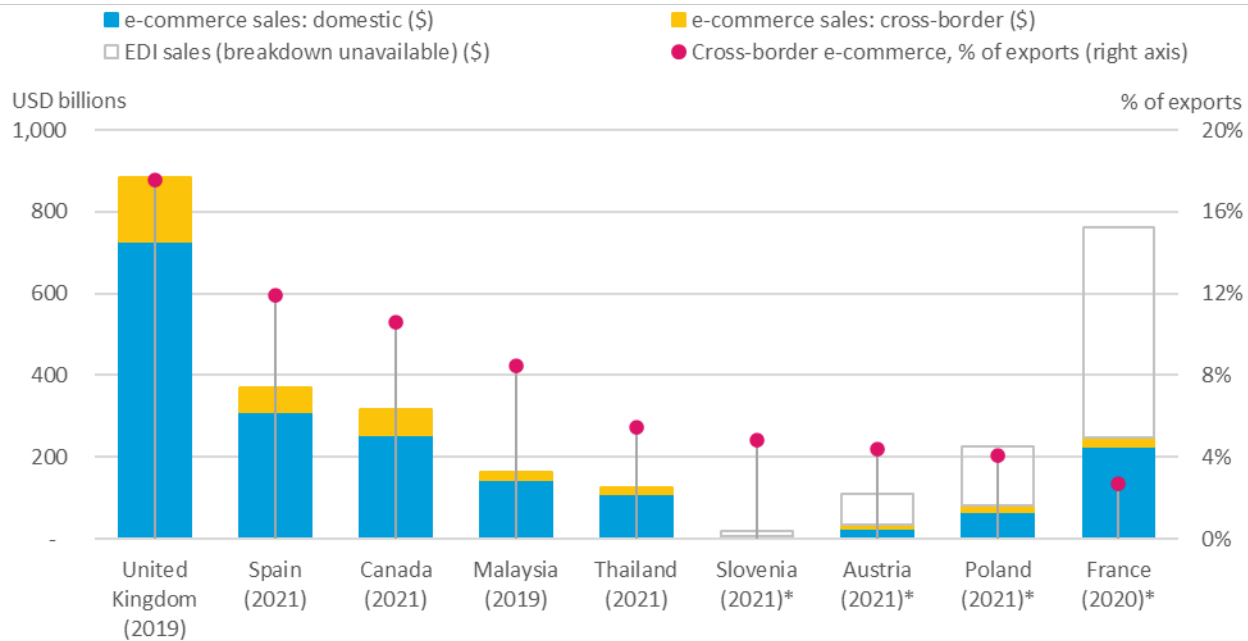
Note: Austria, France, Poland, Slovenia: sales to domestic vs foreign customers only distinguished for web sales (not EDI-type sales). Republic of Korea: payment methods only available for the sum of B2C+C2C (consumer-to-consumer) e-commerce. United States: sales channel only collected on the annual wholesale trade survey, unavailable for enterprises in other industries.

4.8) In 2018, what were the domestic and international percentage shares of the value of product/service sales made via the internet?

Domestic \_\_\_\_\_ %       International \_\_\_\_\_ %

Source: [https://www.eta.or.th/th/Useful-Resource/publications/Value-of-e-Commerce-Survey-in-Thailand-2019\\_EN.aspx](https://www.eta.or.th/th/Useful-Resource/publications/Value-of-e-Commerce-Survey-in-Thailand-2019_EN.aspx)

# Domestic and international e-commerce sales



Notes: \* Slovenia, Austria, Poland, France: "web sales" only (i.e., excluding EDI sales).  
 Source: UNCTAD (2023) "Measuring the value of e-commerce" based on statistics published by national statistical agencies, UNCTAD goods and services trade databases, and UNCTAD currency exchange rates (<https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx>)

- Sales to customers abroad account for a minority of business e-commerce transactions (20% on average).
- E-commerce transactions comprise up to 18% of total goods and services exports (UK).
- Some countries (notably those following the EU model surveys) only collect partial information (website and app sales only).
- Only a small number of countries have figures!

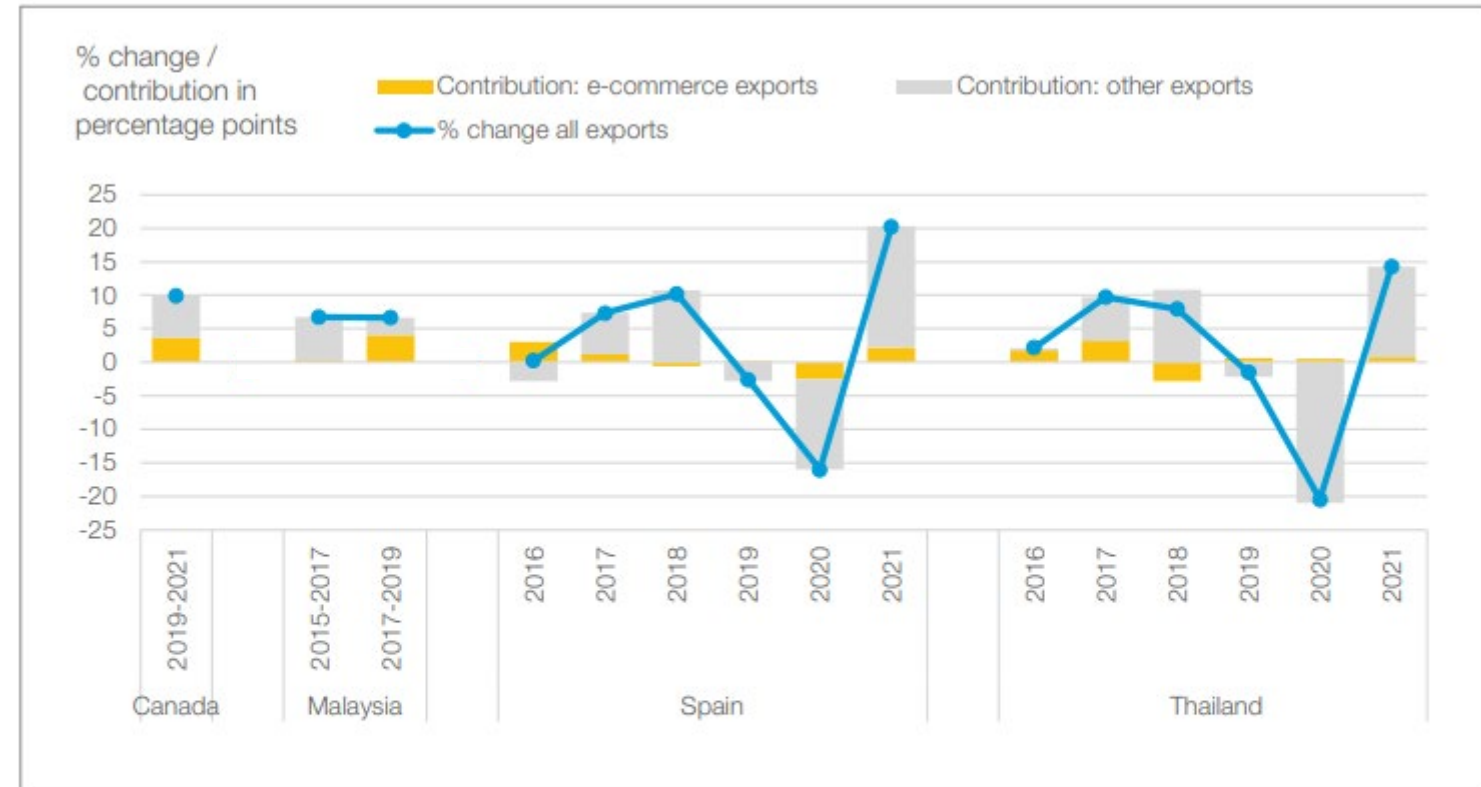
→ guidelines could support others in developing such statistics



# Digital ordering as a driver of trade

- Strong contributions toward export growth in countries with statistics available
- Supports resilience when exports overall in decline

Figure 6. E-commerce exports by businesses, contribution to change in total goods and services exports, selected countries, 2015-2021



Source: UNCTAD based on national sources and World Bank "Exports of goods and services (current US\$ )" (<https://data.worldbank.org/indicator/NE.EXP.GNFS.CD>).

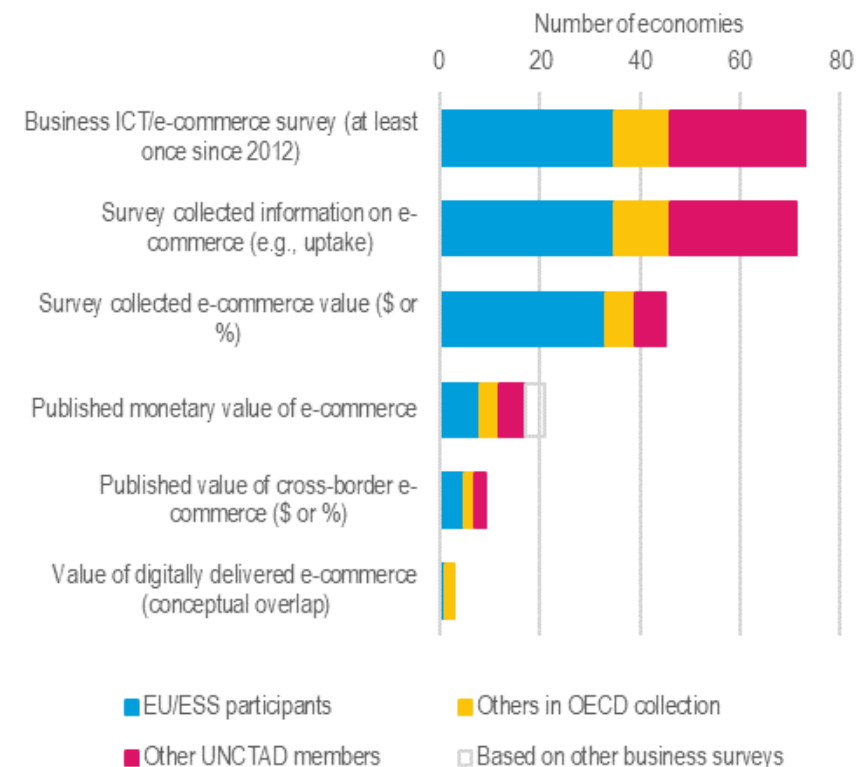
Note: Exports by businesses only. Contributions, in percentage points, of business e-commerce exports and other exports to the percentage change in total exports of goods and services. Figures represent annual changes except for Canada and Malaysia, where the change is calculated over the interval shown. Business e-commerce export and total export figures are based on different data sources, this presentation relies on the assumption that the resulting statistics can be treated as mutually compatible.

# Sources for measuring business e-commerce sales

- Three sources found in use:
  - Survey of ICT usage in business
  - Specific e-commerce surveys
  - General business survey/sectoral survey
- Surveys of ICT usage/e-commerce in business are the most common source for measuring the value of business e-commerce sales (and purchases)
  - Logical extension from questions to measure e-commerce uptake
  - Allows both sales and purchases to be measured with the same source
- Around 80 countries have such surveys
  - most have collected value of e-commerce sales
  - far fewer have published estimates
- Questions:
  - Merits/limitations of different sources?
  - Are samples designed for measuring ICT uptake suited to measuring monetary values?



## Measuring the value of business e-commerce sales using surveys of business ICT usage/e-commerce [and other business surveys]



Notes: EU = European Union, ESS = European Statistical System. The ESS includes EU countries as well as Iceland, Norway, Turkey, and the non-EU Balkan states. These countries generally follow the Eurostat model survey on e-commerce and ICT usage in business. "Others in OECD collection" comprises non-EU OECD members Australia, Canada, Colombia, Israel, Japan, Korea, Mexico, New Zealand, Switzerland, and the United Kingdom, as well as Brazil, which participates in the annual OECD data collection. Although it is an OECD member, the United States does not conduct business ICT usage surveys. "Other UNCTAD members" refers to all other economies; these have been identified as performing business ICT usage surveys based on source information provided to UNCTAD when submitting data for inclusion in the database of core indicators on ICT usage in business. Several countries have published e-commerce value figures based on other surveys: Japan, Singapore, Philippines, and the United States.

Source: UNCTAD based on national sources, Eurostat Digital Economy and Society Indicators Database, OECD ICT Access and Usage by Businesses database, UNCTAD core indicators on ICT use in business database.

# Variation in businesses covered

- Industries
- Firm sizes
- Turnover thresholds
- How might these differences affect international comparability?

Figure 8. Business coverage of e-commerce value measures

Darker shading indicates more complete coverage of classes within each industry section



Source: UNCTAD based on national sources.

Notes: Countries may vary in the inclusion or exclusion of non-employer firms (i.e. firms with zero persons employed).

Australia: Excludes employing businesses with <50 employees that did not remit under the pay-as-you-go withholding scheme.

Philippines: coverage refers to the Annual Survey of Philippine Business and Industry (ASPBI), which is the source for the series presented in Figure 1. The ASPBI covers all establishments except those with a total employment of less than 10 and only one single establishment (i.e. single proprietorships are only included if they have branches and/or >10 employment).

Singapore: individual self-employed persons who are not registered with the Accounting & Corporate Regulatory Authority (ACRA), such as taxi drivers, hawkers and stall-holders, independent artistes are excluded.

# Creation of the Task Group on Measuring e-commerce value (TG-eCOM)

- November 2022: WG-ECDE resolves to **recommend establishing a Task Group** to develop internationally agreed guidelines and recommendations on measuring e-commerce value
- May 2023: Intergovernmental Group of Experts (IGE) on ECDE ratifies the recommendation
- 9 November 2023: first meeting – introductions and agree ToR (online)
- 4 December 2024: in-person meeting
  
- **The work of TG-eCOM will be reported to WG-ECDE for discussion, input, guidance**

# TG-eCOM: objectives

- Aim: **develop internationally agreed guidelines on measuring the value of e commerce transactions involving businesses** (both sales and purchases) and thereby to support the development of internationally comparable statistics on e-commerce value (and the related concept of digitally ordered trade)
- Focus on:
  - Clarifying the policy needs related to the measurement of e-commerce value
  - Detailed discussion on the strengths and limitations of existing approaches to measuring the value of e-commerce
  - Considering all relevant aspects – including recommended breakdowns (e.g. according to firm characteristics, transaction characteristics, products, etc.)
  - Ensuring that circumstances specific to developing countries, notably the important role played by email, messaging apps and social media platforms in facilitating online ordering, are adequately considered, and accounted for in the measurement guidelines (including in relation to the definition of e-commerce and its operationalisation)
  - Discussion of associated capacity building efforts.

# TG-eCOM: guiding principles

- Complement existing efforts in the area of measuring e-commerce and the digital economy:
  - leveraging and **building on existing definitions and measurement guidelines** as appropriate, while also taking into account and contributing to discussions on those definitions occurring in other fora
  - work will be **aligned with, and actively support the implementation of, the measurement of digital trade**, in accordance with the framework and compilation guidance set out in the IMF-OECD-UNCTAD-WTO Handbook on Measuring Digital Trade
  - **focus specifically on measuring the value of business e-commerce sales and purchases**, including attendant aspects such as breakdowns, relevant elements of survey coverage and design, etc.

# TG-eCOM: membership

- Primarily a forum for discussions between those with **hands-on experience** of measuring the value of e-commerce transactions involving businesses
- Also, for those developing strategies to measure the value of business e-commerce
- Open to representatives from all 195 UNCTAD member states as well as relevant IOs
  - But **membership should remain small and expert enough to facilitate effective dialogue and progress**

## Participation in first/second meetings

Statistics **Austria**  
CETIC.br **Brazil**  
Statistics **Canada**  
National Bureau of Statistics, **China**  
Statistics **Finland**  
INSEE, **France**  
**Indonesia** Bureau of Statistics  
Bank of **Jamaica**  
Central Statistical Office, **Hungary**  
KOSTAT, Republic of **Korea**  
Department of Statistics **Malaysia**  
National Statistics Office of **Malta**  
INEGI, **Mexico**  
Statistics **Poland**  
SingStat, **Singapore**  
Statistical Office of **Slovenia**  
Electronic Transactions Development Authority,  
**Thailand**  
**UK** Office for National Statistics  
Ministry of Industry and Commerce, **Zimbabwe**

Eurostat  
ITU  
IMF  
OECD  
UNSD  
WTO



# TG-eCOM: operational aspects

- In order to facilitate the discussions, the Task Group will work *flexibly and informally*
- Mainly meet **online**
- Informal **in-person meetings up to twice a year** as appropriate to deliver on the objectives
- In accordance with the informal nature, meetings will be conducted in **English** (without interpretation)
  - Nevertheless, all reasonable steps will be taken to enable non-English speaking experts to contribute to the work of the Task Group as appropriate

## Agenda for in-person meeting 4 December 2023, CIGG Geneva

| Time          | Item   |
|---------------|--|
| 10.00 - 11.00 | Opening session of eWeek 2023  |
| 11:00         | Start of TG-eCOM   |
| 11:00 – 12:30 | Approaches to measuring business e-commerce value: business ICT surveys<br>- DOSM, Malaysia<br>- Eurostat  |
| 12:30 – 13:30 | Lunch break  |
| 13:30 – 15:00 | Approaches to measuring business e-commerce value: other business surveys<br>- ETDA, Thailand – e-commerce survey<br>- SingStat, Singapore – business sectoral survey  |
| 15:00 – 15:15 | Coffee break   |
| 15.15 – 16:15 | Discussion of the work of the TG going forward   |
| 16:30 – 18:00 | Measuring digital trade (joint session as part of eWeek programme)<br>- OECD, UNCTAD, WTO – introduction to the Handbook on Measuring Digital Trade<br>- Statistics Canada – measuring digitally ordered trade with business ICT surveys<br>- Ministry of Trade, Türkiye – measuring digitally ordered trade in goods using customs data<br>- Central Bank of Costa Rica – surveying digitally delivered trade |



# Take-aways

- The TG-eCOM is now operational
- Its central aim is to develop internationally agreed guidelines on measuring the value of e-commerce transactions involving businesses
- It will provide a forum for detailed technical discussions among those with relevant experience and interests
- The stocktaking report “Measuring the value of e-commerce” provides a basis for its work
- Progress will be reported to the WG-ECDE and IGE
- Others with experiences to share are very welcome