

Enabling Cross-Border Data Flows and Digital Trade Integration in Asia and the Pacific

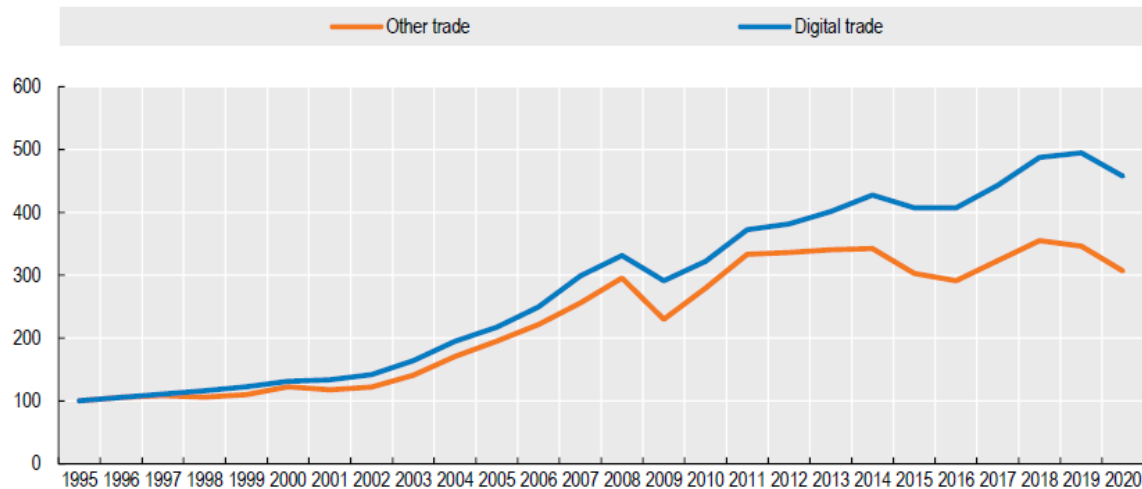
PASCN-PIDS and ADMU Public Symposium

Gerald Gracius Y. Pascua
Lecturer, Department of Economics, ADMU
13 June 2023



Hastened by the pandemic, digital transformation propelled trade to move into the digital space

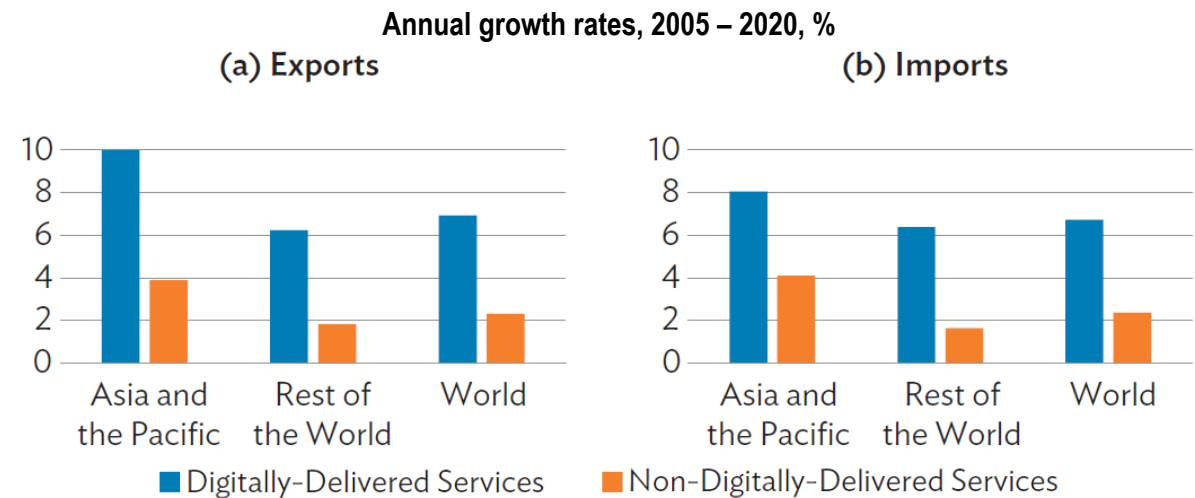
Digital trade is growing faster than non-digital



Note: Changes in exports relative to 1995 (1995=100).

By 2020, digital trade represented 25% of global trade, or just under USD 5 trillion ([OECD 2023](#)).

Digitally-deliverable services are beginning to dominate services trade



The Asia and Pacific region, particularly Southeast and South Asia, is at the forefront of digital services trade ([ADB 2022](#)).

Data free flows with trust is crucial in enabling cross-border trade

- Digital trade is reliant on open and seamless transmission of data across economies.
- Categories of data-related policies:
 - Data localization policies (DL)
 - Local storage requirements (LS)
 - Conditional flow regimes (CF)
- The growing challenge is to enable cross-border data transfers while ensuring privacy, security, and intellectual property.

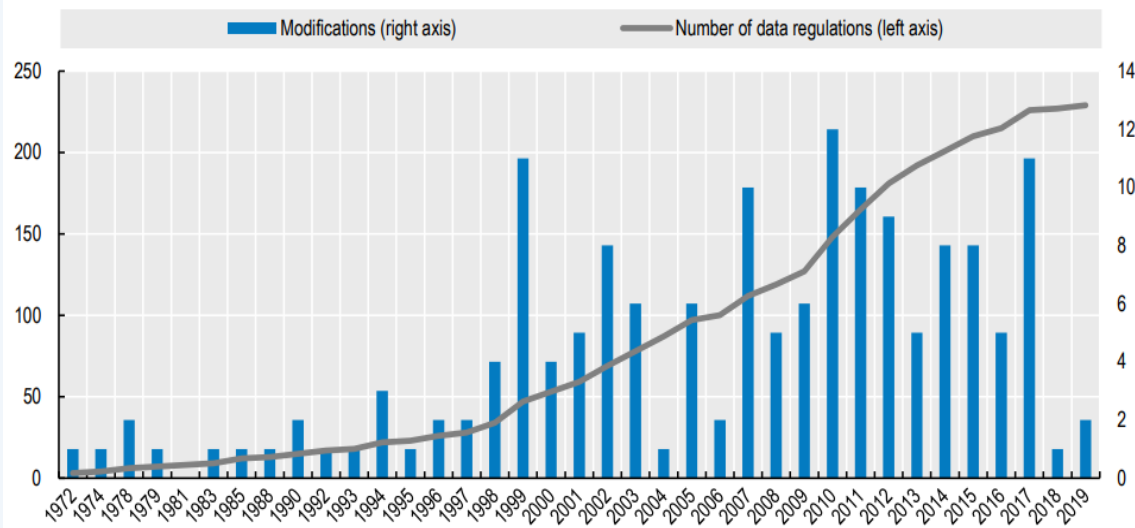
Cross-Border Data Restrictions **negatively impact** digital services imports

| | | Digital services imports | | | |
|---------------|----------|--------------------------|--------------------|------|------|
| | | Overall | DL | LS | CF |
| Sector/Region | | Reference: Non-Digital | | | |
| Digital | World | -14% | | | |
| | Non-Asia | -9% | -0.6% ^a | -24% | -8% |
| | Asia | -70% | -94% | -29% | -45% |

a = statistically insignificant; Digital services (DS) = Telecommunication, Computer, Information, Insurance, and Financial services; DL = data localization policies; LS = local storage requirements; CF = conditional flow regimes

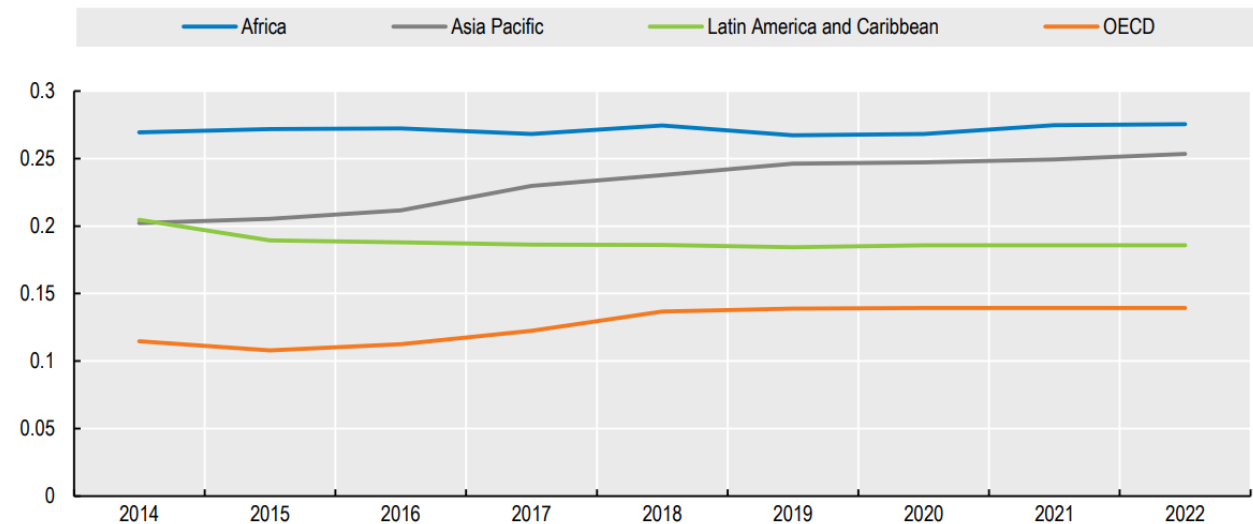
Regulations affecting cross-border data and trade flows are growing and becoming more restrictive

Regulations that affect cross-border data flows, 1972- 2019
(Source: Casalini and López González, 2019)



- Governments increasingly adopt restrictive data regulations, e.g., policies that condition cross-border data movement, or mandate that data be stored domestically.

Average digital services trade restrictiveness index, by region, 2014- 2022 (1= most restrictive)

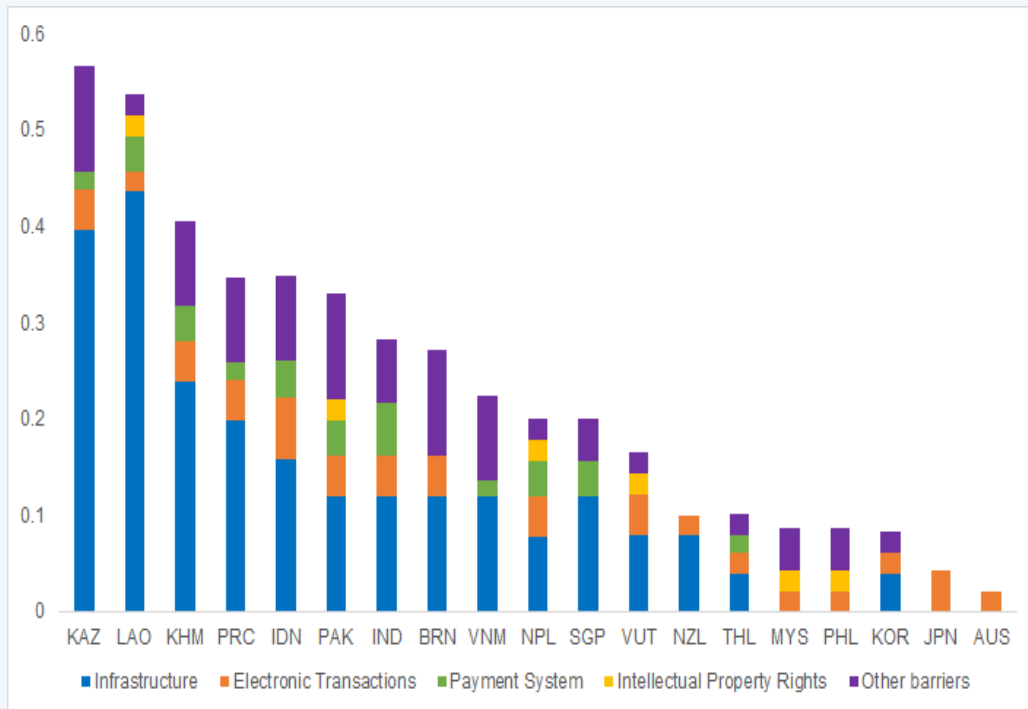


- Digital services trade restrictiveness differ across regions, trend in Asia-Pacific region is increasing through the years.

Regulatory heterogeneity and restrictions also persist across Asia-Pacific: The case of digital services

Restrictive digital regulatory environments discourages digital services trade

Digital Services Trade Restrictiveness Index (DSTRI) , 2022



Wide heterogeneity in digital regulatory frameworks hinders digital integration, and risks fragmentation

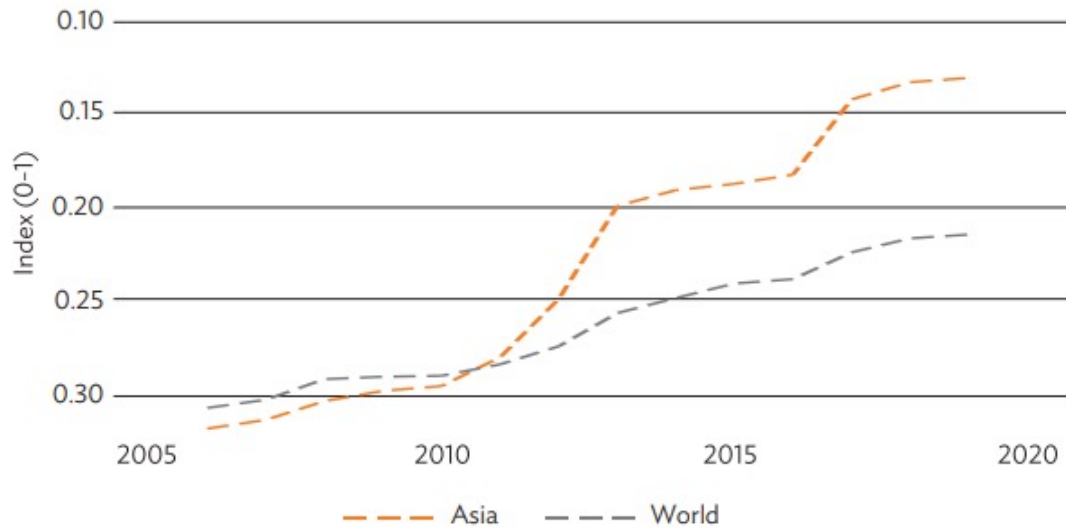
DSTRI Heterogeneity Index, 2022

| Reporter | Partner | | | | | | | | | | | | | | | | | | |
|----------|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | AUS | JPN | ROK | NZL | BRN | KHM | PRC | IND | IDN | KAZ | LAO | MYS | NPL | PAK | PHL | SGP | THA | VUT | VNM |
| AUS | | 0.02 | 0.22 | 0.08 | 0.29 | 0.34 | 0.37 | 0.32 | 0.29 | 0.47 | 0.40 | 0.11 | 0.22 | 0.35 | 0.11 | 0.26 | 0.08 | 0.18 | 0.25 |
| JPN | 0.02 | | 0.24 | 0.10 | 0.31 | 0.37 | 0.39 | 0.34 | 0.26 | 0.45 | 0.42 | 0.13 | 0.24 | 0.37 | 0.13 | 0.28 | 0.10 | 0.16 | 0.27 |
| ROK | 0.22 | 0.24 | | 0.14 | 0.18 | 0.41 | 0.30 | 0.22 | 0.30 | 0.45 | 0.34 | 0.25 | 0.20 | 0.25 | 0.20 | 0.32 | 0.14 | 0.25 | 0.19 |
| NZL | 0.08 | 0.10 | 0.14 | | 0.29 | 0.42 | 0.37 | 0.24 | 0.29 | 0.47 | 0.40 | 0.11 | 0.30 | 0.35 | 0.11 | 0.26 | 0.08 | 0.26 | 0.17 |
| BRN | 0.29 | 0.31 | 0.18 | 0.29 | | 0.30 | 0.29 | 0.20 | 0.36 | 0.42 | 0.49 | 0.27 | 0.27 | 0.26 | 0.23 | 0.46 | 0.25 | 0.32 | 0.25 |
| KHM | 0.34 | 0.37 | 0.41 | 0.42 | 0.30 | | 0.30 | 0.43 | 0.38 | 0.28 | 0.34 | 0.36 | 0.25 | 0.24 | 0.36 | 0.28 | 0.34 | 0.37 | 0.34 |
| PRC | 0.37 | 0.39 | 0.30 | 0.37 | 0.29 | 0.30 | | 0.28 | 0.17 | 0.38 | 0.40 | 0.38 | 0.31 | 0.23 | 0.43 | 0.39 | 0.45 | 0.31 | 0.32 |
| IND | 0.32 | 0.34 | 0.22 | 0.24 | 0.20 | 0.43 | 0.28 | | 0.33 | 0.43 | 0.44 | 0.35 | 0.35 | 0.31 | 0.35 | 0.39 | 0.29 | 0.43 | 0.29 |
| IDN | 0.29 | 0.26 | 0.30 | 0.29 | 0.36 | 0.38 | 0.17 | 0.33 | | 0.34 | 0.40 | 0.35 | 0.27 | 0.23 | 0.30 | 0.26 | 0.32 | 0.27 | 0.36 |
| KAZ | 0.47 | 0.45 | 0.45 | 0.47 | 0.42 | 0.28 | 0.38 | 0.43 | 0.34 | | 0.23 | 0.48 | 0.45 | 0.32 | 0.48 | 0.29 | 0.47 | 0.45 | 0.42 |
| LAO | 0.40 | 0.42 | 0.34 | 0.40 | 0.49 | 0.34 | 0.40 | 0.44 | 0.40 | 0.23 | | 0.46 | 0.30 | 0.30 | 0.50 | 0.26 | 0.44 | 0.34 | 0.41 |
| MYS | 0.11 | 0.13 | 0.25 | 0.11 | 0.27 | 0.36 | 0.38 | 0.35 | 0.35 | 0.48 | 0.46 | | 0.28 | 0.32 | 0.09 | 0.37 | 0.11 | 0.29 | 0.18 |
| NPL | 0.22 | 0.24 | 0.20 | 0.30 | 0.27 | 0.25 | 0.31 | 0.35 | 0.27 | 0.45 | 0.30 | 0.28 | | 0.13 | 0.28 | 0.28 | 0.22 | 0.17 | 0.35 |
| PAK | 0.35 | 0.37 | 0.25 | 0.35 | 0.26 | 0.24 | 0.23 | 0.31 | 0.23 | 0.32 | 0.30 | 0.32 | 0.13 | | 0.37 | 0.29 | 0.35 | 0.29 | 0.22 |
| PHL | 0.11 | 0.13 | 0.20 | 0.11 | 0.23 | 0.36 | 0.43 | 0.35 | 0.30 | 0.48 | 0.50 | 0.09 | 0.28 | 0.37 | | 0.32 | 0.06 | 0.29 | 0.23 |
| SGP | 0.26 | 0.28 | 0.32 | 0.26 | 0.46 | 0.28 | 0.39 | 0.39 | 0.26 | 0.29 | 0.26 | 0.37 | 0.28 | 0.29 | 0.32 | | 0.26 | 0.37 | 0.30 |
| THA | 0.08 | 0.10 | 0.14 | 0.08 | 0.25 | 0.34 | 0.45 | 0.29 | 0.32 | 0.47 | 0.44 | 0.11 | 0.22 | 0.35 | 0.06 | 0.26 | | 0.26 | 0.21 |
| VUT | 0.18 | 0.16 | 0.25 | 0.26 | 0.32 | 0.37 | 0.31 | 0.43 | 0.27 | 0.45 | 0.34 | 0.29 | 0.17 | 0.29 | 0.29 | 0.37 | 0.26 | | 0.35 |
| VNM | 0.25 | 0.27 | 0.19 | 0.17 | 0.25 | 0.34 | 0.32 | 0.29 | 0.36 | 0.42 | 0.41 | 0.18 | 0.35 | 0.22 | 0.23 | 0.30 | 0.21 | 0.35 | |

Note: AUS = Australia, BRN = Brunei Darussalam, KHM = Cambodia, IDN = Indonesia, JPN = Japan, KAZ = Kazakhstan, ROK = Republic of Korea, LAO = Lao People's Democratic Republic, MYS = Malaysia, NZL = New Zealand, PHL = Philippines, PRC = People's Republic of China, SGP = Singapore, THA = Thailand, VUT = Vanuatu, VNM = Viet Nam. **Scores range from 0 to 1, where 1 indicates the most restrictive regulatory environment.** Source: Authors based on OECD Digital Services Trade Restrictiveness Index.

Asia-Pacific's data restrictiveness is more severe than global average

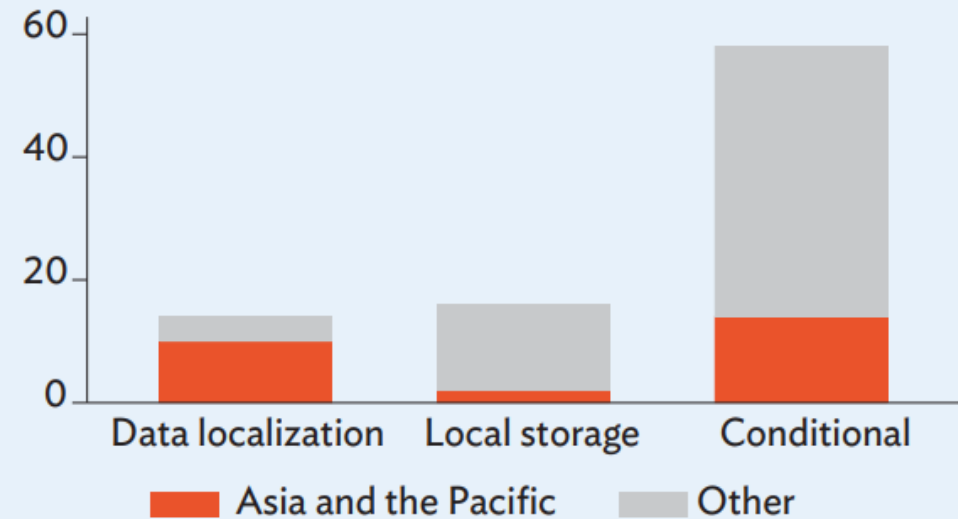
Figure 5.3: Data Policy Index for Cross-Border Data-Related Measures for Asia and the World



Note: The methodology follows Ferracane and van der Marel (2021). The index is a weighted average across all economies using gross domestic product at constant 2010 prices for each economy as weight. Only the three cross-border data flow restrictions are covered: data localization, local storage requirement, and conditional flow regime.

Source: Author's calculations.

Number of Data Localization Policies, Local Storage Requirements, and Conditional Flow Regimes Imposed by Asian and Other Economies, 2019 (number of measures)



Note: Categorization of economies is performed on the basis of values assigned with an initial 0.5, meaning that economies also apply a partial restriction in regard to the three types of data-related restrictions.

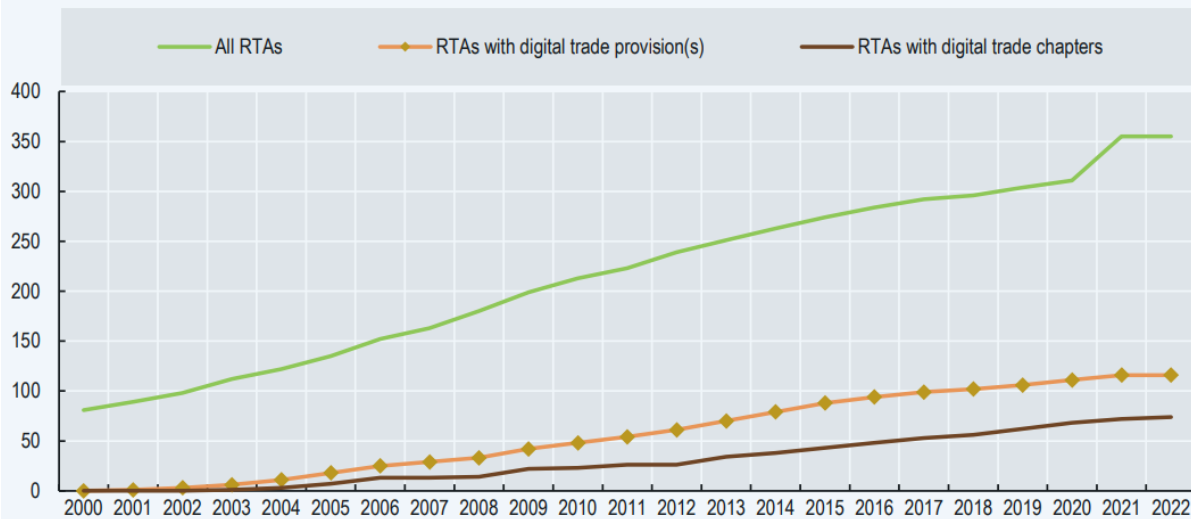
Source: van der Marel (2021b).

- Asian economies account for around 70% of data localization measures.

RTAs have a pivotal role in enhancing digital trade and removing restrictions in cross-border data flows

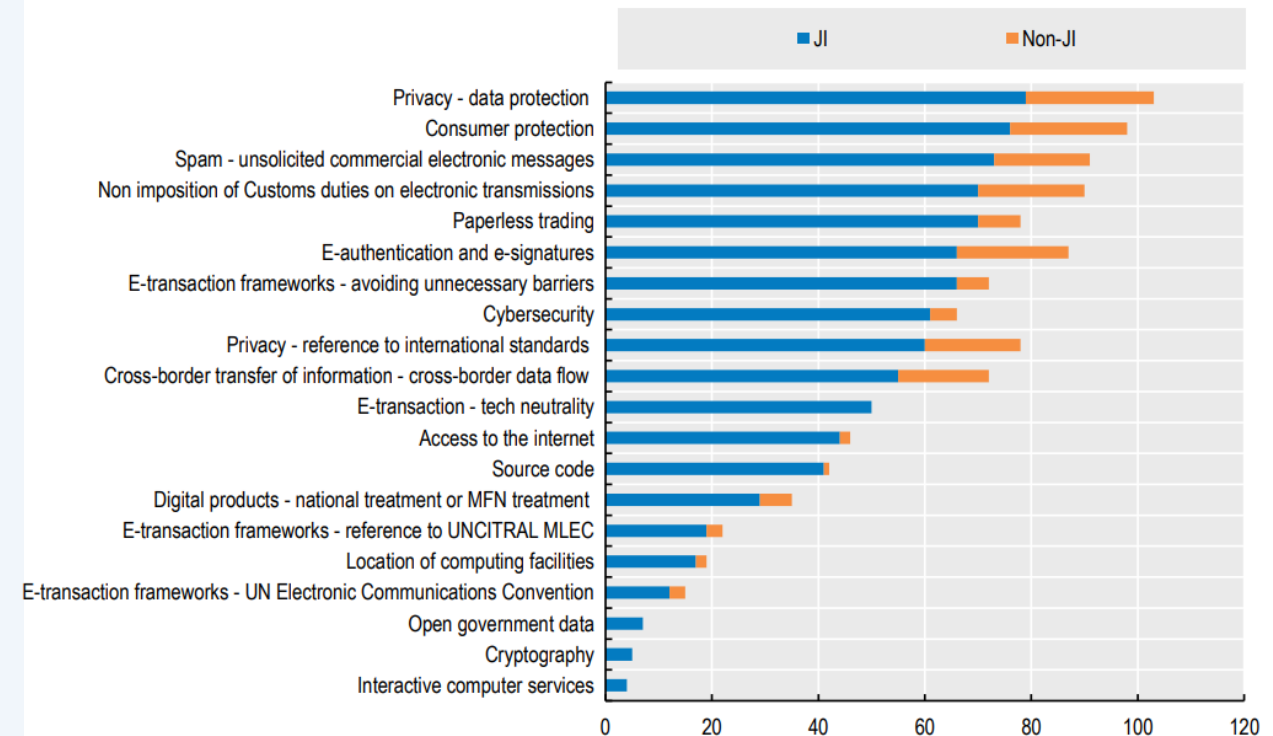
- Digital issues have migrated to RTAs due to rapid rise in trade of ICT goods and digitally services.
- Signing an RTA with e-commerce provisions is found to increase exports of high-income countries by 10.3% and of emerging economies by 16.9% (López-Gonzalez, Sorescu and Kaynak, 2023).

Growing number of RTAs have digital trade provisions



Notes: Analysis only considers trade agreements in force in a respective year. RTA with digital trade provisions refers to there being at least one e-commerce/digital trade provision, whether in a separate chapter or not (e.g. IP provisions which might be important for the digital economy but are not in an individual e-commerce chapter). RTAs are identified from the WTO RTA database. Digital provisions and digital chapters are identified from the TAPED database (November 2022 version). Source: [OECD Digital Trade Review 2023](#)

RTAs cover a wide range of digital trade issues



RCEP has progressed digital trade liberalization, but much more can still be done

- **E-commerce**

- Goes beyond previous FTAs commitments in RCEP countries.
- Compared to CPTPP provisions on data flows and data localization, computer services are less stringent, but contain exceptions.
- Dialogue on Electronic Commerce, a forum for member countries to discuss matters relevant to the development and use of electronic commerce.

- **Intellectual Property**

- Covers similar provisions of TRIPS Agreement as well as new fields, aligning with the growing importance of the digital economy

- **RCEP Digital Services**

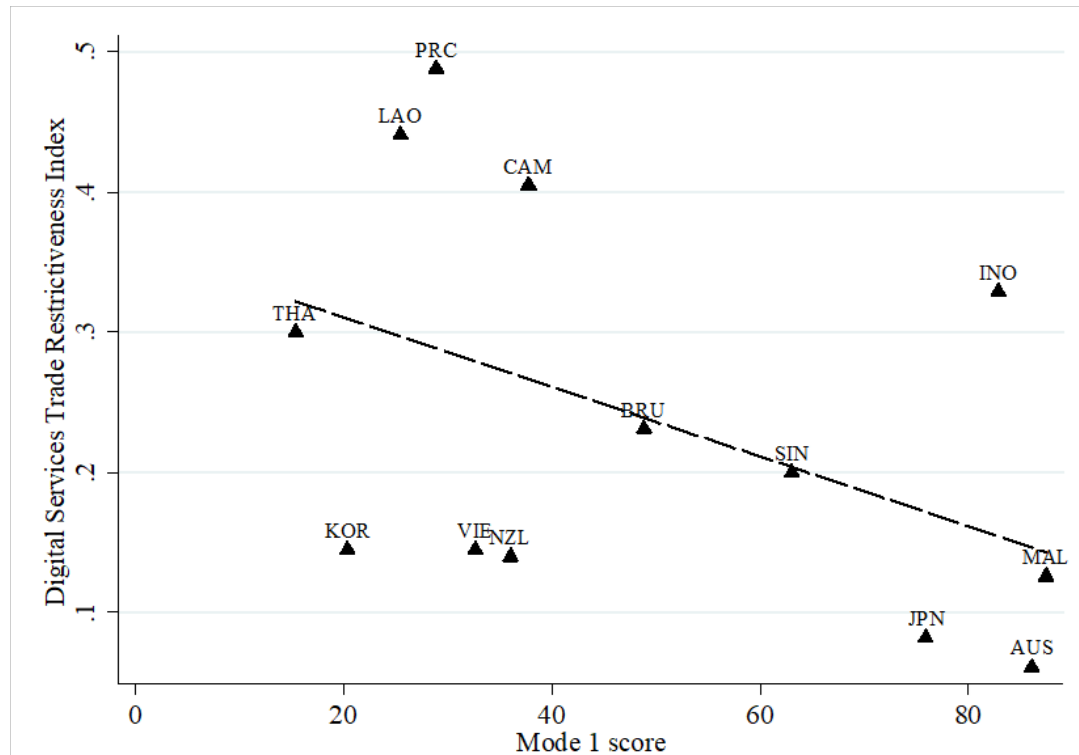
- Deeper Mode 1 liberalization under the RCEP relative to GATS could encourage digital services growth
- However, disparities in the quality of commitments may cause the potential gains to be unevenly distributed

| RCEP Liberalization Rates, in % | | | | |
|---------------------------------|----------------------------------|---------------------------------|----------------------------------|----------------|
| | Mode 1 Cross-Border Supply | Mode 2 Consumption Abroad | Mode 3 Commercial Presence | Mode 4 MONP |
| Average | 46.1 | 70.1 | 40.9 | 34.2 |
| AUS | 86.0 | 99.7 | 48.9 | 70.4 |
| BRU | 48.8 | 100.0 | 51.0 | 4.3 |
| CAM | 37.8 | 58.8 | 19.9 | 18.6 |
| INO | 82.9 | 92.0 | 50.7 | 41.3 |
| JPN | 75.9 | 98.2 | 50.1 | 95.4 |
| KOR | 20.4 | 61.5 | 54.5 | 48.9 |
| LAO | 25.5 | 49.8 | 30.2 | 16.6 |
| MAL | 87.4 | 98.7 | 43.3 | 58.1 |
| MYA | 51.5 | 52.3 | 39.9 | 4.7 |
| NZL | 36.0 | 40.6 | 35.9 | 43.6 |
| PHI | 0.0 | 0.0 | 12.6 | 15.8 |
| PRC | 28.9 | 68.4 | 49.8 | 24.2 |
| SIN | 63.0 | 93.2 | 39.5 | 48.0 |
| THA | 15.4 | 63.8 | 22.4 | 22.2 |
| VIE | 32.6 | 74.1 | 64.4 | 1.0 |

Note: AUS = Australia, BRU = Brunei Darussalam, CAM = Cambodia, INO = Indonesia, JPN = Japan, KOR = Republic of Korea, LAO = Lao People's Democratic Republic, MAL = Malaysia, MYA = Myanmar, NZL = New Zealand, PHI = Philippines, PRC = People's Republic of China, SIN = Singapore, THA = Thailand, VIE = Viet Nam.

Services liberalization should be complemented with domestic reforms geared towards reducing digital divide.

Digital Services Trade Restrictiveness Index (score), 2021, and Mode 1 RCEP Liberalization rates (%)



- RCEP mode 1 liberalization rates reflect the stringency of domestic regulations.
- There may be little room for further liberalization unless regulatory reforms are implemented at the national level.
- The lack of digital skills and affordability can also inhibit the use of digital tools and limit trade in digital services in developing economies.

Digital trade provisions in RTAs could be expanded through, among others, Digital Economy Agreements

Coverage of Select Digital Trade Agreements in Asia and the Pacific

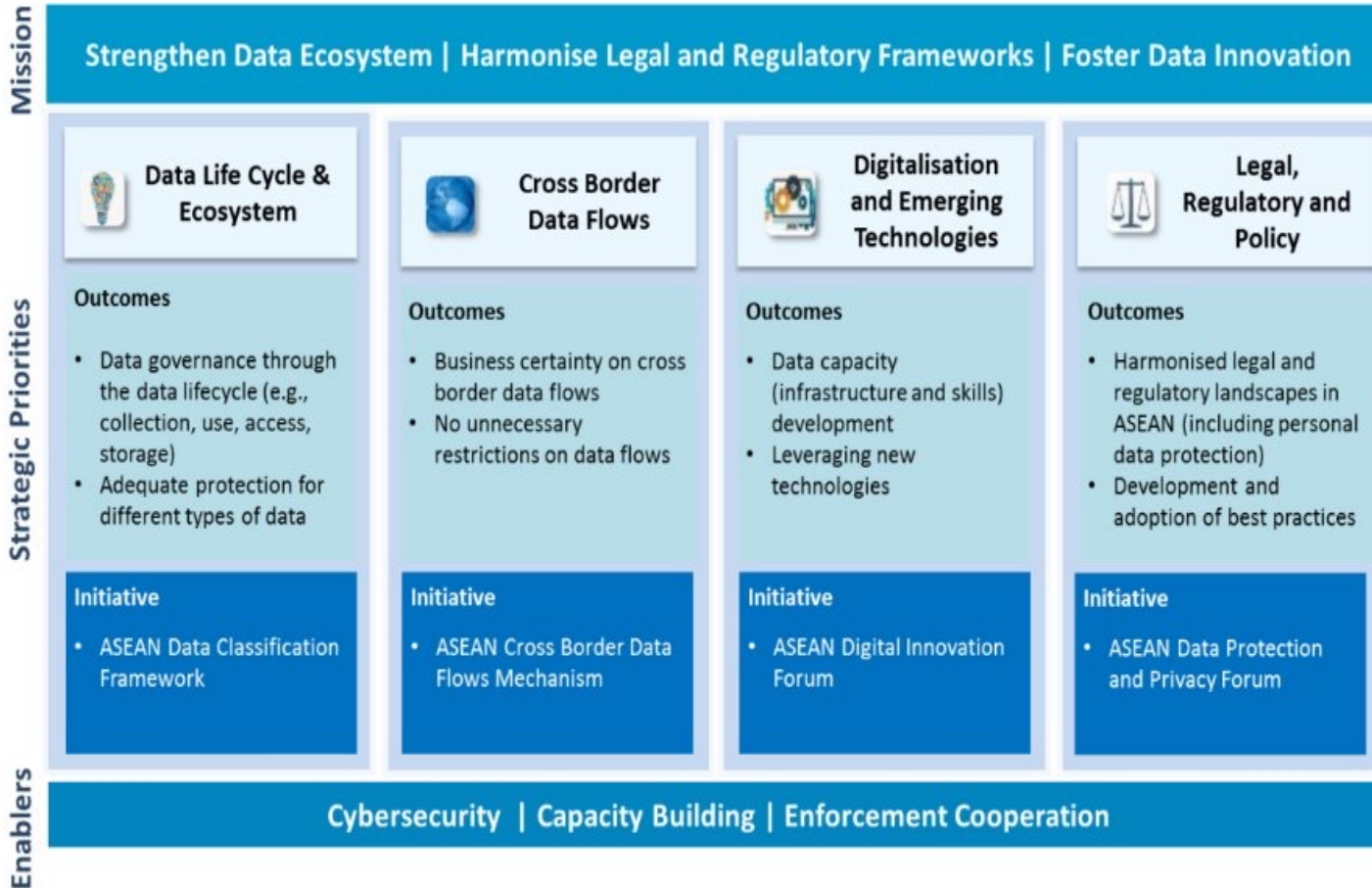
| | SGP-UK DEA (2022) | RCEP (2022) | ROK-SGP DPA (2021) | ASEAN e- commerce (2021) | SGP-AUS DEA (2020) | SGP-NZL- CHL DEPA (2020) | CPTPP (2018) | AANZ FTA (2010) |
|----------------------------|-------------------------|----------------|--------------------------|--------------------------------|--------------------------|-----------------------------------|-----------------|-----------------------|
| E-authentication | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| E-invoicing | ✓ | | ✓ | | ✓ | ✓ | | |
| Paperless trading | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Personal info protection | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Cross-border info transfer | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Open government data | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ |
| Data innovation | ✓ | | ✓ | | ✓ | ✓ | | |
| Cryptography policy | ✓ | | ✓ | | ✓ | ✓ | | |
| Cybersecurity | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Digital inclusion | ✓ | | | | | ✓ | | |

International cooperation initiatives on data governance also help address digital risks and challenges

Other regional and international initiatives:

- **UN Commission on International Trade Law (UNCITRAL) Model Law of Electronic Commerce (1996)**
 - Encourages harmonization of domestic laws and regulations on e-commerce, and functional equivalence between electronic communications and paper documents.
- **UN International Data Governance Pathways to Progress (2023)**
 - Articulates UN vision for accountable, agile, and fair international data governance
 - Puts forward a step-wise framework to advance a multilateral approach to data governance:
 - Agreement/Declaration on universal data principles
 - Global Data Compact
 - Data Convention that collectively implements data promotion and protection actions
- **APEC Cross-Border Privacy Rules System (2011)**
 - Voluntary, accountability-based system that facilitates privacy-respecting data flows among APEC economies.
 - Bridges differing national privacy laws within APEC, reducing information barriers for global trade.
- **WEF's Data Free Flow with Trust Initiative (2020)**
 - Cites four pillars crucial to international cooperation on cross-border data flows:
 - transfer mechanisms
 - legal and regulatory cooperation
 - technical standards and industrial cooperation
 - **international trade rules.**
 - Recommends governments to further **negotiate trade agreements (including JSI)** with facilitating provisions on cross border data flows, and prohibiting data localization, source code disclosure, and imposition of tariffs on electronic transmissions.

International cooperation initiatives on data governance also help address digital risks and challenges



ASEAN Framework on Digital Data Governance (2018)

- Intended to enhance data management, facilitate harmonization of data regulations among AMS, and promote intra-ASEAN data flows.
- Aims to strengthen digital data collection and business' capabilities to create trust in AMS' data management practices.
- Identifies four strategic priorities of digital data governance that support the ASEAN digital economy:
 - Data Life Cycle and Ecosystem
 - **Cross Border Data Flows**
 - Digitalization and Emerging Technologies
 - Legal and Regulatory Policy

Ways forward

- Invest in ICT infrastructure, enhance digital skills competency, and intensify digital regulatory cooperation in order to better facilitate and increase cross-border trade.
- Integrate digital services liberalization to the broader initiatives toward expanding e-commerce and digital economy market opportunities.
- Consider expanding the modular approach (such as DEAs) to traditional trade agreements for countries not ready to adopt all provisions.
- A comprehensive approach that links all areas of digital economy participation will help in formulating targeted strategies, and in identifying the technical assistance and support needed to narrow the investment gaps with a view to fully reap the benefits of services liberalization and digitization.

Maraming Salamat po!

Gerald Gracius Y. Pascua
gypascua@ateneo.edu



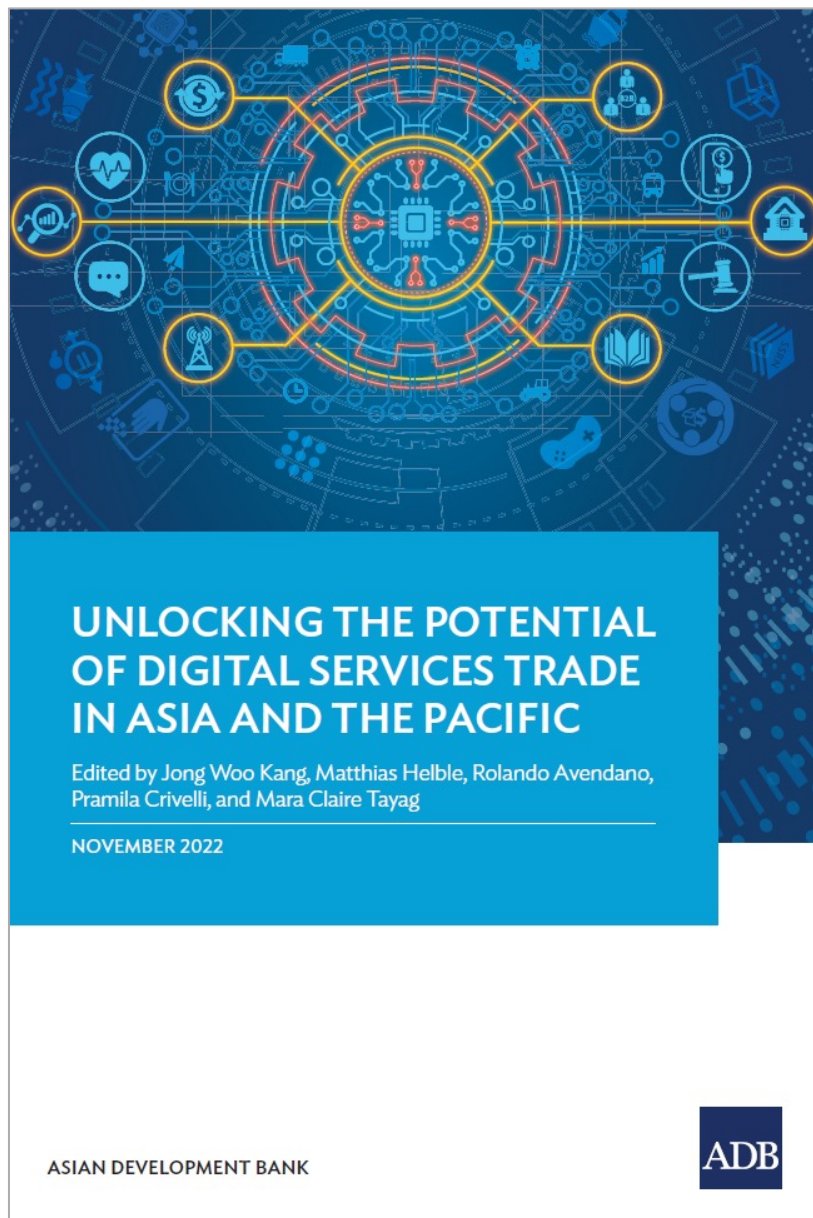


Table 2.1: Digitally Deliverable Services

| Code | Service Description | Digitally Deliverable | Parent Category |
|-----------|--|-----------------------|--|
| SA | Manufacturing services on input owned by others | | Manufacturing services on input owned by others |
| SB | Maintenance and repair services n.i.e. | | Maintenance and repair services n.i.e. |
| SC | Transport services | | Transport services |
| SD | Travel | | Travel |
| SE | Construction | | Construction |
| SF | Insurance and pension services | ✓ | Insurance and pension services |
| SG | Financial services | ✓ | Financial services |
| SH | Charges for the use of intellectual property n.i.e. | ✓ | Charges for the use of intellectual property n.i.e. |
| SI1 | Telecommunication services | ✓ | Telecommunication, computer, and information services |
| SI2 | Computer services | ✓ | Telecommunication, computer, and information services |
| SI3 | Information services | ✓ | Telecommunication, computer, and information services |
| SJ1 | Research and development services | ✓ | Other business services |
| SJ2 | Professional and management consulting services | ✓ | Other business services |
| SJ3 | Technical, trade-related, and other business services | ✓ ^a | Other business services |
| SK1 | Audiovisual and related services | ✓ | Personal, cultural, and recreational services |
| SK2 | Other personal, cultural, and recreational services | ✓ ^a | Personal, cultural, and recreational services |
| SL | Government goods and services n.i.e. | | Government goods and services n.i.e. |

n.i.e. = not included elsewhere.

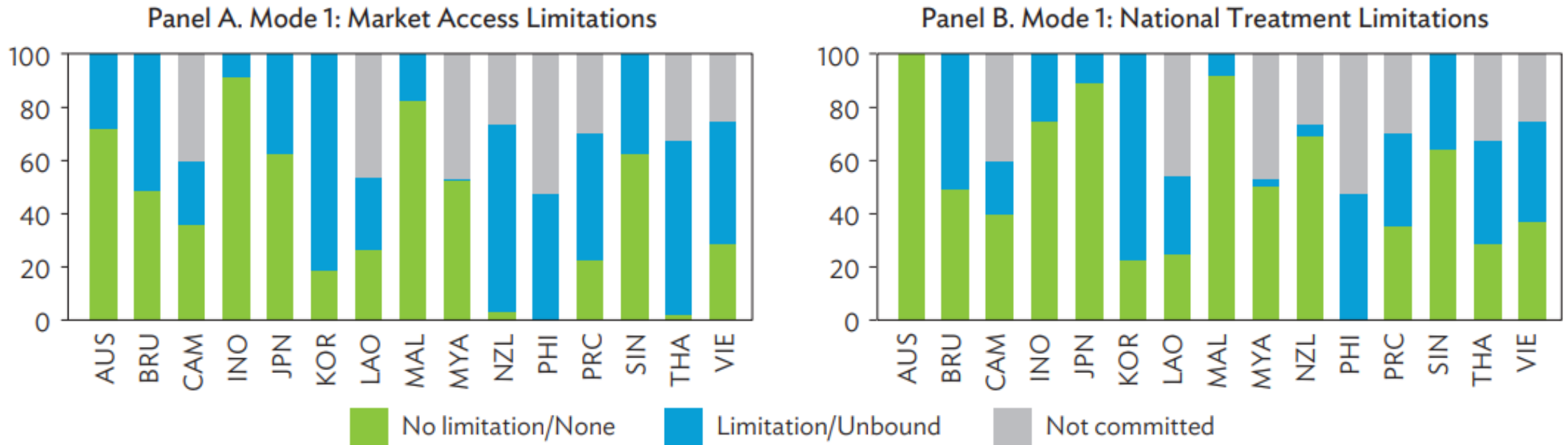
Note: Items in bold are services categories that are considered digitally deliverable, or potentially information and communication technology (ICT)-enabled.

Digital provisions in the RCEP, ASEAN Agreement on E-Commerce, and CPTPP

| Categories | Provisions | Number of Provisions | | |
|--|--|----------------------|------------------|-----------|
| | | RCEP | ASEAN E-Commerce | CPTPP |
| Trade Facilitation | | 5 | 4 | 6 |
| Provisions designed to create a facilitating environment for digital trade in general. | Ban on Customs Duties on e transmission | 1 | 0 | 1 |
| | Non-discriminatory treatment of digital products | 0 | 0 | 1 |
| | Domestic electronic transactions framework | 1 | 1 | 1 |
| | Electronic authentication | 1 | 1 | 1 |
| | Electronic signatures | 1 | 1 | 1 |
| | Paperless trading | 1 | 1 | 1 |
| Enabling Business | | 2 | 2 | 4 |
| Provisions to minimize the commercial and regulatory burden for digital trade providers. | Access to and use of the internet for e-commerce | 0 | 0 | 1 |
| | Free flow of data | 1 | 1 | 1 |
| | Prohibition of data localization | 1 | 1 | 1 |
| | Prohibition on forced transfer of source code | 0 | 0 | 1 |
| | Open government data | 0 | 0 | 0 |
| Consumer Protection | | 3 | 2 | 3 |
| Provisions to protect interests and enhance trust of consumers | Online consumer protection | 1 | 1 | 1 |
| | Personal information protection | 1 | 1 | 1 |
| | Unsolicited commercial electronic messages | 1 | 0 | 1 |
| Regulatory Autonomy | | 2 | 4 | 3 |
| Provisions to help governments to reserve the space necessary to address various social policy objectives* | Cybersecurity | 1 | 1 | 1 |
| | Exceptions | 0 | 1 | 0 |
| | Cooperation | 1 | 1 | 1 |
| | Dispute settlement | 0 | 1 | 1 |
| Total | | 12 | 12 | 16 |

RCEP Mode 1 Limitations

Mode 1 Market Access and National Treatment Limitations by Mode and Country (% of subsectors)



AUS = Australia, BRU = Brunei Darussalam, CAM = Cambodia, INO = Indonesia, JPN = Japan, KOR = Republic of Korea, LAO = Lao People's Democratic Republic, MAL = Malaysia, MYA = Myanmar, NZL = New Zealand, PHI = Philippines, PRC = People's Republic of China, SIN = Singapore, THA = Thailand, VIE = Viet Nam.

Source: Crivelli, P., Marand, J. and Pascua, G., 2022. Liberalizing Services Trade in the Regional Comprehensive Economic Partnership: Status and Ways Forward, <https://www.adb.org/publications/services-trade-regional-comprehensive-economic-partnership>. Authors' calculations at the 4-digit CPC level, using the Asian Development Bank–Economic Research Institute for ASEAN and East Asia Regional Comprehensive Economic Partnership Services Commitments Database.

DEPA and DEAs are much wider in scope and offer more holistic approach to digital trade

- **Singapore–New Zealand–Chile DEPA (2020)**
 - Aims to harness digital economy potential targeted at smaller economies.
 - Covers digital trade, data flows, and building trust in digital systems.
 - Living agreement – open to WTO members able to meet its standards (negotiations with ROK concluded).
- **UK–Singapore DEA (2022)**
 - Has binding disciplines on data flows, cooperation in emerging areas such as AI, FinTech and RegTech, digital identities, and legal technology
 - Work programs on cybersecurity (IOT security, cyber resilience), digital trade facilitation; and customs cooperation (to work on single window interoperability and supply chain digitalization).

DEPA/DEA's **modular approach** may become the future framework in regulating digital trade

- Pioneering approach to digital trade issues within an RTA framework.
- Each module comprises independent set of provisions on a specific digital issue.
- Flexibility: choose specific areas of cooperation that align with national policies and digital economy priorities (no one-size-fits-all)
- Accommodates countries at different stages of digital development and regulatory environments, making it more accessible.
- Allows parts of the agreement to be adapted into existing and new trade agreements.