

Enabling Policy Environment, Regional Mechanisms, and Systems for Cross-Border Data Flows

2nd CAREC Digital Trade Forum

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Outline

- Impact of digital regulation on digital services trade
- Regional mechanisms and key data provisions in trade agreements
- Key principles for CAREC: Considering DEPA/DEAs



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

Impact of digital regulation on digital trade: recent empirical literature

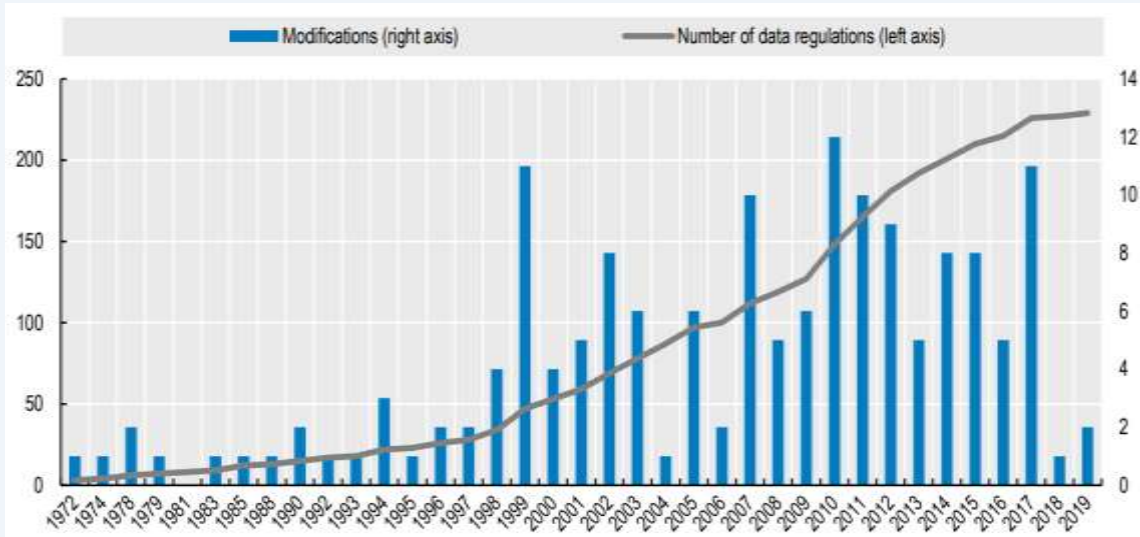
Author	Relevant Findings
Chang, et al (2023)	<ul style="list-style-type: none"> International data flows significantly improve welfare in steady states. Trade liberalization benefits vanish when the data divide is too large, e.g. with restricted cross-border data flows
Sun and Trefler (2023)	<ul style="list-style-type: none"> AI on mobile applications positively impact international digital services trade, but this impact is halved by restrictions on cross-border data flows.
Hao, et al (2023)	<ul style="list-style-type: none"> Increasing cross-border digital service inputs can drive economic growth in the importing country. But trade barriers in digital services diminish this. Digital services trade restrictions constrict the range and quality of selectable digital services. Electronic transactions, trading restrictions, cross-border flow restrictions, and domestic regulatory restrictions are the primary obstacles to unlocking the digital dividends from cross-border digital service inputs.
López-González and Sorescu (2023)	<ul style="list-style-type: none"> A 1% increase in bilateral digital connectivity increases domestic trade by 2.1% and international trade by 1.5%. A 0.1-point reduction in the domestic DSTRI is associated with a 145% increase in overall exports. The impact is highest for digitally-deliverable services but is also high in food and agriculture and manufacturing sectors.
Gupta, Ghosh, and Sridhar (2022)	<ul style="list-style-type: none"> Data restrictions has a moderate negative effect on IT services export. If countries move from liberal policies to stringent data restrictions, ICT services exports are affected substantially.
Herman and Oliver (2022)	<ul style="list-style-type: none"> One standard deviation increase in internet connectivity increases bilateral trade by over 38%. Internet connectivity increases trade for both goods and services. Policies promoting the free flow of data in PTAs have positive effect on trade in services sectors.
Ferracane and Marel (2019)	<ul style="list-style-type: none"> Strict data policies negatively and significantly impact imports of data-intensive services. Countries with restrictive cross-border data policies suffer from lower levels of services traded over the internet.

Three main approaches in regulating cross-border data

Model	Cross-border data transfers	Domestic data processing
OP: Open Transfers and Processing Model	Self-certification; self-assessment schemes; ex-post accountability; trade agreements and plurilateral/bilateral arrangements as only means to regulate data transfers.	Lack of comprehensive data protection framework; lack of informed consent; privacy as a consumer right.
RS: Regulatory Safeguards Model	Conditions to be fulfilled ex-ante, including adequacy of the recipient country, binding corporate rules (BCR), standard contract clauses (SCCs,) data subject consent, codes of conduct, among others.	Wide data subject rights; data subject consent; right to access, modify and delete personal data; establishment of data protection authorities (DPAs) or agencies; privacy as fundamental human right.
GC: Government Control Model	Strict conditions including bans to transfer data cross border; local processing requirements: ad hoc government authorization for data transfers; infrastructure requirements; ex-ante security assessments.	Extensive exceptions for government access to personal data; privacy vs security and social order.

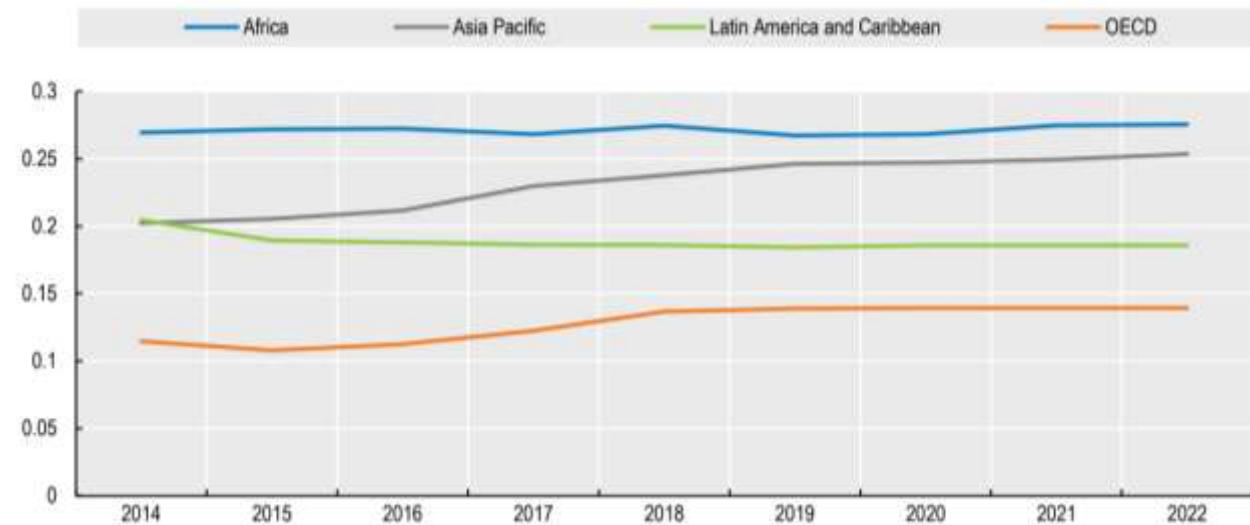
Regulations affecting cross-border data and trade flows are growing and becoming more restrictive

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)



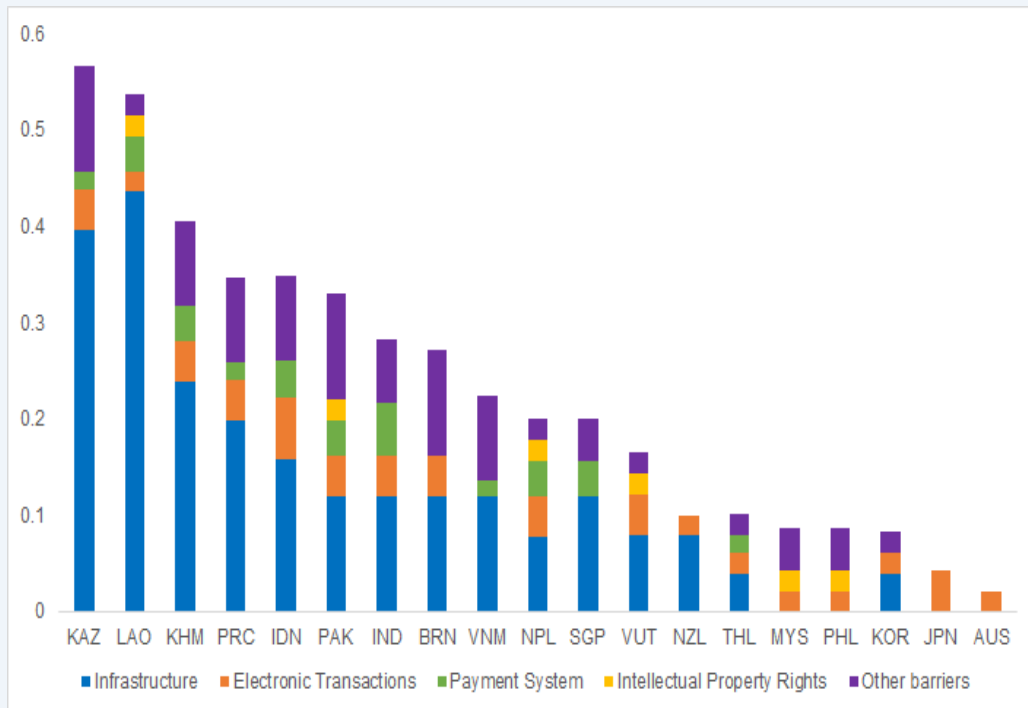
- Digital services trade restrictiveness differ across regions, trend in Asia-Pacific region is increasing through the years.



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

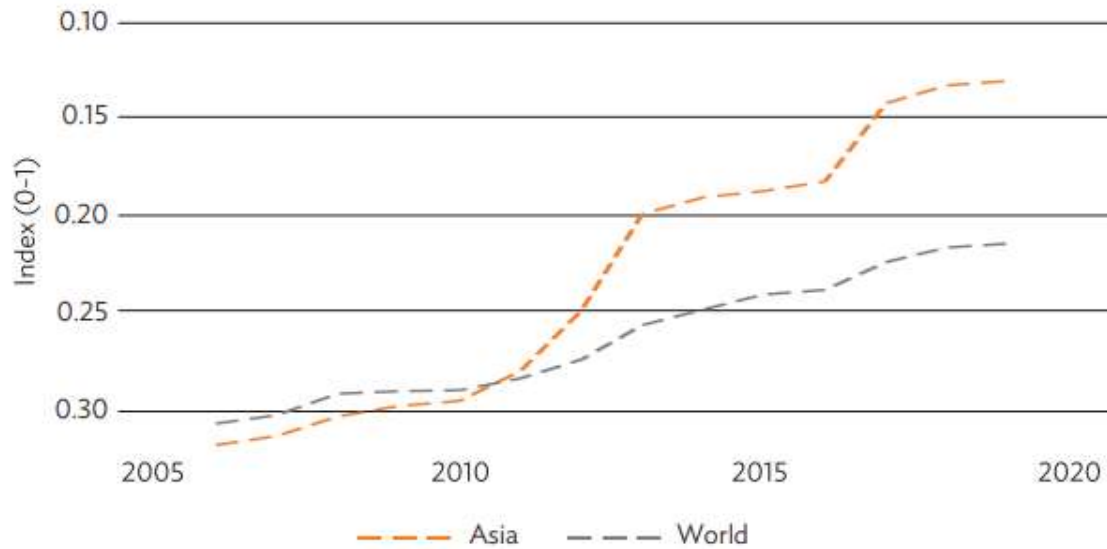
DSTRI Heterogeneity Index, 2022

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

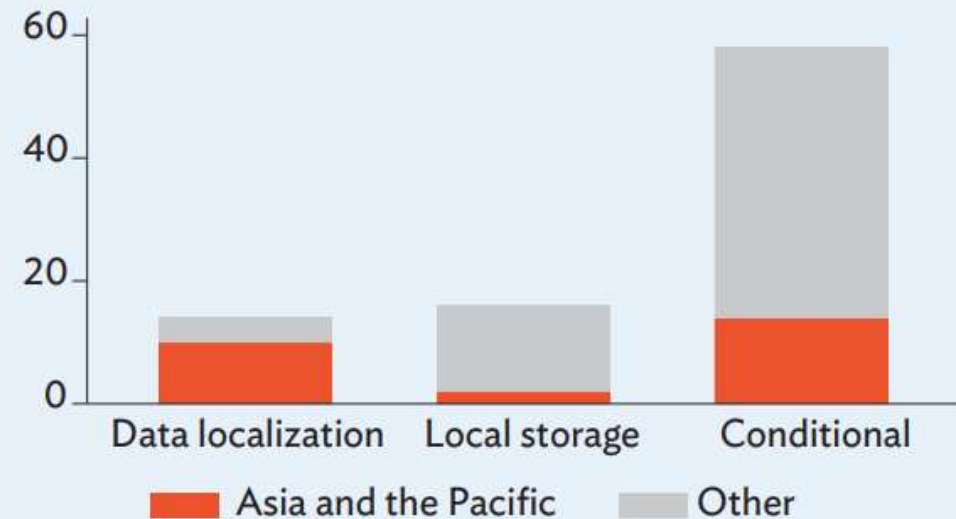
Figure 5.3: Data Policy Index for Cross-Border Data-Related Measures for Asia and the World



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.

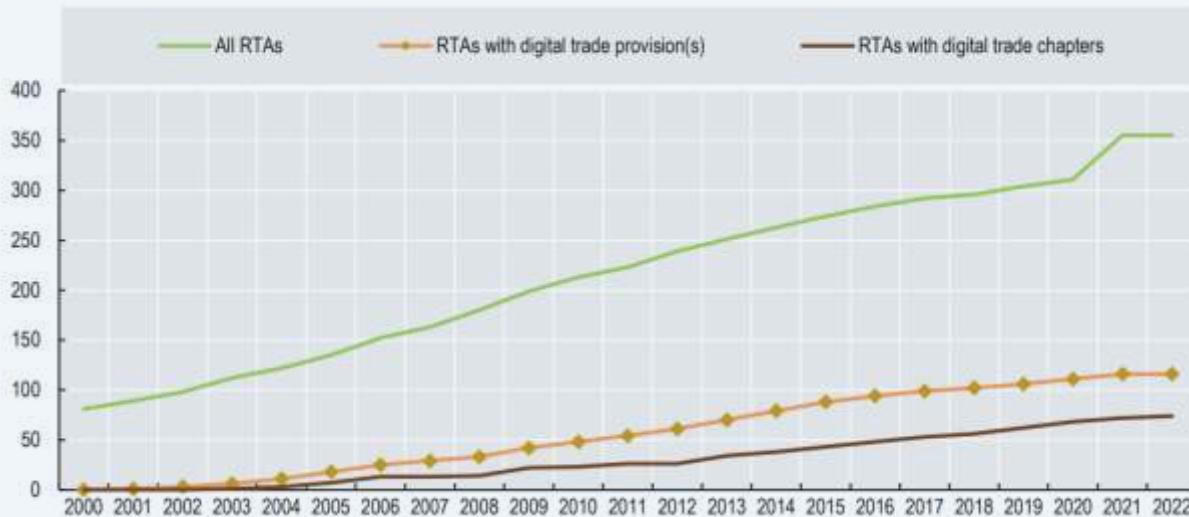
Source: van der Marel (2021b).

- 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

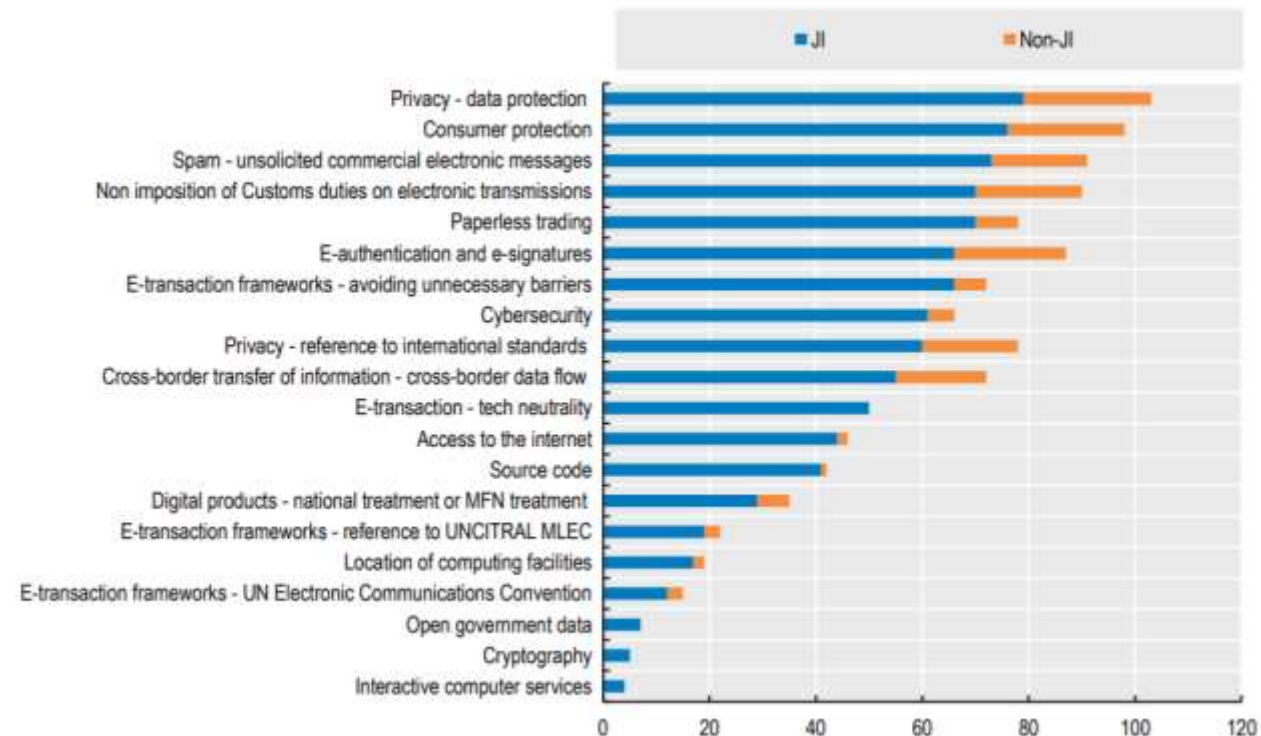
- Digital trade issues have migrated to RTAs due rapid rise in trade of ICT goods and digitally-delivered services.
- Signing an RTA with an e-commerce provision is found to increase exports of high-income countries by 10.3%, and of emerging economies by 16.9% (López-Gonzalez, Sorescu and Kaynak, 2023)

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.

Digital trade provisions in RTAs could be expanded through other means such as Digital Economy Agreements

Coverage of Select Digital Trade Agreements in Asia and the Pacific

	SGP-UK (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	✓					✓		

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

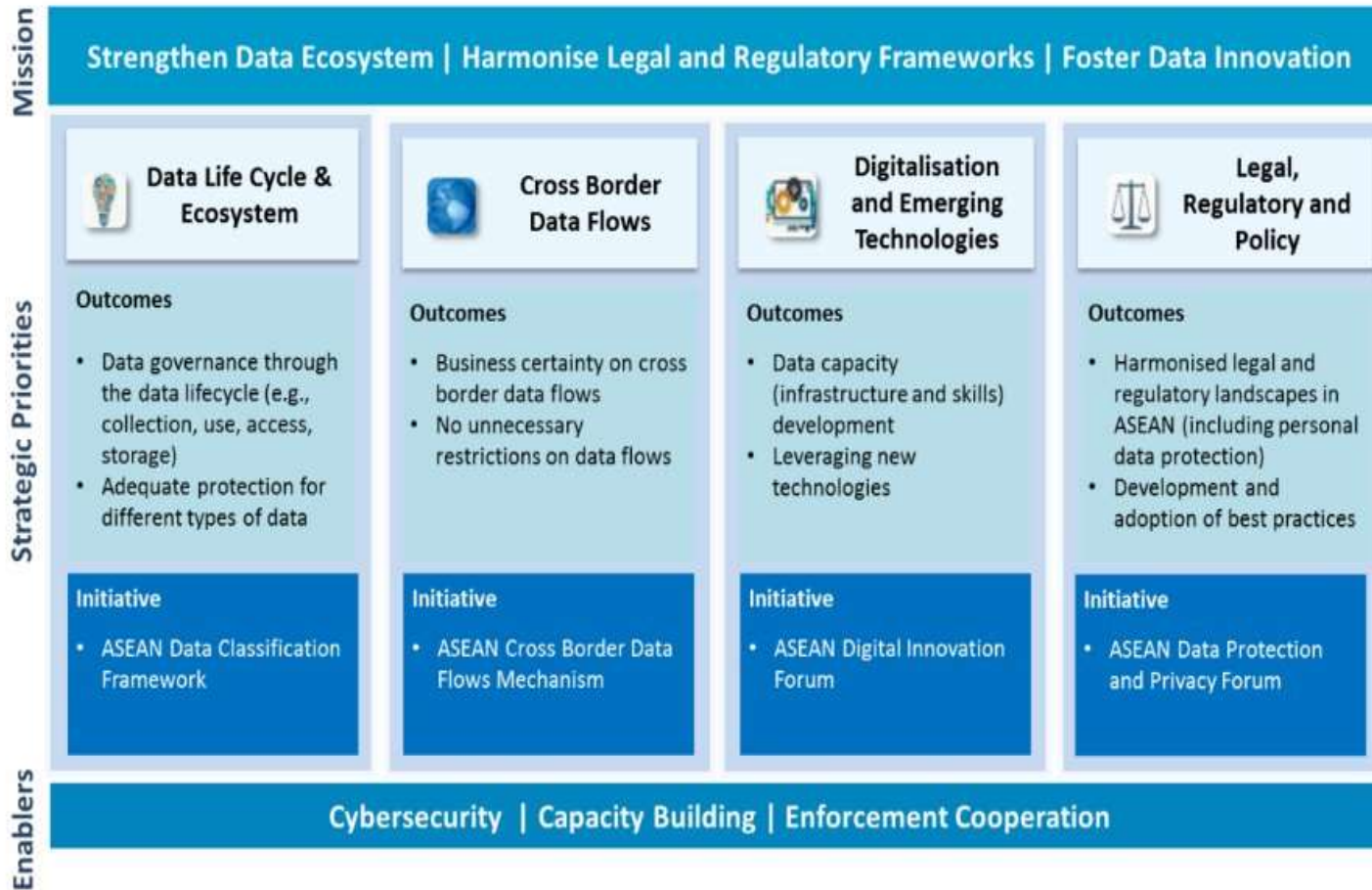
- Pioneering approach to digital trade issues within an RTA framework.
- Each module comprises independent set of provisions on a specific digital issue.
- Flexibility: choose specific areas of cooperation that align with national policies and digital economy priorities (no one-size-fits-all)
- Accommodates 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.

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' management 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

Recommendations and steps forward

- **Build convergence and strengthen transparency** on cross-border digital trade issues through regional cooperation.
 - Establish a centralized digital regulation and information repository. ([Crivelli, Avendano, Kang \(2023\)](#)).
 - Ex. border-specific IP rights may not be fully applicable for digital trade, or more difficult to enforce → requires enhanced international cooperation.
- Apply **comprehensive approach** that links all areas of digital economy and narrow digital divides.
 - Lack of technological infrastructure, digital competency, and affordability
 - Adoption and transfer of digital technologies to reduce digital barriers.
 - Identify technical assistance, including capacity building and aid for trade support in trade negotiations on new issues.
- Consider expanding the DEPA **selective approach** to traditional trade agreements
 - Allowing participation of countries not ready to adopt all provisions.

Thank you!

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