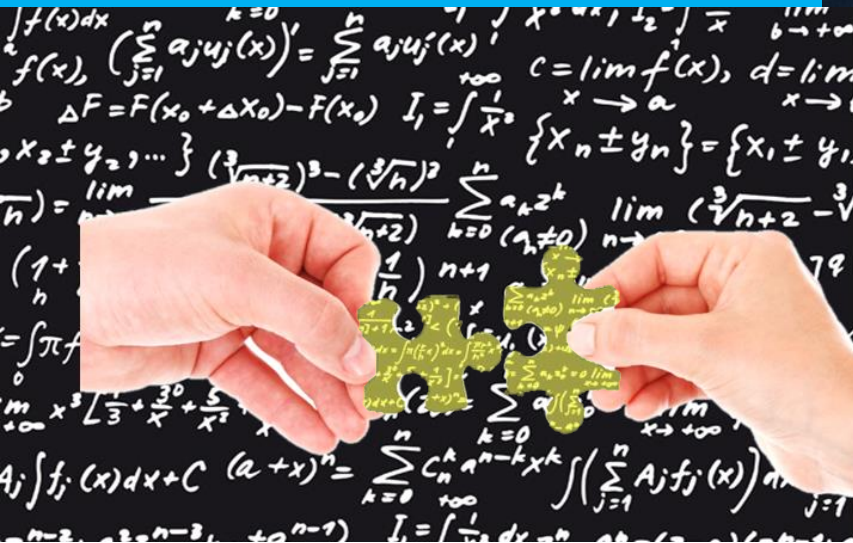




Multilateral and Regional Cooperation on Digital Trade Rules and Agreements in Asia-Pacific



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ASIA-PACIFIC RESEARCH AND TRAINING NETWORK ON TRADE

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WORKING PAPER

Multilateral and Regional Cooperation on Digital Trade Rules and Agreements in Asia-Pacific

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Abstract

Rules on digital trade are rapidly taking shape as countries in Asia-Pacific and beyond strive to secure the benefits associated with e-commerce and the digitalization of trade in goods and services. At the multilateral level, the WTO holds promise to reach a plurilateral agreement on core e-commerce issues by the end of 2023. Although far-reaching outcome seems unlikely, e-commerce rules agreed in the WTO will potentially serve as baseline commitments on cooperation in digital trade. At the regional level, different approaches have emerged, and many preferential trade agreements (PTAs) already include increasingly comprehensive and advanced digital trade provisions (DTPs) and the number of Digital Economy Agreements (DEAs) is growing. Asia-Pacific economies are unevenly engaged in cooperation in digital trade rulemaking – East and South-East Asia economies have welcomed DTPs in their agreements and are taking the lead in developing DEAs, while Central Asia and South Asia economies are lagging especially in intra-regional cooperation within the subregions. The proliferation of DTPs reflects the expanding and deepening cooperation, it may, however, undermine the benefits of digital trade if the rules are not harmonized. The landscape is getting clearer as there is an emerging coherence in the coverage of DTPs across agreements. Nevertheless, further reducing regulatory heterogeneity will be important in enabling the effective participation of smaller firms and less developed countries in cross-border digital trade.

Keywords: digital trade, regional trade agreements, Asia-pacific

JEL Codes: F13, K33

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Introduction

Rules on digital trade are rapidly taking shape as countries in Asia-Pacific and beyond strive to secure the benefits associated with e-commerce and the digitalization of trade in goods and services. To date, however, multilateral rules on digital trade remain limited, with most of the regulatory cooperation work taking place at the bilateral or regional levels.

In that context, this paper provides an overview of the ongoing trends in multilateral and regional cooperation on digital trade and investment in Asia and the Pacific. Multilateral cooperation covers the WTO rules related to digital trade and the ongoing initiatives and negotiations within the WTO. Regional cooperation covers preferential trade agreements (PTAs) signed by Asia-Pacific countries and other instruments that address digital trade related issues.² A comparative analysis of digital trade provisions (DTPs) across a range of PTAs is presented, leveraging the Asia-Pacific Trade and Investment Agreement Database (APTIAD)³ and the new ESCAP automated Regional Trade Agreement Text Analyzer⁴, among other tools.

1. Multilateral cooperation in digital trade

Multilateral cooperation in digital trade can be traced back to 1998, when the WTO made the Declaration on Global Electronic Commerce, and as a result, established the Work Programme on E-commerce.⁵ This Work Programme aimed to examine all trade-related aspects of e-commerce, explore the relationship between existing WTO agreements and e-commerce, and to update the WTO rules if needed. Since then, the cooperation on e-commerce has continued with regular discussions held, but very few concrete outcomes.

The most influential result under the Work Programme might be the moratorium on customs duties on electronic transmissions. While the moratorium has been extended every two years since 1998, it remains temporary. The WTO Trade Facilitation Agreement (TFA) which entered into force in 2017 does support trade digitalization, with some provisions promoting the acceptance of electronic documents and electronic payments by government authorities.

Despite some minor regulatory adjustments made through the Information Technology Agreement and the Fourth Protocol on Telecommunications Services, WTO law has remained essentially in a pre-Internet state.⁶ Arguably, the current WTO law is able to

² This paper also covers bilateral, inter-regional agreements, and other related agreement models. The use of the terms regional trade agreements (RTAs), preferential trade agreements (PTAs), and free trade agreements (FTAs) in this paper

³ Available at <https://www.unescap.org/content/aptiad>

⁴ More information available at <https://repository.unescap.org/handle/20.500.12870/5429>

⁵ WTO, Work Programme on Electronic Commerce, WT/L/274 (1998), <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:WT/L/274.pdf&Open=True>

⁶ Mira Burri, 'The International Economic Law Framework for Digital Trade', *Zeitschrift für Schweizerisches Recht* 135 (2015), 10–72; WTO, World Trade Report 2018: The Future of World Trade (World Trade Organization, 2018), https://www.wto.org/english/res_e/publications_e/wtr18_0_e.pdf

address digital trade issues because the judicial body of the WTO has interpreted and applied WTO rules in various Internet-related trade disputes.⁷ Nevertheless, there are still lots of debates and concerns on applying the WTO rules formulated in the pre-digital era to digital trade.⁸

Partly because of the stagnation of the Work Programme on E-commerce, a group of 76 WTO members initiated exploratory work towards future WTO negotiations on e-commerce in 2019. In a Joint Statement Initiative on E-commerce (JSI), these members agreed to 'seek to achieve a high standard outcome that builds on existing WTO agreements and frameworks with the participation of as many WTO members as possible'.⁹ As of February 2023, there are 89 WTO members participating in the ongoing discussions on e-commerce, accounting for over 90% of global trade.

Scholars took a careful look at the submitted documents under the JSI and noted that, while there are substantial improvements compared with previous developments under the Work Programme on E-Commerce, they do not necessarily reflect convergence of views on the key issues.¹⁰ Although in their statement on January 20, 2023, ministers of the JSI co-conveners expressed their objective "to work towards substantial conclusion by end of 2023" (WTO, 2023), a far-reaching plurilateral agreement with comprehensive provisions on e-commerce may be difficult.¹¹ Instead, a less ambitious agreement focused on enabling and facilitating e-commerce with relatively relaxed commitments to data flows appears more likely.¹²

Overall, despite the intention and endeavour shown under the JSI, the gaps in the current WTO agreements in terms of addressing digital trade issues are unlikely to be filled in the near future. As discussed in the next chapter, emerging rules at the regional level provide potential building blocks towards a multilateral agreement on digital trade.

⁷ Mira Burri, 'Digital Trade: In Search of Appropriate Regulation' (2021) 11–12, https://www.researchgate.net/publication/356162751_Digital_Trade_In_Search_of_Appropriate_Regulation

⁸ Ibid.

⁹ WTO, Joint Statement on Electronic Commerce, WT/L/1056, 25 Jan. 2019, <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:WT/L/1056.pdf&Open=True>

¹⁰ Burri, Mira, 'Towards a New Treaty on Digital Trade', *Journal of World Trade* 55, no. 1 (2021) 77–100, <https://ssrn.com/abstract=3623734>

¹¹ WTO (2023, January 20), WTO Joint Statement Initiative on E-commerce: Statement by ministers of Australia, Japan and Singapore. https://www.wto.org/english/news_e/news23_e/igo_20jan23_e.pdf

¹² Yasmin Ismail, 'The Evolving Context and Dynamics of the WTO Joint Initiative on E-commerce: The fifth-year stocktake and prospects for 2023' (2023), 18, <https://www.iisd.org/system/files/2023-04/wto-joint-initiative-e-commerce-fifth-year-stocktake-en.pdf>

2. Regional cooperation in digital trade

2.1 Overview of the status quo of regional cooperation

As noted above, many countries have turned to preferential trade agreements to deepen integration and cooperation on digital trade.¹³ The past two decades have witnessed spectacular growth in PTAs featuring digital trade and e-commerce related provisions.¹⁴ Many PTAs have stand-alone chapters on e-commerce. Digital economy agreements (DEAs) that exclusively contain provisions related to digital trade (so-called ‘digital only’ agreements) have also emerged since 2019.

In addition, several regional arrangements particularly focused on specific digital trade related issues have also emerged. The APEC Cross-Border Privacy Rules (CBPR) System, the ASEAN Framework on Personal Data Protection (PDP) are two examples, addressing only data privacy. The ASEAN Single Window Agreement and the Framework Agreement on Facilitation of Cross-Border Paperless Trade in Asia and the Pacific are two other examples, focusing on digitalization of trade documents.

A mapping of Digital Trade Provisions (DTPs), including e-commerce provisions,^{15,16} in 463 PTAs – 237 of which include at least one Asia-Pacific country – confirms that the number of PTAs with DTPs has been steadily growing, with more and more PTAs featuring a chapter dedicated to digital trade (see Figure 1). The share of provisions addressing digital trade issues per PTA has also steadily risen – the average has increased from 8.5% (PTAs signed during 2000-2010) to 23% (PTAs signed during 2011-2012). The increasing average number of DTPs per PTA reflects that countries are increasingly recognising the importance of digital trade and digital trade rules. However, the average share of digital-trade-related provisions per LDC PTA¹⁷ remains extremely low (less than 1%).

¹³ ESCAP, ‘Handbook on provisions and options for trade in times of crisis and pandemic’ (2021) 1 , <https://www.unescap.org/kp/2021/handbook-provisions-and-options-trade-times-crisis-and-pandemic>

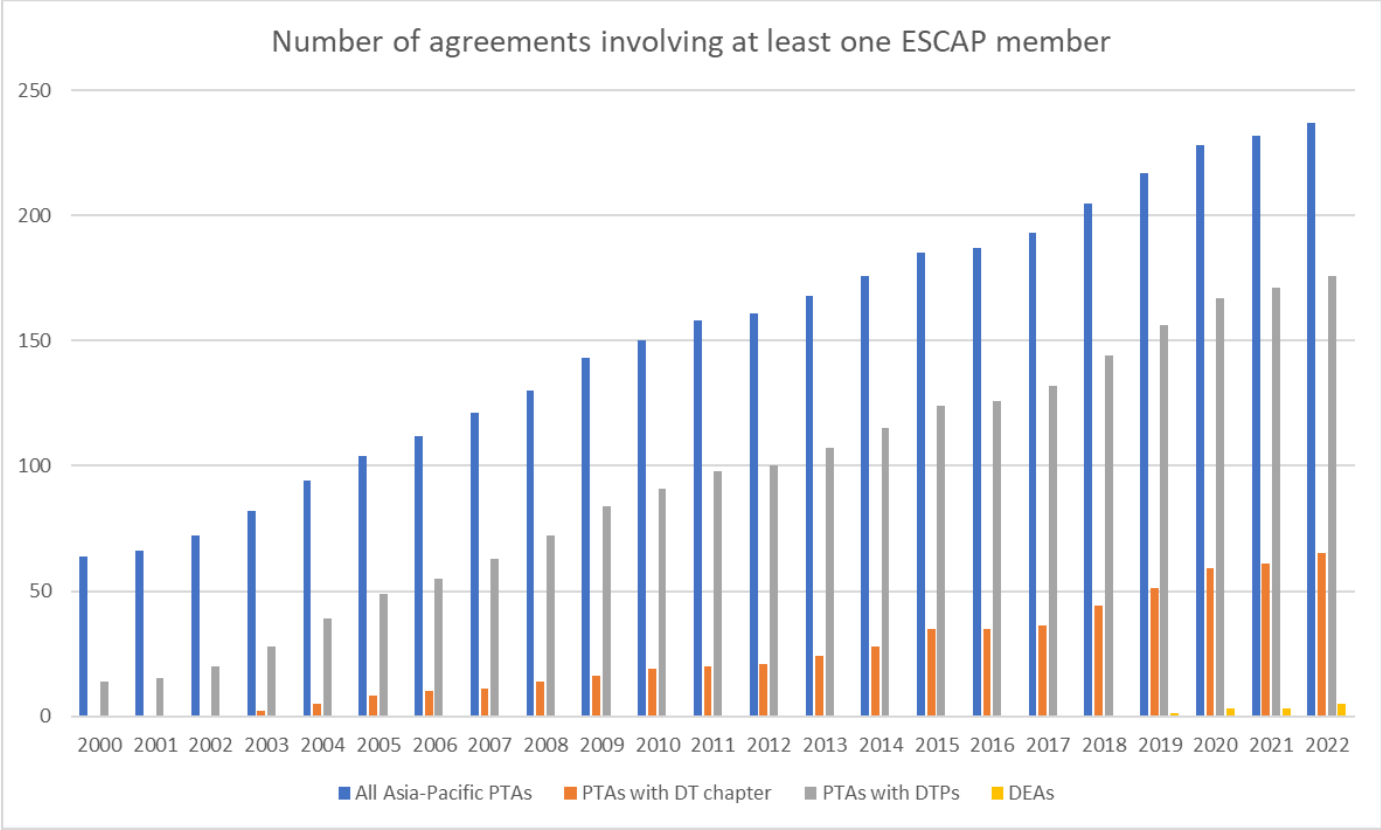
¹⁴ In the context of PTAs, the term ‘digital trade’ and ‘e-commerce’ are interchangeable, referring to the same or similar aspects and topics. As there is no universal definition of digital trade or e-commerce, their scope is subject to the specific definition provided by each PTA.

¹⁵ Digital trade provisions (DTPs) include those that straightforwardly mention the term ‘digital trade’ or ‘e-commerce’, and those addressing digital trade topics without including the term per se. Therefore, a comprehensive review requires identifying all relevant keywords, coding and mapping all identified keywords in PTAs. They essentially include all articles under an e-commerce/digital trade chapter and any other articles that have digital trade related terms in their names, and all articles of DEAs.

¹⁶ Beta version of the ESCAP Trade Agreement Text Analysis Tool is available at <https://tiid.shinyapps.io/text-analysis-tool/>, for more details on the methodology and algorithm behind the tool, please refer to https://tiid.shinyapps.io/text-analysis-tool/w_69bc132f/Techincal_paper_text_analysis_tool.pdf

¹⁷ LDC PTA refers to PTA that include at least one LDC.

Figure 1. Evolution of PTAs to include DTPs and DT chapter and DEAs in Asia Pacific region, 2000-2022



Source: ESCAP

Note: Preferential Trade Agreements (PTAs), digital trade chapter (DT chapter), digital trade provisions (DTPs), digital economy agreements (DEAs). Only PTAs including at least one ESCAP member were calculated; cumulative number from 2000 is presented. For the purpose of Figure 1, DEAs are separately calculated from PTAs.

These trends are observed both globally and in the ESCAP region. However, PTAs concluded between economies with low and lower middle-income levels often still lack DTPs. Notably, only ASEAN LDCs in Asia-Pacific participated in agreements containing comprehensive DTPs, while the Pacific Island Forum (PIF) LDCs participated in the Pacific Agreement on Closer Economic Relations Plus (PACER Plus) which only includes a few provisions enabling paperless trade.¹⁸

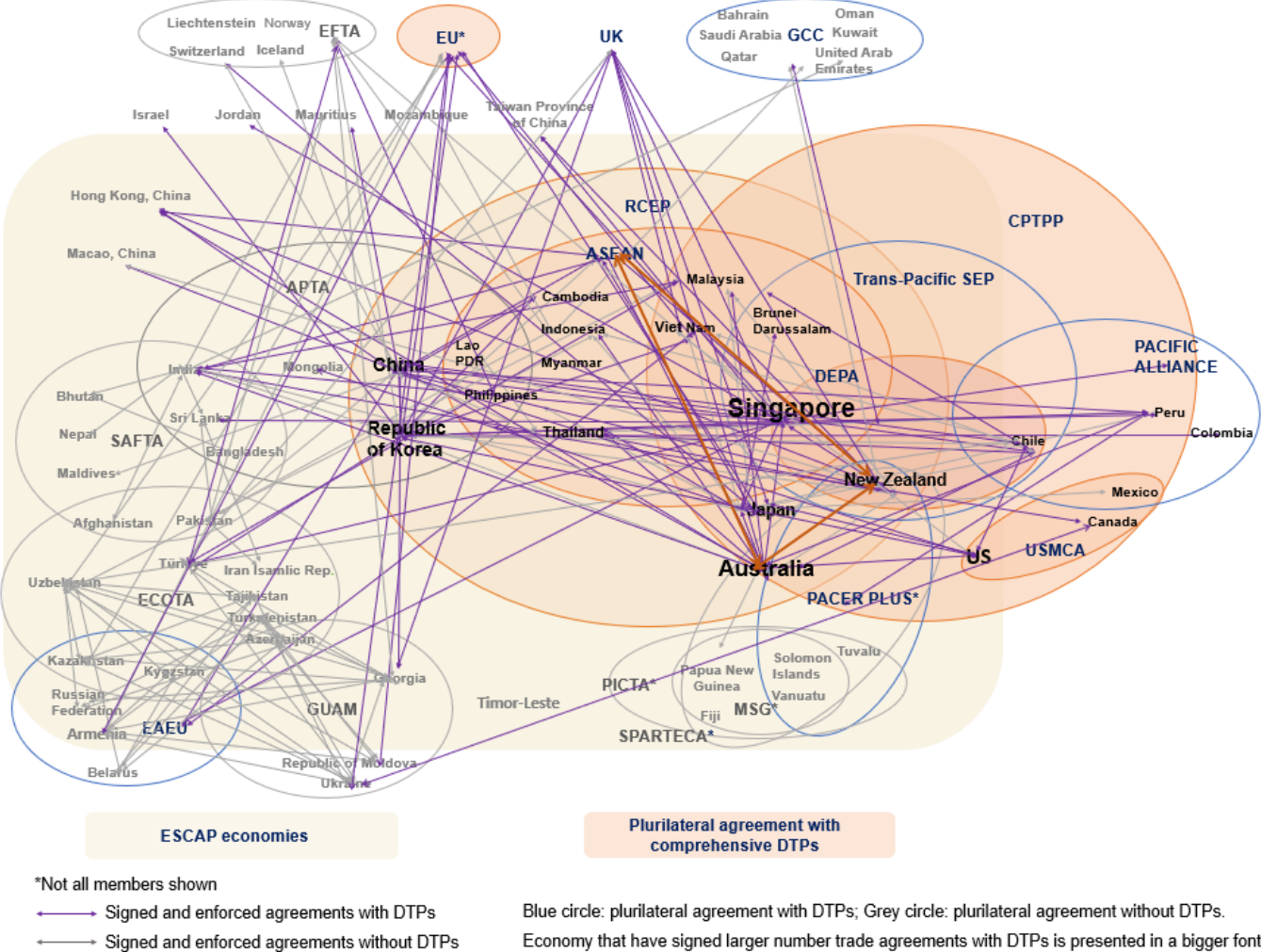
Figure 2 below reflects the status of the inclusion of DTPs in signed and enforced agreements among Asia-Pacific economies. Purple lines and blue circles refer to agreements with at least one digital-trade-related provision, while grey lines and circles represent agreements without DTPs. Moreover, the circles or triangles with orange lines represent agreements that provide comprehensive DTPs, i.e. DTPs which address a wider range of digital trade issues (the orange triangle refers to the ASEAN-Australia-New Zealand FTA upgraded in 2022).¹⁹ Also, the bigger font for a name of an economy

¹⁸ For example, Article 6 of the PACER Plus Encourages the use of automated customs systems.

¹⁹ DTPs covering more than three of seven groups of distinct issues related to digital trade. Please refer to the section on scope of digital trade provisions for details.

in Figure 2 indicates a larger number of agreements with DTPs signed by that economy – Singapore, Australia, New Zealand, Republic of Korea, China, Japan and the US are the most active ESCAP countries in signing agreements with DTPs.

Figure 2. PTAs with and without DTPs signed by Asia-Pacific economies²⁰



Source: ESCAP, based on the Asia-Pacific Trade and Investment Agreement Database (APTIAD) and the ESCAP automated Regional Trade Agreement Text Analyzer

Note: ASEAN= Association of Southeast Asian Nations; APTA= Asia-Pacific Trade Agreement; CPTPP= Comprehensive and Progressive Agreement for Trans-Pacific Partnership; DEPA= Digital Economic Partnership Agreement; ECOTA= Economic Cooperation Organization Trade Agreement; EAEU=Eurasian Economic Union; EFTA= European Free Trade Association; GCC= Gulf Cooperation Council; GUAM=Organization for Democracy and Economic Development Free Trade Zone; MSG=Melanesian Spearhead Group; SAFTA= South Asian Free Trade Area; PACER Plus=Pacific Agreement on Closer Economic Relations Plus; PICTA=Pacific Island Countries Trade Agreement; SPARTECA=South Pacific Regional Trade and Economic Cooperation Agreement; Trans-Pacific SEP=Trans-Pacific Strategic Economic Partnership; RCEP= Regional Comprehensive Economic Partnership; USMCA= United States-Mexico-Canada Agreement. Agreement with comprehensive DTPs refers to those including DTPs addressing more than three distinct issues of digital trade.

²⁰ The Republic of Korea has acceded to DEPA in June 2023, but there are remaining procedures before entering into force, therefore the figure does not show that The Republic of Korea is a party to DEPA.

The figure highlights that the East and South-East Asia economies have welcomed DTPs in their agreements, while Central Asia and South Asia economies have generally not. Notably, Central Asia and South Asia lack of DTPs in their agreements within the region, compared to in their agreements involving parties outside the region – this reflects that economies in Central Asia and South Asia have so far taken a passive approach when negotiating DTPs.

2.2 Different approaches shaped to digital trade

A broad review of existing PTAs and the related literature suggests that influential trading partners have taken different approaches, as summarized in Table 1 below. US-led PTAs provide the most comprehensive provisions on digital trade, covering emerging and core digital governance issues. In contrast, PTAs involving China generally address a smaller number of digital trade issues. However, both China and the US have been adjusting their approaches – the US has taken steps backward while China started accepting more provisions on emerging and sensitive issues. For example, when negotiating TPP, the US has reserved non-discrimination obligations to a smaller scope of application than its previous FTAs. And in RCEP China accepted provisions addressing cross-border transfer of information by electronic means and location of computing facilities, with carve-outs and larger discretionary policy space though. Interestingly, the Singapore-China FTA (upgraded 2019) applies the Chinese model while the Singapore-EU FTA (2019) uses the EU’s model, which reflects the flexibility of Singapore in advancing international cooperation on digital trade.

Table 1. Different approaches to addressing digital trade in PTAs

Different approaches taken by main trading partners
<p>US approach: the US arguably has taken the most ambitious approach to addressing digital trade in PTAs, by providing a broad scope for the definition of digital trade. The USA has been particularly ambitious on the liberalization of digital trade in services, it tends to extend commitments to cross-border trade in services produced, distributed, marketed, sold or delivered by electronic means. However, the US is more cautious about financial services, and it tends to have special arrangements for cross-border financial services. US-led PTAs tend to include comprehensive and deep provisions on the governance of data. The US tends to value free access to data and movement of data more than regulatory rights.²¹</p>
<p>EU approach: The EU has underlined the link between cross-border trade in services and digital trade, while it tends to include commitments in related service sections instead of in the e-commerce section. The EU provides fewer specific commitments on data-related issues, instead, it emphasizes regulatory cooperation for e-commerce. Notably, the EU has special emphasis on personal data protection and protection of national treasures of artistic, historic or archaeological value – it tends to ensure these two priorities through exceptions. The EU takes a very strong position, requiring the highest level of protection for personal data, which is seen by some other trading</p>

²¹ See *Supra* note 18.

partners as a trade barrier, while it also forced some countries to enhance their domestic regulatory framework for personal information protection.

Singapore approach: Singapore has been particularly active in negotiations on digital trade. It has formulated very comprehensive agreements dedicated to digital trade, including the first digital-trade-only agreement DEPA. Singapore has been using and promoting its comprehensive model with similar coverage of topics and structure, while providing flexibility in bindingness and policy space. Moreover, Singapore tends to promote its model by starting from negotiations of bilateral agreements with like-minded developed partners – with small adjustments on language to provide stronger or weaker obligations. It is more flexible when negotiating with partners who may stick to their own models, such as the EU and China.

China approach: China has taken a cautious approach on digital trade by narrowing the scope of digital trade and focusing on enabling and facilitating trade in goods by electronic means. Even where services are mentioned, they are mainly ancillary services helping to facilitate goods trade. China tends to only make commitments on digital trade which it considers to be necessary or feasible, and usually does not include additional obligations to the existing international obligations or practices. When negotiating tough issues, it tends to include additional conditions and/or exceptions to reserve policy space. China tends to value the right to regulate more than digital liberalization, particularly, it prioritizes security interests and online content review.

Source: ESCAP

2.3 Emergence of Digital Economy Agreements (DEAs)

In the past four years, 6 DEAs have been adopted: US-Japan Digital Trade Agreement (USJPDTA, 2019),²² the ASEAN Agreement on Electronic Commerce (ASEAN AEC, 2019),²³ Australia-Singapore Digital Economy Agreement (ASDEA, 2020),²⁴ Digital Economy Partnership Agreement (DEPA, 2020) between Chile, New Zealand, and Singapore,²⁵ UK-Singapore Digital Economy Agreement (UKSDEA, 2022),²⁶ and the most recent one, Korea-Singapore Digital Partnership Agreement (KSDPA, 2022).²⁷ All these DEAs have at least one party from the Asia-Pacific region. Singapore has been the most active country signing DEAs.

“Digital only” agreements have rapidly emerged to address a broader scope of emerging digital economy issues affecting trade.

The DEA model differs from the approach taken in earlier PTAs. First, it broadens the scope of ‘e-commerce’ or ‘digital trade’ to ‘digital economy’ topics. DEPA and other DEAs

²² Entered into force in 2020,

https://ustr.gov/sites/default/files/files/agreements/japan/Agreement_between_the_United_States_and_Japan_concerning_Digital_Trade.pdf

²³ Entered into force in 2021, <https://cil.nus.edu.sg/wp-content/uploads/2020/11/2019-ASEAN-Agreement-on-Electronic-Commerce.pdf>

²⁴ Entered into force in 2020, <https://www.dfat.gov.au/trade/services-and-digital-trade/australia-and-singapore-digital-economy-agreement>

²⁵ Entered into force in 2021, http://www.sice.oas.org/TPD/DEPA/DEPA_e.ASP

²⁶ Entered into force in 2022, <https://www.gov.uk/government/publications/uk-singapore-digital-economy-agreement-explainer/uk-singapore-digital-economy-agreement-final-agreement-explainer>

²⁷ Entered into force in 2023, <https://www.mti.gov.sg/Trade/Digital-Economy-Agreements/KSDPA>

provide far wider range of settings aiming to leverage the full innovative potential of the digital economy. Second, DEAs include interesting new approaches to data governance, for example, providing a platform to build confidence and unlock collaboration on how to balance free data flows and public policy objectives. Further, DEAs extend the cooperation to co-designing rules and standards for emerging technologies such as artificial intelligence, digital identities, fintech, 'regtech' (regulatory technology), and data innovation. Last but not least, DEA model incorporates inclusive digital economy and sustainable development, for example, the inclusion of special treatment and cooperation for MSMEs and regional capacity building.²⁸

Table 2. Key modulars of the Digital Economy Partnership Agreement (DEPA, 2020)

<p>Facilitate end-to-end digital trade:</p>	
<p>Digital Identities</p> <p>Develop safe and secure digital identities that are mutually recognised.</p>	
<p>E-invoicing</p> <p>Shorter invoice processing time, faster payment and cost savings when similar e-invoicing standards are adopted.</p>	
<p>Paperless Trade</p> <p>Reduce time for document transit and cargo clearance, resulting in lower operating costs.</p>	
<p>FinTech and E-Payments</p> <p>Promote cooperation among companies in the FinTech sector and develop FinTech solutions for businesses.</p>	
<p>Enable trusted data flows:</p>	
<p>Personal Data Protection</p> <p>Develop mechanisms to protect personal data being transferred across borders, based on international frameworks.</p>	
<p>Open Government Data</p> <p>Expand access to, and use of, open government data to generate new opportunities for businesses, especially SMEs.</p>	
<p>Cross-border Data Flows</p> <p>Businesses can transfer information across borders and serve their customers, regardless of where they are located.</p>	
<p>Data Innovation and Regulatory Sandboxes</p> <p>Facilitate the development of new products and services by promoting data-driven innovation across borders.</p>	
<p>Build trust in digital systems and facilitate opportunities for participation in the Digital Economy:</p>	
<p>Artificial Intelligence</p> <p>Promotes the adoption of ethical AI governance frameworks, which factor in principles that the countries have agreed to, in order to harness AI in a responsible manner.</p> <p>These include: (i) AI should be transparent, fair and explainable, and (ii) AI must have human-centred values.</p>	
<p>SMEs Cooperation</p> <p>Capacity-building efforts such as a Digital SME Dialogue to promote information sharing and exchange.</p>	
<p>Online Consumer Protection</p> <p>Adopt or maintain laws and regulations that guard against fraudulent, misleading or deceptive conduct that causes harm to consumers engaged in online commercial activities.</p>	
<p>Digital Inclusion</p> <p>Remove barriers to the digital economy and promote digital inclusion and participation.</p>	

Source: Ministry of Trade and Industry of Singapore²⁹

²⁸ Stephanie Honey, 'The Long Road to a Seamless Global Digital Economy' (2023), Hinrich Foundation <https://www.hinrichfoundation.com/research/article/digital/the-long-road-to-a-seamless-global-digital-economy/>
²⁹ Ministry of Trade and Industry of Singapore, <https://www.mti.gov.sg/Trade/Digital-Economy-Agreements/The-Digital-Economy-Partnership-Agreement>

Table 2 lists the key modules of DEPA. While DEPA is a standalone agreement aimed to serve as a model DTA and open for other economies to join,³⁰ most of the other DEAs are supplementary to the PTAs that already existed between the involved parties. A supplementary DTA is becoming a new approach to update the older PTAs. For example, ASEAN calls for the commencement of negotiations by 2025 and to expeditiously sign its own ASEAN Digital Economy Framework Agreement (DEFA).³¹

DEAs have started to transform the trade landscape and arguably paved the way for other innovative approaches to regional cooperation in the digital ecosystem.³² The influence of DEAs on the approaches of the larger players is starting to be visible: China submitted request to join DEPA, the EU is negotiating a DTA with Singapore, and there appears to be DTA-like elements to the US-led Indo-Pacific Economic Framework (IPEF) negotiations.³³ The proliferation of -mostly bilateral - DEAs may, however, make digital trade more complex unless rules in these agreements are harmonized. The next sections provides more discussions on promoting the coherence of digital trade rules.

2.4 Scope of digital trade provisions in PTAs and DEAs

Based on the existing literature³⁴ and a review of the latest PTAs, DTPs may be classified into 7 thematic areas: 1) market access, which deal with treatment and duties for digital products; 2) enabling digitalized trade and trade facilitation – provisions of this type enabling and facilitating trade procedures completed by electronic means, such as promoting the use of automated customs systems; 3) protection of users and online security, which include protection of personal information, online consumers and cybersecurity, etc.; 4) intellectual property related issues; 5) inclusive digital trade, for example, digital trade provisions including special considerations for MSMEs; 6) other emerging issues, such as open government data and data innovation; and 7) dispute resolution, which stipulate whether there is a dispute settlement mechanism applicable for disputes arising from DTPs. To conduct the text analysis more accurately, the author added another type of DTPs besides these seven thematic types, which merely mentions cooperation in digital trade or e-commerce without specifying any thematic area that could be classified in the above seven types.

Figure 3 provides an overview of the overall coverage and distribution of DTPs in all PTAs with at least one DTP and all DEAs signed by Asia-Pacific economies since 2000.

³⁰ The Republic of Korea has officially acceded to DEPA in June 2023. China, Canada, Costa Rica and Peru have submitted formal requests to accede to the DEPA.

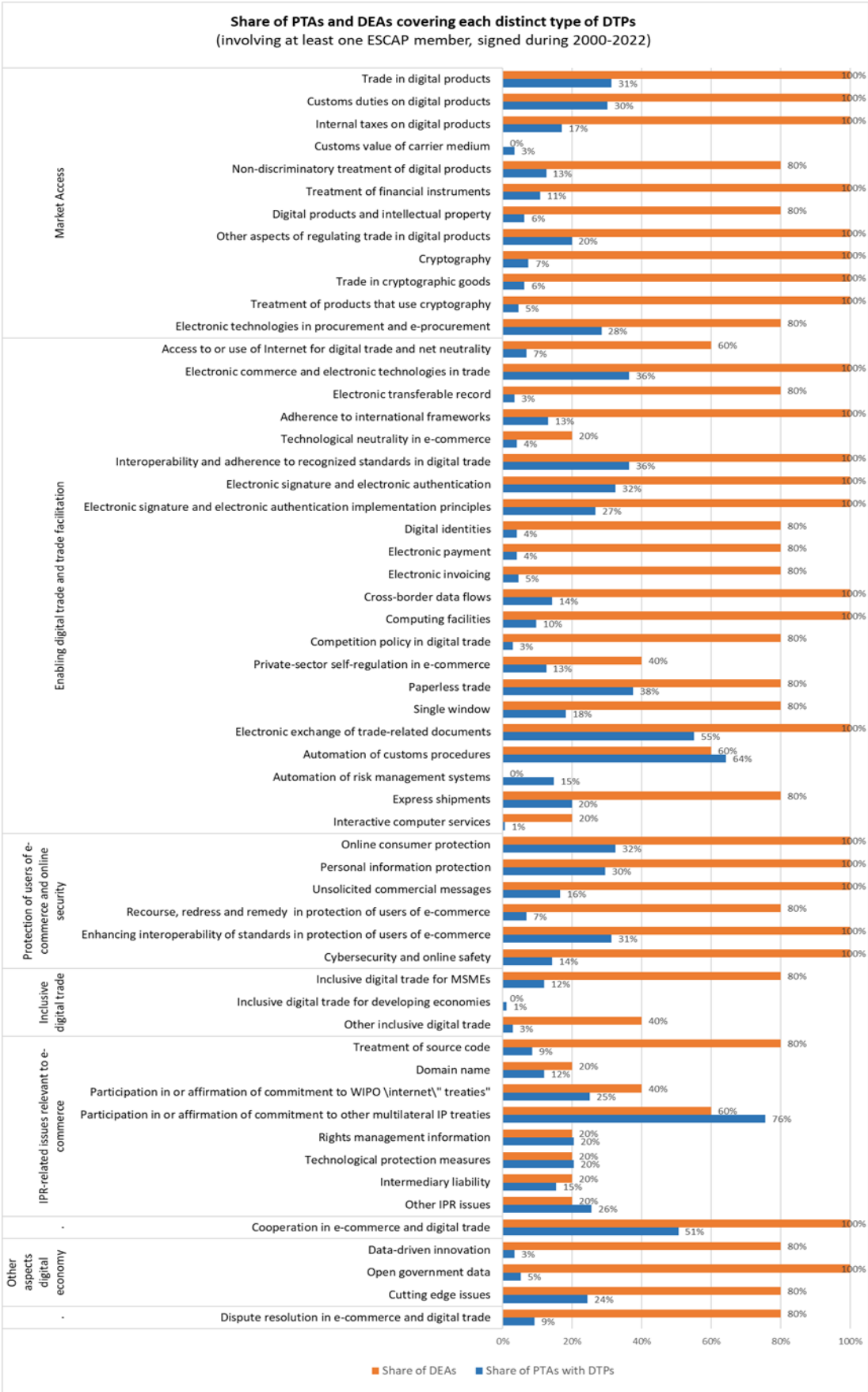
³¹ 'Bandar Seri Begawan Roadmap (BSBR): An ASEAN Digital Transformation Agenda to Accelerate ASEAN's Economic Recovery and Digital Economy Integration' (ASEAN, 18 October 2021) accessed 10 April 2023, https://asean.org/wp-content/uploads/2021/10/Bandar-Seri-Begawan-Roadmap-on-ASEAN-Digital-Transformation-Agenda_Endorsed.pdf

³² 'Digital Economy Agreements Are a New Frontier for Trade – Here's Why' (World Economic Forum, 24 August 2022), <https://www.weforum.org/agenda/2022/08/digital-economy-agreements-trade/>

³³ See *supra* note 23.

³⁴ Mark Wu, 'Digital trade-related provisions in regional trade agreements: Existing models and lessons for the multilateral trade system' (2017) International Centre for Trade and Sustainable Development (ICTSD) and Inter-American Development Bank (IDB); OECD, 'Unpacking E-commerce: Business Models, Trend and Policies' (2019) OECD Publishing, <https://doi.org/10.1787/23561431-en>; Dan Ciuriak, 'Digital Economy Agreements: Where Do We Stand and Where Are We Going?' (2022) <https://ssrn.com/abstract=4217903>

Figure 3. Coverage and thematic distribution of DTPs in PTAs with DTPs and in DEAs, signed by at least one ESCAP member during 2000-2022



Source: Based on results of mapping by ESCAP Trade Agreement Text Analysis Tool

Note: Digital Economy Agreements (DEAs), Preferential Trade Agreements (PTAs), digital trade provisions (DTPs), intellectual property right (IPR). The PTA share represents the share of PTAs with each distinct type of DTPs out of PTAs with at least one DTP, not out of all PTAs.

The larger share shown in Figure 3 means the more common that thematic topic is covered by PTAs and DEAs. The result reflects that DEAs have a far more comprehensive scope than PTAs. The most commonly covered DTPs are those enabling and facilitating trade through electronic means. The most commonly seen provisions of this type are provisions that enable the use of electronic authentication, signatures, documents, payments, etc., and other paperless-trading-related provisions. Such provisions do not touch more sensitive topics such as the governance of data or deeper commitments on digital services. DTPs on the protection of online consumers and personal information are also widely found in PTAs. However, the inclusion of DTPs on consumer protection and personal data protection does not mean that countries are taking the same or interoperable standards – a detailed review on specific provisions is needed to assess the extent of cooperation and coherence. The next section provides a more detailed comparative mapping of core DTPs in selected important agreements.

2.5 Comparative analysis of selected agreements

The lack of consistent rules on digital trade in RTAs may undermine the benefits associated with digital trade, especially for smaller traders and economies. Table 3 provides a comparison of DTPs in selected PTAs and DEAs.³⁵ It shows which agreements include provisions in each of the key issue areas mentioned earlier. It also indicates the strength of each provision, based on the level of bindingness, the specificity of the language, and the exceptions provided. Stronger strength represents more legally binding obligations and/or deeper commitments, however, it does not necessarily indicate that the provision is better than weaker ones as the softer language provides more flexibility and policy space.

There is significant overlap in the coverage of core DTPs across the agreements, particularly in DEAs. Notably, there appears to be some consistent commitments, including: no customs duties on electronic transactions, promoting paperless trade, application of UNCITRAL instruments for electronic transactions, reducing restrictions on cross-border data flow and location of computing facilities, and enhancing the protection of online consumer, personal data and cybersecurity. This provides a potential emerging baseline for digital trade rule making among larger groups of economies, despite the different levels of bindings and language across agreements.

³⁵ This extends the analyses done by Deborah Elms, Overview of Digital Trade Provisions in Asian Agreements (2021), <https://www.unescap.org/sites/default/d8files/event-documents/quest%20speaker%20presentation%20-%20Deborah%20Elms.pdf> ; and Dan Ciuriak 2022, c 25

Table 3. Comparison of coverage and strength of key DTPs

Key issue area	Core digital trade provisions (DTPs)	DTAs				PTAs			
		USJPDTA (2019)	ASEAN AEC (2019)	ASDEA (2020)	DEPA (2021)	USMCA (2020)	EU-VN FTA (2020)	CPTPP (2018)	RCEP (2020)
Openness and market access	No customs duties on electronic transmissions	✓	✗	✓	✓	✓	✓	✓	✓
	Non-discrimination of digital products	✓	✗	✓	✓	✓	✗	✓	✗
	Cross-border trade in services by electronic means	✓	✗	✓	✓	✓	✓	✓	✗
Enabling and facilitating digital trade	Electronic authentication and signatures	✓	✓	✓	✗	✓	✗	✓	✓
	Paperless trading	✗	✓	✓	✓	✓	✓	✓	✓
	Electronic invoicing	✗	✗	✓	✓	✗	✗	✗	✗
	Electronic payment	✗	✓	✓	✓	✗	✗	✗	✗
	Domestic regulatory framework for electronic transactions	✓	✓	✓	✓	✓	✗	✓	✓
	Access to and use of the Internet and interconnection	✗	✗	✓	✓	✓	✓	✓	✗
Data governance	Cross-border transfer of information by electronic means / cross-border data flows	✓	✓	✓	✓	✓	✗	✓	✓
	Location of computing facilities	✓	✓	✓	✓	✓	✗	✓	✓
	Open government data	✓	✗	✓	✓	✓	✗	✗	✗
Trusted digital trade and protection	Online consumer protection	✓	✓	✓	✓	✓	✗	✓	✓
	Personal information protection	✓	✓	✓	✓	✓	✓	✓	✓
	Unsolicited commercial electronic messages	✓	✗	✓	✓	✓	✗	✓	✓
	Source code	✓	✗	✓	✗	✓	✗	✓	✗
	Cybersecurity	✓	✓	✓	✓	✓	✓	✓	✓
	National treasures of artistic, historic or archaeological value	✗	✗	✗	✗	✗	✓	✗	✗
Deep cooperation	MSMEs	✓	✓	✓	✓	✓	✗	✓	✓
	Digital identities	✗	✗	✓	✓	✗	✗	✗	✗
	Standards, technical regulations and conformity assessment for digital trade	✗	✗	✓	✗	✗	✓	✓	✗
Emerging technologies	Artificial intelligence	✗	✗	✓	✓	✗	✗	✗	✗
	Data innovation	✗	✗	✓	✓	✗	✗	✗	✗
	Financial Technology Cooperation	✗	✗	✓	✓	✗	✗	✗	✗
Dispute settlement	Whether dispute settlement is applicable?	✗	✓	✓	✓	✓	✓	✓	✗

The strength of the provision is denoted by: the colour from dark to light = from strong to weak. The strong or weak level of strength does not mean to make judgment about good or bad.

Source: Based on textual review of the analysed agreements conducted by the author.

Note: ASEAN Agreement on Electronic Commerce (ASEAN AEC), US-Japan Digital Trade Agreement (USJPDTA), Australia-Singapore Digital Economy Agreement (ASDEA), Digital Economy Partnership Agreement (DEPA, between Chile, New Zealand, and Singapore), EU-Viet Nam Free Trade Agreement (EU-VN FTA), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), Regional Comprehensive Economic Partnership (RCEP). The strength of each provision is assessed holistically based on the level of bindingness, the specificity of the language, and the exceptions provided.

Despite the emerging consistency in coverage, DTPs can still be very different in creating obligations, allowing for different degrees of policy space. For example, the provision on cross-border transfer of information by electronic means in DEPA, KSDPA, CPTPP, and RCEP have nearly identical structure with very similar text. However, the slight differences in legal language result in very different levels of bindingness (see Table 4 below).

Table 4. Comparison of the provision on ‘cross-border transfer of information by electronic means’ in different agreements

PTA	Article No.	cross-border transfer of information by electronic means	including personal information	limitation on regulatory requirements	non-binding note*	exceptions for legitimate public policy objectives	special exception for essential security interests	discretionary language**	Level of bindingness
DEPA	4.3	shall allow	✓	✗	✓	✓	✗	✗	
KSDPA	14.14	shall not prohibit or restrict	✓	✓	✗	✓	✗	✗	
CPTPP	14.11	shall allow	✓	✗	✗	✓	✗	✗	
RCEP	12.15	shall not prevent	✗	✗	✓	✓	✓	✓	
*DEPA explicitly stipulates in its annex said Article 4.3 does not create any rights or obligations. RCEP provides carve-out for certain parties in a certain period of time.									
**RCEP explicitly uses 'it considers necessary' and 'shall not be disputed by other Parties' to give more policy space.									

Source: ESCAP, based on textual review of the analysed agreements.

Note: Digital Economy Partnership Agreement (DEPA, between Chile, New Zealand, and Singapore), Korea-Singapore Digital Partnership Agreement (KSDPA), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), Regional Comprehensive Economic Partnership (RCEP).

2.6 Impact of digital trade provisions in PTAs

Despite the increasing significance of analysing the economic and social impacts of DTPs in regional trade agreements, existing studies have primarily focused on the legal and qualitative analysis of these provisions. This is mainly due to the challenges involved in the precise measurement of digital trade flows. However, information on DTPs is comparatively becoming more accessible and transparent for empirical analysis.

There are several studies which have empirical analysed the impact of digital trade provisions on trade. All of these studies have concluded that the implementation of digital trade provisions tends to enhance digital trade, particularly trade in services (APEC 2023; Ma et al. 2023; Suh and Roh 2022; Wu et al. 2023). Wu et al. (2023) utilized data on bilateral global value chain (GVC) services exports to examine the impact of digital trade provisions as a key factor affecting the development of GVC services trade, concluding that both the depth and scope of digital trade rules have a positive and significant effect on service trade. Similarly, Suh and Roh (2022) used data on cross-border service supply (Mode 1) as a proxy for digital trade and found that the impact is even stronger when deeper agreements are established between the parties.

APEC (2023) noted that the inclusion of DTPs³⁶ in trade agreements had a positive effect on digitally ordered and digitally deliverable trade in successive years between the APEC economies and its major trading partners, the EU and India. In particular, provisions designed to enhance consumer trust and lower market entry barriers exhibited the most significant impact on digital trade. Ma et al. (2023) centred their research on provisions relating to the free flow of data and found that signing cross-border data flow provisions had a more substantial influence on services trade compared to that of goods. Additionally, their research indicated that, for low-income countries, provisions promoting cross-border transfer of data and electronic information exhibited a promotional effect on the export of goods and services.

Regarding the impacts of DTPs on sustainable development, there are no empirical findings till date, indicating the need to undertake impact analysis in order to enable evidence-based policy decisions. Burri and Kugler (2023), in their comprehensive qualitative review on DTPs, argued that the latter could potentially serve as measures for promoting sustainable development. They suggested that commitments related to consumer protection, competition, business trust,³⁷ data protection, enabling digital inclusion, trade and electronic transactions facilitation, and cybersecurity may represent measures aimed at addressing challenges related to sustainable development. Therefore, filling the existing gap by providing empirical evidence concerning the impact of digital trade provisions on sustainable development, is an imperative.

3. Conclusion and the way forward

Although a large group of WTO members are actively having conversations on digital trade under the JSI, a far-reaching multilateral agreement on e-commerce appears to be unlikely. Therefore, regional and preferential agreements remain the main channel for the formulation of digital trade rules, especially for emerging issues. DTPs are increasingly being mainstreamed in PTAs. The more recent PTAs tend to have a broader coverage and more comprehensive DTPs, and a dedicated chapter on digital trade (or e-commerce) may become a standard feature in upcoming PTAs. The bigger players such as the US, EU, China, and Singapore have taken different approaches and are actively replicating their own templates across PTAs. At the same time, low and lower middle-income economies have been slow in incorporating DTPs in their trade agreements. In the Asia-Pacific region, East and South-East Asia countries are prominent in incorporating DTPs in their trade agreements, while Central Asia and South Asia countries lag.

The most common DTPs found in PTAs are those enabling and facilitating trade digitalization. The protection of consumers and personal information is also widely covered by PTAs, which reflects common regulatory needs. Common commitments

³⁶ APEC identified 13 types of DTPs including privacy protection; online consumer protection; measures against unsolicited commercial communications; cyber-security; Prohibition of data localization; cross-border transfer of information; e-authentication; domestic electronic transaction framework; e-invoicing; paperless trading; participation in digital trade for small businesses (MSME); No custom duties; and market access and national treatment for ICT services.

³⁷ Commitments on business trust encompass provisions on source code, algorithms, and encryption.

across PTAs include: no customs duties on electronic transactions, paperless trading, reducing restrictions on cross-border transfer of data, and the protection of personal information. However, despite the emerging overlap in coverage, countries use different legal languages to adjust the level of binding in different areas. Nonetheless, the most common commitments across agreements have the potential to shape some universally applicable disciplines.

The more advanced Asia-Pacific economies, especially Singapore, are taking the lead in signing DEAs. The recent surge in signing dedicated DEAs provides a novel, useful and flexible approach to negotiations on digital trade. DEAs include a wider range of DTPs addressing key and emerging issues of digital trade and the development of digital economy, and in many DEAs these DTPs are structured in modules which could allow parties to choose different levels of commitment. Creating a new “noodle bowl” of inconsistent agreements should be avoided. However, creating a new “noodle bowl” of inconsistent agreements should be avoided. The growing number of bilateral DEAs may make the digital trade environment unnecessarily complex, in particular for smaller firms in developing economies. Interoperable standards and mutual recognition mechanisms may be needed to address the existing digital regulatory heterogeneity and prevent further fragmentation in digital trade rules.

Looking ahead, given the growing importance of digital trade as an engine of growth and development, less developed countries need to keep abreast of the existing DTPs and develop a clearer understanding of their own needs and situation. Participation in multilateral level efforts may be particularly important for them given that they may be de facto excluded from preferential trade negotiations. Smaller and less developed countries may stress the inclusion of MSMEs in digital trade, capacity building, transfer of digital technologies and other means of reducing the digital divide. Further, progressive commitments may be a good strategy to promote for them when negotiating DTPs, particularly since they will often need time and to enhance domestic legislation on digital-economy-related issues, such as online consumer protection, personal information protection, and internal electronic transactions.

For deeper cooperation and closer integration in digital trade, legal and technical interoperability need to be promoted. To enhance interoperability, countries should refer to and build upon existing international standards and instruments when developing their domestic regulatory environment. For example, countries are encouraged to adopt the existing UNCITRAL model laws related to electronic commerce, including the model law on electronics transferable records, as well as relevant UN/CEFACT technical standards for electronic business. Similarly, at the multilateral and regional level, countries should also actively participate in existing multilateral or regional cooperation frameworks and agreements, before considering creating new ones. For instance, the UN treaty called the Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific (CPTA) already provides an inclusive and neutral platform for the pilot testing of cross-border paperless trade solutions among over 50 member states, enabling harmonization of electronic trade data and document exchange rules and systems

currently being developed only at the bilateral or subregional levels.³⁸ Such agreements and frameworks may be directly referred to in relevant DTPs. At the global level, active participation in the on-going WTO JSI discussions on e-commerce, as well as initiatives such as the UNCTAD-led E-trade For All capacity building initiative should be positively considered, with the ultimate goal of achieving an inclusive digital trade environment supportive of the sustainable development goals.

³⁸ More information available at <https://www.unescap.org/projects/cpta>

List of references

- Aaronson, Susan Ariel, and Patrick Leblond (2018). Another digital divide: The rise of data realms and its implications for the WTO. *Journal of International Economic Law*, vol. 21, No. 2, pp. 245-272.
- Asian Development Bank (ADB) (2022). Aid for trade in Asia and the Pacific: Leveraging trade and digital agreements for sustainable development. Manila: ADB. Available at <https://www.adb.org/sites/default/files/publication/811756/aid-trade-asia-pacific-trade-digital-agreements.pdf>
- Asia-Pacific Economic Cooperation Committee on Trade and Investment (2023). Economic impact of adopting digital trade rules: Evidence from APEC member economies. Available at https://www.apec.org/docs/default-source/publications/2023/3/economic-impact-of-adopting-digital-trade-rules-evidence-from-apec-member-economies/223_cti_economic-impact-of-adopting-digital-trade-rules.pdf?sfvrsn=e1021415_2
- Association of Southeast Asian Nations (ASEAN) (2021). The Bandar Seri Begawan roadmap: An ASEAN digital transformation agenda to accelerate ASEAN's economic recovery and digital economy integration. Available at https://asean.org/wp-content/uploads/2021/10/Bandar-Seri-Begawan-Roadmap-on-ASEAN-Digital-Transformation-Agenda_Endorsed.pdf
- Burri, Mira (2015). The international economic law framework for digital trade. *Zeitschrift für Schweizerisches Recht*, vol. 135, pp. 10-72. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2602817
- Burri, Mira (2021). Digital trade: In search of appropriate regulation. In *Justice, Trade, Security and Individual Freedoms in the Digital Society*, edited by Fernando Esteban De La Rosa and others. Ontario: Thomson Reuters, pp. 213-247. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3962165
- Burri, Mira (2021). Towards a new treaty on digital trade. *Journal of World Trade*, vol. 55, No. 1, pp. 77-100.
- Burri, Mira, and Kholofelo Kugler (2023). Digitization, regulatory barriers and sustainable development. SSRN Trade Law 4.0 Working Paper No 3/2023. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4424470
- Ciuriak, Dan (2022). Digital economy agreements: Where do we stand and where are we going? SSRN Working Paper. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4217903
- Elms, Deborah (2021). Overview of digital trade provisions in Asian agreements. Available at <https://www.unescap.org/sites/default/d8files/event-documents/guest%20speaker%20presentation%20-%20Deborah%20Elms.pdf>

- European Parliament and the Council of the European Union (2016). General data protection regulation. Available at <https://gdpr-info.eu/>
- Gao, Henry (2018). Digital or trade? The contrasting approaches of China and US to digital trade. *Journal of International Economic Law*, vol. 21, No. 2, pp. 297–321.
- Gao, Henry (2022). Data sovereignty and trade agreements: Three digital kingdoms. Hinrich Foundation, 18 January. Available at <https://www.hinrichfoundation.com/research/article/digital/data-sovereignty-trade-agreements-digital-kingdoms/>
- Honey, Stephanie (2023). The long road to a seamless global digital economy. Hinrich Foundation, 30 May. Available at <https://www.hinrichfoundation.com/research/article/digital/the-long-road-to-a-seamless-global-digital-economy/>
- Ismail, Yasmin (2023). The evolving context and dynamics of the WTO joint initiative on e-commerce: The fifth-year stocktake and prospects for 2023. Winnipeg: International Institute for Sustainable Development. Available at <https://www.iisd.org/system/files/2023-04/wto-joint-initiative-e-commerce-fifth-year-stocktake-en.pdf>
- Kuhlmann, Katrin (2021). Handbook on provisions and options for trade in times of crisis and pandemic. Bangkok: United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). Available at <https://www.unescap.org/kp/2021/handbook-provisions-and-options-trade-times-crisis-and-pandemic>
- Ma, Shuzhong, Yuting Shen, and Chao Fang (2023). Can data flow provisions facilitate trade in goods and services?-Analysis based on the TAPED database. *Journal of International Trade & Economic Development*, pp. 1-26.
- Organisation for Economic Co-operation and Development (OECD) (2019). Unpacking e-commerce: Business models, trend and policies. Paris: OECD. Available at <https://www.oecd.org/digital/ieconomy/unpacking-ecommerce.pdf>
- Organisation for Economic Co-operation and Development (OECD), World Trade Organization (WTO), and International Monetary Fund (IMF) (2020). Handbook on measuring digital trade, version 1. Paris: OECD. Available at <https://www.oecd.org/sdd/its/Handbook-on-Measuring-Digital-Trade-Version-1.pdf>
- Suh, Jeongmeen and Jaeyoun Roh (2023). The effects of digital trade policies on digital trade. *The World Economy*. Available at <https://onlinelibrary.wiley.com/doi/10.1111/twec.13407>

World Economic Forum (WEF) (2022). Digital economy agreements are a new frontier for trade - here's why. Available at <https://www.weforum.org/agenda/2022/08/digital-economy-agreements-trade/>

World Trade Organization (WTO) (1998). Work programme on electronic commerce. Available at <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/WT/L/274.pdf&Open=True>

World Trade Organization (WTO) (2018). World trade report 2018: The future of world trade. Geneva: WTO. Available at https://www.wto.org/english/res_e/publications_e/world_trade_report18_e.pdf

World Trade Organization (WTO) (2019). Joint statement on electronic commerce. Available at <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/WT/L/1056.pdf&Open=True>

World Trade Organization (WTO) (2023). WTO joint statement initiative on e-commerce: Statement by ministers of Australia, Japan and Singapore. Available at https://www.wto.org/english/news_e/news23_e/igo_20jan23_e.pdf

Wu, Jie, Zechu Luo, and Jacob Wood (2023). How do digital trade rules affect global value chain trade in services?-Analysis of preferential trade agreements. The World Economy. Available at <https://onlinelibrary.wiley.com/doi/full/10.1111/twec.13412>

Wu, Mark (2017). Digital trade-related provisions in regional trade agreements: Existing models and lessons for the multilateral trade system. United Nations Library Vienna Electronic Resource. Available at <https://unov.tind.io/record/67136?ln=en>

Datasets and tool

Asia-Pacific trade and investment agreement database (Aptiad). Available at <https://www.unescap.org/content/aptiad>

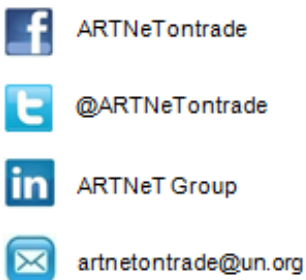
ESCAP Regional Trade Agreement text analyzer 1.0. Available at <https://repository.unescap.org/handle/20.500.12870/5429>



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