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**The Indo-Pacific Partnership and Digital
Trade Rule Setting: Policy Proposals**

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Abstract: *The idea of the Indo-Pacific was borne from a global trend that has (re)oriented the centre of the world's economic gravity to the East. Accelerating digital transformation to harness gains from technology are in countries' common interests. The launch of the Indo-Pacific Economic Framework for Prosperity tends to supplement economic benefits to the Indo-Pacific. Becoming more deeply involved in the digital economy will require Indo-Pacific members to commit to new international norms on digital trade, of which trade liberalisation of electronic transmissions, free flow of data with trust, cybersecurity, and intellectual property rights protection must be prioritised.*

Keywords: Indo-Pacific partnership; Digital trade; Asia; Regional arrangement

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1. Introduction

The Indo-Pacific entered the arena of international relations as a concept of geopolitics and security – but not a proper geographic one. The term has been widely used in the Quadrilateral Security Dialogue (Quad), in which leaders from Australia, Japan, India, and the United States (US) meet periodically to exchange views on contemporary global or regional issues. Its roots can be traced back to 2004, when the four countries worked together to respond to the 2004 Indian Ocean earthquake and tsunami. Japanese Prime Minister Shinzō Abe’s proposal of Asia’s Democratic Security Diamond in 2012 and US President Donald Trump’s commitment to the Free and Open Indo-Pacific in 2017 helped revive the Quad; since 2019, Quad leaders have met frequently. The term ‘Indo-Pacific’ is now signalling new trends of US foreign policy in Asia that will have deep implications for regional security, economy, and diplomacy.²

Since 2020, Quad members have begun to invite non-Quad countries to join in their dialogues; thus, the influence of the ‘Indo-Pacific’ has increased steadily with this expansion. In 2022, when the US officially launched the *Indo-Pacific Economic Framework for Prosperity* (IPEF), in addition to Australia, Japan, and India, nine non-Quad countries (i.e., Brunei Darussalam, Indonesia, Republic of Korea, Malaysia, New Zealand, the Philippines, Singapore, Thailand, and Viet Nam) also participated the Quad summit, showing their willingness to discuss a formal Indo-Pacific Partnership (IPP).

The launch of the IPEF demonstrates how an IPP will deliver real results to members by supplementing economic content with the original concept of the Indo-Pacific (Brownstein, 2022). IPEF partners plan to discuss future negotiations on four pillars: trade; supply chains; clean energy, decarbonisation, and infrastructure; and taxes and anti-corruption (The White House, 2022). Through these discussions, the IPP shows its inherent relationship to the Trans-Pacific Partnership (TPP), the geo-economic component of US President Barack Obama’s ‘Pivot to East Asia’ regional strategy. Indeed, except India, all IPEF participants seemed to favour the TPP – nine are TPP founding members. The others – Indonesia, the Philippines, and Thailand –

² Medcalf (2020) saw the wide adoption of this concept as a signal of ‘a significant change’.

expressed interest in joining the TPP soon after the negotiations were concluded. Both the TPP and IPP aim to help set the rules for the 21st century.

The final text of the TPP listed sectors that were not addressed in the multilateral trade negotiations but should be covered by new rules and regulations, such as regulatory and competition issues, protection of investments, and standards for environmental protection and workers' rights (Chen et al., 2018). The IPP will probably inherit most of the issues covered by the TPP, refining targets by taking into account new trends of technology and global economic development.

The IPP was born from a global trend that has (re)oriented the centre of the world's economic gravity to the East.³ The Quad and IPEF represent these geopolitical and geo-economic components; behind the scenes is the rapidly expanding international production-sharing network and digital transformation that fuels Asia's rise and fosters the global shift. Indeed, the IPEF emphasises this global trend and states that '[i]n the long term, economic competitiveness will be largely defined by [the] ability to harness technology, promote innovation, [and] participate in the digital economy' (The White House, 2022). Specifically, negotiations on the trade pillar will 'seek to build high-standard, inclusive, free, and fair trade commitments and develop new and creative approaches in trade and technology policy', and IPEF partners will seek to cooperate in the digital economy (The White House, 2022).

This paper demonstrates how the IPEF should promote the setting of international rules on digital trade. It is organised as follows. Section 2 illustrates the importance of digital trade in 21st century global value chains (GVCs). Section 3 explains why the development of digital trade needs a rules-based trading system. Section 4 discusses policy with an emphasis on five areas that the IPEF should prioritise. Section 5 concludes.

³ This pivot seems to indicate China, yet the rapidly expanding international production-sharing network fuels rising Asia and fosters the global shift (Chen, 2017).

2. Evolving Global Value Chains: Digitalisation and Servicification

Digitalisation is key to 21st century GVCs. The figure below places technological progress and economic globalisation into the same box and shows how this spurred international trade and nurtured its development. One way that technological progress affects the international economy is via reduced trade costs, including those of transport, communication, and people-to-people connections. Throughout the process, one can see technological progress works to reduce costs and pushes economic specialisation. With the deeper unbundlings of globalisation comes the continuous effort of new technologies on finer international divisions of labour. This evolutionary process has been classified into three main episodes of unbundling: (i) the separation between production and consumption, (ii) international fragmentation of production, and (iii) further fragmentation within the tasks of production (Baldwin, 2016; Kimura and Chen, 2018; Chen, 2021).

Figure 1: Technological Progress in Global Value Chain Evolution

| | Pre-globalised world | The 1 st unbundling | The 2 nd unbundling | The 3 rd unbundling |
|---|----------------------|--------------------------------|--|--|
| Costs of transportation Costs of communication Face-to-face costs | High High High | Lower High High | Lower Lower High | Lower Lower Lower |
| What to move | None | Goods | Production factors, know-how | Skills, Services Data and information |
| Int'l division of labor | Autarky | Industry-wise | Task-wise (production fragmentation) | Person-wise (task fragmentation) |
| Technology | | Automation, Transport | CT& IT | SMACI |

CT = communications technology, IT = information technology, SMACI = social media, mobile phone, artificial intelligence, cloud computing, and Internet of Things.

Sources: Baldwin (2016), Kimura (2018), Kimura and Chen (2018).

During the pre-globalisation era – when the cost of transport, communications, and people-to-people connections were all very high – production activities and consumption had to be geographically close to each other, simply because it was too costly to do business remotely. However, new technologies – especially steamships and railways – reduced the time and costs of long-distance transport. This created the first unbundling of globalisation, as production and consumption activities were separated. Consequently, technological progress managed to promote industry-wise division of labour and made mass production and economy of scale feasible. As production and consumption could locate in different countries and be linked via international trade, countries started to trade more with each other. Yet at this stage, international trade was dominated by trade in goods, and the main content was final goods or raw materials.

The 20th century Information Revolution further drove down trade costs, by reducing transport costs as well as communication costs. A new way of organising international economic activities emerged, as it was not necessary for production to be an integrated process, and the market saw it as beneficial to fragment production internationally. Economically, this second unbundling lowered the threshold to join the international division of labour, allowing more firms – especially small and medium-sized enterprises (SMEs) – to join global production sharing.

For developing countries, such GVC participation provided new thoughts on development. The idea of trade and investment liberalisation became widely accepted, as the way to facilitate a country's involvement in GVCs was to pursue economic prosperity. To meet the needs for coordinating GVCs, service links – especially those of business and financial services – were making great strides forward as well. As a result, the global economy became further interconnected via GVCs. There was more to trade, and countries traded more. Today, this is evident in the growth of worldwide maritime trade, of which the transport volume has increased by nearly two times in the past 3 decades, from 4 billion tonnes loaded in 1990 to over 11 billion tonnes loaded in 2019 (UNCTAD, 2021).

The 21st century began a new chapter of economic globalisation – the third unbundling. As Bill Gates predicted 3 decades ago, ‘The major changes [have been] in the way people communicated with each other’ (Gates, 1995). The application of

digital technologies have reduced the cost of people-to-people connections, particularly via enhancing connectivity in cyberspace. It is not that much different to communicate and to exchange ideas with people thousands of miles away than with those next door. Digitalisation and the internet of things (IoT) have extended the boundaries of international fragmentation of production and further unlocked the potential of GVCs.

Indeed, digitisation blurs boundaries between the different links of value chains and increases the information transparency to all participants. In addition to international fragmentation of production, firms can benefit from the low cost of people-to-people connections and further fragment tasks internationally. Moreover, the application of digital technologies and related business models into the services sector makes services more innovative and productive. Digital-empowering services links – either digitally enabled or digitally created – can improve the capacity of GVC coordination and motivate network extension, helping drive GVCs toward an ecosystem that is better connected, smarter, and more efficient.

Finally, the economic consequence of digitalisation can only be underestimated, as embracing digital technologies into businesses unquestionably creates new products, services, and markets. More and more, digital technologies will be combined with new materials and energies to create new market opportunities for development.

3. A Rules-based Playing Field for Digital Trade

The rapid growth of digital trade and its rising importance in the world economy have urged international common rules to level the playing field. These should consist of content covered by the current World Trade Organization (WTO) rule sets as well as topics that are WTO-plus or WTO-extra (Chen and Kimura, 2019). The former are topics that call for the extension of member *déjà fait* commitments at the multilateral level, while the latter are new issues that have not been yet covered by WTO. Both can undermine the long-term development of the digital economy; no rules or too-loose regulations may lead to market disorder, while too-restrictive policies may erect barriers to market access in digital trade.

The US defines digital trade as the trade of products and services over the internet, including transactions via e-commerce platforms and related services

(USITC, 2017). The European Commission defines digital trade as commerce enabled by electronic means – by telecommunications and/or information and communications technology (ICT) services – and covers trade in both goods and services (European Commission, 2020). WTO has not yet given a clear definition for digital trade, but based on its definition of e-commerce, digital trade could refer to international production, distribution, marketing, sale, or delivery of goods and services by electronic means. The Organisation for Economic Co-operation and Development (OECD) defines digital trade ‘digitally-enabled transactions of trade in goods and services that can either be digitally or physically delivered’ (OECD, 2020). From these definitions, three agreed understandings on digital trade emerge. First, digital trade involves both trade in goods and trade in services.

In addition to its effect on enabling online trade and facilitating transactions, digitalisation has introduced new services activities and turned more non-tradable sectors to tradable sectors. As Nakatomi (2022) pointed out, digital solutions expand the territory of services in economic activities. For instance, before the launch of Apple's iTunes, music lovers could buy physical albums from foreign suppliers, receiving the CDs from abroad. Later, via the iTunes platform, they could also choose to purchase the music online.

Moreover, digital solutions have brought about new sources of value added to businesses. In particular, digitalisation has sharpened the edge of competitiveness of data-driven business models such as servicification, with which the delivery of end-products is no longer the end of sale but merely a milestone that is followed by more producer–consumer interactions, including consumer feedback to the producer and a producer's customised service to the consumer. An often-cited story about the advance of servicification is that of Rolls Royce, which rents or sells its engines to aircraft manufacturers, receives data from the engine use, and then collects fees and provides technical support based on these data. Digitalisation has lowered the threshold – both technically and economically – for businesses to adopt servicification.

Second, digital trade includes the trade of final products as well as that of intermediate goods and services, which can be either the output of sub-stage activities or services links that facilitate the fragmented pattern of production. Progress in ICT has facilitated people’s communications, and it will keep doing so. In international

trade, the use of telecommunications tools, such as telephones, fax, and e-mail, led to the new pattern of the international division of labour by lowering the cost of services links to enable and to sustain international fragmentation of production (Jones and Kierzkowski, 1990). This contributed to the birth of GVCs and today fuels their rapid growth. New digitally enabled means of communications, such as social media, instant messaging, and videotelephony, are currently helping extend the coverage of GVCs and enrich their content. With this understanding, rules on digital trade should aim to govern the entire GVC, including trade of intermediate products and those service activities that are woven throughout the production network.

Third, cross-border data flows are vital to digital trade. These can facilitate other trade flows – from those of goods and services to those of international factor mobility – and turn some of these flows into other forms of international trade once new technology is ready. For instance, videotelephony has supported online meetings during the COVID-19 pandemic when social distancing and travelling restrictions were necessary. In the future, with the advance of related technology such as holographic displays, virtual events in cyberspace may further aid human mobility. Another example is the development and use of 3D printing technology. With the popularity of 3D printers and availability of materials, it is possible that when a buyer in a country purchases a machine from another country, he/she will receive not a tangible object but a blueprint and code from a seller that can instruct another 3D printer, which the buyer can own or rent, to print out the machine ordered.

Setting international rules on digital trade should consider these common understandings and include provisions to deal with both tariff and non-tariff measures (NTMs). NTMs concerning traditional trade-related measures, such as customs procedures and licensing, can extend to digital trade and lead to a discretionary pattern favouring certain local players (Wu, 2017). Since digital trade involves transactions of tangible products, legal disciplines and obligations established in the 1994 *General Agreement on Tariffs and Trade* (GATT) are relevant to prohibit customs duties and discrimination against trade in goods. The WTO *Information Technology Agreement* further expanded tariff exemptions to trade in technology products (WTO, 1997). However, tariff barriers may still be imposed on products that are not covered by the GATT or *International Technology Agreement*.

NTMs can affect digital trade, especially that of services. They are often laws or red tape that hamper free trade or discriminate against foreign suppliers in market access, such as discriminatory regulations or local content rules (Fefer, Akhtar, and Morrison, 2019). Rules and commitments of trade in services are thus increasingly important in digital trade. The *General Agreement on Trade in Services* (GATS) has the most significance to digital trade amongst the existing WTO rule sets (Wu, 2017; Nakatomi 2019). However, when GATS came into effect in 1995, many digital products and digital-enabled services did not exist. Because it has remained unchanged for almost 3 decades and ICT has quickly progressed during this period, there are ambiguities and deficiencies in GATS provisions that touch on digital trade. Nakatomi (2019) summarised eight limitations of GATS: insufficient commitments, a positive list, obsolete classification, most-favoured nation exemptions, lack of clarity on general exceptions and security exceptions, lack of adaptation to technological changes, stalemate in progressive liberalisation and additional commitments, and undeveloped rules on domestic regulations.

The internet was created to be borderless; rules and regulations on digital trade should thus work on preventing cyberspace from fragmentation with barriers. The goals of rules setting are to increase trust, ensure security, and facilitate doing business online. Since the GVCs behind digital trade cover both the physical world and cyberspace, rules, regulations, and legislation must exist in both spaces of the market (Chen, 2019; Chen and Kimura, 2019).

Non-discrimination between local and foreign suppliers should also be a core principle in digital trade rules. The principle of national treatment requires equal treatment of foreign and local supplies; that is, once foreign goods, services, or intellectual property enter domestic markets, they should be treated the same as those supplied locally. Rules on digital trade must therefore include explicit provision for non-discrimination and national treatment.

A similar principle should also apply to cross-border data flows as well as payments, investments, or labour movements related to IoT. Market access restrictions on international services and factor mobility – whether specific to digital trade or the ICT sector – are burdensome for foreign competitors to enter the market. When setting new laws or regulations, governments need to clarify their objectives, content, and

scope to avoid possible discriminatory treatment of digitally traded goods and services and those traded offline.

As for tariff barriers, both non-duty practices on electronic transmissions and those of *de minimis* on cross-border e-commerce should be promoted. Many countries realise that unilateral tariff impositions on electronic transmissions can distort the market and discourage the development of the digital economy. This can be cost-prohibitive, technologically unfeasible, and incompatible with free trade under the WTO most-favoured national principle. With the 1998 WTO Ministerial Declaration on Global Electronic Commerce and the 1999 moratorium, member states promised to not impose customs duties on electronic transmissions. (WTO, 1998; ICC, 2019) Formalising this duty-free practice can help countries tap huge benefits from digital trade.

Pulling up the amount of *de minimis* can accelerate the growth of digital trade as well. Driven by the growth of international business-to-consumer activities, there are more low-value parcels in cross-border e-commerce. Exempting these low-value parcels from tariffs and other taxes can help cross-border e-commerce transactions expand. This can benefit individuals and SMEs (Hufbauer and Wong, 2011). Binding one-sided international standards would be helpful, as members would be required to set a floor of the maximum amount of *de minimis* but free to choose a higher amount under the non-discrimination principle.⁴ Given countries' various development stages and income levels, the required amount can be price-indexed to one or several development indicators.

The acceptance of electronic authentication and digital signatures makes businesses quicker and more efficient. Underlying models, algorithms, and solutions can, however, be different from country to country. A globally accepted technical standard/guidance would ensure interoperability across systems, enhance the security of data exchange, and provide useful references in dispute resolution.

In comparison, NTMs are numerous and varied. They contain policy interventions that affect international trade other than tariffs. Concerns on traditional trade-related measures need to extend to the digital sphere (Wu, 2019). Rules setting for digital trade in this regard can build upon the latest progress in NTM reduction and

⁴ The higher the amount of *de minimis*, the more the consumers will gain.

refer to existing principles on NTM regulations. For instance, the 2018 Asia-Pacific Economic Cooperation (APEC) Ministerial Meeting set up some cross-cutting principles (APEC, 2018): (i) information on NTMs, including that on processes of development, needs to be transparent; (ii) the consequence of imposing NTMs should be predictable, coherent, and non-discriminatory; (iii) NTMs should be non-discriminatory; (iv) NTMs should be based on relevant international standards; (v) NTMs need to be consistent with WTO commitments and obligations; (vi) NTMs need to be at a minimum and have precise legitimate objectives; and (vii) NTMs should not pose unwarranted barriers to technological progress and innovation.

Promoting the free flow of data should be the top priority. Accordingly, rules setting on digital trade must emphasise new barriers against the free flow of data, such as localisation requirements,⁵ restrictions on cross-border data flows, intellectual property rights (IPR) infringement, forced technology transfer, web filtering or blocking, cybertheft, requirements for source code or algorithm disclosure (Fefer, Akhtar, and Morrison, 2019).

It is worth noting that a country's regulations on the digital economy can have international ramifications. National policies on digitisation – even those not related to foreign trade – can have consequences spilling over to foreign markets. International agreements on new global norms on digital trade imply both at-the-border and beyond-the-border actions. Three potential conflicting policy goals pointed out by OECD (2020) need particular attention in policy design: (i) internet enabling, (ii) online and offline competition of e-commerce, and (iii) data privacy and consumer protection.

4. The Indo-Pacific Partnership in International Rules Setting on Digital Trade

The US views ensuring a free, open, rules-based global market as the top priority of its foreign policy. This has been extended to the cyberspace. The IPEF is an opportunity to deepen US ties with Indo-Pacific members, but it will be challenging to 'find a path to achieve a high-standard IPEF agreement, consistent with US domestic

⁵ Some typical measures include requirements for the use of local servers for data storage or processing, requirement on the use of local technology, and regulations on privacy or consumer protection that may discriminate against foreign producers.

constraints, while providing sufficient benefits to attract US Indo-Pacific partners' (Meltzer, 2022).

Accelerating digital transformation to harness gains from technology are in IPEF members' common interest. In this regard, the IPEF can provide a platform for the US to advance its interests in digital trade and to take the lead in developing global rules on the digital economy in line with US laws and norms⁶ while allowing other IPEF members to become more involved.

The digital economy is one of the nine trade issues that the IPEF ministers discussed under the Trade Pillar of the recent meeting held in September 2022. In the joint statement⁷, IPEF members expressed their desire for advancing inclusive digital trade and acknowledged the importance of free flow of data with trust, sustainable growth of digital economy, and responsible use of emerging technologies. However, there are fundamental disagreements on the global regime for digital trade even amongst major trading nations, who desire embracing digital technologies to facilitate trade (Pomfret, 2022). Amongst IPEF members, there are divisions over digital trade governance.⁸ The US and Japan prefer to leave more space for the market and industry to take the lead in regulations; countries like Indonesia tend to favour sovereign control over cyberspace; and Australia seems to emphasise more regulation on issues such as privacy, cybersecurity, and online consumer protection while promoting the free flow of data and digital service liberalisation (Mitchell and Mishra, 2018; O'Hara and Hall, 2018; Pomfret, 2022). Facing such gaps, negotiations on issues related to digital trade will be helpful even before reaching an agreement to build trust amongst participating countries, reduce market uncertainty, and facilitate doing business internationally.

⁶ In 2015, the US Department of Commerce launched the *Digital Economy Agenda* that identified four pillars: (i) promoting a free and open internet, (ii) promoting trust online, (iii) ensuring access to fast broadband networks, and (iv) promoting innovation (Government of the US, Department of Commerce, 2015).

⁷ The Joint Trade Pillar Statement by the Ministers of the United States, Australia, Brunei Darussalam, Fiji, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, and Viet Nam.

⁸ This could be part of the reason for India's absence in the Pillar 1 talks about trade with digital rules.

4.1. No Customs Duties on Electronic Transmissions and *De Minimis*

No duties on electronic transmissions and tariff waivers on low-value cross-border e-commerce should be formalised in an agreement. In 2021, the G7 Trade Ministers' Digital Trade Principles even supported 'a permanent prohibition' of customs duties on electronic transmissions as well as on the transmitted content. (G7 2021) Some developing countries worry that such a binding commitment could lead to potential loss in tariff revenue. Banga (2019) estimated that the WTO moratorium on the payment of customs duties could have lowered developing countries' tariff revenues as much as \$10 billion.⁹ Two IPEF members – Thailand and India – could have especially faced significant tariff revenue losses. However, OECD (2019) argued that the overall benefits of duty-free electronic transmissions outweigh the potential losses. Indeed, even for Thailand and India, the potential losses in tariff revenue may only account for 0.7% and 0.2% of their export revenues, respectively.

No customs duties on electronic transmissions is a good practice that has contributed to a free trading environment for the growth of digital trade. The Global Industry statement on the WTO moratorium, submitted by 89 industrial groups from around the world, showed the private sector's strong desire to continue the non-duty practices (Global Industry, 2022).

It will be easier for countries who are reluctant to commit to binding rules multilaterally to start with an agreement composed of a smaller group of important trading partners, like the IPEF. For instance, according to Banga (2019), India may have given up \$500 million in tariff revenue due the WTO moratorium. In comparison, India's exports to other IPEF countries generated over \$90 billion revenue in 2020. It could be in India's best interest, however, to have an agreement with other IPEF members on the moratorium to consolidate one-third of its total exports. Similarly, it is easier for a small group of countries to agree on how to apply *de minimis* in digital trade. The potential gain from trade facilitation and promotion will compensate the potential loss of tariff revenues, especially when taking into account technical difficulties and time spent on collecting customs duties on small, low-value parcels.

⁹ The estimations use 2011–2017 average bounded duties based on the trade statistics of 2017.

4.2. Trust Building for Free Flow of Data

GVCs need not only free trade and free factor movement but also the free flow of data. However, the ‘ability to generate, collect, analyse and monetise data is surpassing our ability to consider the consequences that such advances hold for our economy, privacy or even national security’ (Bolton et al., 2021). Thus, there are concerns on how new technologies can empower data. Technologies such as big data, cloud computing, machine learning, artificial intelligence, and IoT are now the reality; very likely, these will turn today's musings into tomorrow's reality.¹⁰

The gains from imposing restrictions on data – such as regulations limiting cross-border data flows and requiring local storage to deal with data security and related problems – cannot make up for losses in economic efficiency. For instance, data localisation will impose barriers on firms for big data and cloud computing in decision making and lower the efficiency of their operations, while policy measures of filtering, blocking, or impeding internet access will distort the market and increase the cost of cross-border transactions similar to how NTMs can affect international trade.¹¹ Indeed, many regulations that hinder the free flow of data can be seen as hidden industrial policies and protectionism.¹² In a rules-based regime, their purpose must be clarified to avoid overprotection (Kimura et al., 2019).

Setting a common floor for data security and privacy legislation can help trust building amongst IPEF members and facilitate cross-border data flow. There are two priorities:

- (i) **Increasing transparency.** This will help improve mutual understanding amongst countries and pave the way for formal negotiations. Despite differences amongst members, the IPEF can become a forum for all parties to discuss technological progress, innovations, and data-related issues, especially those related to countries’ geo-political and geo-economic concerns such as national

¹⁰ For example, advanced encryption standards and triple data encryption algorithms are widely used as security guarantees of e-mail. As computing power increases, however, these solutions can lose their security.

¹¹ For instance, national standards that deviate significantly from international standards or requirements on local registration and testing could be *de facto* obstacles for foreign competitors to enter domestic markets.

¹² As Bolton et al. (2021) wrote, ‘some [localisation policies] are designed to protect, favour, or stimulate domestic industries, service providers, or intellectual property at the expense of foreign counterparts and, in doing so, function as nontariff barriers to market access’.

security, IPR, and privacy.

- (ii) **Setting the boundaries of data use.** This is a critical first step to make the free flow of data practicable. In this regard, IPEF negotiations should aim for an agreement on how to define different types of data, which then can be used to create rules on data governance that consist of general terms (i.e. applying to all data flows), specific terms (i.e. applying to specific types of data flows), and exceptions (i.e. applying to certain circumstances).

4.3. Cybersecurity

The advance of technologies in data storage, processing, transition, and monetisation can increase the likelihood of data being leaked, stolen, or misused. Cybersecurity¹³ has thus become one of the prime concerns in the digital economy for both governments and the private sector. Cyber threats¹⁴ have expanded from targeting digital devices and networks to infrastructure, services, and IoT. Economically, business operations and supply chains can be disrupted, and targets of large-scale internet attacks face the risk of reputational damage (ERIA and CyberGreen, 2022). Cybercrime¹⁵ cost \$6.0 trillion globally in 2021, and this figure is expected to reach \$10.5 trillion in 2025 (Morgan, 2020).

Over time, cyber threats have increased in frequency, size, sophistication, and impact. Perpetrators have ranged from individuals to nation states. Increasingly, cyberattacks are organised transnationally. Even big countries or organisations with ample resources and expertise see cybersecurity as an enduring challenge (Bolton et al., 2021).

Fighting cybercrimes calls for enhancing collaboration amongst businesses, governments, international organisations, nongovernmental organisations, and other players. Limitations on data flows cannot improve cybersecurity, however. For example, requirements of data localisation, which force companies to use local servers, can create data silos that may be even more vulnerable to cyberattacks.

¹³ GOV.UK (2022) defines cybersecurity as *‘the activities necessary to protect network and information systems, the users of such systems, and other persons affected by cyber threats.’*

¹⁴ *‘Any potential circumstance, event or action that could damage, disrupt or otherwise adversely affect network and information systems, the users of such systems and other persons.’* (GOV.UK, 2022).

¹⁵ Cybercrime costs include productivity loss, revenue loss, disaster recovery, liability, and customer loss (Dübendorfer, Wagner, and Plattner, 2004).

IPEF cooperation in cybersecurity should first aim for international security standards or cross-compliance recognition frameworks of design, testing, and certification to ensure the safety, reliability, and trust of critical infrastructure and improved security around digital technologies. To make this feasible, the policy design should also include technical support and capacity building.

Furthermore, IPEF negotiations should focus on promoting the concept of international norms of behaviour in cyberspace and a higher degree of policy harmonisation in strengthening data security and fighting cybercrime (OECD, 2012). Imposing a common security floor can strengthen data security and the privacy regime. Negotiations should respect each member's fundamental values but be consistent with the need for an open and safe cyberspace with balanced concerns for the free flow of data, personal privacy, business interests, and national security.¹⁶ With this, the goal is not a risk-free but a resilient¹⁷ digital ecosystem in the Indo-Pacific.

4.4. Intellectual Property Rights Protection

By facilitating the international flow of data and information, digitalisation delivers a new set of tools to bolster services in GVCs. As a result, this intensifies the cross-border exchange of intellectual property and increases the prominence of IPR protection to endorsing cross-border technology transfer and innovation in GVCs.

Improving international cooperation in IPR protection has been a common issue for both technology-rich and -sourced countries. On one side, digitalisation helps separate intellectual property ownership and the correct use of it, allowing owners and users to take different roles in GVCs and share the value-added generated. This leads to a win-win situation from the combination of international capital and know-how in some countries and abandoned production factors in others. However, digitalisation also makes IPR infringement easy, especially in online marketplaces.

The IPEF must think about robust IPR standards that are higher than that of the *WTO Agreement on Trade-Related Aspects of Intellectual Property Rights* (TRIPS) or other multilateral treaties, coupled with effective enforcement mechanisms. In

¹⁶ This could be key to maintaining trust in the digital environment and advancing international trade (Fefer, Akhtar, and Morrison, 2019).

¹⁷ Resilience refers to the capacity of a system to continue operation notwithstanding technical problems (OECD, 2012).

principle, international rules on IPR protection should ensure that both producers and consumers benefit from intellectual property protection, while such protection subsequently contributes to technology transfer and innovation.

However, countries' interests in IPR protection vary greatly, depending on their development stage and position in GVCs, making IPR protection one of the most controversial issues in international trade negotiations (Chen and Kimura, 2021). Within the IPEF, it is likely that intellectual property-exporting countries – like the US and Japan – will promote higher global standards, and intellectual property-importing countries – like India or those in the Association for Southeast Asian Nations (ASEAN) – will negotiate for terms that give them more space for technology substitution and incremental innovation.

Two precedents are useful for the IPEF when negotiating terms on IPR protection. Chapter 18 of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) introduces provisions that go beyond countries' commitments in multilateralism and surpass the level under TRIPS as well as the detailed obligations enforcing TRIPS-plus protection. According to Kato (2018), it can be seen as a model intellectual property chapter of 21st-century trade agreements. The Regional Comprehensive Economic Partnership (RCEP) considers the development gaps across countries and details country-specific schedules and technical assistance requests to smoothen the transition period. Both pay attention to the potential challenge of the internet and digitalisation to the enforcement of IPR protection and require signatories to treat online violation of copyrights, trademarks, and related rights equally to offline acts of infringement.

Since the late 1990s, the US has consistently promoted high-standard rules and regulations on intellectual property and related issues at the international level. The IPEF will not deviate from this strategy. Enhancing IPR protection can effectively improve the investment environment and be seen as part of the new entry requirements to become involved in GVCs. This could help compensate for the lack of US market access.

4.5. Regulating Government's Use of Data

How to regulate the government's intervention in resource allocation and market competition is one of the fundamental questions policymakers need to address. Data is

the new oil of the digital economy. Digital government needs grant the government privileges to collect, store, analyse, and publish data to improve online public services. Moreover, the development of digital economy asks for regulations in various areas, such as consumer protection, competition, IPR protection, and taxation. In some cases, the implementation of the regulation may require the explosion of the customer's personal data or industry data used by businesses.

Especially when AI, robotics, and machine learning are getting more important in production and services, issues such as how and to what extent the government will be allowed access to codes and algorithms will be of increasing concern. The IPEF countries can make contributions to regulating the government's use of data in two ways – extending the legal due process applied by the country's judicial system to the cyberspace, and internationally, by '*achieving consensus on common principles for trusted government access to personal [and industry] data.*' (Chen et al., 2019; G7, 2021).

5. Conclusion

The sustained development of digitalisation needs a rules-based ecosystem to support market openness, innovation, and fair competition.¹⁸ As a guideline, the World Bank (2016) suggested five policy areas: (i) establishing a digital favourable and competitive business climate, (ii) developing strong human capital, (iii) ensuring good governance, (iv) improving digital infrastructure, and (v) raising digital literacy. These objectives can be universally applied to policymaking for the digital economy.

The US and Asia are highly interdependent, and economic digitalisation tends to deepen their ties. The IPP will strengthen the economic links amongst members and set the tone for market openness and rules-based competition and cooperation in the region. To the US, Asia represents a large market – therefore, a main source of job creation and economic growth. US firms believe that the IPP can strengthen their links with Asia by securing the GVCs of their businesses with better access to foreign

¹⁸ While the digital economy has the potential to support sustainable development and inclusive growth, conflicts between rapid technological changes and social values – such as privacy, consumer protection, and competition – are quickly emerging as well. Rules-making can help eliminate barriers to digital trade and support the achievement of a variety of regulatory goals, including consumer protection and privacy (Nakatomi, 2022).

markets and supply bases. Other advanced economies, such as Japan and Australia, have similar economic interests.

Developing countries in the region are motivated to prioritise their partnership with the US not only because of the advance of the US market, capital, and technology, but also due to their need for the US to be an external auditor in promoting domestic regulatory reforms.¹⁹ For instance, the global consensus on regulating digital trade will require more beyond-the-border measures (i.e. modification of domestic laws and regulations to meet international commitments). The consequent social and economic adjustment and policy intervention in response call for collaboration between administrative and legislative agencies as well as cooperation amongst different government branches, particularly between foreign affairs departments and those in charge of domestic market regulations (Kimura and Chen, 2016).

The IPEF needs to ensure that members' commitments to high-standard trade rules will contribute to their digital transformation and facilitate their integration into the global economy. New global rules on free digital trade will be a policy priority, which covers the IPEF's four pillars: connected economy, resilient economy, clean economy, and fair economy.

The process of rules setting for digital trade will involve complementary and competing interests amongst stakeholders. Several issues have legislative and oversight implications (Fefer, Akhtar, and Morrison, 2019). Above all, any fruitful IPEF talks on digital trade need members to have clear objectives, which can only be obtained based on a full understanding of the economic impact of digital trade, potential trade barriers and their consequences, and internationally standardised or inter-operatable methods of measuring digital trade.

Trust building is the priority for an open, resilient, development-friendly ecosystem for the global digital economy. It is important to consider privacy; cybersecurity and trade secrets;²⁰ the trade-off amongst market openness, free flow of

¹⁹ The capability or qualification of the US to play such a role is endorsed by its military, political, and cultural power as well.

²⁰ A reference for the IPEF is the US–China agreement on cybersecurity and trade secrets that was signed in 2015. It consists of (i) commitments on '[n]o conduct or knowingly support cyber-enabled theft of [intellectual property]', (ii) the establishment of a high-level joint dialogue mechanism on fighting cybercrime and related issues, (iii) a joint effort to identify and promote appropriate norms of state behaviour in cyberspace internationally, and (iv) promised timely responses to requests for information and assistance concerning malicious cyber activities (The White House, 2015).

data, and policy with other socioeconomic goals (e.g. protecting privacy, supporting law enforcement, improving safety, and ensuring national security); and inclusion of different standards-setting practices that may have global reach. The different practices could be due to countries' various stages of development, legal frameworks, and political systems.

The four policy areas under discussion – trade liberalisation of electronic transmissions, free flow of data with trust, cybersecurity, and IPR protection – are fundamental to the regulatory system that the digital economy needs to support its long-term development; thus, they should be prioritised in the agenda of the upcoming IPEF talks.

References

- APEC (2018), APEC Ministerial Chair's Statement, http://mddb.apec.org/18_fmm_jms.
- Arasasingham, A. and E. Benson (2022), 'The IPEF Gains Momentum but Lacks Market Access,' East Asia Forum, 30 June, <https://www.easiaforum.org/2022/06/30/the-ipef-gains-momentum-but-lacks-market-access/>.
- Baldwin, R. (2016), *The Great Convergence: Information Technology and the New Globalization*, Cambridge, MA: Belknap.
- Banga, R. (2019), 'Growing Trade in Electronic Transmissions: Implications for the South', UNCTAD Research Paper No. 29.
- Bolton, T., M. Gimovsky, H. Krejsa, and C. Simpson, (2021) 'Congress Needs to Start Caring about Our Privacy as Much as China Does', R Street, June 14, <https://www.rstreet.org/2021/06/14/congress-needs-to-start-caring-about-our-privacy-as-much-as-china-does/>.
- Brownstein (2022), 'Focus on the Indo-Pacific: Better Understanding the Indo-Pacific Economic Framework for Prosperity', Brownstein Client Alert, 23 June, <https://www.bhfs.com/insights/alerts-articles/2022/focus-on-the-indo-pacific-bet>.
- Bughin, J. and S. Lund (2017), 'The Ascendancy of International Data Flows', *VOX EU*, 9 January, <https://cepr.org/voxeu/columns/ascendancy-international-data-flows>
- Chen, L. (2017), 'Developing Asia in the Era of Cross-Border E-Commerce', *Economic Research Institute for ASEAN and Southeast Asia (ERIA) Discussion Papers*, No. DP-2017-11, Jakarta: ERIA.
- (2019), 'ASEAN in the Digital Era: Enabling Cross-Border E-Commerce', in L. Chen and F. Kimura (eds.), *Developing the Digital Economy in ASEAN*, New York, NY: Routledge, p.259–75.

- (2021), ‘How Will East Asia’s Digital Transformation Change the Global Value Chain?’, paper presented at the Research Institute of Economy, Trade, and Industry (RIETI)–ERIA Open Brown Bag Lunch Webinar, 1 July, <https://www.rieti.go.jp/en/events/bbl/21070101.html>.
- Chen, L. and F. Kimura (2019), ‘Introduction: ASEAN Development in the Digital Economy’, in L. Chen and F. Kimura (eds.), *Developing the Digital Economy in ASEAN*, New York, NY: Routledge, pp.3–13.
- Chen, L., W. Cheng, D. Ciuriak, F. Kimura, J. Nakagawa, R. Pomfret, G. Rigoni, and J. Schwarzer (2019), ‘The Digital Economy for Economic Development: Free Flow of Data and Supporting Policies’, *Policy Brief for T20 Summit 2019*. www.g20-insights.org/wp-content/2019/05/t20-japan-tf8-4-digital-economy-economic-development.pdf.
- Chen, L., S. Urata, J. Nakagawa, and M. Ambashi (2018), ‘Introduction: Mega FTAs in the 21st Century Global Trade Governance’, in L. Chen, S. Urata, J. Nakagawa, and M. Ambashi (eds.), *Emerging Global Trade Governance: Mega Free Trade Agreements and Implications for ASEAN*, New York, NY: Routledge, pp.1–12.
- Dübendorfer, T., A. Wagner, and B. Plattner (2004), ‘An Economic Damage Model for Large-Scale Internet Attacks’, *Proceedings of the Workshop on Enabling Technologies: Infrastructure for Collaborative Enterprises*, WET ICE, https://www.researchgate.net/publication/2943452_An_Economic_Damage_Model_for_Large-Scale_Internet_Attacks.
- Economic Research Institute for ASEAN and East Asia (ERIA) and CyberGreen (2022), *An Analysis of the Cybersecurity Posture for 10 ASEAN Countries*, Jakarta.
- European Commission (2020), *Shaping Europe’s Digital Future*, https://ec.europa.eu/info/sites/default/files/communication-shaping-europes-digital-future-feb2020_en_4.pdf.
- Fefer, R.F. (2020), ‘Data Flows, Online Privacy, and Trade Policy’, *Congressional Research Service (CRS) Reports*, No. R45584, <https://crsreports.congress.gov/product/pdf/R/R45584>.

- Fefer, R.F., S.I. Akhtar, and W.M. Morrison (2019), ‘Digital Trade and U.S. Trade Policy’, *CRS Reports*, No. R44565, <https://crsreports.congress.gov/product/pdf/R/R44565>.
- Gates, B. (1995), *The Road Ahead*, New York, NY: Viking.
- The Global Industry (2022), ‘Global Industry Statement on the WTO Moratorium on Customs Duties on Electronic Transmissions’, https://www.wto.org/english/thewto_e/minist_e/mc12_e/global_industry_statement_wto.pdf.
- Government of the United States (US), Department of Commerce (2015), *Digital Economy Agenda*, Washington, DC.
- GOV.UK (2022), ‘National Security and Investment Act: details of the 17 types of notifiable acquisitions’, <https://www.gov.uk/government/publications/national-security-and-investment-act-guidance-on-notif>.
- The Group of Seven (G7) (2021), ‘G7 Trade Ministers’ Digital Trade Principles (Annex B)’, G7 United Kingdom 2021, <https://www.meti.go.jp/press/2021/10/20211022008/20211022008-3.pdf>.
- Hufbauer, G. and Y. Wong (2011), ‘Logistics Reform for Low-Value Shipments’, *Peterson Institute for International Economics (PIIE) Policy Briefs*, No. 11-7. <https://www.piie.com/publications/policy-briefs/logistics-reform-low-value-shipments>.
- International Chamber of Commerce (ICC) (2019), ‘The WTO Moratorium on Customs Duties on Electronic Transmissions: A Primer for Business’, <https://iccwbo.org/content/uploads/sites/3/2019/11/2019-icc-wto-moratorium-custom-duties.pdf>.
- Jones, R.W. and H. Kierzkowski (1990), ‘The Role of Services in Production and International Trade: A Theoretical Framework’, in R.W. Jones and A.O. Krueger (eds.), *The Political Economy of International Trade: Essays in Honor of Robert E. Baldwin*, Oxford: Basil Blackwell, pp.31–48.
- Kato, A. (2018), ‘Understanding the IP-Related Contents of the Trans-Pacific Partnership Agreement’, in L. Chen, S. Urata, J. Nakagawa, and M. Ambashi

(eds.), *Emerging Global Trade Governance: Mega Free Trade Agreements and Implications for ASEAN*, New York, NY: Routledge, pp.97–132.

- Kimura, F. (2018), ‘Unbundlings” and Development Strategies in ASEAN: Old Issues and New Challenges’, *Journal of Southeast Asian Economies*, 35(1), pp.13–21.
- Kimura, F. and L. Chen (2016), ‘Implications of Mega Free Trade Agreements for Asian Regional Integration and RCEP Negotiation’, *ERIA Policy Briefs*, No. 2016-03, Jakarta: ERIA.
- (2018), ‘Value Chain Connectivity in Indonesia: The Evolution of Unbundlings’, *Bulletin of Indonesian Economic Studies*, 54(2), pp.165–92.
- Kimura, F. et al., (2019), ‘The Digital Economy for Economic Development: Free Flow of Data and Supporting Policies’, *Policy Briefs for T20 Summit 2019*, <https://t20japan.org/wp-content/uploads/2019/03/t20-japan-tf8-4-digital-economy-economic-development.pdf>.
- Medcalf, R. (2020), *Contest for the Indo-Pacific: Why China Won't Map the Future*, Melbourne: La Trobe University Press.
- Meltzer, J.P. (2022), ‘The High Stakes Indo-Pacific Economic Framework’, East Asia Forum, 9 April, <https://www.eastasiaforum.org/2022/04/09/the-high-stakes-indo-pacific-economic-framework/>.
- Mitchell, A. and N. Mishra, (2018), ‘Data at the Docks: Modernising International Trade Law for the Digital Economy’, *Vanderbilt Journal of Entertainment and Technology Law*, 20(4), p.1073–134.
- Morgan, S. (2020), ‘Global Cybercrime Damages Predicted to Reach \$6 Trillion Annually by 2021’, *Cybersecurity Magazine*, 26 October, <https://cybersecurityventures.com/annual-cybercrime-report-2020/>.
- Nakatomi, M. (2019), ‘Cross-Border Digital Trade and E-Commerce Governance and Necessary Actions Ahead’, in L. Chen and F. Kimura (eds), *Developing the Digital Economy in ASEAN*, London: Routledge, pp.31–55.
- (2022), ‘Services Transformation and Necessary Rules and Commitments’, in L. Chen and F. Kimura (eds.), *Facilitating Digital Trade in ASEAN and East Asia*, Jakarta: ERIA.

- O'Hara, K. and W. Hall, (2018), 'Four Internets: The Geopolitics of Internet Governance', *Centre for International Governance Innovation (CIGI) Papers*, No. 206, Waterloo, Canada: CIGI.
- Organisation for Economic Co-operation and Development (OECD) (2020), *Digital Trade*, OECD, <http://t4.oecd.org/trade/topics/digital-trade/>.
- (2002), *OECD Guidelines for the Security of Information Systems and Networks: Towards a Culture of Security*, Paris.
- (2012), *Cybersecurity Policy Making at a Turning Point: Analysing a New Generation of National Cybersecurity Strategies for the Internet Economy*. Paris.
- Pomfret, R. (2022), 'Digitalization and E-Commerce in Modern Trade Agreements: Implications for ASEAN', in L. Chen and F. Kimura (eds.), *Facilitating Digital Trade in ASEAN and East Asia*. Jakarta: ERIA.
- Taddeo, M. and F. Bosco (2019), 'We Must Treat Cybersecurity as a Public Good: Here's Why', World Economic Forum, 22 August, <https://www.weforum.org/agenda/2019/08/we-must-treat-cybersecurity-like-public-good/>.
- US International Trade Commission (USITC) (2017), *Global Digital Trade: Market Opportunities and Key Foreign Trade Restrictions*, Washington, DC: USITC.
- The White House (2015), 'Statement on President Xi Jinping's State Visit to the United States', press release, 25 September, <https://obamawhitehouse.archives.gov/the-press-office/2015/09/25/fact-sheet-president-xi-jinpings-state-visit-united-states>.
- (2022), 'Statement on Indo-Pacific Economic Framework for Prosperity', press release, 23 May, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/05/23/statement-on-indo-pacific-economic-framework-for-prosperity/>.
- UNCTAD (2021), *Review of Maritime Transport 2021*, New York, NY and Geneva: United Nations.

World Bank (2016), *World Development Report 2016: Digital Dividends*,
<http://www.worldbank.org/en/publication/wdr2016>

WTO (1997), *WTO Information Technology Agreement*,
http://www.wto.org/inftec_e/inftec_e

WTO (1998), *WTO Ministerial Declaration on Global Electronic Commerce*, Official document WT/L/274, Geneva: WTO.

Wu, M. (2017), *Digital Trade-Related Provisions in Regional Trade Agreements: Existing Models and Lessons for the Multilateral Trade System*, Geneva and Washington, DC: International Centre for Trade and Sustainable Development (ICTSD) and Inter-American Development Bank, <http://e15initiative.org/wp-content/uploads/2015/09/RTA-Exchange-Digital-Trade-Mark-Wu-Final-2.pdf>.

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