Chapter 7

Engaging in the digital economy: issues and agenda in the quest to adopt Indonesia's e-commerce roadmap

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Abstract

The study explores structural and practical issues following the adoption of Indonesia's e-commerce roadmap (2017–2019) and its implications for the future of the country's digital economy. Two major categories of issues are examined in order to identify problems and challenges confronted by related stakeholders. The first category, i.e. the structural one, relates to the larger governance context of the country's digital economy to which e-commerce activities are attached. The governance context includes the legal and regulatory context, the institutionalizing mechanism and the implementing phases, which involve socio- and politico-economic interplays among its key players. The second category represents practical dimensions, which involve questions on the mitigation of and adaptation to concepts, models and practices in the digital economy. Indonesia's position on the moratorium on e-commerce and the local initiatives on digital economy are presented to illustrate mitigation efforts by related stakeholders in areas where disagreements and negotiations on certain structural and practical policy issues have arisen, i.e. on Indonesia's position on the World Trade Organization (WTO) moratorium on e-commerce and local initiatives (such as the ones in Yogyakarta) to develop a digital economy.

** The contents of this chapter are the sole responsibility of the authors and are not meant to represent the position or opinions of the WTO or its members.*

Introduction

The importance of e-commerce has been indicated in various international policy contexts, particularly under the existing WTO Work Programme on Electronic Commerce since its establishment following the adoption of the Declaration of Global Electronic Commerce at the 2nd WTO Ministerial Conference (Geneva, May 1998). E-commerce is defined as the production, distribution, marketing, sale or delivery of goods and services by electronic means (WT/L/274, 30 September 1998). The scope of e-commerce includes good and services transacted or exchanged both domestically and internationally.[1]

International e-commerce services are mainly taken in the form of Mode 1 and 2 of the General Agreement on Trade in Services (GATS) involving the cross-border supply of services that could include: (i) digital products (music, videos, apps and games) downloaded and paid online; or (ii) services transactions completed online between a consumer and a supplier located in different countries. Traditional commerce includes all four modes of supply (as defined under the GATS) not necessarily involving online transactions as a major feature (e.g. international shipping, international tourists, companies with foreign investments supplying a service to local consumers or the temporary movement of a service supplier to another country to supply a service) (Tuthill, 2016).

For emerging economies, e-commerce can contribute to the reduction of transaction costs along the commodity chain. This occurs particularly in sectors where global buyers have created production and distribution systems to meet the requirements without themselves taking ownership of production or distribution facilities (Humphrey et al., 2003, p. 29). Open foreign investment policy has contributed to more flexible market encounters between domestic and international market players (Tan and Ouyang, 2002). The conduct of e-commerce also involves continuous interplay between domestic and international policy contexts. Inter-firm networking and the coordination of international trade are important systemic international factors.

"For emerging economies, e-commerce can contribute to the reduction of transaction costs along the commodity chain."

Previous studies have provided sufficient ground to locate the Indonesian case within the available analytical framework, theoretical assessment and empirical experience of other countries. This study adopted the "inter-actionist" approach[2] by Molla and Licker (2005) to understand the contextual and organizational factors that affect e-commerce adoption. This approach is articulated in the Perceived eReadiness Model (PERM), which is built on two constructs: Perceived Organizational eReadiness (POER) and Perceived External eReadiness (PEER). POER indicates innovation imperative attributes, the commitment of an organization's managers and organizational imperative attributes such as

resources, processes and business infrastructure. Meanwhile, PEER represents environmental imperative attributes. The model allows an analysis that connects the organizational adaptive capability shaped by culture and the broader environmental settings (including national policy and international competitiveness) (Molla and Licker, 2005, p. 882).

National practices contribute to a unique combination of state leadership and market mechanism that shapes opportunities and constraints for e-commerce beneficiaries. The role of government is considered very crucial in providing the overarching national framework that allows e-commerce entrepreneurs to expand their business with sufficient degrees of risk management especially in developing countries (Durbhakula, Vijay and Kim, 2011) and in the legal and policy environment that ignites substantial impacts (such as internet taxation, encryption and digital signature, online patent and copyright protection, network security and privacy safeguards) (Zhu, 2009). Examining how e-commerce operates in the context of a national governance framework, this study discusses the current governance landscape that provides an overarching framework for government leadership in e-commerce in Indonesia and the contemporary issues that emerge in the public debate as regards to the practical and structural dimensions of the adoption of an e-commerce roadmap.

"E-commerce also involves continuous interplay between domestic and international policy contexts."

Indonesia's e-commerce roadmap 2017–2019

The Government of Indonesia launched Presidential Regulation (Peraturan Presiden No. 74/2017 (Perpres No. 74/2017)) on the Indonesia E-Commerce Roadmap 2017–2019. Enacted in August 2017, the roadmap highlights eight main points in the country's e-commerce development: (1) funding; (2) taxation; (3) consumer protection; (4) education and human resources; (5) logistics; (6) communication; (7) cybersecurity; and (8) management. Key ministries and institutions, including the Ministry of Communication and Informatics (MOCI), the Central Bank (Bank Indonesia), the Coordinating Ministry of Economic Affairs (CMEA) and the Ministry of Finance (MOF), were involved in the formulation of this regulation.[3] Table 1 outlines the focal points and featured plans and programs outlined in the roadmap.

Challenges in implementing the roadmap came from introducing implementing provisions (Government Regulation (Peraturan Pemerintah (PP) on trading transactions over electronic systems). Three issues are currently unresolved: (i) e-commerce data collection; (ii) local e-commerce participants' empowerment; and (iii) the definition on digital goods/products and services.[4] The resolution of the issues is subject to a complex coordination mechanism among different state ministries and agencies/institutions, harmonization of their respective roles/functions and legal administration.

Table 1: Indonesia's e-commerce roadmap focal points and plans and programs

Focal points	Featured plans and programs
Funding	• Small Businesses (SMEs) Credit (Kredit Usaha Rakyat (KUR)) for Platform Developer Tenants • Grant for Business Incubator of Start-up Partners • USO Fund to Digital SMEs and Start-up E-commerce Platform • Angel Capital • Seed Capital in the Forms of Venture Capital • Crowd Funding • DNI Opening
Taxation	• Tax Redemption for Local Investors who Invest in Start-ups • Simplification in License and Taxation Procedures for E-commerce Start-up whose Profit Is Below IDR 4.8 Billion/year • Tax Regulations Equality for All E-commerce Entrepreneurs
Consumer protection	• Government Regulation on Trading Transaction using Electronic Systems • Regulatory Harmonization • Payment System for Government Goods/Services Trading via E-commerce • Progressive National Payment Gateway (NPG)
Education and human resources	• E-commerce Awareness Campaign • National Incubator Program • E-commerce Curriculum • E-commerce Education for Consumers/Players • Law Enforcement
Logistics	• Utilization of National Logistics System (Sislognas) • Local Courier Company Empowerment • SMEs Logistics Data Development • Logistics Development from Village to City
Communication	• Communication Infrastructure via Broadband Network Construction
Cybersecurity	• National System Supervision Arrangement in E-commerce Transaction • Cyber Crime Public Awareness • Standard Operating Procedure (SOP) in the Arrangement related to Consumer Data Records • Certification for Consumer Data Security
Management	• Establishment of Executing Management for Monitoring and Evaluating E-commerce Roadmap Implementation

Source: Majalah ICT No. 50 (December 2016).

Indonesia's e-commerce current situation and state of play

Implementation of the roadmap has reached a new stage with the enactment of Government Regulation (PP) No. 18 (25 November 2019), which offers implementing provisions on trading transactions over electronic systems (Perdagangan Melalui Sistem Elektronik (PMSE)). The regulation covers three major issues relating to e-commerce: (i) data collection; (ii) the empowerment of local e-commerce participants; and (iii) the definition on digital goods/products and services. Recent e-commerce policy dynamics indicate that data queries are a major aspect to be integrated in the adoption of the national roadmap given the ongoing coordinating mechanism that evolves across government agencies. Additionally, the roles of key stakeholders need to be strengthened to mitigate the anticipated structural and practical policy issues in Indonesia's e-commerce governance.

E-commerce and digital economy in Indonesia: data queries

Under the roadmap, two key parties contribute to e-commerce and digital economy data collection: (i) the Indonesian E-commerce Association (IdEA),[5] which is the main partner/targeted agency of the central government's statistics agency (i.e. the Central Statistics Bureau or Badan Pusat Statistik (BPS)) for data recording (as of January 2018), including statistics on e-commerce transactions, local and foreign investments, transactions, payment methods, employees and technologies; and (ii) the Indonesian Internet Service Providers Association (Asosiasi Penyelenggara Jasa Internet Indonesia (APJII)), which provides surveys on internet users and uses (for example, it conducted surveys on business sectors in 2013; user profiles in 2014; the device, network and apps (DNA) ecosystem in 2016; and penetration and user behaviors in 2016 and 2017).

APJII surveys offer a basic estimation and overview of the Indonesian digital landscape over the past five years. As of 2017, Indonesia had more than 143 million internet users, with the highest penetration rate among 34- to 54-year-olds and 19- to 33-year-olds, who comprise 30 per cent and 49 per cent, respectively, or a combined 79 per cent of the total users. The highest penetration rate, however, is among 13- to 18-year-olds, who comprise 75 per cent of the total users. Ninety per cent of internet users in the country use smartphones, with 88 per cent of users spending time on apps on a daily basis (on average, using 40 apps and having 80 apps installed on their phones).[6]

Indonesia's e-commerce sales have made up only 3.1 per cent (2017 figure, as recorded by GDP Venture 2018) of total retail sales.[7] Approximately 65 per cent of e-commerce users prefer to use cash on delivery (COD), while the rest prefer to use debit or credit cards. E-commerce or digital buyers make up 10.6 per cent of Indonesia's total population (of approximately 260 million people). There are three major factors that have driven Indonesian digital buyers: (i) payment options (which they consider to be fast and secure); (ii) deals (which include special price offers); and free home delivery service. The average time spent on e-commerce or digital shopping is 90 minutes per month, ranking second globally. Indonesia is also ranked second in terms of digital travel growth in the Asia Pacific region, first in mobile gaming revenue in Southeast Asia, and first in growth of fin-tech-related apps worldwide (with a 200 per cent increase from 2016 to 2017). MOCI, CMEA and MOT are in the process of selecting an agency to serve as an integrated data centre for data-collection activities.

The roadmap: key stakeholders and structural and practical policy issues

The analytical frameworks of POER and PEER, in conjunction with the roadmap's eight focal points, allowed delineation of issues and agenda to be taken into account by the Indonesian government in light of the roadmap implementation (see Table 2). Policy issues categorized under "practical" focal points refer mainly to questions relating to POER at the firm level. Policy issues under "structural" focal points concern PEER, which are linked to governance, regulation, implementation aspects and the role of government.

Table 2: Mapping of key stakeholders and structural and practical policy issues in Indonesia's e-commerce roadmap 2017–2019

Focal points: key stakeholders	
Funding • Governmental agencies: Coordinating Ministry of Economic Affairs (CMEA), Ministry of State Owned Enterprises (MSOE) and Ministry of Communications and Informatics (MOCI) (as lead agencies), Ministry of Cooperatives and Small Medium Enterprises (MCSME), Otoritas Jasa Keuangan/Financial Services Authority (OJK/FSA), Bank Indonesia/Central Bank (BI), Ministry of Trade (MOT), Ministry of Industry (MOI), Ministry of Research and Higher Education (MRHE), Ministry of Finance (MOF), Badan Ekonomi Kreatif/Creative Economy Agency (BEKRAF), MNDP/Bappenas (Ministry of National Development Planning/Badan Perencanaan Pembangunan Nasional (National Development Planning Agency)) • Private/firm associations: Indonesian E-Commerce Association (IdEA), Asosiasi Penyelenggara Jasa Internet Indonesia/Indonesian Association of Internet Service Providers (APJII), State Owned Enterprises (SOEs), venture/angel capital associations • Academia/non-governmental organizations: media, universities	
Taxation • Governmental agencies: MOF, MOT and CMEA (as lead agencies), MCSME, BEKRAF and MOCI • Private/firm associations: IdEA • Academia/non-governmental organizations: media	
Consumer protection • Governmental agencies: MOT, CMEA, MOF and BI (as lead agencies), Ministry of Labour and Human Resources (MLHR), Ministry of State Secretariat (MSS), MNDP/Bappenas, MOCI, Badan Pusat Statistik/Central Statistics Agency (BPS), Lembaga Kebijakan Pengadaan Barang/Jasa Pemerintah/ Government Goods and Services Procurement Policy Agency (LKPP), Otoritas Jasa Keuangan/Financial Services Authority (OJK/FSA) • Private/firm associations: IdEA • Academia/non-governmental organizations: Yayasan Lembaga Konsumen Indonesia/Indonesian Consumer Agency Foundation (YLKI) and media	
Education and human resources • Governmental agencies: MOCI, MOT, BEKRAF, Ministry of Research and Higher Education (MRHE) and Ministry of Education and Culture (MEC) (as lead agencies), MCSME, MSOE, Lembaga Administrasi Negara/State Administration Institute (LAN) and MOI • Private/firm associations: IdEA, APJII and Kamar Dagang dan Industri Indonesia/Indonesia Chamber of Commerce and Industry (KADIN) • Academia/non-governmental organizations: YLKI, media and universities	
Communication infrastructure • Governmental agencies: MOCI (as a lead agency), Coordinating Ministry for Political, Legal and Security Affairs (CMPLSA), MNDP/Bappenas • Private/firm associations: APJII • Academia/non-governmental organizations: media and universities	

	Structural/governance (PEER)	Practical/firm level (POER)
	• Scheme of funding and SMEs loan financing (e.g. on Kredit Usaha Rakyat (KUR) distribution, banks/ non-banks as KUR distributors) • Scheme of grants and subsidies for business incubators and start-ups, including the ones originated from SOEs and private firms' corporate social responsibilities • Alternative funding and schemes of grants and subsidies for digital economic ecosystem, including by utilization of: (1) Universal Service Obligation funding and public services agency as Universal Service Obligation fund distributors for digital SMEs and start-ups, (2) angel capital and seed capital, (3) crowd funding, and by opening up tiered Daftar Negatif Investasi/Investment Negative Lists	• E-commerce SMEs and start-ups encounter initial difficulties when they begin in the registration phase of accessing KUR due to business licensing processes and lack of collateral assets, thus a solid funding scheme to face such difficulties is a must • Media and universities could serve as catalysts and facilitators to meet the needs of start-ups and early-stage incubators, SOEs and large e-commerce firms, e.g. in the form of workshop series, trainings and installation of co-working spaces where proposed scheme of grants and subsidies are collaboratively designed and implemented
	• Simplified tax procedures for e-commerce players with turnover below IDR 4.8 billion (approximately US$ 330,000 with an exchange rate of US$ 1 = IDR 14,500) per year, plus additional tax incentives • Registration procedures for e-commerce players via issuance of Transaksi Perdagangan Melalui Sistem Elektronik/Trade Transaction via Electronic System (TPMSE) identity numbers (or e-commerce licensing) by MOT • Tax parity principles and regulation for e-commerce players, both local and foreign	• Difficulties relating to classification of e-commerce goods/services that affect licensing processes by e-commerce players as changes of e-commerce goods/services trade patterns are common • Ease of access to logistics and increasing variety of virtual payment systems cause difficulty in imposing taxes on e-commerce transactions, thus creating certain challenges not only for tax agencies but also for e-commerce players
	• Government Regulation on TPMSE • Harmonization of regulations related to TPMSE for classification of e-commerce players, electronic certification, accreditation process, payment mechanism policy, e-commerce consumers' and players' protection, online dispute settlement, adoption of e-commerce consumer protection principles, application of e-commerce information system • Development of Progressive National Payment Gateway (NPG), especially for electronic retail payment	• As there is not yet a specific law regulating e-commerce consumer protection in Indonesia, reference shall be made to the existing law regulating general consumer protection, i.e. Law No. 8 (1999) • In terms of transparency, LKPP's best practice on having an online government procurement procedures and database could set a model to emulate and adopt • NPG shall offer an explicit link to the proposed cybersecurity schemes/programs under the roadmap
	• Awareness campaign/education for e-commerce SMEs, consumers and ecosystems, including informal programs such as Harbolnas • Training of Trainers (ToT) for public officials related to e-commerce and TPMSE • Incubator programs for e-commerce start-ups • Formal education for e-commerce talent • Development of TPMSE facilitators	• Indonesia ranks 73rd (out of 139) in the networked readiness index (World Economic Forum, 2017), so e-commerce participants (and also other related stakeholders, including YLKI representing consumers) encounter quite a significant challenge in terms of the country's overall e-commerce ecosystem preparedness and how each participant mitigates such a challenge
	• Enhancement of communication infrastructure, particularly internet speed, networks and security • Broadband internet infrastructure, free domains for TPMSE growth	• The existing infrastructure, which is insufficient, presents a major challenge • Due to its geographical conditions as an archipelagic country, Indonesia has a significant gap in communication infrastructure networks (ranking 105 of 139)

Table 2: Mapping of key stakeholders and structural and practical policy issues in Indonesia's e-commerce roadmap 2017–2019 (continued)

Focal points: key stakeholders	
Logistics • Governmental agencies: CMEA and MSOE (as lead agencies), Ministry of Transportation (MOTR), MOF, MOT, MOCI, Ministry of Public Works and Housing (MPWH), BI, OJK/FSA, Ministry of Agriculture (MOA), MOI, MCSME, Ministry of Villages, Development of Disadvantaged Regions, and Transmigration • Private/firm associations: PT Pos Indonesia, National Logistics Association • Academia/non-governmental organizations: media and YLIK	
Cybersecurity • Governmental agencies: CMPLSA and MOCI (as lead agencies), CMEA, MOF, BI, MOT, OJK/FSA, police headquarters • Private/firm associations: IdEA, APJII • Academia/non-governmental organizations: YLKI, media and universities	
Operational management of e-commerce roadmap • Governmental agencies: CMEA and MOF (as lead agencies), MOCI and MNDP/Bappenas • Private/firm associations: IdEA, APJII • Academia/non-governmental organizations: media and universities	

Source: Compiled by authors from various sources.

	Structural/governance (PEER)	Practical/firm level (POER)
	• Enhancement of e-commerce-based logistics industry via Sistem Logistik Nasional (Sislognas)/ National Logistics System blueprint and electronic data standardization/exchanges under Sislognas for e-commerce • Outsourcing of logistics facilities for e-commerce SMEs • Capacity building for local and national logistics service providers, including PT Pos Indonesia revitalization, modernization and restructuring • Development of "village to city" logistics system via application of electronic-based trade for fishery, agriculture, etc.; e-commerce education; IT-based local/regional distribution centres; village-level ICT infrastructure; and pilot projects on certain agricultural products, such as onions, chilis and other vegetables	• From the point of view of local logistics service providers, schemes on funding, incentives, grants and subsidies for e-commerce players need to be in parallel with their capacity building and restructuring programs • Schemes of logistics facilities that outsource to e-commerce SMEs need to take into account SMEs' levels of business capacity and digitalization to meet with their specific "localized" digital and e-commerce ecosystem • As an SOE, PT Pos Indonesia could serve as a "localized and *ad hoc* distribution centre" for the proposed pilot projects, which could also be a "clearing house" for "village to city" logistics systems (given its nationwide outreach)
	• Enhanced security for electronic transactions activities by adoption of cybersecurity principles for e-commerce players and any other online operators, i.e. via Standard Operating Procedure and regulation on cybercrime, certification on consumer data protection • Public awareness campaign on cybercrime • Development of National Cyber Surveillance/ Monitoring System for E-Commerce Transactions	• A real-time surveillance and monitoring system is needed as issues on anonymity in electronic transactions are the most apparent challenges in the overall e-commerce ecosystem • A moral hazard inducement – which might be a loophole in the current proposed cybersecurity programme and scheme – shall be mitigated by linking it to education and human resources focal points, i.e. under an awareness campaign on cybercrime
	• Establishment of implementing agency of the e-commerce roadmap, including appointment of experts and setting up a task force or an implementing body	• Media, universities, think tanks and NGOs, as well as IdEA, APJII and other e-commerce associations, are partners offering expertise, technical assistantships, apprenticeships, internships and networks

Key stakeholders are attempting to mitigate disagreements among themselves, particularly relating to the local practice and e-commerce initiative by the Yogyakarta city government within the framework of national roadmap implementation (Box 1) and on Indonesia's position on the WTO moratorium on e-commerce (Box 2).

Conclusion

The study explores issues (the possibilities and problems encountered by key stakeholders) and agenda (the difficulties and challenges in the policy design) that occurred during the implementation of Indonesia's e-commerce roadmap (2017–2019). It begins with the idea that e-commerce involves the continuing interplay between domestic and international policy contexts, within which its scope and definition are negotiated and eventually agreed. This study offers a conceptual framework/model that fits the organizational and external environment of e-commerce players in a developing country such as Indonesia. This specific model has mapped out key stakeholders and structural and practical policy issues. Finally, it assesses efforts by relevant e-commerce players and stakeholders to deal with discrepancies in the areas identified and outlined in the roadmap, and as suggested in the overall mapping assessment of the eight focal points.

Box 1: The Yogyakarta city government initiative on digital economy

Yogyakarta city provides a good example of local government initiatives, which a number of districts and municipalities in the country aspire to. Aimed at gaining from the growth in the digital economy, such initiatives focus on local regulations and policy incentives, local digital entrepreneurships, human resources and capacity building, cooperation among key stakeholders and local policy innovation. Yogyakarta has collaborated with its provincial government to boost digital transformation by establishing technology centres resembling those of Silicon Valley in the United States (*Jakarta Post*, 22 February 2018). In addition, the city participated in the 100 smart cities programme initiated by MOCI. During the programme's implementation from 2017 to 2020, Yogyakarta also collaborated with the city of Bandung (West Java) to adopt the smart cities programme.

Regarding the development of its digital ecosystem, the city has also hosted a variety of digital start-ups and business incubators, of which Jogja Digital Valley (JDV) is one of its major initiatives.[8] Initiated and funded by PT TELKOM

(a telecommunications SOE), JDV is the second ICT business incubator after Bandung Digital Valley (BDV), its debut initiative in Bandung. It aims to increase the number of game, music, edutainment, animation and other software services developers in Yogyakarta by facilitating co-working and meeting spaces for potential developers and start-up companies in the field of creative content development. In the area of communication and telecommunication infrastructure, the city has also collaborated with a private digital firm to procure and use the city's existing fibre optic poles (as outlined in the city cooperation agreement with PT Media Sarana Akses).[9]

Seen from the enactment of a national-level e-commerce roadmap, the Yogyakarta city initiative (as also applied in other cities involved in the 100 smart cities programme) works in parallel with other proposed programmes and schemes. The designated focal points of funding, taxation, logistics, communication infrastructure, education and human resources offer a mitigation map for local e-commerce and digital economy players in the city. The local regulatory framework currently being discussed will eventually have common ground as its foundation. Also in the realm of the development of digital and e-commerce entrepreneurships, a variety of schemes and programs offered at the national level have provided a springboard for local players to help them set up convenient departure strategies both as start-ups and incubators. Because the city is surrounded by clusters of creative industries (such as handicrafts, art galleries, performance spaces, festivals, MICE (Meetings, Incentives, Conferences and Exhibitions)-related events, culinary and thematic tourism, etc.), an integrated logistics system that adopts digital technology and promotes e-commerce (in light of adoption of the designated village to city electronic-based logistics system) would be of great benefit to the development of the city's digital economy.

Box 2: The moratorium on e-commerce (WTO Work Programme): Indonesia's position

Despite the setback it encountered during the last WTO MC 11 in Buenos Aires in 2017, the Government of Indonesia insisted on proceeding with imposing e-commerce tax and import duties on digital products, such as downloadable music, e-books, software and the like, to be started in 2018 (Ribka, 2017). The government has consulted with the WTO Director-General, following the WTO decision to extend the moratorium on e-commerce in MC 11 for another two years. The results of the consultation were then circulated among members during MC 11 as reflected in the statement by Indonesia titled "Facilitator's Consultation on Electronic Commerce, MC 11 Declaration and Other Relevant Plenary Session" (WTO, 2017).

Prior to and after the decision, key stakeholders have mitigated and are ready to implement the decision. The lead agencies (in parallel with the roadmap focal points on taxation) are MOF, MOT and CMEA. MOT, whose minister was the head of the Indonesian delegation at MC 11, carries out the country's mission to call for an end to the moratorium. MOT also has the task of communicating and disseminating the position, and eventually the decision, to impose tax and customs duties on digital goods by 2018 to other key stakeholders, e-commerce players (especially via IdEA), other relevant ministries and government agencies, media, NGOs and universities.

Such dynamics bring to light both the differences among key stakeholders and their willingness to compromise, as shown during a focused group discussion facilitated by MOT and hosted by the WTO Chairs Programme at the Center for World Trade Studies, Universitas Gadjah Mada (WCP-CWTS UGM) in Yogyakarta on 30 May 2018. Disagreement over legal harmonization on tax incentives and supports for e-commerce SMEs were shared between MOT, MOF's Customs Bureau, MCSME and IdEA representatives. These stakeholders do not agree on the scope and definition of digital goods and services and data collection. During the WTO General Council meeting in December 2019, WTO members agreed to maintain the current practice of not imposing customs duties until MC 12 in Kazakhstan. This issue is a domestic priority for Joko Widodo's presidency, particularly in order to maintain an equitable market for both traditional and e-commerce players. Indonesia will also make a careful consideration of the structured discussions under the Work Programme on Electronic Commerce initiated in 2020.

Endnotes

[1] E-commerce is distinguished from traditional commerce along domestic and international lines. In terms of trade in goods, domestic e-commerce allows a consumer to buy a product from a domestic online store. In traditional commerce, consumers buy products from a domestic retail store. Internationally, a consumer orders a product from an online store and the product is shipped from the producer/retailer in another country directly to the consumer. In traditional commerce, the major feature is bulk import and export of goods by international trading companies. In terms of trade in services, a service is supplied from a domestic supplier through the internet (e.g. e-banking services provided by domestic banks or online educational or training services provided by domestic educational institutions/organizations). Traditionally, a consumer receives a service offline from a domestic supplier (e.g. conventional banking services via a teller in a local bank office or conventional education services at local schools/colleges or a haircut in a local salon) (Tuthill, 2016).

[2] Molla and Licker (2005) differentiate the "inter-actionist" approach from four other dominant perspectives, i.e. managerial, organizational, technological and environmental (see pp. 878-879).

[3] This particular part of the section, including discussions on provisions/programs of those eight focal points presented in the two subsequent paragraphs, is based on and summarized from Agarwal (2017).

[4] These issues need to be discussed thoroughly among MOCI, CMEA and MOT.

[5] As of September 2018, IdEA had 319 members classified as follows: online retail (online shops with their own websites/domains where sellers have product stocks/services and sell them to online buyers (147); marketplace (business models where related domains/websites conduct not only product promotion, but also facilitate online transactions for online traders (52); payment gateway (21); travel (17); logistics (19); infrastructure (30); directory (1); daily deals (6); classified ads (19) and banks (7).

[6] The survey also finds that the digital video viewer penetration rate for the country reached 67.4 per cent of all internet users in 2017, or approximately 68 million viewers, and that there are three main factors behind such a phenomenon: (1) affordable smartphones; (2) better connections; and (3) shorter attention spans (GDP Venture, 2018).

[7] Other sources, such as ASEANup.com, have recorded an even more conservative figure – 1 per cent of total retail sales (ASEANup.com, 2019). As recorded by Bahar (2017), percentages of e-commerce sales have been steadily increasing since 2013: 0.5 per cent (2013), 0.63 per cent (2014), 0.76 per cent (2015) and 0.83 (2016). In 2016, the country's overall retail sales were estimated at US$ 543.1 billion with e-commerce/online sales of US$ 4.5 billion (Bahar, 2017).

[8] See http://jogjadigitalvalley.com/.

[9] City cooperation agreement for 2017–2020 with PT Media Sarana Akses (2017), document no. 83/PERJ.YK/22017.

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Comments

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The chapter by Arfani, Hapsari and Perdana provides an interesting and illuminating description of Indonesia's e-commerce roadmap that can be useful to other countries trying to jump-start their e-commerce sector. It clearly identifies the main stakeholders one needs to consider when countries engage with the technological and societal challenges associated with the Fourth Industrial Revolution (Schwab, 2016).

A perhaps surprising element for a country trying to invest in the competitiveness of its digital economy is Indonesia's push at the multilateral level for lifting the World Trade Organization's (WTO) e-commerce moratorium (see Chapter 7, Box 2) to be able to tax electronic transmissions of digital goods. Consistent with this strategy at the multilateral level, the government of Indonesia amended its customs law in 2018 to be able to tax digital goods such as downloadable music, e-books and software. Below I survey a few of the reasons why placing barriers to imports of digital goods is unlikely to help Indonesia's e-commerce competitiveness.

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The comparative disadvantage that countries such as Indonesia may have today on electronically transmitted goods and services is clearly due to their relatively weak infrastructure; a strong one is needed to support the digital sector. Low internet e-commerce and credit card penetration and problems with postal services are hard barriers to overcome when trying to increase the competitiveness of electronically transmitted goods and services.

However, it is difficult to see how taxing imports of electronically transmitted goods and services can help address this. The economic principle of first best suggests that the best policy solution to an economic problem is the one that directly tackles the problem. Therefore, if the problem is low internet penetration, then one needs to fix low internet penetration. If the problem is credit card penetration, then this is what needs to be addressed. Trade-distorting taxes are never going to be the first-best policy instrument, as by definition, they are not targeting the source of the problem.

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An argument that is often advanced when arguing for the lifting of the WTO's e-commerce moratorium is that it hurts developing countries' ability to collect revenue at the border, and for many low-income countries, this can be an important source of government revenue. This foregone revenue could have been used to fund some better internet and credit card penetration, or more efficient and reliable postal and transport services.

There are at least two problems with this argument. First, as shown by Lee-Makiyama and Narayanan (2019) in an excellent study of the revenue impact of the WTO moratorium, the lifting of the moratorium would result in a loss of overall tax revenue in most low-income countries. The reason is that taxes on digital goods hurt the competitiveness of these countries and their gross domestic product (GDP) growth. There will certainly be more taxes collected on digital goods through these digital taxes, but this will be done at the cost of larger tax losses on other goods and services. In the case of Indonesia, Lee-Makiyama and Narayanan (2019) estimate the tax revenue loss at around US$ 23 million (associated with a GDP loss of US$ 164 million).

If there is a need to fund better internet, e-commerce and credit card penetration, or better postal services, I would suggest issuing government bonds: borrowing at the current interest rates is likely to be the cheapest way of funding growth-enhancing policies. If borrowing is not an option, many other taxes are less distorting than tariffs. Land taxes, sales taxes, VAT and taxes on firms' profits will all be less distorting and, therefore, more likely to increase overall government revenues.

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If none of these taxes are available because of a government's low capacity to tax, we are left with import tariffs at customs. However, at this stage, one should probably start wondering whether improving the competitiveness of electronically transmitted goods should be a priority for such a country. Let us assume that this still makes sense, thus the question is why tax electronically transmitted goods. Taxation theory tells us that we should be taxing the products that will generate the largest amount of revenue, and this will be the products with the less elastic demand. These are unlikely to be electronically transmitted goods. In fact, the products with the lowest average import demand elasticity is waste and scrap beryllium (used for copper), followed by brakes for motor vehicles. So large tariffs on these products will generate a lot of tariff revenue. And this additional tariff revenue can be used to fund the projects that will help improve the competitiveness of Indonesia's digital economy.

Note that I carefully chose the term "tariff revenue" and not "customs revenue" or "government revenue". As tariff revenue increases, it is possible that customs revenue declines, because other taxes are collected at customs and as you reduce the volume of trade coming through customs with the higher import tariffs you will be collecting less sales tax or VAT. So, again, it is not clear that these tariffs on relatively inelastic products will result in higher overall revenue for the government (and this is before you take into account the growth impact of these higher tariffs).

A related and important point is that the Uruguay Round Agreement on Implementation of Article VII of the General Agreement on Tariffs and Trade 1994 (Customs Valuation Agreement) allows for the valuation of electronically transmitted products using the value of the carrier medium alone, excluding the value of the software content if WTO members notify it to the WTO Secretariat. We know how unreliable WTO members have been at notifying anything to the WTO, but 48 members have notified that they are excluding the value of the software content. These countries include Brazil, Canada, China, the European Union, Japan, the Russian Federation, South Africa, the United States and even Indonesia itself. They represent more than 80 per cent of world trade.

So if one of these countries were to tax electronic transmission of software, it would be introducing a distortion that creates incentives to send software by physical means through customs rather than electronically. This would be clearly inefficient and, more importantly, it does not help efforts to address global warming as all that software and those e-books would be unnecessarily shipped across oceans and transported by truck.

References

Lee-Makiyama, H. and Narayanan, B. (2019), "The Economic Losses from Ending the WTO Moratorium on Electronically Transmitted Goods", ECIPE Policy Brief 3/19.

Schwab, K. (2016), *The Fourth Industrial Revolution*, World Economic Forum.