

PERSPECTIVE

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Digital Trade in Southeast Asia: Measurements and Policy Directions

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Digitalization or digital transformation has also been touted as another elixir of post-pandemic economic recovery across the world including Southeast Asia. Image: [Freepik.com](https://www.freepik.com). Designed by rawpixel.com / Freepik.

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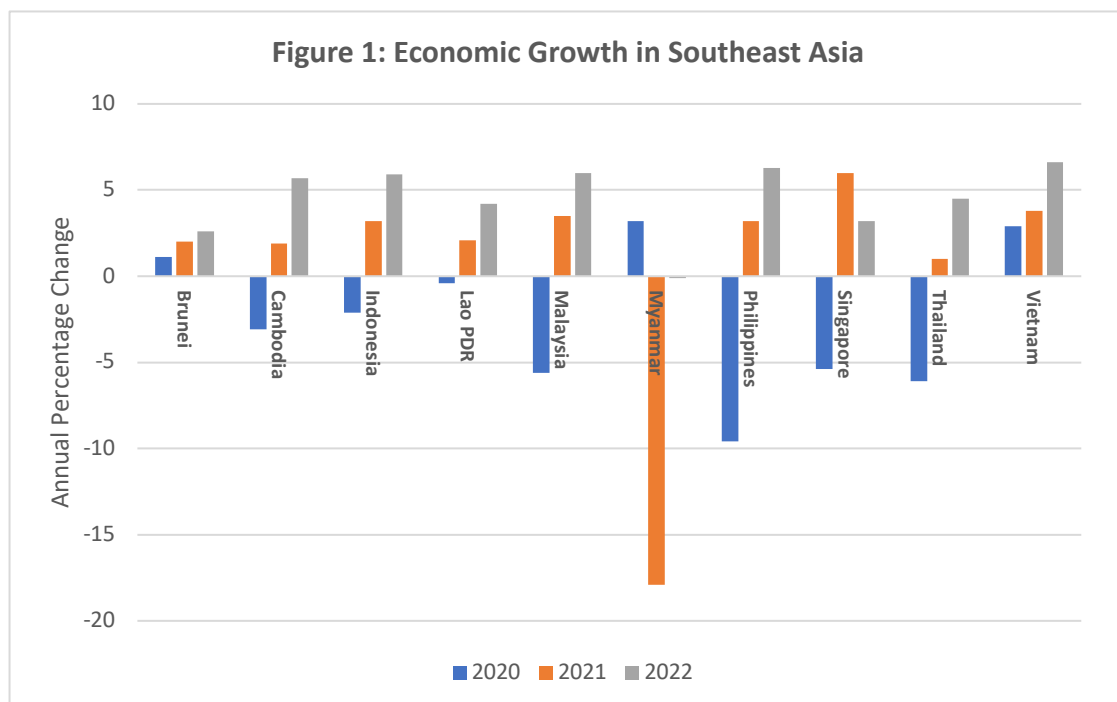
EXECUTIVE SUMMARY

- Digital trade has become increasingly important and will contribute towards the post-pandemic economic recovery.
- Policy-making to enhance digital trade is taking place amidst limited data on the digital economy. The resulting knowledge-gap on digital trade is being rectified by recent efforts to better conceptualise and measure digital trade.
- Efforts are also being made to use indices to measure enabling and restricting factors that affect digital trade.
- The various indices on digital economy and digital trade indicate that the policy priorities are likely to differ across Southeast Asian countries.

INTRODUCTION

A modest post-pandemic economic recovery remains in the books judging from the latest forecast from the International Monetary Fund (IMF). After contracting by 3.1 percent in 2020, the global economy is expected to grow by 5.9 percent in 2021 and 4.9 percent in 2022.¹ Global trade volume is expected to recover even more rapidly, by 8.0 percent and 6.6 percent in 2021 and 2022, respectively. These are fairly optimistic projections and are still overshadowed by recent surges in Covid-19 infections across many countries. In Southeast Asia, some countries are not expected recover as quickly as others (**Figure 1**). The speed of economic recovery will depend on vaccine rollout (which enables quicker normalization) and support policies (which maintains the resilience of households and firms).

Digitalization or digital transformation has also been touted as another elixir of post-pandemic economic recovery. As economies digitize further, digital trade – which involves the ordering and delivery of goods and services across borders using computer networks – will become increasingly important. It is thus important to have a greater understanding of the nature and potential of digital trade with a view towards encouraging more evidence-based policy-making in this area. With this in mind, this essay examines efforts in measuring digital trade and the current state of digital trade in Southeast Asia.



Source: IMF, World Economic Outlook, October 2021

WHAT IS DIGITAL TRADE?

Economic activities that are considered to be digital trade have been around long before attempts were made to define and measure them. Different components of digital trade

already appear in national income and trade statistics. However, the digitalization of economic activities calls for new and complementary approaches to measure such activities. The structure of digital trade itself provides a useful way for measuring and monitoring the different layers (good, services and data flows) and the networks of cross-border economic activities that are underpinned by digital technologies.² Indeed, policy formulation and implementation to promote such activities would be difficult to do if they do not make use of the proper metrics that capture digital trade.

The OECD, WTO and IMF recently collaborated to conceptualize and measure digital trade. The first version of the “Handbook on Measuring Digital Trade” was published in 2020 (OECD, WTO and IMF, 2020). This guide (p.20) defines digital trade as “**all trade that is digitally ordered and/or digitally delivered**”.

The Handbook (p.34) further defines **digitally ordered trade** as “international sale or purchase of a good or service, *conducted over computer networks* by methods specifically designed for the purpose of receiving or placing orders”.³ It is important to note that this definition says nothing about online payment and delivery of goods or services. Furthermore, orders that are made by manually typed email are excluded. Thus, the definition of digitally ordered trade is very close to that of e-commerce.⁴

Digitally delivered trade is defined in the Handbook (p.35) as “international transactions that are *delivered remotely in an electronic format, using computer networks* specifically designed for the purpose”. This definition implies that digitally delivered trade cannot involve the delivery of physical goods. Hence, trade involving a software stored in a disc is not a digitally delivered trade but the same software downloaded from a seller’s website (cloud) is.

The Handbook also provides a separate treatment of transactions that are enabled by **digital intermediation platforms (DIPs)**.⁵ Examples of DIPs include Airbnb, Alibaba, Amazon, Booking.com, eBay, Gojek, Grab, Lazada, Shopee and Tencent. DIPs are characterized by two features, namely: (i) direct interactions between multiple buyers and multiple sellers, and (ii) transacted goods and services that are not supplied by the platform. The goods and services transacted using DIPs are measured as transactions that take the form of digitally ordered trade and/or digitally delivered trade. However, the intermediation services provided by DIPs can be measured in terms of the fees they collect from users or/and from revenues generated from advertising and data services.⁶ A key challenge in measuring the activities of DIPs within a given country is the identification of the location of non-resident DIPs for the purpose of measuring cross-border trade in services.

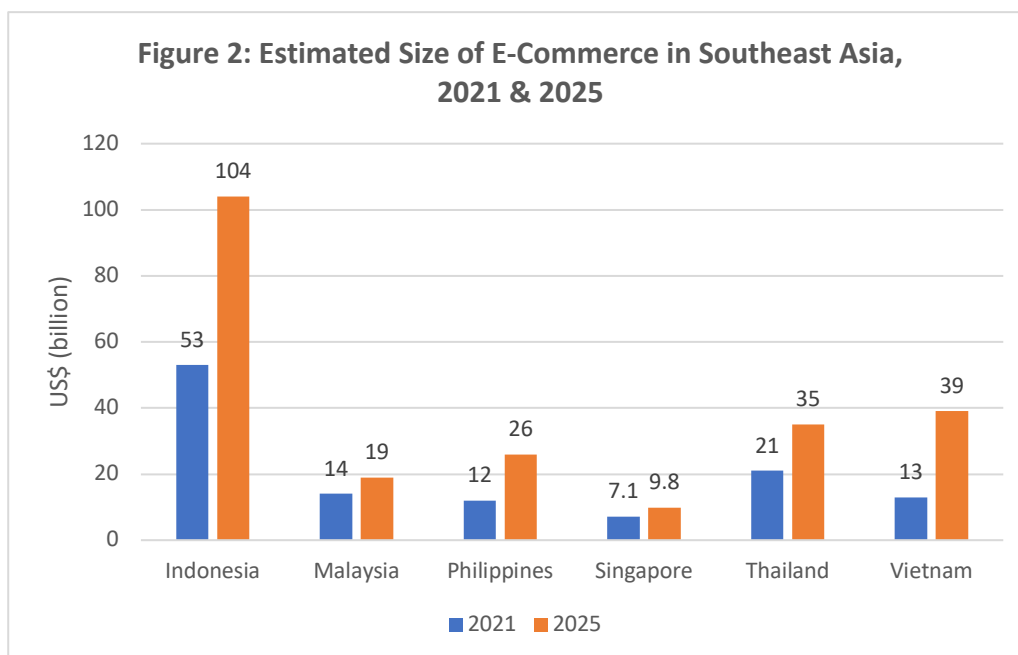
Despite the recent attempts at conceptualizing and defining, measuring digital trade remains a significant challenge. A significant proportion of digital trade is already captured in national income statistics (e.g. as part of import and export values) but digital trade per se is often not reported as a distinct category. National statistical agencies will have to collect additional data and information to enable countries to measure digital trade more accurately and comprehensively. In the meantime, policy makers will have to rely on eclectic methods (e.g. surveys) and proxies (e.g. e-commerce) to approximate that task.

SIZE AND POTENTIAL OF DIGITAL TRADE IN SOUTHEAST ASIA

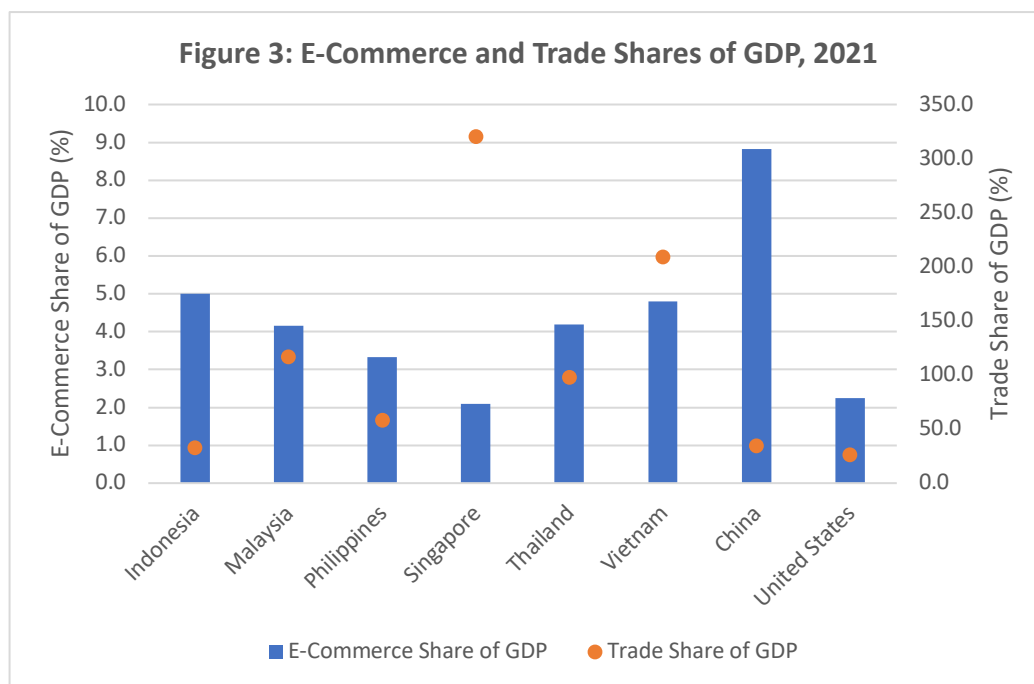
The nascent nature of data collection on digital trade implies that it is currently not possible to have a comprehensive measurement of digital trade in Southeast Asia. Nevertheless, some statistics are available that can give proximate and partial assessments of the size of digital trade in the region.

Digitally ordered trade is a sub-set of total e-commerce (which comprises domestic and cross-border e-commerce). Recent estimates of online retail sales for 2021 and 2026 do indicate that e-commerce growth will continue rapidly in the next five years (**Figure 2**). Indonesia will remain the largest e-commerce market in the region but the fastest growing e-commerce markets in the next four years will be Vietnam (CAGR 32 percent) and The Philippines (CAGR 21 percent).

How important is e-commerce to Southeast Asian economies? The share of e-commerce sales as a percentage of national income (GDP) in the region is lower than that observed in China (8.8 percent) (**Figure 3**). The country with the highest e-commerce share of GDP is Indonesia (6.3 percent) while Malaysia, Thailand and Vietnam are at similar levels (around 4 percent). However, not all e-commerce involves cross-border trade. The degree of economic openness (proxied by the ratio of total trade to GDP) could provide some hints about how much of the e-commerce is digital trade (cross-border e-commerce). The higher degree of economic openness for countries such as Singapore, Vietnam, Malaysia and Thailand indicates that digital trade is likely to be higher in these countries (**Figure 3**). There is evidence on the link between trade and e-commerce. In a recent study involving firms in Asia, it was found that firms participating in e-commerce have higher productivity and export 50 percent more than other firms (Kinda, 2019).⁷ Country surveys should be able to provide additional insights on this.



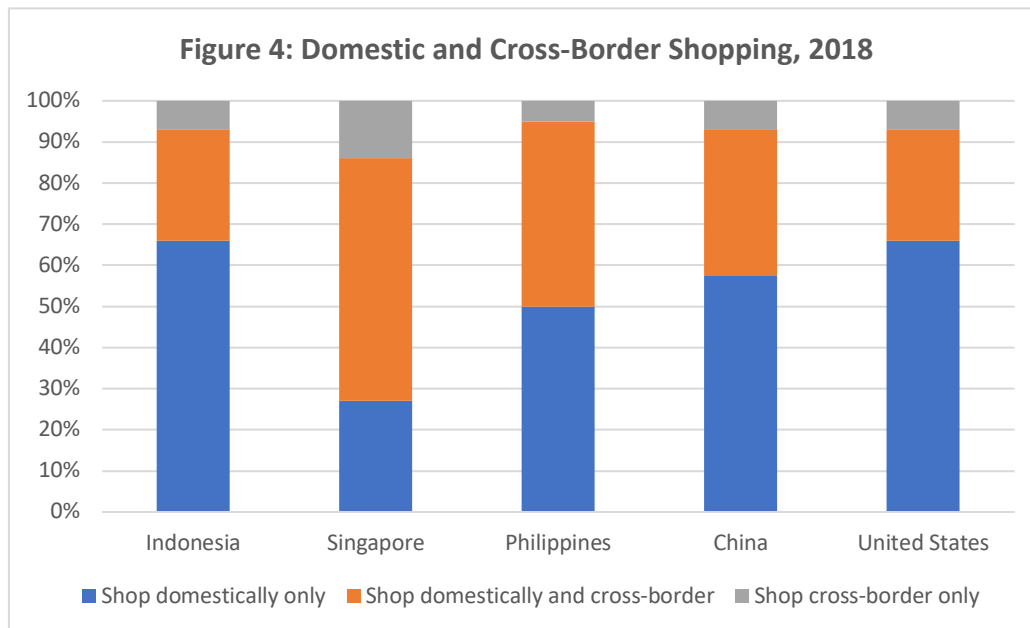
Source: Google, Temasek and Bain & Co. (2021)



Sources: Google, Temasek and Bain & Co. (2021), World Bank, Statistica

Indonesia’s latest survey on e-commerce indicated that only 4.68 percent of firms participating in e-commerce are involved in exporting in 2019.⁸ In contrast, 31.9 percent of firms in Malaysia (in 2019) that are involved in e-commerce have customers located overseas.⁹ For Malaysia’s manufacturing sector, 16.3 percent of e-commerce revenues are derived from exports.

Data on cross-border e-commerce transactions involving consumption (B2C) is scarce. Payment companies have provided some evidence that such transactions could be high in some countries in the region. The share of cross-border transactions in e-commerce trade in relatively open economies such as Singapore and Malaysia stood at 55-60 percent and 40 percent in 2017, respectively.¹⁰ A higher proportion of consumers is likely to engage in cross-border e-commerce in economies that are smaller in size (population), and have a higher degree of openness and higher per capita income. Thus, these three factors are likely to drive e-commerce growth in the region albeit their importance are likely to differ from country to country. Singapore, which has a very small and open economy with a high per capita income, has a very high proportion of its consumers engaging in cross-border e-commerce (**Figure 4**). In contrast, consumers in Indonesia, which has a large economy (population) but a less open economy with lower per capita income, undertake less cross-border shopping. Thus, domestic e-commerce is likely to be an important source of growth in large economies such as Indonesia (as well as China and the US).



Source: PayPal Cross-Border Consumer Research 2018

General discussions thus far deal largely with digitally ordered trade, and data on trade that are digitally delivered and those involving digitally intermediated platforms are difficult to come by. There are, for example, no country-level statistics on the size of digitally delivered services. The indications, however, are that these services have become increasingly important in recent years. These include video on demand (e.g. Netflix) and music on demand (e.g. Spotify) services which have experienced high double-digit growth (Google, Temasek & Bain, 2021). Advertising revenues on search engine (Google) and social media platforms (Facebook) as well as other types of e-commerce platforms (ride-sharing e.g. Grab and Gojek) have become very prominent in many countries. Even though it is difficult to estimate the size of digitally delivered services, broad estimates of digital service revenues in the region can be imputed from the tax rates and estimated tax revenues reported in the media (**Table 1**).¹¹

Table 1: Digital Services Taxation and Revenues in Southeast Asia

Country	Tax	Implementation Date	Tax Revenues	Imputed Annual Revenues
Indonesia	10% VAT	1 July 2020	USD 228 million (3.3 trillion rupiah) Forecast, Annual based on actual Q1-Q2 2021	USD 2.28 billion
Malaysia	6% Digital Tax	1 January 2020	USD 577 million (RM 2.4 billion) Forecast, Annual	USD 9.28 billion
Philippines	12% VAT	Approved in lower house in Sept 2021	USD 573 million (Pesos 29.1 billion) Forecast, Annual	USD 4.78 billion
Singapore	7% GST	1 January 2021	USD 67 million (S\$90 million) Forecast, Annual	USD 957 million
Thailand	7% VAT	1 September 2020	USD 154.70 million (5 billion baht) Forecast, Annual	USD 2.2 billion
Vietnam	10% Foreign Contractor Tax (FCT) comprising 5% VAT and 5% corporate income tax	1 July 2020	USD 49 million (VNĐ1.14 trillion) (US\$49.5 million) Actual, Annual	USD 490 million

Source: Various Media Sources

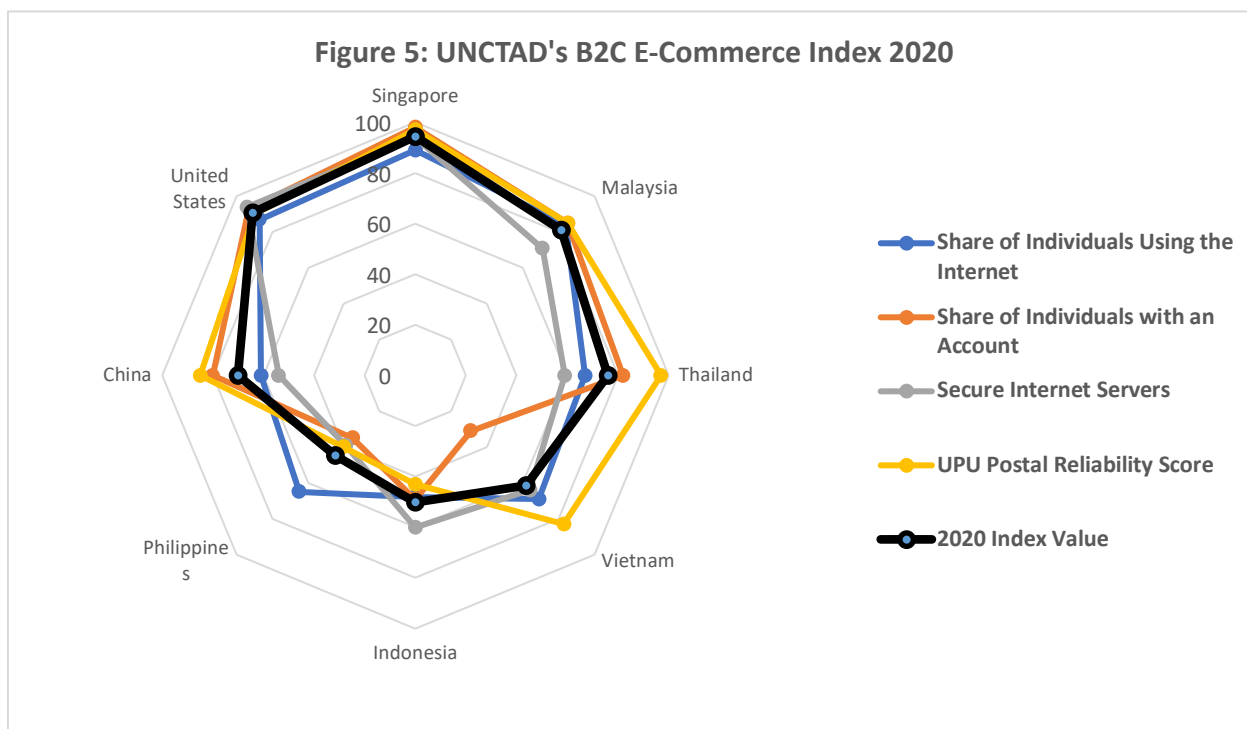
The variations in imputed revenues of digital services across countries highlight the interplay of the factors discussed earlier for e-commerce, namely, population size and per capita income. The combination of a moderate market size and a relatively high income per capita for Malaysia translates into a sizeable digital service trade volume. In contrast, Indonesia has a large population but lower income per capita with the latter limiting the demand for cross-border digital services.

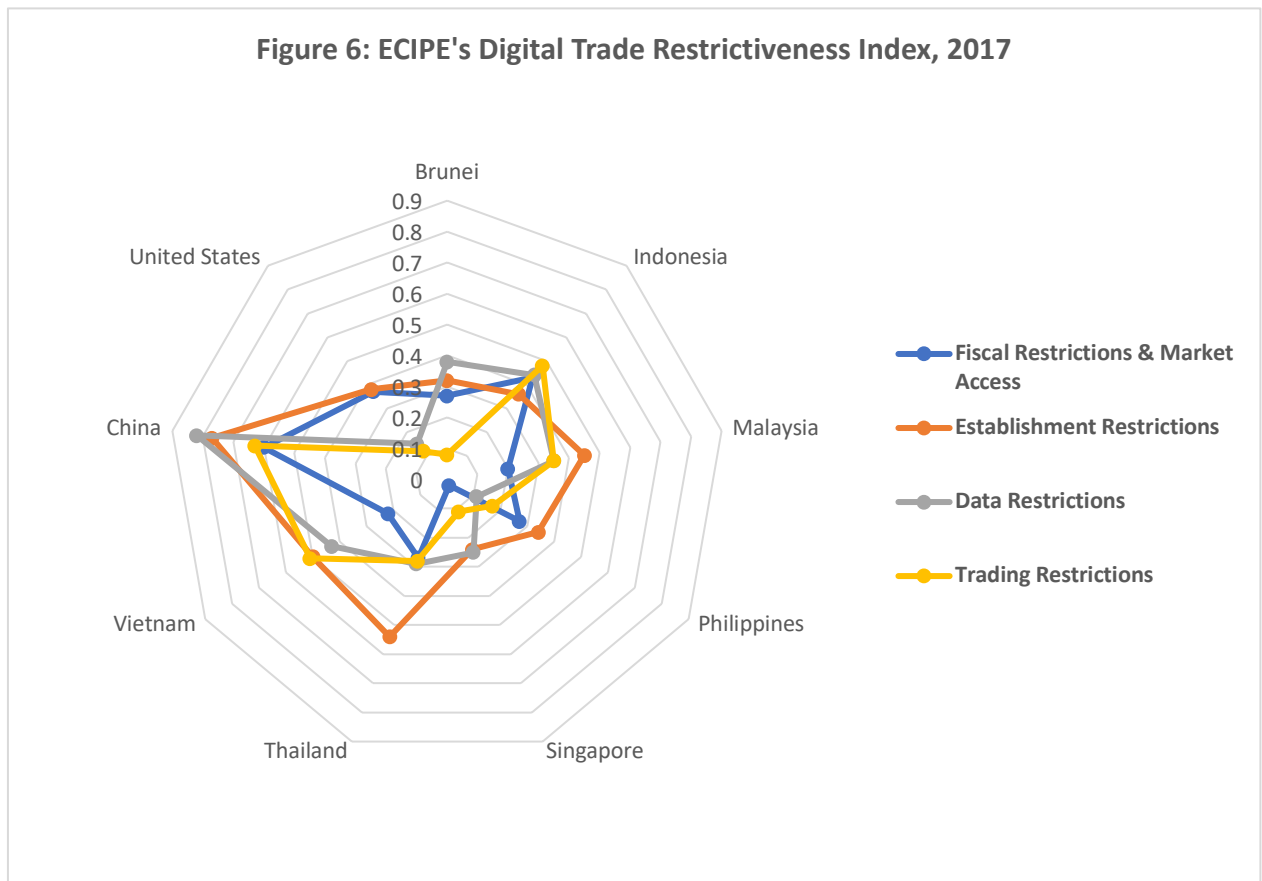
POLICIES TO ENHANCE DIGITAL TRADE

Digital trade is clearly an area where policy making is proceeding without the benefit of being informed by comprehensive data on the phenomenon. Much of the recent policy discussions have centred on enhancing the digital economy. Digital trade is an important component of the digital economy, and many of the elements in digital economy policies are also relevant for digital trade. These include policy measures that focuses on improving

connectivity, human capital, payment system, data privacy and security, and intellectual property rights. The challenges in the region are likely to be different across countries. Take, for example, UNCTAD’s B2C E-Commerce Index which provides a convenient (and partial) measure of factors that drive B2C e-commerce (which includes digital trade) (**Figure 5**). Indonesia’s B2C e-commerce is clearly constrained by weaknesses in its logistics and payment systems while the quality of Malaysia’s internet services is a hampering factor. Thailand has great advantages in logistics but also faces problems in the quality of its internet services.

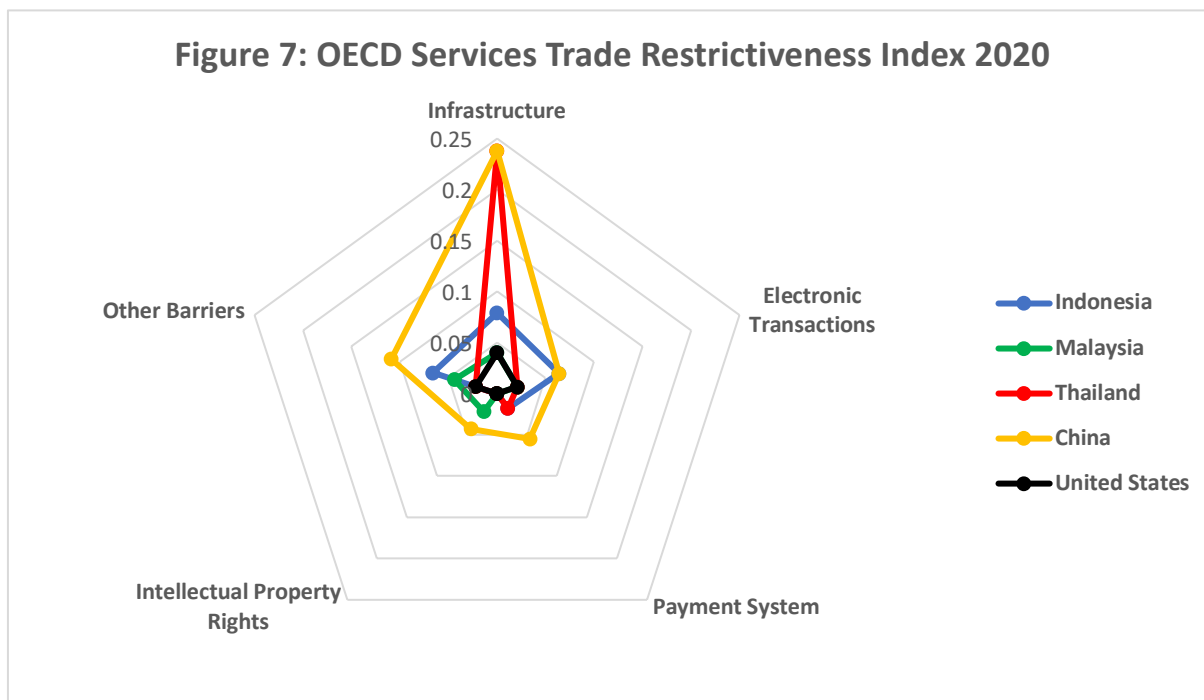
Beyond digital economy polices, there are also challenges that are of a more specific nature to the promotion of digital trade.¹² The European Centre for International Political Economy (ECIPE) has constructed an index called the Digital Trade Restrictiveness Index (DTRI) to capture the extent of restrictions on digital trade (**Figure 6**). The DTRI incorporates four major classes of restrictions: (i) fiscal restrictions and market access (ii) establishment restrictions (iii) data restrictions and (iv) trading restrictions.¹³ Establishment restrictions appear to be major constraints for digital trade in Malaysia and Thailand. Indonesia registered relatively high levels of restrictions in a number of areas – fiscal and market access, data and trading. The contrasting levels of restrictions in countries with large market size such as China and the US suggests that Indonesia should not necessarily aim for higher level of restrictions to promote domestic digital transactions at the expense of digital trade.





Source: ECIPE

Another interesting attempt at measuring regulatory measures that affect trade in digitally enabled services, is the OECD Services Trade Restrictiveness Index (**Figure 7**). The Index is an amalgam of five key regulatory barriers, namely, (i) infrastructure and connectivity, (ii) electronic transactions, (iii) payment systems, (iv) intellectual property rights, and other barriers affecting digitally enabled services.¹⁴ Infrastructure-related regulatory barriers in Thailand is clearly limiting the potential growth of its digitally-enabled services. In Malaysia, the intellectual property rights regime needs to be further improved.



Source: OECD

Finally, another policy area that requires greater attention is economic cooperation between countries to enhance digital trade. Southeast Asian countries have participated in free trade agreements such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the Regional Comprehensive Economic Partnership (RCEP) which contains provisions that promote digital trade through regulatory convergence. In addition, some countries have also bilaterally engaged in digital agreement agreements such as the Singapore-Australia Digital Economy Agreement.¹⁵ These trade agreements can complement domestic regulations and policies. However, not all provisions that are related to digital economy and trade are present in some of these agreements that promote digital trade.¹⁶

CONCLUSION

Digital trade, defined as trade that is digitally ordered and/or digitally delivered, is becoming increasingly important. Policy-making in promoting or facilitating digital trade is proceeding in the absence of comprehensive data on digital trade. Such data is bound to improve over time and strengthen evidenced-based policy making.

Structural differences across countries in Southeast Asia imply that policy priorities in digital trade are likely to differ across countries. Recent attempts to measure digital trade and formulate indices that capture the various enablers as well as constraints on digital trade have yielded useful insights on what these policy priorities should be for each country. Unilateral, regional and bilateral trade agreements as well as digital economy agreements are also likely to become important drivers of digital trade in the future.

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¹ IMF, World Economic Outlook, October 2021:

<https://www.imf.org/en/Publications/WEO/Issues/2021/10/12/world-economic-outlook-october-2021>

² Digital trade deals with cross-border transactions, but some of the activities linked to these transactions take place in domestic markets e.g. domestic transport and logistics activities in origin and destination countries.

³ Computer networks include the web/internet (including via mobile devices), extranet and electronic data interchange.

⁴ OECD defines an e-commerce transaction as “the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders”. See: <https://stats.oecd.org/glossary/detail.asp?ID=4721>

⁵ There are a few rationales for a separate treatment of digital intermediation platforms (DIPs). They include: (i) the potentially disruptive impact of DIPs on the economy, (ii) an interest in a targeted focus on DIPs, and (iii) specific conceptual and statistical challenges in measuring DIP transactions.

⁶ Fee-based digital intermediation platforms can be defined in the Handbook (p.36) as: “Online interfaces that facilitate, for a fee, the direct interaction between multiple buyers and multiple sellers, without the platform taking economic ownership of the goods or rendering the services that are being sold (intermediated)”.

⁷ There are a number of plausible explanations underlying the positive relationship between e-commerce participation and exporting. Lower input purchase cost from e-commerce procurement

and lower transactions cost in exporting could be explanatory factors. However, more microdata are required to provide empirical evidence for this claim.

⁸ BPS (2020), Table 5, p.36.

⁹ DOS (2020), Table 13, p.19.

¹⁰ Sources: (1) <https://www.ecinsider.my/2014/02/cross-border-ecommerce-in-singapore-malaysia.html>

(2) <https://www.export.gov/apex/article?id=Singapore-eCommerce>

¹¹ This is a broad estimate. There are differences in coverage across countries which need to be taken into account for a more detailed comparison.

¹² See Evenett and Fritz (2021) for a discussion of these issues.

¹³ The components of the DTE are as follows: (1) Fiscal Restrictions covers tariffs and trade defense, taxation and subsidies and public procurement; (2) Establishment restrictions covers foreign investment restrictions, intellectual property rights measures, competition policy and business mobility; (3) Restrictions on data covers data policies, intermediate liability, and content access; (4) Trading restrictions covers quantitative trade restrictions, standards, online sales and transactions.

¹⁴ See Ferencz (2019) for more details on the index.

¹⁵ These will be discussed in greater detail in a forthcoming ISEAS Perspective by Tham Siew Yean.

¹⁶ For more detailed discussions, see Huawei (2017), Hinrich Foundation (2019), and Honey (2021).

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