

# Policy and Regulatory Issues with Digital Businesses

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## Abstract

Advances in digital technology are expanding the boundaries of firms. Digital platform firms, which leverage a “platform” to create value through facilitating exchanges between two or more interdependent groups, are the new disrupters in the market. They exhibit distinct features such as scale without mass, positive network effects, accumulation of tremendous data, and a convoluted value creation process with user participation. Meanwhile, they bring more opportunities to traditional businesses by closely connecting suppliers and customers and reducing transaction frictions. Such a changing business landscape calls for adaptive policies and regulations. This policy paper lays out the key policy and regulatory issues around digital businesses. Competition

laws need to be revisited to address the winner-take-all tendency of digital platform businesses. Tax systems should also be updated to close the loopholes available to digital platform businesses so that they pay their fair share to society. This paper also provides the first analysis of the World Bank’s Digital Business Indicators initiative, which collects information on the existence and quality of regulations in broadband connectivity, digital payment, data privacy and security, as well as logistics, in 21 pilot countries. It aims to explore the possibilities for developing the regulatory and policy indicators that governments can work with to promote the digital economy.

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**Keywords:**

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## Introduction

Don Tapscott coined the term *digital economy* in his 1995 best-seller *The Digital Economy: Promise and Peril in the Age of Networked Intelligence*.<sup>1</sup> In the more than two decades since then, a dynamic global business landscape has emerged, filled with new types of firms and new ways of doing business by leveraging digital technologies. For example, of the top 10 most valuable firms by market capitalization in 2018, Apple, Alphabet, Amazon, Facebook, Tencent, and Alibaba share a common feature: each has established a digital platform to create value through facilitating exchanges between two or more interdependent groups. Meanwhile, more businesses are now providing goods or services online. Indeed, e-commerce has revolutionized the ways in which 1.79 billion people trade around the globe.<sup>2</sup>

To respond to the new market players and business models, governments need to develop clear, coherent rules to facilitate digital economic activities. This is especially important for developing countries that have not yet fully reaped the benefits of the digital evolution for economic growth and job creation. However, the research on appropriate regulatory and policy approaches is limited.<sup>3</sup> Data sets that can serve as a reference point to assess a country's regulatory environment for a digital economy are simply not available.

To support World Bank client countries in their efforts to better harness the benefits of digital technologies and address the potential risks associated with digital economic activities, several World Bank teams, including the Global Indicators Group of the Development Economics Vice Presidency, the Digital Development Global Practice, and the Macroeconomics, Trade, and Investment Global Practice, launched the Digital Business Indicators initiative in 2017. The initiative seeks to develop a benchmarking tool to measure the regulatory environment for the digital economy. The objective is to encourage competition among countries as they move toward more efficient, more transparent, and easier-to-implement regulations for the thriving digital economy. In 2018 the Digital Business Indicators project collected information on the existence and quality of the regulatory environment in broadband connectivity, digital payment, data privacy and security, as well as logistics, in 21 pilot countries (see list of countries in annex A). Data were collected through standard questionnaires sent to experts in the private sector, public sector ministries, and authorities, as well as law firms in each country.

This study presents findings from the Digital Business Indicators initiative, and it extends the discussion to a wider range of regulatory issues associated with digital businesses. It first probes the characteristics of digital platform firms, as well as their impacts on traditional firms. It then zeroes in on a few key regulatory and policy areas, including competition, taxation, data privacy, and infrastructure. Data from the World Bank's Digital Business Indicators project are used to analyze data privacy and infrastructure issues. When empirical data are missing in areas such as competition and taxation, this study takes stock of the ongoing policy discussions. It aims to advocate a research agenda that will develop the best regulatory and policy practices for governments seeking to promote the digital economy.

## The changing business landscape

In 1937 Ronald Coase established a clear boundary between firms and markets in his influential article "The Nature of the Firm." According to Coase, firms exist because of inefficiencies in the marketplace.<sup>4</sup> Where the costs of transaction and coordination between market players are high, large hierarchies in the form of firms predominate, and they manage to achieve economies of scale in production and distribution internally. The emergence of large industrial corporations that conduct the full range of production activities in-house demonstrates the validity of Coase's theory. For example, in early 1900s U.S. Steel Corporation controlled all stages of production and distribution through its ownership of coal and iron mines, coke plants, railroads, ports, and large ship fleets.

Since the 1990s, rapid developments in information and communication technologies, alongside improved logistics and lower tariff and nontariff barriers, have largely reduced market transaction costs.<sup>5</sup> Firms have begun to operate within wider boundaries. They outsource production activities to suppliers across the globe, forging a global value chain.<sup>6</sup> Many developing countries seized the opportunity to achieve industrialization through the export-led model of producing components for companies in developed countries. For example, firms in coastal provinces of China began to serve as contracting manufacturers for Western firms and transformed China into the world's factory.<sup>7</sup> India focused instead on exporting services, using its excellent technical universities and language schools as springboards into global competitiveness. Infosys and similar industry leaders such as Tata Consultancy Services, HCL, and Wipro are among the group of Indian information technology services companies offering business process outsourcing services to clients across the globe.

With the further technological advances in big data and artificial intelligence, as well as the rising Internet penetration since the new millennium, the boundaries of firms and markets have become blurry. Digital platform firms, which leverage a "platform" to create value by facilitating exchanges between two or more interdependent groups, are the new disrupters in the market. However, questions arise on whether those digital platforms are firms or markets. Unlike the conventional pipeline business model in which the production process is linear, with inputs at one end and output delivered at the other end after going through a series of value addition steps,<sup>8</sup> the platform model orchestrates production that resembles the invisible hand of a market. Producers and consumers congregate on a platform that facilitates better matching of supply and demand with competitive price-quality options. For example, the Apple and Android app stores connect numerous app developers and smartphone users. Tokopedia, an online retail platform in Indonesia, hosts more than 4 million online active merchants, serving 35 million customers in 2018.<sup>9</sup>

Digital platform firms exhibit features that are distinct from those of traditional firms. For these firms, intangible assets are the key factors of production.<sup>10</sup> China's Ant Financial, an independent financial company under the Alibaba Group, has become one of the world's most valuable fintech firms thanks to its powerful digital loan assessment algorithm. Jumia has gained success by growing from a local e-commerce firm in Lagos to the Africa's Amazon. Key ingredient on its success recipe is a well-designed online platform that embeds complex algorithm to reduce transaction frictions between suppliers and customers. Many of these productivity-increasing products are simply digital algorithms that are infinitely replicable and instantly distributable around the world, thereby making scale without mass possible.<sup>11</sup> Careem, a ride-hailing platform headquartered in Dubai, made inroads in 120 cities in 14 countries in the Middle East region within five years. It now has 1 million drivers and 25 million users.<sup>12</sup>

The success of these platform-based businesses is closely associated with the positive network effect—that is, the value of a platform increases as the number of participants on either side, whether a consumer or a producer or supplier, grows.<sup>13</sup> For example, Tutorama, an Egyptian online platform, connects students with quality local private tutors. On the one hand, the more local private tutors it adds to its system, the more attractive it becomes to student clients. On the other, a larger client base incentivizes more local tutors to register in the system. As the number of participants on either side grows, the growth generates value for both groups, creating two-sided network effects.

A tremendous amount of data accumulates on digital platforms with expansion of the positive network effect. Data on consumer behavior and preferences become the secret weapon to further propel business growth.<sup>14</sup> The data can either be utilized to improve a platform's efficiency as an exchange facilitator or to develop other related businesses. Flipkart, an Indian e-commerce platform, provides customers with more targeted advertisements based on their transaction patterns. Ant Financial incorporates data gained through Alibaba's Taobao.com Marketplace in its loan assessment model to offer microloans to merchants on the

platform. Under this business model, market power shifts from the control of supply to the control of demand. The firms achieving greatest success are not those that produce at lower costs but rather those that better understand customers' preferences.

Digital platform firms join the squad of superstar firms when the strong network effect and data accumulation strengthen the first-mover advantage and create a winner-take-all situation.<sup>15</sup> Apple and Alphabet (Google's parent company) had market capitalizations of US\$870 billion and US\$807 billion, respectively, as of May 15, 2019. If they were countries, they would rank among the top 20 economies by gross domestic product (GDP), ahead of the Netherlands and Switzerland.<sup>16</sup> Besides the household names, young digital platform firms are sprouting up, dominating the list of the world's top 10 unicorn firms—private companies valued at more than US\$1 billion. Social media platform ByteDance and ride-hailing platform Didi Chuxing from China are valued more than the GDP of many developing countries such as Kyrgyzstan, Uganda, and Zambia.

The rapid rise and penetration of digital platform firms also disrupt the production ways of traditional businesses. The scope of outsourcing now goes beyond the production of manufactured parts to essential business functions.<sup>17</sup> Twenty percent of Fortune 500 companies are using Upwork, a global freelancing platform, to build hybrid teams of long-term employees and temporary contractors. Samsung now outsources 65 percent of its data science work, 17 percent of its software development work, and 10 percent of its marketing automation work to leading freelancing platforms.<sup>18</sup> CloudBiz in Honduras develops cloud-based enterprise billing and account software, as well as inventory systems, for small businesses and freelancers. These cloud-based solutions free up human and physical resources from accounting and inventory management.

Flexible manufacturing and “servicification” of manufacturing have become more popular with the support of digital platforms.<sup>19</sup> Direct connection to their consumers through e-commerce platforms enables manufacturers to provide customized products in a timely manner. It reduces the costs of middlemen and avoids the risk of backlog. By integrating sensors, actuators, and data communication technology into physical objects, manufacturers become smarter about inventory management and production planning to cater to end user demands. Using data accumulated by tracking and monitoring the status and flow of physical objects, they transform themselves from product sellers to service providers. Tractor maker John Deere is now offering services to optimize irrigation and plowing practices using the data collected in its back-end platform such as on real-time crop monitoring and water leakage detection.

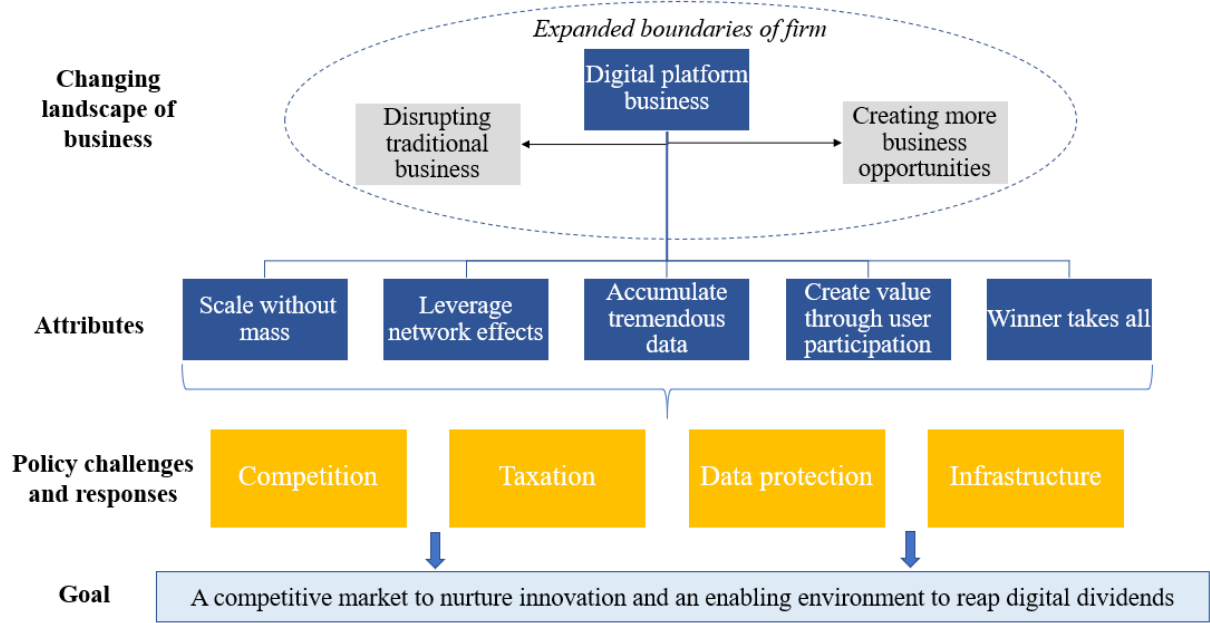
Digital platform firms are bringing more business opportunities. They enable small firms to focus on their core competencies and become highly specialized so that they escape product market competition.<sup>20</sup> Take Pinduoduo, a Chinese e-commerce start up, as an example. It enables farmers in remote areas to sell fresh produce directly to customers in cities. More than 5.5 billion kilograms of agricultural products have been sold on the platform since 2015, and some 50,000 migrant workers in cities have returned to their villages to engage in e-commerce activities via Pinduoduo.<sup>21</sup> India's Meesho provides an online reselling platform that allows over 200 million individuals and firms to sell their products through social media.<sup>22</sup>

The opportunities provided by digital platform businesses are prompting governments to create an enabling environment to incubate similar enterprises, while empowering traditional businesses to benefit from the digital revolution (figure 1). Digital infrastructure, including Internet connectivity, the provision of payment services, and logistics are among the first prerequisites. Meanwhile, data privacy and protection are at the center of the regulatory discussion because of the large amount of data accumulated by digital platform businesses. Ensuring transparent extraction of data and avoiding abusive use of data are important to build public trust. Finally, digital talent is essential to promoting innovation. Knowledge of science, technology,

engineering, and mathematics (STEM), entrepreneurship, and socioemotional skills should all be part of the education curriculum.

Rapid development of platform businesses also calls for adaptive policies and regulations. Competition law to address the tendency of digital platform businesses to establish a winner-take-all monopoly is critical. It helps to lower the entry barriers to emerging digital businesses and create a level playing field between digital and traditional businesses. Tax law should also be updated to address the existing multitude of loopholes available to digital platform businesses so that they pay the fair share to society.

**Figure 1. Policy and regulatory responses to the changing landscape of business**



Source: Author’s analysis.

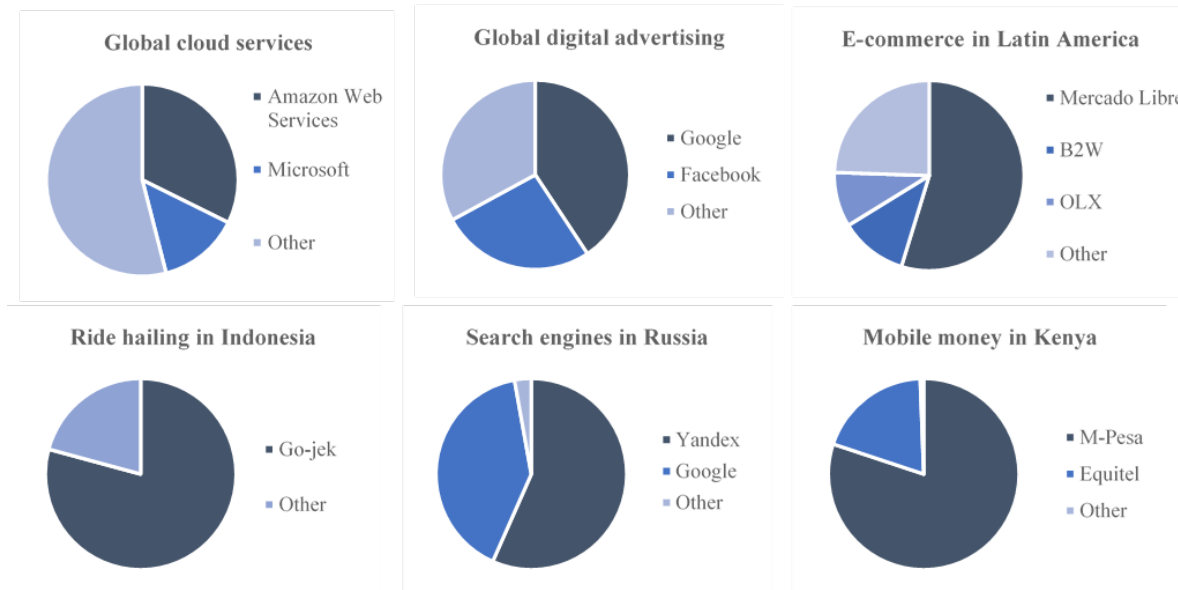
Pressing policy and regulatory issues

Competition

Concerns about anticompetition arise when digital platforms exhibit monopolistic tendencies. Alibaba’s Taobao.com Marketplace and Tmall now account for almost two-thirds of online shopping in China. Flipkart is the Indian e-commerce fortress with a domestic market share of 60 percent. Grab in Malaysia merged with Uber’s Southeast Asia business, aiming for a dominant position in the regional ride-hailing business. Although dominance alone may not warrant regulatory sanctions, emerging monopolistic behaviors are calling for government intervention. For example, JD.com, China’s second-largest online retailer, is accused of forcing online merchants to slash product prices in preparation for platform-wide promotions.<sup>23</sup> Passengers in Singapore started complaining about higher fares after the Uber-Grab merger deal.



**Figure 2. Digital platform firms are controlling the pie at both global and regional/country markets**  
Market Share by Company



Sources: Canalis.com; Communications Authority of Kenya; Industry.co.id; Marketing-Interactice.com; Mercado Libre; Radar; Statista.com.

Governments face considerable challenges in identifying digital platform firms that may become monopolies. The criteria for identifying a monopoly have been evolving from market share, which was widely used in the early 20th century, to negative effects on consumer welfare.<sup>24</sup> Price has been used as a proxy. Robert Bork argues that if a firm with a significant market presence does not increase prices for its customers, the implication is that competition exists in the market to cap price increases, and therefore the firm should not be identified as a monopoly.<sup>25</sup> However, using price changes as a screening tool for monopolies spells problems in the digital age. Digital platform firms, which often provide free services to customers, would operate beyond the scrutiny of an antitrust authority under a price-focused regime.

In addition to price testing to determine the existence of market power, the durability of market power is worth further probing. Two common ways in which digital platform firms maintain a market-dominant position—aggressive acquisition of promising start-ups and copying rivals’ product features—may impede innovation in the overall economy.<sup>26</sup> From 2015 to 2017, Tencent, parent company of China’s superapp WeChat, acquired 100 firms a year on average. A significant number of the acquisitions were buyouts of start-ups with technology or business models that could potentially threaten Tencent. Start-ups that turn down the deal would have low odds of success in a fierce battle with technology giants. With its large pool of skilled and talented workers, a technology giant can easily replicate algorithm or product features, followed by swift product takeoff, leveraging its strong existing customer base. For example, Facebook is squashing Snapchat, a multimedia messaging app, by copying Snapchat’s feature of letting users exchange pictures and videos that will disappear after they are viewed.

What is more worrisome is that digital platform firms are moving beyond possessing market power within a sector to penetrating various sectors across economic and social life. For example, not only is Amazon an online retailer, it also publishes books, manufactures hardware, and has now even entered the grocery store business with its purchase of Whole Foods. Starting from its Taobao.com Marketplace, the Alibaba Group now dominates the mobile payment market with its product Alipay, and it has a significant stake in the

online entertainment sector through acquiring Youku.com. Whether these behemoths pose a threat to the public interest is an urgent issue that governments has to tackle.

Social media platforms are now being questioned about their credibility to affect freedom of speech.<sup>27</sup> Content on social media is rarely subject to the fact checking, source verification and editorial oversight followed by traditional media. The viral spread of false information risks turning well-functioning democracies into “mobocracies” that react on impulse rather than in response to reliable facts. However, unlike traditional media which often only speak on their own behalf, social media platforms decide whether to shut down malicious user accounts or filter inappropriate information. Cautions against the platform’s potential monopoly on “opinions” may be legitimate if giant corporates are going to fill the role of “big brother.”

Governments are beginning to take action. Advocacy to break up digital platform firms has drawn attention. Malaysia and the Philippines have been scrutinizing the Uber-Grab acquisition based on antitrust concerns. Meanwhile, after Google was caught of taking advantage of its search service to favor its own shopping platform, some observers in Europe suggested that Google separate its search engine business from its other businesses. Although the European Union has yet to adopt a position on Google’s split, the technology giant has since been involved in several antitrust investigations by the European Commission that have resulted in over US\$6 billion in fines. U.S. Senator Elizabeth Warren has also called for decoupling Amazon’s cloud division from its e-commerce division to eliminate the danger of data about third parties gathered from the cloud service being used to influence Amazon’s e-commerce arm. However, decoupling is easier said than done because of the intertwined business lines within digital platform firms.

Treating digital platform firms as a natural monopoly is another option on the table. The first-mover advantage and winner-take-all dynamic associated with digital platforms, remind us of traditional natural monopolists such as utilities and railways.<sup>28</sup> In the 1880s, the Pennsylvania Railroad and the Baltimore and Ohio Railroad developed a monopoly in the United States with first-mover advantage because two parallel railways were futile. Similarly, after Jumia, Africa’s largest e-commerce platform, amassed numerous sellers and buyers, an exodus of users is unlikely to happen unless other platforms develop niche specialization.

Setting a cap on a monopoly’s profit at a level the company would make in a competitive market is the notion underlying price caps for utilities. The regulatory asset base model is often used to calculate the profits of a fictitious newcomer and then cap the monopolist’s profits at the level estimated for the imaginary newcomer.<sup>29</sup> According to one estimate, Alphabet’s profit would fall by 65 percent if its returns were capped at 12 percent, the level of return normally accruing to a newcomer in the technology industry.<sup>30</sup> However, although this form of regulation is promising in its ability to limit the profits of a superstar digital platform firm, it would not confer much benefit on consumers who already receive free services from digital platform firms. Suppliers on the other side of the platform, such as advertisers, tend to benefit more from this approach.

Forcing incumbents to share their data and intellectual property with new entrants on reasonable terms is another alternative to breaking up firms.<sup>31</sup> Some governments have followed a similar approach in the past. For example, in 2004 the European Commission ordered Microsoft to provide essential interoperability information to permit the development of competing products. In Kenya, the information and communications technology (ICT) ministry and the Communications Authority pushed for interoperability among mobile money services operators, thereby enabling newcomers to attract customers from incumbents. More recently, a group of academics appointed by European Competition Commissioner

Margrethe Vestager also proposed data sharing among market players. However, the proper technical and legal standards must be developed to ensure security and fairness when sharing data.<sup>32</sup>

A debate associated with sharing data is whether and how to create a fair data marketplace.<sup>33</sup> A well-functioning and transparent data marketplace would help address the current unequal distribution of risks, costs, and benefits.<sup>34</sup> Data would be tracked and monetized as commodities. Moreover, businesses would no longer be able to access, hold, and use customers' data without any costs. Such an arrangement would break the cycle in which established digital businesses continually utilize the free data they accumulate to generate profit and maintain their dominant market position. The European Union has begun to create a common European data space, estimating that the value of the European data economy could increase to €739 billion by 2020.<sup>35</sup> The public sector is spearheading this initiative by making available to firms high-value geospatial, transportation, and business management data sets, among others. However, convincing private companies to do so remains a challenge.

Regulatory arbitrage is another problem. When platform businesses bypass regulations to enter some traditional sectors, such as Uber versus taxis and Airbnb versus hotels, the question arises of whether business players are competing on a level playing field. For example, Uber is not subject to the same fare and vehicle quota regulations faced by the traditional taxi companies. And Airbnb hosts do not have to meet the zoning requirements applicable to hotels. Adapting the licensing or certification requirements within a regulatory framework to new businesses becomes important to ensure a level playing field for traditional and new players.<sup>36</sup>

Besides watching the existing giant digital businesses closely, governments, especially those from developing countries, should spend more resources on creating an environment that will enable start-ups to grow into superstar digital businesses. The World Bank's *Doing Business* project provides a tool for governments seeking to reform toward efficient business regulation and enforcement. Public support through incubators, accelerators, hubs, entrepreneurship associations, and related institutions also helps to promote digital entrepreneurship. In 2016 the World Bank and CTIC Dakar, Senegal's leading ICT incubator, launched the Jambar Tech Lab. It offers training to local tech start-ups in how to commercialize and scale innovative digital products.

Creating a venture capital ecosystem to incubate promising start-ups adds momentum for their takeoff. Strong capital support lowers the risk of aggressive and malicious acquisition from giant digital businesses. Benefiting from direct funding support and preferential policies, Singapore is now home to more than 150 venture capital funds, and venture funding increased from US\$800 million in 2012 to US\$10.5 billion in 2018.<sup>37</sup> The booming venture capital activities contributed to doubling the number of local tech start-ups over the last decade.

## Taxation

The boundaries of digital platform firms are now transcending borders and physical assets, presenting the present global corporate tax regime with severe challenges.<sup>38</sup> The long-standing taxation principle of permanent establishment and physical presence creates loopholes when applied to digital business activities. A government's current taxing rights on corporate income are based on the physical presence of a firm in its jurisdiction. Companies that have only a significant digital presence in a country are free from taxation liability because of lack of legal nexus under the international rules.<sup>39</sup> Facebook has over 2.3 billion monthly users spread over nearly every country, but it pays little or no tax in many countries where it does not have an office.

The international consensus on taxing value creation is also losing ground because of the convoluted value creation process and multisided business model of digital platform firms. Consumers are now involved in the value creation process. Indeed, user-generated content prevails on social and media content platforms, from worldwide known YouTube, to other niche platforms such as Afrigator, an Africa-focused platform for sharing photos or videos. Leveraging the multisided business models, many digital platform firms are able to capture value from externalities generated by consumers' use of products or services. This development raises questions about how digital platform firms add value and make profits. For global digital platform firms connecting suppliers and consumers across countries, determining the jurisdiction in which value creation occurs becomes a riddle.

With their large, freely movable intangible assets and hard-to-value intellectual property, global digital platform firms are in a better position to abuse profit shifting and transfer pricing for tax avoidance.<sup>40</sup> These firms can easily change the location of their essential intangible assets and assign value to their intangible assets to justify financial flows among subsidiaries in order to reach an optimal book value for taxation. For example, Google transfers its valuable intellectual property rights (such as for algorithms) to a subsidiary registered in Ireland where offers a low corporate tax rate. Other Google subsidiaries can book profit towards the Irish subsidiary to reduce tax bills by paying a licensing fee on their use of its intellectual property. The tax liability of the Irish subsidiary is further reduced through a royalty-sharing arrangement with a Dutch company and another Irish company domiciled in Bermuda enjoying a zero corporate tax rate. Google routed US\$19.2 billion in 2016 and US\$22.7 billion in 2017 through this mechanism.<sup>41</sup>

The traditional arm's-length principle designed to address such tax avoidance practices becomes paralyzed in the context of digital businesses. Under the arm's-length principle, transactions between related parties are to be priced as if they are between independent entities in the market. Unlike basic goods or services in which the fair market prices of those transactions are readily available, transactions involving intangible assets such as data or algorithms create problems in applying the arm's-length principle because of lack of comparable market transactions.

The multitude of loopholes available to digital platform firms call for an update of tax regimes. Whether a country has a right to tax the business activities of digital platform firms is the first question to be answered. It is argued that the countries in which digital firms operate provide the infrastructure and public services needed for profit-making activities and are therefore entitled to the right of taxation regardless of firms' physical presence. For example, logistics infrastructure and Internet deployment are public resources made available so that digital businesses can thrive in those countries. Customers in those countries also contribute user data to digital platform firms, which propels their growth.<sup>42</sup> User participation should then be regarded as a form of productive activity that confers a right to tax in the country of the user. Others argue that user information collected in user countries is not unlike the oil extracted from a particular location. If the government is allowed to tax rents associated with natural resources, taxation on rents associated with its residents' information should also be regarded as legitimate.<sup>43</sup>

The Inclusive Framework on Base Erosion and Profit Shifting (BEPS) of the Organisation for Economic Co-operation and Development (OECD) and G-20 are discussing proposals to update the legal nexus for taxation rights in the digital economy era. The three main options for justifying the "presence" of a company to determine tax liabilities are (1) user participation, (2) link to a company's marketing intangibles such as market research, user data, and brands/trademarks, and (3) a significant economic presence.<sup>44</sup> The United Kingdom is the among the main advocates of the user participation proposal. The marketing intangibles proposal is backed by the United States, and the significant economic presence proposal has gained support from a few other countries such as India and Israel.

The user participation proposal targets digital businesses that rely heavily on the active participation of users such as social media platforms, search engines, and online marketplaces. For example, users of Mercado Libre, a leading Latin America online marketplace, help improve the quality and diversity of goods by providing public reviews and feedback. Jurisdictions in which these users reside would have the rights to tax Mercado Libre under the user participation proposal. Certain thresholds can be imposed to limit the taxation rights to jurisdictions with a significant and engaged user base.

The marketing intangibles proposal entitles a country to tax businesses if it has an “intrinsic functional link” to the businesses’ marketing intangibles. Examples of marketing intangibles include brand names, trademarks, customer lists, and customer and market data. The “intrinsic functional link” can be a customer base or relationship the firms manage to develop in the jurisdiction, similar to the user participation proposal mentioned earlier. It can also be justified as a brand name created in the jurisdiction to reflect the attitudes and preferences of local customers. Such a proposal broadens the taxing scope to both digital businesses and the traditional consumer businesses. It ensures fairness in view of the fact that many traditional businesses are also now leveraging digital technologies to develop marketing intangibles to aid in selling goods and services to consumers. For example, Coca-Cola has more than 3 million followers worldwide on Twitter through which it engages with consumers and promotes campaigns remotely. Although the marketing intangible proposal strives to be inclusive and fair, one potential drawback is that it does not specify whether the marketing intangibles accumulated under the B2C (business to consumer) and B2B (business to business) business models receive equal treatment. This leaves room for businesses to manipulate sales toward the B2B level to avoid taxation liability.<sup>45</sup>

Under the third proposal, significant economic presence, tax liabilities would arise when a nonresident enterprise has a significant economic presence in a jurisdiction. Revenue generated on a sustained basis, in combination with other factors such as the existence of a user base, the volume of digital content derived from a jurisdiction, billing and collection in local currency or with a local form of payment, and maintenance of a website in a local language would establish the legal nexus in the country concerned.

The profit allocation mechanisms needed to implement the three proposals just described are also at the center of policy discussions. The residual profit split method has gained attention under the user contribution and marketing intangibles proposals. It embeds the rationale that when both sides of a transaction make unique contributions that are hard to value, the parties shall split the profit. This makes it possible to recognize the value created by users and allocate the profit accordingly.<sup>46</sup> Under this method, after the routine business profits are subtracted, the residual profits could be divided among countries where users are located. The division can be based on revenue sales or the number of users in jurisdictions where the business operates. However, calculating routine profit can be discretionary because most of the routine profit of digital platform firms is based on hard-to-value intangible assets.

The formulary apportionment method is discussed under the significant economic presence proposal. According to this proposal, profit would be apportioned based on allocation keys such as sales, assets, employees, and users. However, without a consensus on allocation keys and their corresponding weights, disputes may easily arise when apportioning the profits across countries.

Responding to the pressing call to update tax systems to address business activities in the digital economy, countries have begun to take measures unilaterally. Some countries have broadened the concept of permanent establishment and physical presence to justify taxation of corporate income following the significant economic presence proposal. Saudi Arabia has established virtual service permanent establishment rules. Israel has imposed a corporate tax on nonresident companies with a “significant digital presence.” India has also adopted a significant economic presence test in its corporate income tax system.

Because of the difficulties encountered in identifying the costs associated with digital business activities, many countries resort to taxing the turnover from digital activities rather than income. In 2016 France extended the scope of a preexisting tax on audiovisual content to include domestic- and foreign-based suppliers of online video-on-demand services such as YouTube.<sup>47</sup> The digital services tax is levied on revenues generated from advertisements displayed to viewers of online videos-on-demand at a flat rate of 2 percent, which rises to 10 percent for explicit and violent audiovisual content.<sup>48</sup> The United Kingdom announced a digital service tax in Finance Bill 2019/20, which becomes effective on April 20, 2020. The taxable income is the value of the advertising sales targeted at U.K. users and the commissions for a transaction with U.K. users. The European Commission has also proposed a 3 percent tax on digital businesses' portion of annual worldwide revenues attributable to European Union (EU) users.

Implementing these freestanding digital taxes is not an easy task. The EU's digital service tax proposes allocating revenue in proportion to how often an advertisement has appeared on users' devices and the number of users who conducted transactions on a digital business platform. However, governments do not have access to key information such as the volume of users and appearance of advertisements. Determining the IP (Internet Protocol) address of a user precisely and tracking it with transactions poses threats to user privacy.

Countries moving quickly but unilaterally to tax digital platform firms may encounter problems. Such temporary measures require a new reporting system, collection mechanisms, and other administrative procedures, which often increase the compliance costs of businesses.<sup>49</sup> Moreover, no dispute resolution mechanism is in place should digital businesses become involved in controversies with tax authorities over tax liability such as double taxation, the location of users, or the amount of any value creation.

The economic efficiency of freestanding digital taxes remains unclear. Members of the digital industry in Mexico have opposed the plan to introduce a 3 percent tax on domestic and foreign digital services, claiming that the domestic economy is not yet ready to endure the additional burden. Digital service taxes may act as taxes on business inputs such as online advertising, which reduces the financial return to capital in digital economy industries or raises the cost of goods and services intermediated through digital platforms.<sup>50</sup>

In addition to updating tax regimes to fit the characteristics of digital platform firms, governments are adopting new tax practices targeting businesses that operate on the platforms. Businesses such as online merchants on e-commerce platforms or sole proprietors providing services through a freelancing platform can easily bypass tax liability because they are not registered as formal businesses in most countries. China adopted its E-Commerce Law on January 1, 2019, requiring all businesses offering products or services through digital platforms to be registered. Tax-related information such as sales revenue also must be shared with the tax authority by the digital platforms on which they operate. Similarly, the government of Milan, Italy, reached a data-sharing agreement with Airbnb to avoid tax evasion by housing hosts.<sup>51</sup>

The complexity of digital business models and their global presence are exerting pressure for multi-stakeholder coordination. Temporary measures can influence the ongoing negotiations to reach a global consensus. The United Nations has expertise in multilateral standard setting. And the International Monetary Fund (IMF) and World Bank can serve as large forums with their broad memberships and ability to engage with members to ensure a coordinated approach during implementation. Policy makers could also partner with the private sector to take advantage of the vast new flows of data created by platform businesses to revamp ways of monitoring and regulating economic activities.

## Data privacy and security

Because of the tremendous amount of data accumulated by digital platform firms, ensuring data privacy and security becomes essential for the sustainable development of the overall digital economy.<sup>52</sup> Consumers' lack of trust in how personal data are treated impedes the thriving of digital businesses.<sup>53</sup> In surveys, Internet users cite concerns about data leaks as the main reason to avoid e-commerce.<sup>54</sup> In the United States, data privacy concerns erupted in 2018 when the personal data of Facebook users were found to be used for political advertising without user consent.

Two-thirds of the 21 countries covered under the Digital Business Indicators project have established regulations on data privacy and security. Malaysia adopted a Personal Data Protection Act in 2010 and has been implementing regulations over the last decade. Some countries have established regulations at the sector or subnational level. For example, Vietnam touches on data privacy issues in its Decree on E-commerce. Abu Dhabi, the United Arab Emirates' largest business city, introduced regulations in 2015 to protect personal data within the Abu Dhabi market. The Digital Business Indicators project examines these regulatory frameworks from three dimensions: (1) the rights of data subjects, (2) cross-border data transfers, and (3) data security and enforcement.

Obtaining consent from an individual (the "data subject") before using his or her data is a prerequisite for ensuring the rights of data subjects. The recent trend has been to move away from "opt-out" provisions such as tick boxes to obtaining clear, informed consent in which consumers "opt-in" to have their data used.<sup>55</sup> Ant Financial was accused of automatically enrolling users of its financial products in its credit scoring program (Sesame Credit), which tracks payment history, social interactions, and online behavior patterns. Now customers can choose to opt in.

Among the 21 pilot countries in the Digital Business Indicators initiative, 15 of those that have laws on data privacy and security require businesses to obtain customers' consents prior to processing their personal data. France and Mexico have the most stringent provisions. They require that consent be freely given, specific, informed, non-ambiguous, and distinguishable from (or tied to) other matters. However, eight of the 15 countries do not specify the legal grounds on which the consent of data subjects may be obtained when collecting their personal data. This lack of clarity in legislation leaves room for noncompliance in practice.

Most of the pilot countries grant data subjects the right of access and erasure of their personal data under certain conditions. Bangladesh, Lebanon, Pakistan, and Tanzania are the few that currently enforce no legal obligations in this regard. Common limitations to the rights of accessing data include national security, damage to the life of others, and violation of a law. France and Senegal protect data controllers or processors, allowing them to deny repetitive requests. Malaysia provides an exception where the burden of granting access is disproportionate to the risk of the individual's data privacy. Vietnam grants data subjects the absolute rights to request erasure of personal data when the data are incomplete, inaccurate, unauthorized, or against the law.

Just as the flow of people, capital, and goods and services contributes greatly to industrialization, the free flow of data is also important to the digital economy. In 2014 cross-border data flows surpassed the impact of the global trade of goods on the world GDP.<sup>56</sup> However, the number of restrictions on cross-border data flows has sharply increased in recent years. As of 2017, over 32 countries had erected barriers to cross-border data flows, with the Russian Federation and China setting the most restrictions.<sup>57</sup> The Republic of Korea, Lebanon, and Honduras are among the few countries that allow the free flow of data across their borders.

Restrictions on cross-border data flows include conditions imposed on the country receiving the data or on the data controller or data processor transferring the data.<sup>58</sup> Governments seeking to restrict cross-border data flows have different motivations, including protecting the privacy of their citizens or national security.<sup>59</sup> And they take different approaches to addressing cross-border data flows. Countries that take the adequacy approach provide conditions under which third-party countries offer a sufficient degree of protection for the transfer of personal data. The binding rules approach looks at the security measures implemented by a specific company. And the model contracts approach looks for specific words in a contract to determine the degree of data protection.

The most common way of regulating cross-border transfers of personal data among the countries studied by the Digital Business Indicators project is the adequacy approach. Ten of the 21 countries studied allow cross-border data transfers subject to conditions that vary by country. The Personal Data Protection Agency in Armenia has approved a list of countries to which data transfers are allowed. In Tunisia, the existence of security measures to ensure data protection in the destination country is a key condition for approval of the data protection agency granting the transfer.

In addition to ensuring the rights of data subjects, data controllers and processors should be liable for data security. Although businesses may see data security as an unnecessary upfront cost, data breaches can be more expensive in the end in view of the actual loss in addition to the costs of remedy.<sup>60</sup> Studies estimate that cybercrime, including consumer data breaches, costs the global economy about US\$400 billion a year.<sup>61</sup>

Security requirements consist of organizational and technical measures, as well human resources. These measures and resources may include mandatory encryption of personal data, implementation of rigorous internal policies, or the appointment of a data manager (figure 3). Adoption of internal policy to prevent and detect data violations is the most common requirement. Among the 15 pilot countries with laws on data protection, 12 require data controllers or processors to do so.

**Figure 3. Countries impose different security measures on data processors and controllers**



Source: Digital Business Indicators.

Some countries have additional requirements to ensure data security. In Armenia, data controllers and processors must use encryption to protect personal data. Colombia requires data controllers to inform the authority of any violation of the security protocol or any risks in the administration of the subject's data. Indonesia mandates awareness programs among employees as well as training on risk prevention. Data processors in Mexico must establish measures for the traceability of personal data during processing. And



France, Korea, and Kyrgyzstan require the designation of a data processing manager, responsible for the technical safety and organizational measures related to data.

Enforcement of data privacy and security measures requires the designation of a single central regulator to supervise and deal with disputes.<sup>62</sup> Most countries that regulate data privacy have a supervisory authority that monitors data processing activities. Although Kyrgyzstan’s Law on Personal Data refers to an “authorized body,” such a body is not currently identified. About half of the countries that have a supervisory body impose certain administrative procedures to lawfully process personal data. Data processors in Colombia and Kyrgyzstan must register with the supervisory authority. In Moldova, Senegal, and Tunisia, data processors must notify the authority of their intent to process personal data. The United Arab Emirates imposes both notification and registration requirements on data processors. And in Armenia, notification requirements apply only to sensitive data or are imposed by request of the authorized body. Depending on the ease, cost, and recurrence of these requirements, they may impose a burden on digital businesses operations.<sup>63</sup>

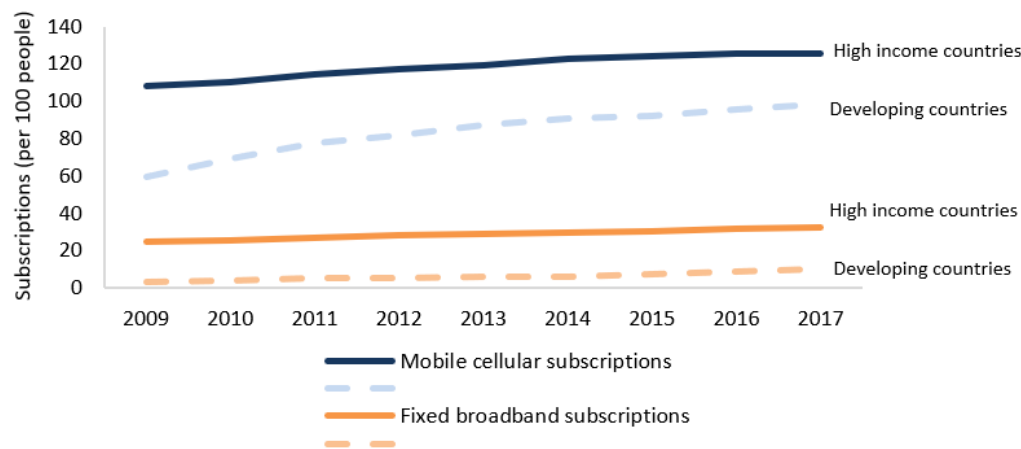
## Infrastructure

### Connectivity

The physical infrastructure that allows reliable, fast, and affordable fixed-line and mobile broadband connection is essential for businesses to reap digital dividends.<sup>64</sup> Unlike the traditional brick and mortar businesses, a website or a mobile application software programming interface serves as the storefront for digital businesses.

Despite the record level of 7.74 billion mobile cellular subscriptions in 2017, the uptake of fixed-line broadband is far from satisfactory (figure 4). Indonesia has two fixed broadband subscriptions for every 100 inhabitants, which is far lower than countries at a similar income level and a rather low level compared with its 148 cell phone subscriptions per 100 inhabitants. Even high-income countries such as Korea and France covered under the Digital Business Indicators project have far fewer broadband subscriptions than phone subscriptions.

**Figure 4. Fixed broadband subscription is still low in both developed and developing countries**



Source: World Bank, World Development Indicators (database), <https://databank.worldbank.org/source/world-development-indicators>.

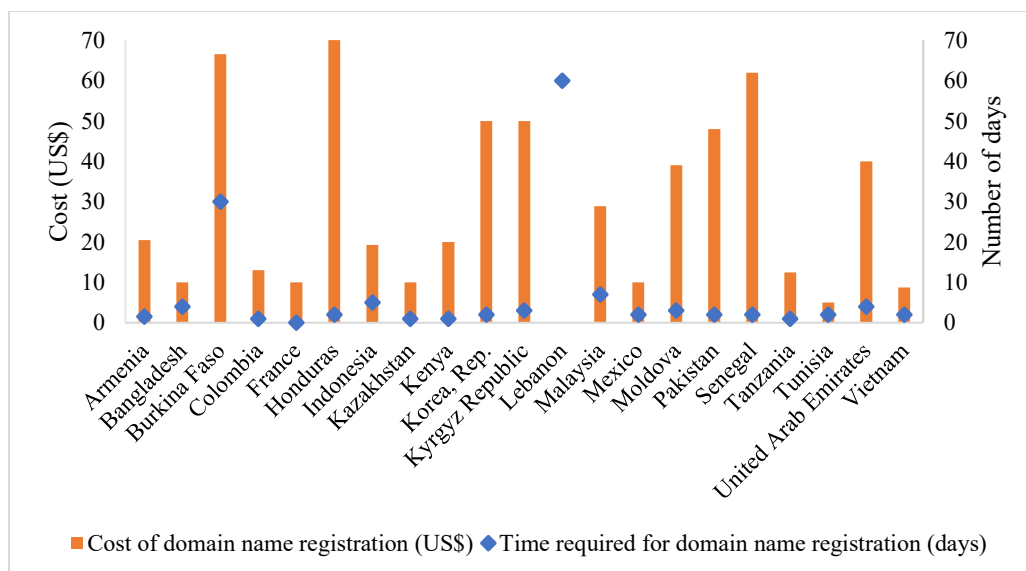
An affordable, accessible, and high-quality broadband connection is important for the productivity of digital businesses.<sup>65</sup> Business broadband packages often come with additional features such as a static IP address, VoIP (Voice over Internet Protocol), denial of service (DDoS) protection, cloud space, and a 24-hour support system, all of which allow firms to operate at top productivity. Unreliable connections, the high cost of a request for broadband connection, and the high price to maintain a business-grade broadband connection are obstacles to entrepreneurial activity. In addition, burdensome procedures in obtaining broadband connection may prevent companies from adopting and upgrading digital technology in doing business.

The procedure for receiving a business broadband connection is market-based. Most firms in the countries studied by the Digital Business Indicators project must provide more than one document to receive an Internet connection. At the very least, firms provide the ID or passport of their legal representative. Other documents include certificate of incorporation or business name registration, business tax registration number, and bank account details. In Burkina Faso, a water or electricity bill must supplement these documents, whereas in the United Arab Emirates rental agreements are required for proof of address. The process of receiving broadband is formal in certain countries such as Bangladesh where Internet service providers physically inspect the company premises, whereas in Pakistan just a phone call is sufficient to set up a connection.

Companies usually wait from one day to two weeks from the time they request service until the connection is established. By region, firms in Sub-Saharan Africa countries wait longer and pay as much as US\$100 or more for the request for service. In Tanzania and Senegal, firms also have to pay fees or penalties when switching broadband providers. After connection, the average price for a month of business broadband connection with at least 10 megabytes and unlimited data varies widely. East Asia and Pacific countries studied by the Digital Business Indicators project are low-cost in this regard. Firms in Indonesia, Korea, Malaysia, and Vietnam pay less than US\$50 a month to maintain Internet connectivity.

In addition to accessing internet, a domain name helps build branding and add credibility for businesses. Practices in domain name registration vary from country to country. In Bangladesh, Burkina Faso, Kyrgyz Republic, Lebanon, Moldova, and Pakistan, only one registrar has the sole authority to register companies, whereas countries such as France and Mexico have over 100 authorized agents with diverse package offerings. The time required for and cost of domain name registration differ across countries. In Lebanon, although there is no cost involved, it can take 60 days from the request of domain name until a domain name is granted (figure 5).

**Figure 5. The cost and time needed to register a domain name vary across countries**



Source: Digital Business Indicators.

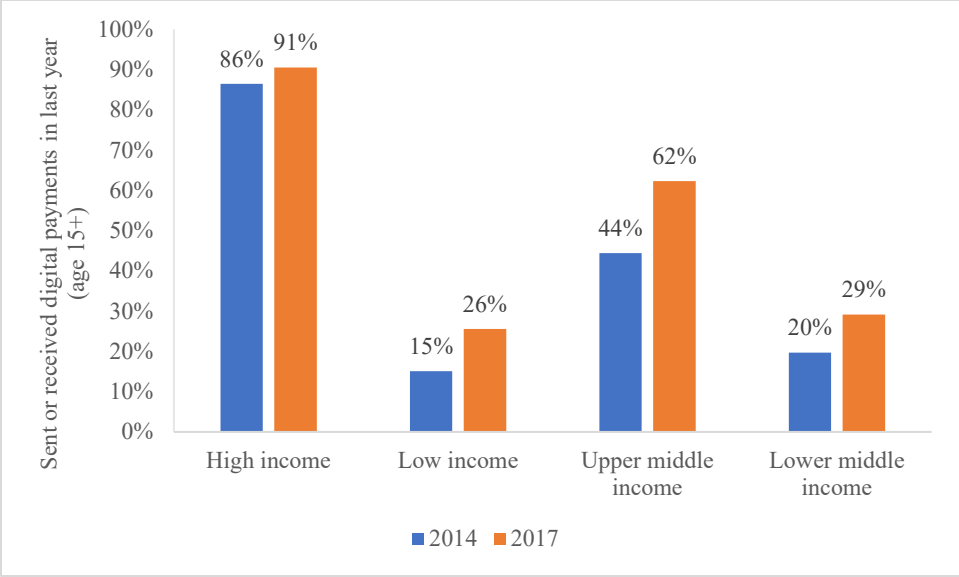
The increasing complexity of digital transactions as well as the increasing consumer demands on data-intensive contents such as streaming require improvements in connectivity technologies. The recent wave of the Internet of things (IoT), defined as “the use of sensors, actuators, and data communication technology built into physical objects,”<sup>66</sup> further expands the connectivity scope to physical objects. This movement offers businesses new opportunities to take the platform model to a higher level that connects everything from crop monitoring to solid waste management. The accompanying soaring data traffic calls for strong and reliable connectivity. The World Bank has announced an initiative to partner with the GSMA to build a global IoT infrastructure to intensify connectivity in developing countries, which is essential to unlocking new drivers of economic development.

Another area for further study is the efficiency of spectrum management in different countries. In the transition to 5G technology, the flexibility of market-based mechanisms in spectrum management will determine the pace at which countries can adopt next-generation technology to further promote the growth of digital businesses. 5G technology requires spectrum at higher frequencies. Identification of the available spectrum through regulations for the licensed, unlicensed, and shared spectrum will be crucial to countries’ efforts to manage the exponential increase in data traffic and provide ultra-fast and ultra-reliable internet connections. Such an effort also requires working at the local, regional, and international level to reduce interference.

### Payment

Digital payment infrastructure is recognized as the bedrock to ensure smooth transactions among all market players in the digital economy. According to Findex 2017 data, globally 52 percent of adults have made or received a digital payment in 2016/2017. Payment using a debit or credit card through a mobile money account or the internet are included in this finding. Developing countries’ use of digital payments is growing rapidly. In low-income countries, the share of the adult population using digital payments increased from 15 percent in 2014 to 26 percent in 2017. (figure 6).

**Figure 6. Digital payments have been rising across all countries in recent years**



Source: Findex.

Digital payments empower digital businesses meanwhile brings significant benefits to traditional businesses. Businesses that provide products or services online rely on digital payment mechanisms. Traditional businesses find digital payments to be three times more cost-effective than purchase order processes, with additional benefits of convenience and security.<sup>67</sup> By reducing travel time and expenses, digital payments help accelerate business registration and payments for business licenses and permits.<sup>68</sup> In 2018 Argentina launched an online portal for businesses to enroll with the tax authorities and adopt an electronic wallet for tax payment. According to the *Doing Business* data set, the time to register a business fell from 24.5 days to 11 days thanks to the reform. This outcome shows the great potential of digital payment tools in reducing informality.<sup>69</sup> The traceability of digital payments also enables governments to better prevent fraud, money hoarding, and tax evasion.<sup>70</sup>

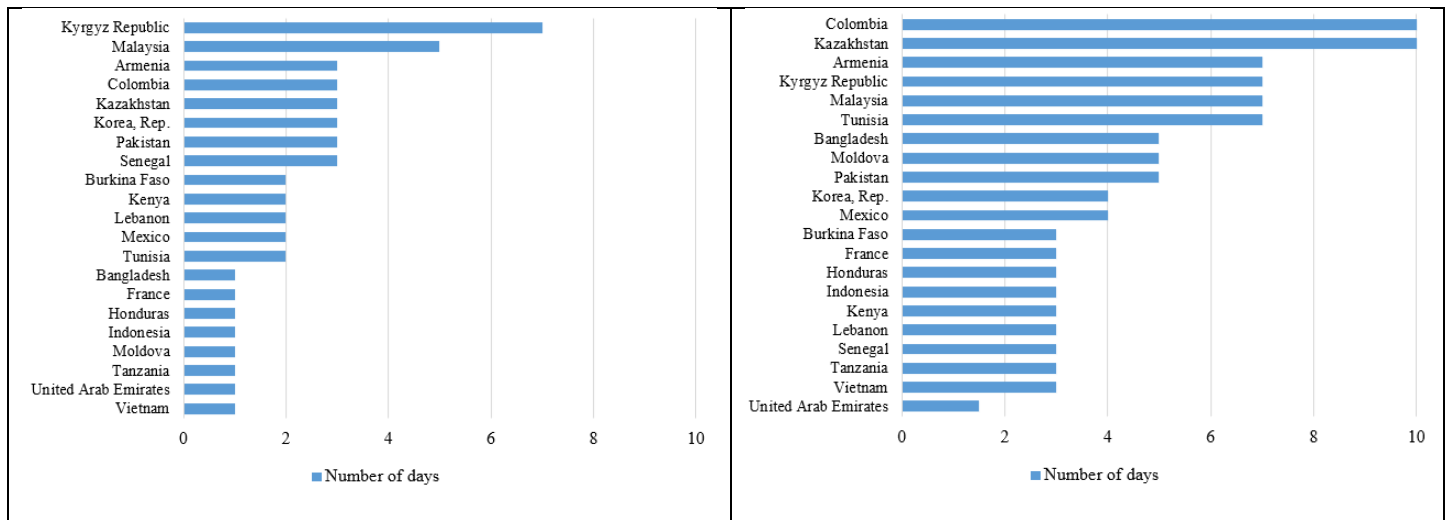
The key players providing digital payment services differ in developed and developing countries. Developed countries have been using modern cashless payment methods by means of credit and debit cards since the 1950s. Banks are at the center of this payment system. Acquiring banks host the merchant’s account to receive payment. Issuing banks supply consumers with credit or debit cards to make purchases. When a customer orders a product or service online, the payment instructions and information are encrypted and sent to the acquiring banks through the facilitation of payment service providers. Acquiring banks then transmit the information through card networks such as Visa and Mastercard to the issuing bank. Once verified, the issuing bank transfers money through card networks to the acquiring bank’s merchant account.

Under this credit/debit card payment model, developed countries are in general more efficient in settling online payment transactions because of their well-established formal financial systems (figure 7). Among the 21 countries covered under the Digital Business Indicators project, a domestic online payment is settled within a day in most countries. However, in the Kyrgyz Republic it can take up to a week and five days in Malaysia. For cross-border payments, the settlement period ranges from three days in Indonesia and Vietnam to 10 days in Colombia and the Kyrgyz Republic.<sup>71</sup> A few factors affect the time it takes for merchants to receive payments. Having a subaccount with the payment service provider makes the process faster. Other factors include the delay in the authorization process among the issuing bank, acquiring bank, and payment service providers.

**Figure 7. Number of days required to settle online payment transactions for purchases by credit or debit card**

**a. No. of days to receive domestic e-payments**

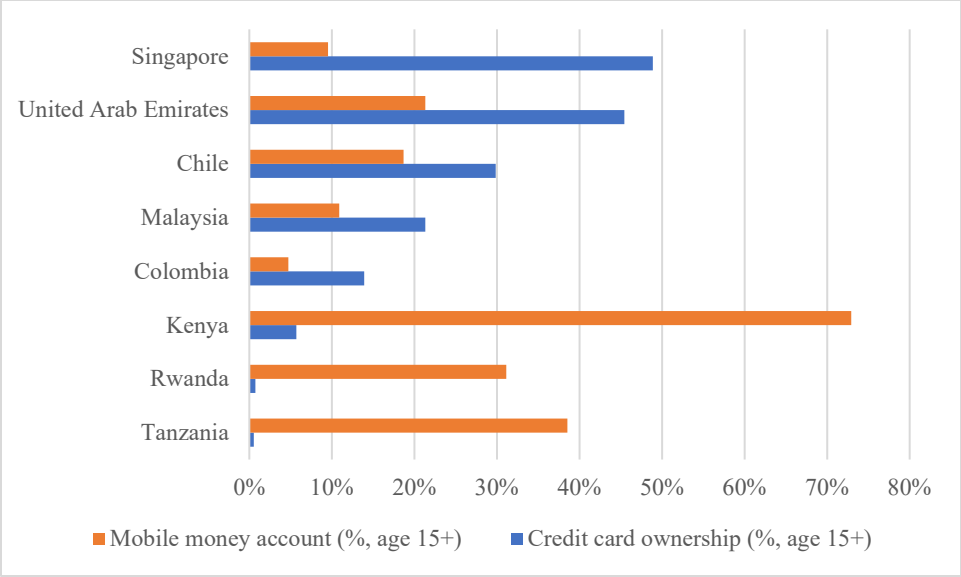
**b. No. of days to receive cross-border payments**



Source: Digital Business Indicators.

Although they lack a mature traditional payment infrastructure led by banks, developing countries have leapfrogged the debit/credit card–centered payment system. Nonbank institutions such as fintech companies or mobile network operators are adopting initiatives to provide digital payment solutions, emerging as a new type of payment service provider (figure 8). The customer’s “money” is stored in a virtual account on the server of the mobile network operator or the fintech company, and it is recognized as mobile money or e-money. Customers use a mobile device or access via the Internet to gain access to the mobile money account and conduct financial transactions such as a money transfer or bill payment.<sup>72</sup> No link to a formal financial institution account is needed. By the end of 2015, this type of mobile money services was available in 93 countries, with 411 million registered mobile money accounts.<sup>73</sup>

**Figure 8. Despite the low level of credit card ownership, mobile money has been widely adopted as a digital payment product in developing countries**



Source: Findex 2017.

Mobile money services are playing a big role in promoting the digital economy in developing countries. Alibaba’s Alipay and Tencent’s WeChat Pay are underpinning the tremendous e-commerce market in China. M-Pesa, Kenya’s leading mobile payment service provider, has partnered with PayPal and Singapore’s TransferTo to increase access to the global marketplace for millions of Kenyan businesses. A vast majority of the unbanked population who were excluded from the traditional financial system are now able to access financial services, including payment. In Cambodia, through a network of 60,000 agents, including local franchises, street vendors, and cafés, Ascend Money is allowing more people to participate in digital transactions.

Firms benefit from a significantly reduced transaction cost through mobile money services. In contrast to traditional credit/debit payment model under which numerous players each peel off a layer of the processing fee, merchants now need only pay a low processing fee to the nonbank mobile money service providers. For example, merchants pay a transaction fee of 0.55 percent on the flip side for every purchase under Alipay, whereas they would be charged 2.75 percent under the credit/debit card model.<sup>74</sup> Reduced transaction costs, greater liquidity, and increased credit worthiness are associated with mobile money activities.<sup>75</sup>

Regulations have not caught up with the rapid development of mobile money activities.<sup>76</sup> In the Arab Republic of Egypt, Bangladesh, and Kazakhstan, laws prohibit nonbank businesses from providing mobile money services on their own. The traditional financial institutions that lobby heavily to remain the gateway of the digital payment system, as well as the uncertainty about the financial risks posed by mobile money service providers, dissuade governments from giving the green light to the new type of payment service providers.

That said, governments can take a few steps to avoid handicapping innovation or discouraging new entrants from entering the digital payment system, while ensuring that customers are protected. Standardizing the licensing of payment service providers ensures quality control of players in the market and helps streamline the government’s supervision and oversight of their activities. Security measures should be in place for all types of payment service providers. Most countries covered by the Digital Business Indicators project except Armenia, Honduras, Korea, and Pakistan require payment service providers to establish at least one

separate account with commercial banks to safeguard user funds.<sup>77</sup> In countries such as Colombia, Kenya, and Mexico, payment service providers need to ensure that funds received are placed in a ring-fenced account at commercial banks exclusively.

Governments have to strike a balance between risk control and business efficiency so that they do not impose additional burdens on business operations. Ten countries such as Kenya and Korea in the Digital Business Indicators sample set a limit on the amount of a single payment transaction. Such a limit prevents money laundering, terrorist financing, and other digital payment criminal activities. Although there is no global census on the ideal level of a limit, an excessively low amount could pose an extra operational burden on businesses.

### *Logistics*

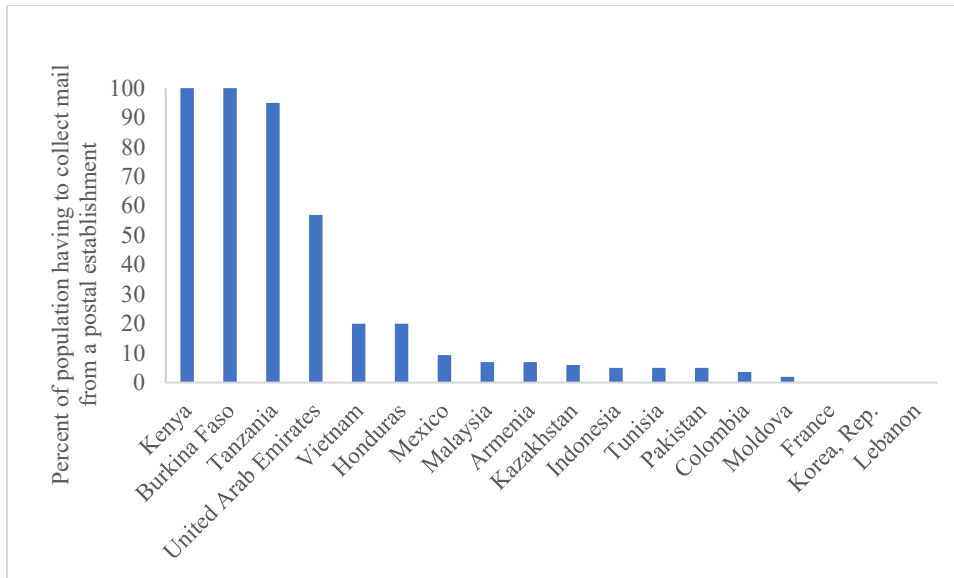
The digital economy is not constrained to businesses operating in a virtual environment; it also brings traditional businesses closer to markets thanks to e-commerce. E-commerce, defined as “the process of buying and selling products or services using electronic data transmission via the Internet,” has been booming.<sup>78</sup> Globally, e-commerce is expected to become the largest retail channel by 2021. Because physical products must be shipped to customers using conventional transport after online purchases,<sup>79</sup> logistics is a critical link connecting online transactions to offline production.<sup>80</sup>

The rise of e-commerce has increased the flow of small parcels processed by third-party logistics and postal services. In 2013, 86 percent of Amazon products weighed 5 pounds or less. International parcel post grew by an impressive 29.7 percent from 2016 to 2017, with 0.18 billion items shipped globally in 2017; domestic parcel post grew by 8.6 percent, with 13.7 billion items shipped.<sup>81</sup> Customers’ expectations about efficient logistics are also growing. According to a 2018 study, 91 percent of U.S. online shoppers said they will leave a retail website if critical services such as “fast, free shipping” are not available.<sup>82</sup>

Poor logistics remains a barrier for the growth of both domestic and cross-border e-commerce in many developing countries. A lack of quality physical infrastructure such as ports, railroads, and roads is the first bottleneck. According to the Logistics Performance Index, low-income countries score 2.2 out of 5 on the physical infrastructure indicator, compared with high-income countries’ score of 3.5 on average. An infrastructure investment gap also exists between rural and urban areas. In the Lao People’s Democratic Republic, 65 percent of the rural population does not have access to an all-weather road.<sup>83</sup>

Beyond the need for investment in physical infrastructure, governments should also support the provision of logistics services through better administrative governance. In many countries, home delivery of purchases is still challenging because of lack of a national addressing system. A large percentage of the population has to pick up or send mail from a postal establishment, which gives them no incentive to engage in e-commerce activities (figure 9).

### **Figure 9. Some countries lack a national addressing system to support e-commerce**



Source: Universal Postal Union database.

Note: Data are from 2015–17. No data were available for Bangladesh, Kyrgyzstan, and Senegal.

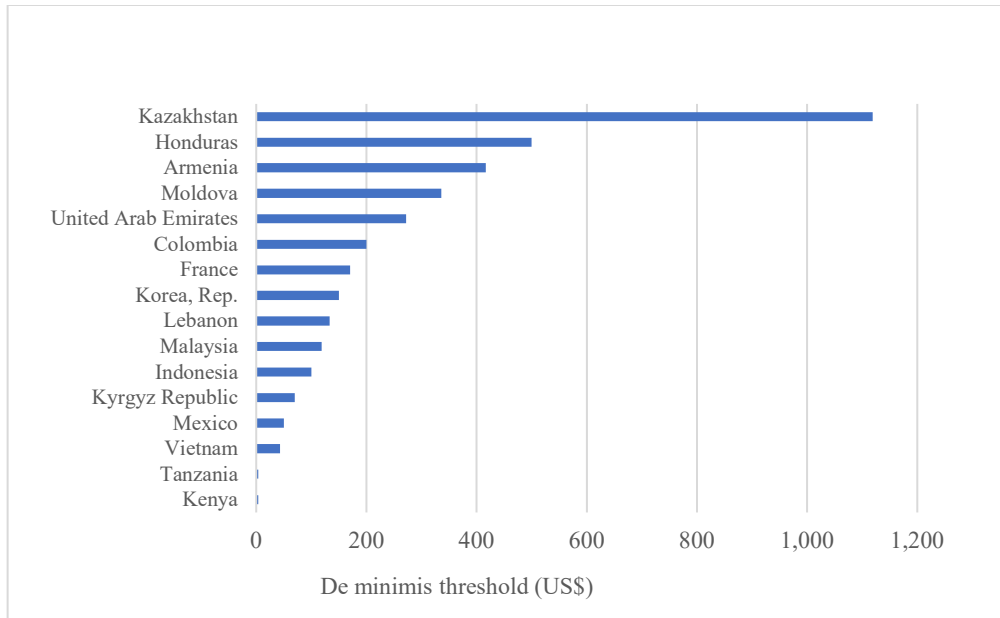
In particular, the emergence of cross-border e-commerce calls for reexamining the efficiency of customs processes. Cross-border e-commerce now accounts for 10–15 percent of the volume of global e-commerce, and it is expected to grow at twice the rate of domestic e-commerce until 2020.<sup>84</sup> A simplified customs procedure such as prearrival risk assessment and digitizing the process through electronic data exchange and payment could all contribute to a more cost-efficient customs process.

Given the growing flow of low value cross-border shipments, customs authorities face more severe challenges on the long-standing trade-off between foregone revenue and the cost of collection and longer clearance times. Many customs authorities around the world have adopted a de minimis threshold—that is, a “valuation ceiling for goods, including documents and trade samples, below which no duty or tax is charged and clearance procedures, including data requirements, are minimal.”<sup>85</sup> How to set a reasonable de minimis threshold has become of special importance. The calculation and collection of customs duties and taxes on low-value shipments disproportionately burden small e-commerce exporters because they are unable to streamline these tasks. Research has shown that a reasonable de minimis threshold can be vital for small business firms that depend on cross-border sales.<sup>86</sup>

Among the 21 countries covered under Digital Business Indicators project, Bangladesh, Burkina Faso, Pakistan, Senegal, and Tunisia do not have a de minimis threshold in place. Thresholds are often set based on the value of the consignment, ranging from zero up to €1,000 (figure 10). Kenya and Tanzania set a low consignment value threshold of less than US\$5. In member countries of the Eurasian Customs Union (ECU), the threshold is also based on the weight of the consignment.<sup>87</sup>

**Figure 10. Countries set different levels of a de minimis threshold for customs procedures**





Source: Digital Business Indicators.

Note: Bangladesh, Burkina Faso, Pakistan, Senegal, and Tunisia do not have a de minimis threshold in place. Kazakhstan's threshold is only applicable to member countries of the Eurasian Customs Union.

When comparing thresholds, it is important to keep in mind that the number of international parcels being received and thus the need to establish a de minimis threshold vary significantly across countries. Also, different conditions apply to application of the de minimis threshold in different countries—for example, in terms of product types included, the calculation of value (such as free on board [FOB], duty payable, per shipment or per day), intended use (commercial or individual use), mode of transport (air, sea, road), trading partner (such as within a regional economic community), and type of shipping (postal or express).

International organizations have begun discussions on updating customs regulations in response to the rising cross-border e-commerce. The World Customs Organization amended its Immediate Release Guidelines in 2014 and most recently in June 2018. De minimis is recognized as one of the 15 key components under the Cross-Border E-Commerce Framework of Standards. It has been suggested that the threshold be based on a cost-benefit analysis of the number of imported low-value packages, clearance times, revenue collected, cost of revenue collection, capacity of customs authority, and required trade controls. The threshold should also be reviewed on a regular basis to ensure it still balances all objectives in a best possible way.

Public-private partnership also plays a role in addressing logistics obstacles. Malaysia's Digital Free Trade Zone went live in November 2017 as a joint undertaking between the Malaysia Digital Economy Corporation and China's Alibaba Group under its Electronic World Trade Platform (eWTP) initiative. An e-fulfillment hub that serves as a centralized customs clearance and fulfillment facility is a key component of the scheme. Firms located in the Digital Free Trade Zone would benefit from efficient customs clearance procedures, smart logistics solutions, and, most important, direct access to their market. As of April 2018, more than 2,000 firms had joined in the Digital Free Trade Zone, generating total sales of RM 52.1 million (US\$13.5 million). The initiative is expected to generate 60,000 jobs by 2025.<sup>88</sup>

Rwanda followed suit by becoming Alibaba's first eWTP partner in Africa. Enabled by advanced commerce logistics, a mobile payment system, and skill training provided under the initiative, firms now seize the opportunity to participate in the global economy—an opportunity that was previously available mainly to

multinational companies. However, the emergence of private sector–led trade platforms raises concerns about powerful digital companies taking on the responsibility of global rule making and cross-border governance. Governments should better engage with the private sector to shape the rules.

## Conclusion

There is a growing division in the global digital economy between the countries in which digital platform businesses were born and are marching globally and the countries that are lagging behind and passively using products and services offered by foreign digital companies. China and United States are the key players in the first group, whereas other developing countries and even some developed countries in Europe fall into the second group.

Countries begin to diverge in achieving digitization. They tend to embark on two different trajectories. Many high-income European countries are leaning toward the inward course of action by setting various barriers to foreign digital platform businesses. For example, digital service taxes are often imposed only on foreign digital firms so that domestic digital businesses have more room to grow. The majority of developing countries seem to be following the outward model by enhancing connectivity and integration with foreign digital giants. They are investing heavily in digital infrastructure and catching up on human capital investment so that domestic firms and individuals can leverage the existing digital giants to better participate in the global digital economy.

The two different approaches to some degree resemble the two paths countries adopted historically for industrialization —import substitution and export promotion. Latin American countries advocated replacing foreign imports with domestic products, which looks like European countries' current approach of slamming some foreign digital businesses while offering subsidies to domestic digital businesses. China's integration into global trade in the 1990s is similar to many African countries' ongoing endeavors to participate in the global digital economy through investments in digital infrastructure. Distortions of import substitution policies as well as overreliance on foreign demand caused by export promotion policies imply that both strategies are not perfect on their own. A delicate combination of both could prove to be more efficient.

The combined approach may still apply in the digital economy. Countries should create an enabling environment for domestic firms to reap the digital dividends from other digitally advanced countries. Advanced digital infrastructure, as well as transparent and supportive rules associated with digital transactions, are important pillars of such an enabling environment. On the other hand, governments need to adapt policies to mobilize fiscal revenue to support those investments and ensure a competitive market to nurture innovation and the possible burgeoning of domestic superstar digital businesses in the long run.

Building on this note, the Digital Business Indicators project will refine its methodology for measuring the regulatory environment to promote the digital economy. Key regulatory issues such as competition and taxation not included in the pilot round need to be further studied for future indicator development. Assessing and comparing countries' performance vis-à-vis their peers through standardized indicators and yearly flagship reports will engage World Bank clients in a lively discussion and, it is hoped, encourage positive reforms.

## Notes

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- <sup>42</sup> HM Treasury (2018).
- <sup>43</sup> IMF (2019).
- <sup>44</sup> OECD (2019).
- <sup>45</sup> Shay (2019).
- <sup>46</sup> OECD (2018a).
- <sup>47</sup> OECD (2018b).
- <sup>48</sup> OECD (2018b).
- <sup>49</sup> AICPA and CIMA (2019).
- <sup>50</sup> Lowry (2019); Smart and Bird (2009).
- <sup>51</sup> Komsky (2017).
- <sup>52</sup> Cooper, LaSalle, and Wei (2015).
- <sup>53</sup> UNCTAD (2016).
- <sup>54</sup> UNCTAD (2018).
- <sup>55</sup> UNCTAD (2016).
- <sup>56</sup> Manyika et al. (2016).
- <sup>57</sup> Cory (2017).

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- <sup>58</sup> Ferracane (2017).
- <sup>59</sup> Meltzer and Lovelock (2018).
- <sup>60</sup> World Bank (2016).
- <sup>61</sup> CSIS (2014).
- <sup>62</sup> OECD (2013b); UNCTAD (2016).
- <sup>63</sup> UNCTAD (2016).
- <sup>64</sup> Czernich et al. (2011)
- <sup>65</sup> Grimes, Ren, and Stevens (2012); World Bank (2016).
- <sup>66</sup> Manyika et al. (2016); UNIDO (2016).
- <sup>67</sup> Economides and Jeziorski (2017).
- <sup>68</sup> Klapper (2017).
- <sup>69</sup> Klapper, Miller, and Hess (2019).
- <sup>70</sup> Muralidharan, Niehaus, and Sukhtankar (2016).
- <sup>71</sup> Merchants often also request payments for sales in weekly or monthly batches, which makes it even more difficult to measure.
- <sup>72</sup> Peake (2012).
- <sup>73</sup> Suri (2017).
- <sup>74</sup> Surane and Cannon (2018).
- <sup>75</sup> Economides and Jeziorski (2017).
- <sup>76</sup> Global Partnership for Financial Inclusion and International Finance Corporation (2012).
- <sup>77</sup> “User fund” refers to the net value of unutilized funds held in an account of the customer by the payment service provider.
- <sup>78</sup> Grandon and Pearson (2004).
- <sup>79</sup> De Koster, Le-Duc, and Roodbergen (2007); Lam et al. (2015).
- <sup>80</sup> Ramanathan, Ramanathan, and George (2014).
- <sup>81</sup> Universal Postal Union (2019).
- <sup>82</sup> Pitney Bowes (2018).
- <sup>83</sup> World Bank (2017).
- <sup>84</sup> DHL (2017).
- <sup>85</sup> See International Chamber of Commerce (ICC) Guideline 11, <http://tfig.unece.org/contents/icc-customs-guidelines.htm>.
- <sup>86</sup> Hufbauer, Jung, and Lu (2018).
- <sup>87</sup> Cost, weight, or quantitative norms within which goods for personal use are imported into the customs territory of the Eurasian Economic Union without paying customs duties and taxes. See [http://fl.customs.ru/index.php?option=com\\_content&view=article&id=95:2015-12-09-11-56-14&catid=5:2008-10-20-15-38-16&Itemid=1795](http://fl.customs.ru/index.php?option=com_content&view=article&id=95:2015-12-09-11-56-14&catid=5:2008-10-20-15-38-16&Itemid=1795).
- <sup>88</sup> Malaysian Ministry of International Trade and Industry Fact Sheet 2018. See [https://www.miti.gov.my/miti/resources/Media%20Release/Fact\\_Sheet\\_DFTZ\\_at\\_Malaysia\\_Digital\\_Economy\\_2018\\_SME\\_Fact\\_Sheet.pdf](https://www.miti.gov.my/miti/resources/Media%20Release/Fact_Sheet_DFTZ_at_Malaysia_Digital_Economy_2018_SME_Fact_Sheet.pdf).

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## Annex: Countries covered in the Digital Business Indicators initiative

East Asia and Pacific	Indonesia, Malaysia, Vietnam
Europe and Central Asia	Armenia, Moldova, Kazakhstan, Kyrgyzstan
Latin America and the Caribbean	Colombia, Honduras, Mexico
Middle East and North Africa	Lebanon, Tunisia, United Arab Emirates
OECD	France, Republic of Korea
South Asia	Bangladesh, Pakistan
Sub-Saharan Africa	Burkina Faso, Kenya, Senegal, Tanzania

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