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Bernardo Díaz de Astarloa

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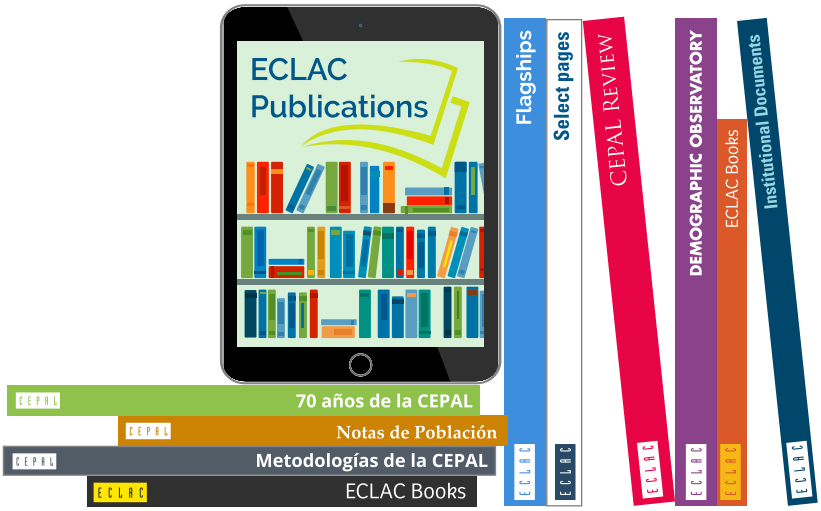

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Practices and initiatives for the development of cross-border e-commerce in Latin America and the Caribbean and its impact in the post-pandemic era

Bernardo Díaz de Astarloa

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COVID-19
RESPONSE

This document was prepared by Bernardo Díaz de Astarloa, academic at the University of Buenos Aires and Universidad Nacional de La Plata (CEDLAS), consultant with the Economic Commission for Latin America and the Caribbean (ECLAC) and professor for the course entitled "Oportunidades y retos para las Mipymes de América Latina y el Caribe en el Comercio Electrónico Transfronterizo". It was prepared under the coordination of Georgina Núñez, Economic Affairs Officer at the Division of Production, Productivity and Management of ECLAC, and Nanno Mulder, Chief, International Trade Unit, International Trade and Integration Division of ECLAC, as part of the activities of United Nations Development Account project 2023W, entitled "Global Initiative towards post-Covid-19 resurgence of the MSME sector". The comments from Alejandro Patiño and Filipe Da Silva are gratefully acknowledged.

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Abstract

The electronic commerce (e-commerce) fosters innovation and contributes to the process of digital transformation of micro, small and medium-sized enterprises (MSMEs) through the implementation of digital technologies, new business practices and new business models, which can improve the efficiency and productivity of companies in Latin America and the Caribbean (LAC), beyond its effects on access to new national and international markets.

In recent years, and particularly in the context of the COVID 19 pandemic, the promotion of new digital technologies has led many governments in the region to implement measures to deepen the penetration of the Internet, as well as encourage the adoption of technology-based business models in MSMEs and consumers, which, in turn, it has been the greatest impetus for the development of electronic commerce in the region.

In this sense, the objective of this document is to show some practices and policies implemented before and after the pandemic in LAC countries to promote the participation of MSEs in cross-border e-commerce.

Introduction

Electronic commerce (e-commerce) has the potential to generate significant benefits for micro-, small and medium-sized enterprises (MSMEs) and for consumers, by enabling access to a greater variety of goods and services, making transactions more convenient, and reducing search and transportation costs.[1] Given these characteristics, e-commerce is a business model with the potential to produce significant impacts on economic development, since it can facilitate access to new markets and scale up companies' business. The adoption of e-commerce also encourages innovation and contributes to MSMEs' digital transformation using digital technologies and new business practices and business models, which can improve their efficiency and productivity beyond the effects in terms of access to new (domestic and international) markets (Cusolito, Lederman and Peña, 2020).

These benefits may be even greater for MSMEs in the Latin American and Caribbean region, where markets are spread out geographically and significant productivity gaps exist between MSMEs and large corporations (Cusolito and Maloney, 2018).

In recent years, the emergence and spread of new digital technologies has led many governments in the Latin American and Caribbean region to take steps to deepen Internet penetration and encourage technology uptake by businesses and consumers, which has helped to develop e-commerce in the region. The opportunity to boost economic resilience offered by e-commerce during the coronavirus disease (COVID-19) pandemic prompted governments around the world to step up policies aimed at supporting and promoting the adoption of this business model, especially by MSMEs (UNCTAD, 2021a). Latin America and the Caribbean was no exception: since 2020, governments in the region have been acting in various key policy areas to foster domestic and cross-border e-commerce. Although the

[1] For example, Dolfen and others (2022) estimate that the benefits to United States consumers of buying via e-commerce amounted to around 1% of their annual consumption in 2017. See also Freund and Weinhold (2004), Blum and Goldfarb (2006), Hortaçsu, Martínez-Jerez and Douglas (2009), Gómez-Herrera, Martens and Turlea (2014), Lendle and others (2016), World Bank (2016), Fernandes and others (2019), and Goldfarb and and Tucker (2019).

evidence is scarce, some examples show that the domestic market led the increase in e-commerce transactions, rather than cross-border e-commerce, at least during 2020 and much of 2021.[2]

In this context, this document aims to identify practices and policies implemented before and after the COVID-19 pandemic in Latin American and Caribbean countries to promote MSMEs' engagement in cross-border e-commerce. This includes initiatives in the following policy areas that are relevant to the development this type of commerce: i) the design of national strategies on e-commerce; ii) support for the digital transformation of MSMEs; iii) promotion of cross-border e-commerce; iv) trade facilitation and logistics; and (v) regulatory frameworks for data management and protection. The document also sets forth good practices concerning data collection and the measurement of e-commerce worldwide and in the region. Not considered here are policies for the development and adoption of e-payment systems. This is an important topic that will be addressed in future publications.

This document is part of the "Global Initiative towards post-COVID-19 Resurgence of the Micro, Small and Medium Enterprises (MSME) Sector". This is an ECLAC-supported project that aims to reduce some of the inequalities generated by the health and economic crisis unleashed by the pandemic. Since the beginning of the COVID-19 pandemic, ECLAC has promoted good practices in e-commerce through research and analysis on the dynamics of cross-border e-commerce, data protection and cybersecurity, and the promotion of competition and of the regional digital market. ECLAC has also provided distance courses and organized regional and subregional workshops and dialogues on these topics.

[2] ECLAC, KAS and IDB (2021) present a survey of trends in e-commerce and policies adopted by governments in Latin America and the Caribbean in 2020.

I. National strategies on e-commerce

Some countries in the region have developed national strategies and/or policies on e-commerce, with the aim of organizing and structuring efforts to promote it. These typically include the following components:

- A diagnosis of the state of e-commerce in the country, identifying opportunities, gaps, and challenges.
- The establishment of goals and targets to be met.
- The definition of policy areas with concrete lines of action needed to achieve the goals.
- Identification of the public agencies responsible for carrying out the actions, together with the private sector and civil society institutions that will play important roles.
- The budget required and sources of financing and/or resources.

Although there is no single recipe for developing a national e-commerce strategy and each country will do so taking into account its own conditions, priorities and capacities, national strategies have a number of aspects in common.

(i) **Emphasis on MSMEs,** given that these tend to be at a disadvantage when it comes to adopting e-commerce, and considering that large firms can develop their own strategies to suit their needs. MSMEs may be expected to benefit most from the strategy.

(ii) **Identification of priority sectors or regions**. Depending on the comparative advantages of each country and the level of development of e-commerce, it may make sense to consider prioritizing certain sectors or regions of the country that have the greatest possibilities to adopt e-commerce quickly and may provide a demonstration effect for expanding it to other sectors or regions.

(iii) **Differentiating among business models**. The strategy may prioritize a particular type of business model (for example, business-to-consumer (B2C) or business-to-business (B2B)) or prioritize cross-border over local e-commerce.

(iv) **Adaptation of an enabling environment for electronic commerce**. The strategy will probably have to consider adapting e-commerce solutions and channels to the needs and circumstances of local actors, in both the public and private sectors. This may involve decisions about the promotion of certain platforms or marketplaces, the regulation of competition and data security, electronic payment systems, or the logistics and trade facilitation environment.

(v) **The economic impact of e-commerce**. Although e-commerce may offer growth opportunities for many companies, it can also present risks or challenges in terms of its distributional impact, the competitive environment, or tax issues, among others. The strategy should consider policy alternatives to mitigate risks and address challenges.

The follows a description of cases of countries that have published national e-commerce strategies recently.

A. Colombia: National E-Commerce Policy

In November 2020, the National Council on Economic and Social Policy (CONPES) of Colombia adopted the National E-Commerce Policy, which is aimed at fostering e-commerce among firms and citizens to increase social and economic value creation in Colombia.[3] The policy is cross-cutting in nature and so involves various public sector entities, including the Presidential Council for Economic Affairs and Digital Transformation, the Ministry of Trade, Industry and Tourism (MINCIT), the Ministry of Finance and Public Credit, the National Training Service (SENA), the Ministry of Information and Communications Technologies (MINTIC), and the National Directorate of Taxes and Customs (DIAN). In addition to the overarching objective, the policy includes the following specific objectives:

- Generate capacities to promote the use and uptake of e-commerce by companies.
- Generate capacities to promote the use and uptake of e-commerce by citizens.
- Promote innovation and good practices in the provision of postal and logistics services to respond to the dynamics of e-commerce.
- Define institutional agreements and update the regulatory framework to promote e- commerce.

These specific objectives lead to eleven concrete lines of action and specific strategies for the agencies that are responsible for each one. The policy also includes results indicators for 2021–2023 and an estimate of costs and financing needed to implement the policy.

B. Ecuador: National E-Commerce Strategy

In January 2021, the Ministry of Telecommunications and the Information Society (MINTEL) and the Ministry of Production, Foreign Trade, Investment and Fisheries (MPCEIP) of Ecuador signed an interministerial agreement to coordinate and establish lines of action of the National E-Commerce Strategy (MINTEL/MPCEIP, 2021). The objective of the strategy is to create capacities for broader and more efficient participation in online transactions and technology uptake and develop institutional and

[3] The strategy was published as CONPES, 2020.

normative frameworks to support the development of cross-border commerce and interoperability. In this regard, the strategy has four strategic axes:

- Legal framework.
- Support for e-commerce in SMEs.
- E-payment systems.
- E-commerce logistics.

For each of these components, the strategy includes a goal and lines of action that contain measures, concrete actions, and targets.

C. Trinidad and Tobago: National e-Commerce Strategy

The National e-Commerce Strategy 2017–2021 of Trinidad and Tobago was launched in 2017 by the Ministry of Trade and Industry (Ministry of Trade and Industry, 2017). The objective of the Strategy was to create an enabling environment to facilitate and promote e-commerce for local businesses to serve domestic and international markets. Five specific goals were set for progress in this regard:

- A comprehensive and effective regulatory environment for e-commerce.
- An electronic funds transfer (EFT) framework.
- Increased private sector participation in e-commerce.
- Increased consumer awareness and confidence in e-commerce.
- Enhanced information and communications technology (ICT) infrastructure.

The implementation plan had four lines of action, with activities and parties responsible for carrying them out, including the Ministry of Trade and Industry, the Ministry of Finance, the Ministry of National Security, and the Chamber of Industry and Commerce.

D. CENPROMYPE and progress towards national e-commerce plans in Central America

The Regional Centre for Promotion of MSMEs (CENPROMYPE) of the Central American Integration System (SICA) has been conducting a series of studies and workshops aimed at furthering the development of e-commerce in the Central American region. CENPROMYPE carries out an assessment of the penetration of e-commerce among MSMEs in Central America, an analysis of governments' adoption of regulations and policies to foster e-commerce, and policy recommendations for developing e-commerce in Central America. As part of this work, between 2019 and 2021, CENPROMYPE held and facilitated national meetings and workshops in different Central American countries with key players in each country's e-commerce ecosystem, from both the public and private sectors and civil society, in order to identify priorities and concrete actions that could contribute to the design of national e-commerce plans.

II. Policies for supporting digital transformation in MSMEs

The adoption of e-commerce requires companies not only to apply new digital technologies, but also to change their business models and internal processes. For many companies, especially MSMEs, approaching this transformation can be challenging and they may be uncertain over the profitability of undertaking it at all. For this reason, in recent years, many countries have implemented programmes to support MSMEs in their digital transformation process. This section presents some prominent cases in the region.

A. The "Digitize your MSME" initiative in Chile

In Chile, the Ministry for the Economy, Development, and Tourism has run the programme "Digitize your MSME" (*Digitaliza Tu Pyme*) since 2019, jointly with public agencies that include the Production Development Corporation (CORFO), the Technical Cooperation Service (SERCOTEC), and the National Training and Employment Service (SENCE), in partnership with other public and private institutions.[4] The programme supports the digital transformation of MSMEs, offering a wide range of services, activities, workshops, training and tools for each stage of the digital transformation process. It also includes a mentoring network to coordinate initiatives for the adoption of digital technologies.

The programme components include: (1) digital check-up, to assess the digital maturity of the MSME and offer recommendations for services; (2) a digital pathway, which offers online training to adopt and use digital technologies for business management; (3) MSMEs online, which offers training for online selling; and (4) "Take-off MSME" (*DespegaPyme*), a scheme developed by the National Training and Employment Service (SENCE), offering training to improve the digital skills of MSMEs, such as electronic invoicing, digital marketing and e-commerce.

[4] The website may be consulted at [online] https://www.digitalizatupyme.cl/.

B. Digital transformation policies in Colombia

In Colombia, the Ministry of Information and Communication Technologies (MINTIC) and the enterprise and innovation agency of the Government of Colombia, iNNpulsa, run the Centres for Business Digital Transformation initiative, in partnership with the main chambers of commerce, business associations and higher education institutions. The initiative aims to support MSMEs in their digital transformation process from the diagnostic stage, through a roadmap design, to implementation of the transformation plan and adoption of digital tools. The centres are located in 17 provinces of Colombia.

Other related MINTIC programmes are "Sell Digital" (*Vende Digital*), aimed at supporting businesspeople, tradespeople and entrepreneurs in adopting online sales channels; "Digital Entrepreneur" (*Empresario Digital*), which facilitates training courses in various areas such as e-commerce, administration and strategic planning; and "Digital Talent for Companies" (*Talento Digital para Empresas*), which offers specialized training in digital skills and abilities.

C. MSME development centres in El Salvador

In El Salvador, the National Commission for Micro- and Small Enterprises (CONAMYPE) coordinates Micro- and Small Enterprise Development Centres (CDMYPE), with the aim of supporting companies in their digital adoption processes. CDMYPE centres provide comprehensive support for MSMEs, including advice for developing business skills and adopting new technologies, and training, among other services. There are 14 CDMYPE in different departments of the country, which function as public-private partnerships and involve universities and non-governmental organizations.

D. Digital Kit and Your Business in Peru

In Peru, the Ministry of Production runs the programme "Digital Kit" (Kit Digital), a digital platform that provides MSMEs with access to digital services, such as how to develop an online shop, and virtual business courses in collaboration with public and private institutions.[5] Another Ministry of Production support programme for start-ups is the platform "Your Business" (Tu Empresa), designed to help MSMEs become more competitive through business skills development, entry to new markets and access to digital tools, among others.[6]

E. Training for business digital transformation in Uruguay

Prompted by the COVID-19 pandemic, in 2020 the National Institute of Employment and Vocational Training of Uruguay (INEFOP) launched a series of training courses on business digital transformation aimed at small and medium-sized entrepreneurs. The training was provided as a combination of synchronous and asynchronous classes, aimed at increasing the awareness of middle and senior managers of MSMEs of digital technologies and the benefits of incorporating them into business processes. In the first edition of the scheme, run between October and November 2020, 19 companies participated in the training.

In 2021, INEFOP partnered with the Ministry of Industry, Energy and Mining (MIEM) to impart e-commerce and digital economy courses for MSMEs. The aim was to train 60 MSMEs in digital skills to improve their management skills, business opportunities and competitiveness.

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[5] The website is available at [online] https://www.kitdigital.pe/Home/Index.

[6] The platform may be visited at [online] https://www.tuempresa.gob.pe/.

F. The Caribbean Digital Transformation Project

The Caribbean Digital Transformation Project is a World Bank-financed scheme aimed at increasing access to services, technologies and skills by governments, businesses, and individuals in Eastern Caribbean countries. The project's four components, which cover aspects of telecommunications, data regulations and Internet security, include digital skills and technology adoption. This component aims to better equip individuals and businesses across the Caribbean region for the jobs and economy of the future and to spur innovation and productivity growth, through specialized digital skills-building programmes. The project has been implemented in four islands in the Eastern Caribbean: Grenada, Dominica, Saint Lucia and Saint Vincent and the Grenadines.[7]

G. Programmes to reduce gender gaps in e-commerce

E-commerce can offer women an opportunity for greater participation in economic activities and thus help to reduce gender gaps.8 However, women have fewer opportunities than men to participate in the digital economy, which puts them at a disadvantage in relation to e-commerce. Women tend to have less access to Internet connectivity and digital devices and use the Internet less than men—a necessary condition for connectivity.[9]

To reduce these gaps, governments and international organizations are increasingly developing programmes and modalities for gender equality strategies to help to reduce gender gaps in e-commerce. There follows a description of some global and national initiatives to promote women's participation in domestic and cross-border e-commerce.

1. Colombia: Por TIC Mujer

The Por TIC Mujer programme, created by the Ministry of Information and Communications Technologies (MINTIC) in 2019, brings together courses, workshops, and content on a digital platform to strengthen the digital capacities of female-run start-ups. The tools also work as awareness-raisers aimed at greater understanding of how women can make use of digital spaces and how this can strengthen gender equality and female-led start-ups. Between 2019 and mid-2020, around 17,000 women participated in the courses and training offered by the programme (Arias, 2021).

2. Costa Rica: National Businesswomen Programme

The National Businesswomen Programme (Programa Nacional de Mujeres Empresarias: Mujer y Negocios) is run by the Ministry of Economic Affairs, Industry and Commerce (MEIC), together with the National Institute for Women (INAMU), the National Training Institute (INA) and the Development Banking System of Costa Rica. The initiative seeks to strengthen women's skills for developing market-focused, sustainable, and competitive start-ups or businesses in different areas of the country. In 2020, 225 women were selected under the programme to participate in education and training activities to strengthen their businesses amid the COVID-19 crisis, including access to business networks and practical tools to develop e-commerce strategies.

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[7] See [online] https://projects.worldbank.org/en/projects-operations/project-detail/P171528 for more information on the project.

[8] Among other things, it can reduce breaks in women's careers associated with having children, allow them to combine work and family responsibilities, and reduce the chances of gender discrimination. See Barafani and Barral Verna (2020).

[9] The International Telecommunication Union (ITU, 2021) estimated that, in developing countries, 17% of women use the Internet, compared with 31% of men. Ssemuwemba (2020) reports that women have between 30% and 50% fewer chances than men of using the Internet to increase their income or participate in public life. See also Gaitan (2018), Barafani and Barral Verna (2020), UNCTAD (2019) and GSMA (2020).

III. Promotion of cross-border e-commerce

As a business model e-commerce offers export companies opportunities to reach new markets and new types of consumers and develop a new export supply. In recent years, many trade promotion organizations around the world have begun to include among their services programmes and tools to foster companies' access to digital channels for export and help eliminate access barriers (ECLAC, 2018).

In general, initiatives to promote companies' exports through e-commerce include the provision of information and training, non-transactional platforms to promote the export supply, and agreements with global platforms and other actors in the cross-border e-commerce value chain. This section reviews some recent experiences in the region.

A. Chile: e-Exporta programme and agreements with global platforms

In Chile, e-Exporta is the main cross-border e-commerce programme of ProChile, the country's trade promotion agency.[10] The programme offers different services to facilitate the international sale of goods, services and digital content by Chilean MSMEs over e-commerce platforms. E-Exporta services are organized under three pillars of a digital export route:

(i) Self-diagnosis, which consists of an online self-assessment to enable companies to gauge their level of e-commerce maturity and determine which tools are most suitable for them.

(ii) Training, with studies on the main markets and practical guides and webinars on the creation of digital stores, design, product catalogues, selection of means of payment, logistics operators, and digital marketing campaigns.

(iii) Acceleration, which includes preparation of products for export, personalized training on platform operation and preparation of sales plans, order fulfilment and digital marketing.

[10] The programme website is https://www.prochile.gob.cl/herramientas/e-exporta.

As a complement to *e-Exporta*, ProChile fosters the international expansion of Chilean companies through agreements with the main global B2C and B2B platforms, such as Alibaba, JD.com, Pinduoduo, Tmall, Tradeling, Rakuten and Amazon. Agreements can range from training and support on how to operate and improve positioning on the platforms, to the establishment of online pavilions for the range of products under a country brand. ProChile has also entered into agreements with consulting companies that can offer MSMEs administration and marketing services on global platforms, and with logistics operators to reduce the cost of international shipments, including storage and last-mile services.

B. Colombia: "Colombia One Click Away" and Colombian B2B Marketplace programmes

The "Colombia One Click Away" initiative (Colombia a un Clic) was launched in 2019 by ProColombia to support firms with potential to grow their revenues by entering global e-commerce platforms, such as AliBaba, Amazon, Dafiti, eBay, Linio, Rakuten or Tmall. Through alliances with different platforms, the programme offers training on how to export over particular platforms, consultancy on closing gaps, digital strategy for traffic generation, and follow-up of purchase orders and business opportunities. It is aimed at companies from different sectors of goods and services with export potential, including agri-food, industry 4.0, the metalworking industry, fashion, chemicals, and quality of life enhancement products.

The criteria for selecting companies include factors such as export experience, dedicated e-commerce staff, experience in the foreign-exchange market, development of a web page, barcode traceability and FOB price list. From its creation until 2021, the programme had trained more than 2,000 entrepreneurs and launched 148 companies onto global platforms, of which 112 (76%) achieved sales of US$ 12.5 million on over 25 international platforms in the Latin American and Caribbean region and beyond. The featured products included clothing, coffee and cosmetics.[11]

C. Costa Rica: e-commerce programme and Costa Rica Trade Center (CTC)

In Costa Rica, the Foreign Trade Corporation (PROCOMER) offers an e-commerce programme providing comprehensive support services for companies aiming to export via global platforms.[12] Services include one-to-one advice, cost structure analysis, market research, support on logistics issues and advice on digital marketing campaigns over platforms and social networks. The programme specifically positions food, personal care items, cosmetics, and crafts, and is focused on both B2C and B2B platforms (Amazon, NOVICA, RangeMe, ProduceIQ, Linio and NSA Exchange). In 2020, the programme had 176 registered companies, of which 155 were exporting.[13]

The Costa Rica Trade Center, which has been operating since 2016, is a public-private project aimed at expediting the entry, consolidation, storage and distribution of Costa Rican products in the United States market. PROCOMER makes a distribution centre in Miami available to companies to reduce delivery times.[14]

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[11] See [online] https://www.semana.com/economia/empresas/articulo/procolombia-busca-que-400-empresas-vendan-en-plataformas-extranjeras-de-comercio-electronico-para-2022/202102/.

[12] The programme website is [online] https://www.procomer.com/exportador/programas/e-commerce/.

[13] See [online] https://delfino.cr/2021/02/procomer-abre-proyecto-para-ayudar-a-pymes-a-exportar-mediante-e-commerce.

[14] See [online] https://www.procomer.com/noticia/costa-rica-abre-su-primer-centro-de-distribucin-en-miami-para-agilizar-las-exportaciones-de-pymes/.

D. Peru: E-commerce and Peru Marketplace programmes

In Peru, the Commission for the Promotion of Peruvian Exports and Tourism (PROMPERU), promotes cross-border e-commerce through the E-commerce Programme.[15] The programme was created in 2018 to facilitate the increase and diversification of exports through digital channels. It is aimed at exporting or potentially exporting MSMEs in the food, manufacturing, clothing, decoration, and services sectors. It provides training and specialized advice, supports MSMEs in the development of their digital strategy, facilitates access to the main global platforms, offers preferential rates for logistics services, and gives access to distribution centres through Peru trade offices abroad. It is structured around four pillars:

(i) Commercial prospecting, which consists of identifying trends for the online sale of Peruvian products, the main platforms where they can be sold and product lines with the greatest opportunities.

(ii) Training, which includes adapting the business to the digital channel by developing the business model, the digital strategy, the corporate image and company profile, the digital marketing plan, and the logistics and last-mile plan.

(iii) Assistance, with services to adapt products (labelling, technical requirements, etc.) and achieve integration with logistics solutions and electronic platforms.

(iv) Articulation, making available distribution centres, online operators, and linkages with global platforms available to companies through commercial offices abroad.

Firms may participate in two phases, depending on their level of maturity. In a first acceleration phase, the programme seeks to strengthen the capacities of companies that have export potential, or have recently begun to export, in key areas of e-commerce such as digital marketing or logistics. In the second phase, aimed at more consolidated exporters, the programme provides a deeper analysis of commercial, logistics and sales strategies for direct marketing over global platforms.

E. Non-transactional B2B platforms for promoting the export supply

Based on the case of ConnectAmericas, a business platform created by the Inter-American Development Bank (IDB) to help MSMEs access international markets, several trade promotion agencies in the region have developed B2B digital platforms to promote their export supply. These platforms are non-transactional, which is to say they are not for buying products, but instead facilitate information flows and contact between buyers and sellers of goods and services. To date, the following countries have a B2B portal of this sort:

- Colombia: Colombian B2B Marketplace (https://b2bmarketplace.procolombia.co/es)
- Ecuador: Ecuador Mi Opción (https://ecuadormiopcion.comhttps://propanamaconecta.com/)
- Mexico: Comercia MX (https://comerciamx.economia.gob.mx/)
- Panama: PROPANAMA Conecta (https://propanamaconecta.com/)
- Paraguay: Paraguay Export (https://paraguayexport.gov.py/)
- Peru: Peru Marketplace (https://www.perumarketplace.com/)

[15] The programme website is [online] https://ecommerce.promperu.gob.pe/.

Until 2021, Chile also had a platform, Chile B2B, to promote its export supply, but this was discontinued because it was decided to prioritize a strategy of partnering with global private sector marketplaces.[16]

In a study on the participation of Peruvian companies in ConnectAmericas (Carballo and others, 2022), it was found that the platform contributed to increasing exports of different goods by Peruvian companies to less familiar destinations.

F. Initiatives to foster participation by women in cross-border e-commerce

1. International Trade Centre initiatives

The SheTrades initiative of the International Trade Centre (ITC) aims to provide training and create opportunities for women entrepreneurs in export markets. It has projects in 25 countries around the world, including several in Latin America and the Caribbean. For example, SheTrades recently partnered with Mercado Libre to train and provide technical assistance to women in accessing the platform. The initiative will be carried out in Argentina, Brazil, Chile, Colombia and Mexico (Forbes Mexico, 2022). In another project, the "Women Exporters" (*Mujeres Exportadoras*) programme was set up in partnership with the express shipper United Parcel Service (UPS). Here, UPS, together with experts, provides workshops and mentoring sessions on export strategies, market entry tools and ways to build a digital export presence, among others. In the Latin American and Caribbean region, *Mujeres Exportadoras* began in Mexico in 2019 and is now operating in all countries in the region where UPS has a presence.

During the COVID-19 emergency, ITC rolled out initiatives to help women entrepreneurs in Central America increase their online presence and access foreign markets through cross-border e-commerce (ITC, 2020). In one case, ITC supported women entrepreneurs in adopting better quality materials and augmented reality technologies to improve their online stores and run digital marketing campaigns on social media. In addition, together with SIECA, ITC organized more than 300 virtual B2B meetings with women artisans from Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama through the SIECA Central American Trade Network (CATN) platform, connecting over 150 suppliers of raw materials and handicrafts. The platform enabled companies to exhibit their products and services, and more than 60 businesswomen were able to identify new buyers and business opportunities in the region. Participants can also access resources remotely through the ITC platform ecomConnect, which facilitates contact and exchange between members of the e-commerce community.

In addition to the projects implemented in each country, the ITC She Trades and ecomConnect virtual platforms offer e-learning resources, webinars, and personalized mentoring, as well as a repository of good practices, with the aim of exchanging experiences and lessons learned from various initiatives and encouraging women's engagement in international trade.[17]

2. The Inter-American Development Bank initiative "Women Growing Together in the Americas"

Women Growing Together in the Americas is a programme launched by IDB during the COVID-19 crisis, in collaboration with leaders from the private sector, to promote women's participation in foreign trade and value chains. The programme provides technical assistance through the ConnectAmericas platform and includes a module to promote the digital transformation of female-led companies with the aim of strengthening their participation in international trade.[18]

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[16] Author's correspondence with ProChile staff.

[17] The websites are [online] https://ecomconnect.org/ and https://www.shetrades.com/.

[18] The programme website is [online] https://connectamericas.com/women.

IV. Trade facilitation and logistics

E-commerce is not only digital, but often involves the movement of goods within a country and across borders. The challenges that arise at the intersection of digital infrastructure and physical infrastructure in the framework of e-commerce can steepen the traditional barriers to trade.

The logistics and trade facilitation environment directly affect three key determinants of the success of e-commerce as a business model: shipping costs, shipping time, and reverse logistics (ease of exchanges and returns). These also significantly impact the final price to the end user. For these reasons, logistics and trade facilitation are one of the most important links in the e-commerce value chain.

This section presents regional initiatives related to customs modernization, single windows for foreign trade and related services, authorized economic operator (AEO) programmes and the modernization of national postal services.

A. Customs modernization

Innovation and the incorporation of new digital technologies in customs services can significantly speed up logistics and trade facilitation, helping to make MSMEs more competitive in cross-border e-commerce. Latin America and the Caribbean is lagging behind other regions in modernizing its customs services and implementing commitments made under the Trade Facilitation Agreement, and the growth of goods shipments during the pandemic highlighted the need to make customs and trade facilitation processes more efficient (Mesquita Moreira and Stein, 2019; ECLAC, 2020; ECLAC/KAS/BID, 2021).

Calatayud and Montes (2021) present new channels of innovation and digital transformation through the use of technology in customs and border management, along with ongoing modernization projects in Brazil, Costa Rica, Mexico, Nicaragua, and Panama. Corcuera and Moreno (2020) describe the CADENA project, through which IDB works with the customs services of Chile, Colombia, Costa Rica, Mexico and Peru to implement blockchain-based solutions to facilitate the cross-border exchange of company data between customs. Recent modernization initiatives in Chile and Colombia are described below.

1. Chile

In 2020, the National Customs Service of Chile achieved significant progress in technology adoption and process modernization, which helped to reduce the time and costs of cross-border e-commerce operations (National Customs Service of Chile, 2021). As part of an airport interoperability project, a pilot scheme was implemented for the electronic data exchange between customs and export warehouses. Electronic notification enabled streamlining and entry of products into warehouses, reducing congestion and improving control and inspection processes. The Customs Service also began to use an electronic dispatch folder, which avoids the need for physical presentation of documents and reduces inspection times. In another project to advance selectivity and smart risk management, the Customs Service used artificial intelligence techniques in a model for selecting transactions for intellectual property risk.

In the area of services exports, the Customs Service, together with the Integrated Foreign Trade System (SICEX), is working on a services export module so that exporters need not go to regional customs offices to formalize their sales abroad.

2. Colombia

Colombia took the opportunity provided by the context of COVID-19 pandemic to advance customs reform and fulfil the commitments assumed under the WTO Trade Facilitation Agreement. After a preparation process that began in 2019, and in line with Colombia's National Logistics Policy, in 2020 CONPES fast-tracked the approval of a modernization investment project for the National Tax and Customs Directorate (DIAN), with resources provided by IDB. This includes the implementation of a risk management system, the integration of electronic invoicing with DIAN processes, new cargo traceability technologies, a data governance framework, and a cybersecurity and data security strategy (DIAN, 2020 and 2021). In addition, DIAN adopted interoperability with ports and free zones for the exchange of electronic information.[19]

B. Simplified export regimes for small consignments [20]

MSMEs often need to make small shipments, in B2C operations and for sending samples at the beginning of B2B business relationships with distributors and stores. Given that such consignments are usually of low value, logistics costs can make them unprofitable and thus create a disincentive for many MSMEs to consider exporting through cross-border e-commerce.

To avoid this, some countries have developed simplified export regimes for small consignments, in order to reduce the costs associated with the collection at point of origin and export stages. These regimes include a platform with a simplified user interface to support MSMEs in making customs or transport declarations, indicating the steps to follow and the required procedures without the need for in-depth knowledge of the operation. In some cases, the simplified regime exempts MSMEs from registering in exporter registries, which reduces the burden of red tape. Some platforms can also be integrated with private logistics operators, making the process of requesting consignments or acquiring insurance more efficient, increasing transparency about the available options, and generating competition between operators, which may imply lower service fees for MSMEs.

[19] See [online] https://www.dian.gov.co/aduanas/Paginas/Modernizacion-de-la-Aduana.aspx.
[20] This section is based mainly on Veiga (2021) and Volpe Martincus (2017).

1. Brazil: Exporta Fácil

The Ministry of Communications of Brazil implemented the first simplified export regime for MSMEs in the Latin American and Caribbean region, called "Export easily" (*Exporta Fácil*), in 1999. The programme served as a pilot and was later adopted by several countries in the region. Currently, through the Post Office of Brazil, the designated postal operator, *Exporta Fácil* includes various express services customized for the needs of different types of customers, including an *Exporta Fácil* + service, designed to certify logistics operators who want to sell in foreign markets and integrate their systems with those of the Post Office of Brazil.[21]

2. Peru: Exporta Fácil

Peru's "Easy Export" (Exporta Fácil) programme was launched in 2007 to provide a simplified export process for Peruvian MSMEs.[22] The regime allows the export of goods with a value of up to US$ 7,500 and not exceeding 30 kg. In addition to the simplified mechanism, the programme provides logistics services through the postal operator SERPOST without the need for a customs agent, as well as access to tax refunds, and automatic registration of MSMEs as exporters with the National Tax and Customs Administration (SUNAT). Volpe Martincus (2017) presents a detailed analysis of the programme and describes a positive impact on the exports of Peruvian MSMEs.

3. Uruguay: TuExporta

In Uruguay, the simplified regime TuExporta was created with the aim of promoting MSME exports by simplifying procedures and reducing costs, and to improve the quality of information on operations and increase formalization.[23] The regime applies to all MSME export operations under US$ 2,000 in value, with no limit on the number of annual operations or the total amount exported. The system operates 100% online over a technological platform developed by Uruguay's single window system. Under this system, customs declarations can be made free of cost and companies are connected with customs brokers and, through customs, with logistics operators. In addition to simplification, the regime fosters various export-related training and information initiatives.

C. Integration of MSME processes in the single window system of Peru

With the support of the Korea International Cooperation Agency (KOICA), the Ministry of Foreign Trade and Tourism of Peru (MINCETUR) developed the platform e-Pymex, a cloud-based enterprise resource planning (ERP) solution for MSMEs.[24] The platform allows companies to manage their foreign trade documents and productive activities, and is connected to the single window system, so that MSMEs can use e-Pymex to carry out various foreign trade procedures online, including obtaining a digital certificate of origin, licences, and special permits from oversight bodies. They can also access modules for specific sectors, such as textiles and agricultural products. PROMPERU has developed a training programme for MSMEs to facilitate the use of e-Pymex. As of 2021, 1,460 companies were registered on the platform, 60% of them MSMEs.

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[21] See the range of services at [online] https://www.correios.com.br/enviar/encomendas/internacional. For a description of Exporta Fácil +, see [online] https://www.correios.com.br/acesso-a-informacao/licitacoes-e-contratos/credenciamento-exporta-facil.

[22] See [online] https://www.gob.pe/7464-hacer-envios-por-serpost-exporta-facil.

[23] See [online] http://tuexportas.gub.uy/.

[24] For more information, see [online] https://www.vuce.gob.pe/Paginas/Gestion-empresarial-PIMEX.aspx.

D. Cross-border integration

1. Interoperability of single windows within the Pacific Alliance

One of the trade facilitation solutions implemented by the Pacific Alliance is interoperability of the single windows of the four members of the bloc. The Pacific Alliance began the interoperability project in 2016 with the aim of connecting its single windows and exchanging the information contained in the main documents used for foreign trade operations, in real time. Data exchange on phytosanitary certificates began in 2017, and on certificates of origin in 2018. An IDB evaluation estimated that the phytosanitary data exchange facilitated by the platform generated average cost savings of 30% for economic operators.[25]

The Pacific Alliance platform is open for any bloc or country with a fully functioning single window to link up to. For example, the bloc agreed with MERCOSUR on an approach in this area, and there is the potential to do so with the Central American Digital Trade Platform.[26] Recently, Uruguay joined this interoperability environment with a pilot for certification of origin with Chile.

2. LAIA digital certifications of origin in MERCOSUR

The digital certificate of origin of the Latin American Integration Association (LAIA) began in 2004 as an initiative to simplify certification of origin, minimizing the time and costs via of digital tools for the issuance of certificates.[27] It is a paperless system of certification of origin in digital format, in which data entry, data remittance and the signatures of the exporter and the official of the certifying entity of origin, are all done online. Under this system, certificates of origin can easily be integrated into single windows.

The MERCOSUR interoperability project began as a pilot in 2017 between Argentina, Brazil and Uruguay, with the exchange of digital certificates of origin following the standard formats and protocols of the LAIA certification system. Paper certificates of origin ceased to be used between Argentina, Brazil and Uruguay between late 2019 and early 2020, as they moved to digital certificates only. Paraguay finalized interoperability with Uruguay in 2020 and began a period of parallel operations in which digital certificates of origin were issued together with paper versions, as the rest of the countries had also done during their pilot periods.

3. The Central American Single Declaration

The Central American Single Declaration (DUCA) is the document that combines the three main customs declarations that cover goods trade in Central America.[28] These are: (i) the Single Central American Single Customs Form (FAUCA), used for intraregional trade of goods originating in the region; (ii) the Declaration for International Terrestrial Customs Transit, known as DUT, used for international land transit of goods in Central America; and (iii) the Customs Goods Declaration, also known as DUA or DM, used for trade with third countries outside the region. The single combined declaration, DUCA, came into effect in Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama on 7 May 2019.

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[25] See Mejía Rivas and Maday (2019). For a detailed description of the implementation of the single window in Peru and the related benefits, see APEC (2018).

[26] The Central American Digital Trade Platform is one of the pillars of the Central American Trade Facilitation and Competitiveness Strategy. The platform provides technological infrastructure for trade facilitation, including the interoperability of systems between government institutions, data applications on security protocols for the entry and exit of people, goods and freight vehicles, electronic modules for risk management, the ex post control of goods, early warning systems, and tariff reimbursement, among others.

[27] For more information, see [online] https://www.aladi.org/sitioaladi/facilitacion-de-comercio/cod/.

[28] See [online] https://www.sieca.int/index.php/plataformas-electronicas/servicios-en-linea/declaracion-unica-centroamericana/.

4. The Central American Digital Trade Platform

The Central American Digital Trade Platform is a regional project financed by the European Union, coordinated by the IDB and executed by the Central American Economic Integration Secretariat (SIECA), which includes Costa Rica, El Salvador, Honduras, Guatemala and Panama. The platform fosters trade integration and provides technological infrastructure for trade facilitation and is one of the pillars of the Central American Trade Facilitation and Competitiveness Strategy focusing on Coordinated Border Management.[29]

The platform will simplify and optimize customs processes and procedures, enabling the interoperability of systems relating to customs, immigration, sanitary controls, and security procedures for the entry and exit of merchandise and cargo vehicles, exporters and importers, and the single windows of each of the countries.

The development of the platform began in 2015 and is ongoing, with 55 functionalities now defined.[30]

E. Authorized Economic Operator programmes

For operators in the logistics chain, the figure of Authorized Economic Operator (AEO) consists of accreditation and certification by a customs administration after an audit of its organization, processes, administration and financial statements, and compliance with a series of supply chain minimum security standards.[31] AEOs may include manufacturers, importers, exporters, brokers, carriers, freight consolidators, intermediaries, ports, airports, terminal operators, integrated operators, warehouses and distributors.

Certification as an AEO brings various benefits for operators and customs, including simplified customs procedures, abbreviated declarations of entry and exit of goods, reduction of physical and documentary controls, and priority clearance and enabling of fast lanes, among others. These benefits can significantly shorten the time of cross-border e-commerce transactions, and enhance companies' competitiveness.

Seventeen countries in Latin America and the Caribbean have AEO programmes operating.[32] Brazil has one of the most consolidated programmes in the region and in Guatemala and Uruguay all agents in the logistics chain are eligible to be certified as AEOs. In the rest of the countries, on the other hand, only some operators can apply to be certified as AEOs.

The World Customs Organization (WCO) and IDB developed a guide for the design and implementation of AEO programmes in Latin America and the Caribbean, which sets forth good implementation practices based on previous experiences in other countries, including countries in the region itself (WCO/IDB, 2011).

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[29] See [online] https://www.iadb.org/es/noticias/comunicados-de-prensa/2017-10-18/centroamerica-tendra-plataforma-digital-de-comercio%2C11921.html.

[30] See [online] https://mici.gob.pa/noticias/presentan-avances-de-plataforma-digital-de-comercio-centroamericana.

[31] The figure of Authorized Economic Operator forms part of the Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework) of the World Customs Organization (WCO, n/d).

[32] The Authorized Economic Operator (AEO) Compendium of the World Trade Organization includes a description of the characteristics of each of the AEO programmes of the countries in the region that have adopted it (World Customs Organization, 2020). LAIA (2020) describes the associated normative frameworks and the actions plans envisaged for each country.

F. Trade facilitation committees as forums for facilitating e-commerce

To carry out and establish trade facilitation coordination actions and mechanisms, many countries have developed coordination bodies in the form of national committees on trade facilitation (NCTFs). The Trade Facilitation Agreement requires the maintenance of an NCTF or the designation of an existing mechanism to facilitate both internal coordination and implementation of the provisions of the Agreement.[33]

NCTFs can be key for aiding the development of e-commerce. However, the government agencies that are typically involved in promoting e-commerce policies are not necessarily represented in them. According to a survey of 52 countries carried out in 2019 by the United Nations Conference on Trade and Development (UNCTAD), only 23% of NCTFs reported having taken action to facilitate e-commerce (UNCTAD, 2021a). Of those that did, some conducted training activities on the subject and others considered simplified procedures for e-commerce at single windows. The reasons why NCTFs are not more involved in facilitating e-commerce have to do with the fact that e-commerce is not part of their mandate, or is not considered a priority, added to a lack of awareness on the linkages between e-commerce and trade facilitation.

1. Chile: e-commerce working group in the National Committee for Trade Facilitation

Chile's National Committee for Trade Facilitation has created a specific working group, including representation of the private sector, to deal with e-commerce issues. Although it is incipient and has a merely coordinating role, there is a perceived need and intention for this group to outline and promote a specific work agenda to promote cross-border e-commerce.

2. Peru: COMUFAL and the Digitization Working Group

In Peru, the Multisectoral Commission for Foreign Trade Facilitation (COMUFAL) created a Digitization Working Group in mid-2021, with the mission of contributing to the digitization of internal processes in the customs service and in other oversight agencies.[34] In addition, representatives of the private sector have joined the Commission through logistics and foreign trade operators.[35] Although the group does not currently consider specific matters of cross-border e-commerce, there is an intention to do so in the near future. Moreover, the digitization of processes within customs should in itself improve cross-border e-commerce operations.

G. Modernization of postal services

1. Correios do Brasil

In Brazil, the postal service, Correios do Brasil, has developed Log+, an integrated solution for firms engaged in e-commerce, whether over platforms or their own online store, and whether in the domestic market or abroad. Log+ integrates logistics and fulfilment services for e-commerce operations, including storage and reverse logistics.[36] It also offers various delivery solutions, including a digitized locker service at different delivery points. Correios do Brasil complements this solution with an

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[33] UNCTAD (2014) provides recommendations for the establishment and implementation of NCTFs. WCO (2016) also provides guidance on NCTFs.

[34] See legislative decree 1492, which sets forth provisions for the digitization of foreign trade documents and process, at [online] https://busquedas.elperuano.pe/normaslegales/decreto-legislativo-que-aprueba-disposiciones-para-la-reacti-decreto-legislativo-n-1492-1866212-4/.

[35] See Supreme Decree 177-2021-PCM, at [online] https://busquedas.elperuano.pe/normaslegales/decreto-supremo-que-modifica-el-decreto-supremo-no-122-2017-decreto-supremo-n-177-2021-pcm-2017690-1/.

[36] See [online] https://www.correios.com.br/logistica/logistica-para-e-commerce.

e-commerce consulting service that offers firms suggestions and strategies based on their sales and shipping profile, including analysis of the firm's website, social network presence, and freight and delivery policy.

2. Correos de Chile

With the acceleration of e-commerce during the COVID-19 pandemic, the Chilean postal service, Correos de Chile, advanced in technological developments to integrate its systems with those of the customs services and the Integrated Foreign Trade System (SICEX, Chile's single window system). The aim was to modernize the process of selection and dispatch of consignments based on advance information of shipments, in order to optimize the processes of other control agencies. Thus, control agencies are provided with documentation in advance, helping to expedite shipments and allocate resources better (National Customs Service of Chile, 2021).

3. Correos de Costa Rica

Costa Rica offers a recent success story of postal modernization in the Latin American and Caribbean region. In the past 10 years, recognizing the significant reduction in the letters market, the growing pressure to reduce costs and the need to go digital, the country's postal service, Correos de Costa Rica, pursued a modernization strategy focused on MSMEs and based on customer loyalty and product diversification. The initiatives involved include tools such as Pymexpress, a logistics support service for MSMEs; Exporta Fácil, a simplified export service for MSMEs; and Box Correos, a locker service in Miami to facilitate the importation of products. It has also set up strategic alliances with PROCOMER, the Ministry of Economy, Industry and Commerce, the National Bank of Costa Rica, and the Costa Rican Chamber of Exporters (CADEXCO), and has developed new business units to provide firms and State agencies with logistics services, including express services and call centre services. As a result, Correos de Costa Rica has increased its profits, job creation and range of services, which went from 20 to over 60.[37]

[37] See [online] https://www.presidencia.go.cr/comunicados/2016/06/correos-de-costa-rica-se-moderniza-y-logra-rapido-crecimiento/.

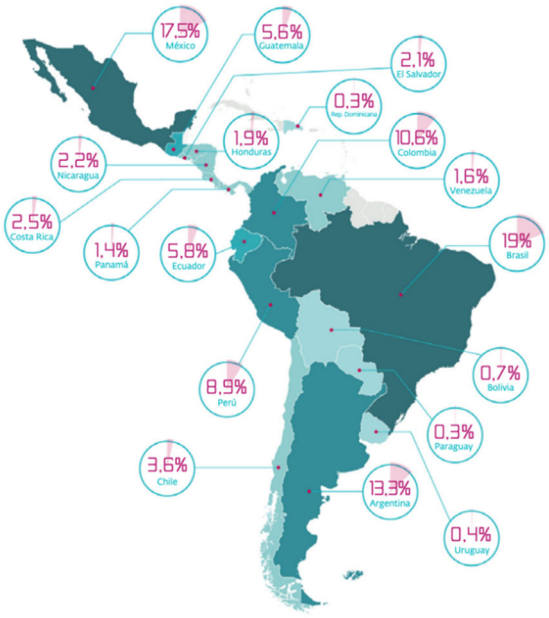
V. Regulatory frameworks for cybersecurity and data protection

The cybersecurity and data protection scenario has become more complex during the COVID-19 pandemic, owing to changes in the use of networks and work environments. Whereas the work and home environments were separate prior to lockdowns, the growth of telecommuting meant that networks for work use also included home networks, whose security practices and tools are typically less secure than those of corporate networks.

According to a study by the digital security company ESET, the number of brute force attacks detected increased by around 700% between the first and fourth quarters of 2020 in Latin America and the Caribbean and the number of users affected increased by 196% over that period. Meanwhile, malicious code (malware) is the main concern and the foremost cause of security incidents in Latin American companies (ESET, 2021).[38] Brazil, Mexico and Argentina were the countries in the region with the most companies affected in 2020, in that order (Map 1).

[38] The report is based on consultations with around 1,000 executives and representatives of firms in 17 countries of the Americas and information obtained from telemetry data.

Map 1
Latin America: percentage of malware detected in firms, 2020
(Percentages)



Source: ESET, *ESET Security Report Latinoamérica 2021* [online] https://www.welivesecurity.com/wp-content/uploads/2021/06/ESET-security-report-LATAM2021.pdf.
Note: The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.

A. Initiatives for strengthening cybersecurity

In recent years, the Latin American and Caribbean region has made significant progress with respect to national cybersecurity strategies. According to surveys by IDB and the Organization of American States (OAS), while in 2016 four out of five countries in the region lacked a cybersecurity strategy or a critical infrastructure protection plan, by 2020 12 countries had adopted national cybersecurity strategies.[39]

Presented below are some recent initiatives to strengthen cybersecurity infrastructure in Latin American and Caribbean countries.

1. Argentina: Programme to Strengthen Cybersecurity and Cybercrime Investigation

The Programme to Strengthen Cybersecurity and Cybercrime Investigation was set up in February 2022 within the purview of the Ministry of Security of Argentina. Its objective is to coordinate, assist and provide advice on security techniques for digital infrastructures and on investigation techniques in the field of cybercrime and crimes involving technology and/or the use of technology.[40]

Recently, within the framework of the programme, the Ministry of Security signed agreements with the companies ESET, Fortinet, Microsoft and Oracle Corporation to receive information contributing to the

[39] See IDB/OAS (2020). The countries with national security strategies and plans are Colombia (2011 and 2016), Panama (2013), Trinidad and Tobago (2013), Jamaica (2015), Paraguay (2017), Chile (2017), Costa Rica (2017), Mexico (2017), Guatemala (2018), Dominican Republic (2018), Argentina (2019) and Brazil (2020).
[40] See [online] https://www.boletinoficial.gob.ar/detalleAviso/primera/257536/20220215.

detection, prevention, mitigation and neutralization of cybercrimes, such as scams, cyberattacks, and grooming, among others.[41]

2. The EU CyberNet project in Latin America and the Caribbean

EU CyberNet is an initiative launched by the European Union to respond to cybersecurity challenges through training, sharing experiences and maximizing synergies. It is implemented by the Estonian Information System Authority (RIA) in partnership with the Federal Ministry of Foreign Affairs of Germany and the Cybersecurity Competence Center of Luxembourg.[42]

Part of the project is the establishment of a Latin America and Caribbean Cyber Competence Centre (LAC4), located in the Dominican Republic. LAC4 will serve as a coordination centre for sharing European Union experiences in the region, developing local capacities, facilitating collaboration on joint projects and actions, and promoting the benefits of an open, free and inclusive cyberspace.

In March 2021, Uruguay signed a memorandum of understanding with RIA, whereby the country is given a mandate to promote LAC4 and the project's mission in the Southern Cone, and to coordinate and facilitate cooperation with national institutions, industry, academia and the private sector.[43]

3. Public-private partnerships in Chile, Colombia and Panama

The governments of the region are increasingly forging alliances with private sector actors specialized in cybersecurity to build capacities in the public sector and facilitate the exchange of information on digital security.

In 2015, Chile gained access to Microsoft's Government Security Program Agreement (GSP). Under this agreement, Microsoft provides access to its Transparency Centers, from where the company's software source codes and technical data can be accessed. This access makes it possible to evaluate and safeguard government systems to strengthen IT infrastructure. GSP also involves collaboration to prevent cyberattacks on the countries subscribing to it.[44]

In 2021, the Ministry of Information and Communications Technologies (MINTIC) of Colombia signed a digital security information exchange agreement with the cybersecurity company Fortinet. Under the agreement, Fortinet will provide MINTIC with support in training, transfer of technological knowledge and exchange of strategic information on cybersecurity threats. Fortinet also makes available to the public, free of charge, online cybersecurity technical courses and basic digital security programmes.[45]

In 2022, Panama followed in the footsteps of Colombia and its National Authority for Government Innovation (AIG) signed a memorandum of understanding with Fortinet. In addition to providing support and training material as in the case of Colombia, Fortinet will support the Government of Panama in the implementation of its National Cybersecurity Strategy.[46]

B. Legal frameworks for data protection

The OAS Principles on Privacy and Personal Data Protection recognize the need to harmonize data protection standards so as not to hinder cross-border data flows. The protection regulations approved

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41 See [online] https://www.argentina.gob.ar/noticias/acuerdos-con-multinacionales-de-tecnologia-para-proteger-el-ciberespacio-y-combatir-los.

42 The project website may be consulted at [online] https://www.eucybernet.eu/about-project/.

43 See [online] https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/comunicacion/noticias/ nuevo-acuerdo-cooperacion-para-mejorar-capacidades-ciberseguridad-cono-sur.

44 See [online] https://news.microsoft.com/es-xl/microsoft-y-gobierno-de-chile-suscriben-acuerdo-en-materia-de-ciberseguridad/.

45 See [online] https://mintic.gov.co/portal/inicio/Sala-de-prensa/MinTIC-en-los-medios/177323:Colombia-y-Fortinet-firman-un-acuerdo-de-colaboracion-en-ciberseguridad.

46 See [online] https://www.fortinet.com/lat/corporate/about-us/newsroom/press-releases/2022/fortinet-y-gobierno-panama-firman-acuerdo-colaboracion-materia-ciberseguridad.

by the Ibero-American Data Protection Network, to which several countries in the region are party, also contain a recommendation that they apply a series of requirements that follow guidelines similar to those of European legislation.

Currently, 16 countries in the region have specific regulations for data management.[47] However, despite the benefits of harmonizing regulations, much work remains to be done to converge towards harmonization in the region (ECLAC/I&JPN, 2020).

1. Brazil: the General Data Protection Law

In 2018, Brazil introduced the General Data Protection Law (LGPD), which is in line with the General Data Protection Regulation (GDPR) of the European Union. LGPD regulates how companies collect, store, process and share personal data, and it applies to any company or organization that processes personal data in Brazil, regardless of where it is located, with the exception of anonymized data. Like GDPR, LGPD restricts the transfer of personal data to third countries or international organizations, allowing such transfers only for specific reasons, and requires controllers to carry out data protection impact assessments to assess the risk of certain processing. Unlike GDPR, however, although the law recognizes the concept of data protection adequacy, Brazil's National Data Protection Authority (ANPD) has not yet made adequacy decisions or established rules on other legal transfer mechanisms.

2. Mexico: adhesion to Cross-Border Privacy Rules

Mexico has signed up to the Cross-Border Privacy Rules (CBPR) of the Asia-Pacific Economic Cooperation (APEC). This may be considered a good practice because it introduces the principle of accountability in cross-border data flows (Cory and Dascoli, 2021).

3. Colombia: data markets

In order to promote the reuse of data, Colombia has begun to build a data market in association with the World Economic Forum (WEF). The purpose of the proposal is to create a governance framework for the exchange and use of data that will foster a data-based economy and strengthen the digital economy. Colombia is thus beginning to treat data as a strategic asset to stimulate the transition towards a data-based economy. In 2020, aspects such as data governance, interoperability, financial model, transactionality and user interfaces and proof of concept were covered.

4. Data protection in trade agreements

Few countries in the Latin American and Caribbean region include data protection provisions in their regional trade agreements. Three exceptions are the Trans-Pacific Partnership (TPP), in which Chile, Mexico and Peru participate, the Agreement between the United States, Mexico and Canada (UMSCA), and the Digital Economy Partnership Agreement (DEPA), which Chile signed with New Zealand and Singapore. These agreements do not set down specific rules, but rather establish the promotion of compatibility between the different regimes or consideration of the international nature of the agreements.[48]

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[47] Antigua and Barbuda, Argentina, Bahamas, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Mexico, Nicaragua, Panama, Peru, Saint Kitts and Nevis, Saint Lucia, Trinidad and Tobago, and Uruguay. Six countries are discussing draft legislation (Barbados, Ecuador, Guatemala, Honduras, Jamaica and Paraguay) and 11 countries do not yet have specific rules on data protection (Belize, Bolivarian Republic of Venezuela, Cuba, Dominica, El Salvador, Grenada, Guyana, Haiti, Plurinational State of Bolivia, Saint Vincent and the Grenadines, and Suriname).

[48] Article 14(11)(2) of the Trans-Pacific Partnership establishes that the cross-border transfer of information is to be allowed "when this activity is for the conduct of the business of a covered person". Article 19.11 of USMCA imposes the same obligation. Both add language similar to that contained in international agreements such as article XX of the General Agreement on Tariffs and Trade (GATT) and article XIV of the General Agreement on Trade in Services (GATS), allowing countries to regulate to achieve "a legitimate public policy objective".

VI. Measurement of e-commerce and the participation of MSMEs

Having accurate, reliable and up-to-date data and information on e-commerce and its degree of penetration among SMEs is important to be able to design and implement evidence-based public policies and make informed decisions. In general, and with a few exceptions, the statistical systems in the Latin American and Caribbean region, including the national statistical offices and other related agencies, have not yet adapted their statistical operations to accurately capture e-commerce activity, particularly cross-border e-commerce and its adoption by MSMEs.

This section reviews some international recommendations and standards to improve the measurement of e-commerce and presents practices and examples of implementation in Latin America and the Caribbean.

A. Global good practices

In order to be able to evaluate the performance of the Latin American and Caribbean region in terms of the development of e-commerce, determine its degree of progress compared to other economies, and identify gaps and bottlenecks, it is important to have data that are internationally comparable. In this regard, the United Nations Conference on Trade and Development (UNCTAD) and the Organisation for Economic Co-operation and Development (OECD) have produced manuals and guides to promote standards and good practices for measuring the digital economy and e-commerce in particular.

The *Manual for the Production of Statistics on the Digital Economy* (UNCTAD, 2021b) recommends the inclusion of questions or modules on the type and value of goods and services bought or sold through e-commerce in surveys of companies, for example, in industrial surveys or surveys on the use of ICTs. Ideally, questions should include a disaggregation between B2B and B2C transactions and between domestic and cross-border transactions. Examples of this type of survey are those derived from the Community survey on ICT usage in households and by individuals produced by Eurostat and

adapted in different countries, such as the Survey on the use of information and communication technologies and e-commerce in companies in Spain (INE, 2021).

OECD has identified indicators typically used to measure the digital economy (including e-commerce), along with measurement gaps and actions needed to progress in this area (OECD, 2014 and 2019). Within the framework of G20, the Digital Economy Working Group has developed a road map with the aim of moving towards a common framework to measure the digital economy (OECD, 2020).

In the Latin American and Caribbean region, ECLAC has developed various guides and manuals on the production of statistics on ICT use, following general guidelines recommended by other international organizations, such as EUROSTAT and UNCTAD.[49] This material has been developed in conjunction with the national statistical offices (NSOs) of the region, in the working group on measurement of information and communications technologies of the Statistical Conference of the Americas. The Conference may be considered a good practice of collaboration with NSOs at the regional level and for the production of statistical benchmarks.

It would be advisable for the countries of the region to become involved in international cooperation initiatives to measure the digital economy. In this area, two expert groups devoted to studying, analysing and discussing aspects related to the measurement of e-commerce may be a good source of references and recommendations: the Interagency Task Force on Statistics of International Trade in Services (TFSITS), comprising Eurostat, the Food and Agriculture Organization of the United Nations (FAO), the International Monetary Fund (IMF), OECD, WTO, and the United Nations;[50] and the Partnership on Measuring ICT for Development, comprising ITU, the United Nations regional economic commissions, Eurostat, OECD, UNCTAD, the World Bank and the International Labour Organization (ILO), among other organizations.[51]

B. Practices in the Latin American and Caribbean region

In the Latin American and Caribbean region, initiatives have emerged in recent years to measure e-commerce from different angles. This section presents initiatives identified that include public access to data and whose methodologies are available, either publicly or by request to the corresponding agency.

1. Mexico: value added of e-commerce and use of electronic means of payment

Mexico is the only country in Latin America and the Caribbean that has developed a systematic and specific statistical operation to measure the value added of e-commerce. The National Institute of Statistics and Geography (INEGI) of Mexico measures the gross value added of e-commerce and its share of GDP on an annual basis, combining data from the economic census, supply-use tables, and the annual trade survey of companies. [52] This initiative has provided Mexico with statistics dating to 2013. Figure 1 shows value added data as a percentage of GDP between 2013 and 2020.

Meanwhile, the Bank of Mexico disseminates data on the use of bank accounts, credit cards, and other electronic means of payment, such as data from the CoDi e-payment platform (Bank of Mexico, 2022). Although not a direct measurement of e-commerce, this information may be useful to estimate the penetration of e-commerce among MSMEs, or their readiness to adopt it.

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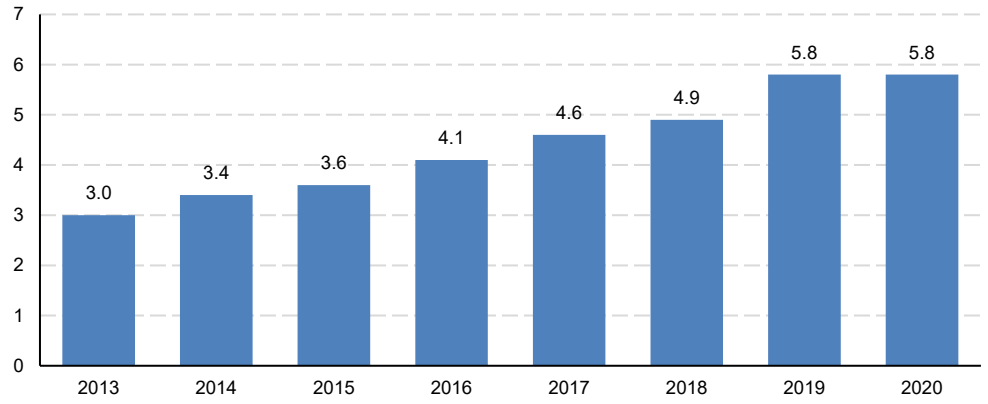
[49] For example, this work facilitated the establishment of a model survey for the production of ICT statistics in companies, including indicators on Internet sales and purchases. See ECLAC (2015).

[50] See [online] https://unstats.un.org/unsd/trade/taskforce/default.asp.

[51] See [online] https://www.itu.int/en/ITU-D/Statistics/Pages/intlcoop/partnership/default.aspx.

[52] See INEGI (2018) for a description of the measurement methodology.

Figure 1
Mexico: gross value added of e-commerce as a percentage of GDP, 2013–2020
(Percentages)



Source: National Institute of Statistics and Geography (INEGI) of Mexico.

2. Surveys for measuring ICT access and use in Latin America and the Caribbean

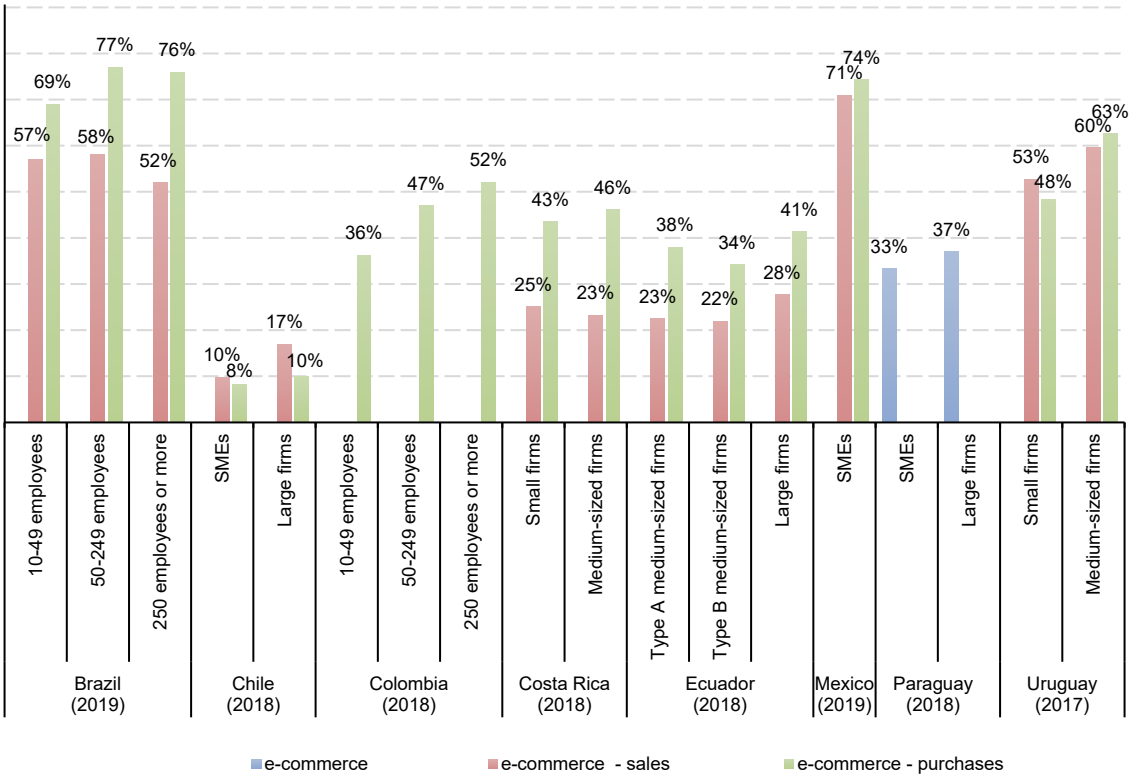
Several countries in the Latin American and Caribbean region conduct innovation or ICT use surveys, which include questions related to the use of e-commerce. Table 1 shows the list of countries and the agencies that conduct these surveys. Figure 2 presents statistics on firms' use of e-commerce, as found by these surveys.

Table 1
Latin America and the Caribbean: surveys on ICT access and use

Country	Name of the operation	Agency
Argentina	National survey on employment and innovation dynamics	Ministry of Science, Technology, and Innovation
Brazil	Several surveys on ICT access and use	Regional Center for Studies on the Development of the Information Society (Cetic.br)
Chile	Survey of access to and use of information technology and communication by companies	Ministry of Trade, Industry and Tourism
Colombia	Technological development and innovation survey / ICT module in annual surveys of industry and commerce	National Administrative Department of Statistics (DANE)
Costa Rica	National survey of science, technology and innovation	Ministry of Economy, Industry and Commerce, State University for Distance Learning and University of Costa Rica
Ecuador	National survey of science, technology and innovation activities	National Institute of Statistics and Censuses
Mexico	National survey on availability and use of information technology	Federal Telecommunications Institute
Paraguay	Business innovation survey of Paraguay	National ICT Secretariat of Paraguay
Peru	Annual Economic Survey / Survey on information and communication technologies	National Institute of Statistics and Informatics
Uruguay	Survey of uses of information and communication technologies	Ministry of Industry, Energy and Mining

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.

Figure 2
Latin America and the Caribbean: use of e-commerce in firms, by size, latest data available
(Percentages)



Source: M. Dini, N. Gligo and A. Patiño, "Transformación digital de las mipymes: elementos para el diseño de políticas", Project Documents (LC/TS.2021/99), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2021.

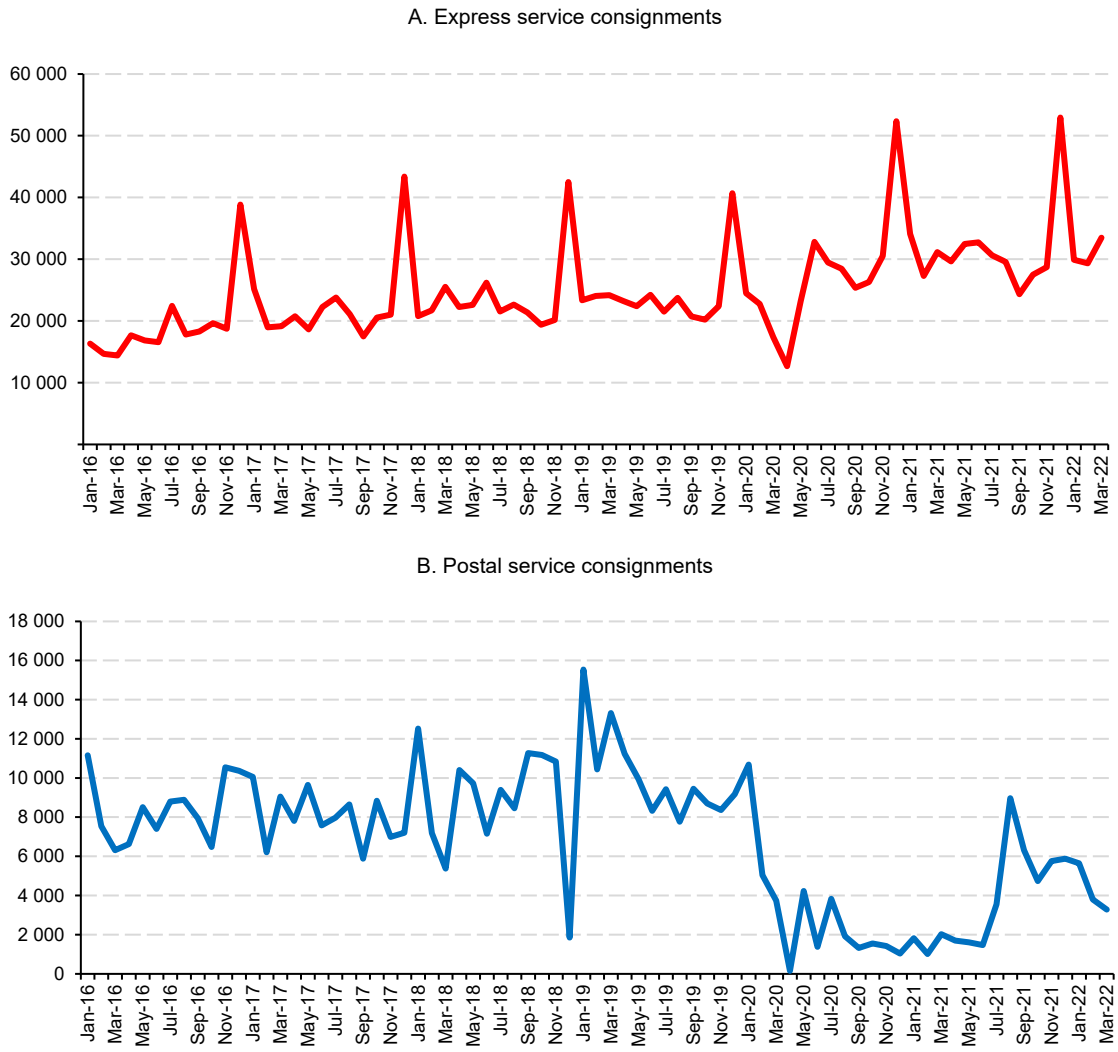
3. Uruguay: data on cross-border trade in tax-free goods

Cross-border e-commerce in goods is less often measured than domestic e-commerce. Because there are generally no customs declarations specifying the origin of the operation, customs data do not distinguish traditional trade flows from flows originating in digital markets.

In Uruguay, the National Customs Department systematizes and publishes data on import flows of packages under the tax-free system, such as those whose declared value is below the de minimis level.[53] The data may be disaggregated by packages sent by the postal operator and those sent by express service operators. Although not all tax-exempt packages necessarily originate in e-commerce transactions, a significant proportion of low-value packages are likely to do so, especially those shipped by express carriers. This may not yield an accurate measure of cross-border e-commerce, but is useful for identifying trends. Figure 3 shows how imports of packages sent under the tax-free system varied between January 2016 and February 2022.

[53] Data are available at [online] https://www.aduanas.gub.uy/innovaportal/v/18715/1/innova.front/consultas-franquicias.html.

Figure 3
Uruguay: imports of packages under the tax-free system, 2016–2022
(Number of packages)



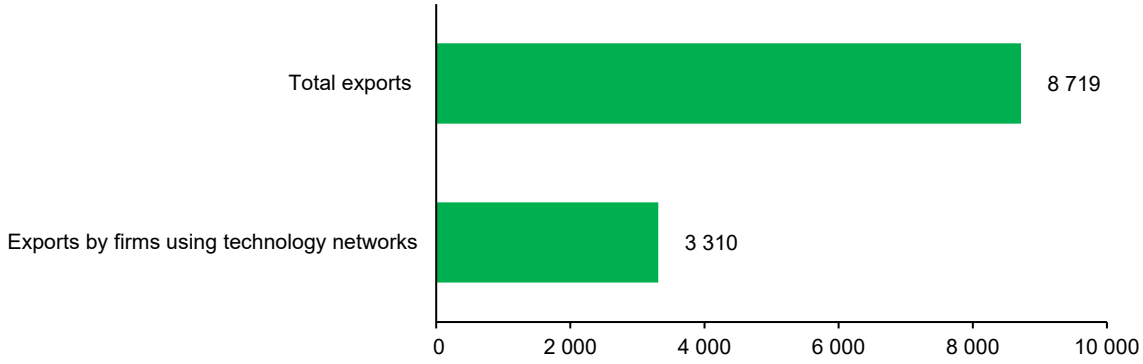
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the National Customs Department of Uruguay.

4. Costa Rica: measurement of ICT-enabled services exports

The Central Bank of Costa Rica, with the assistance of UNCTAD, developed a methodology to measure exports of ICT-enabled services (Central Bank of Costa Rica, 2019). The methodology consisted of a first survey of potential exporters of ICT-enabled services, later expanded to around 1,200 companies using administrative data. Figure 4 presents the estimation results, which indicate that ICT-enabled exports accounted for 38% of total exports in 2016.

Among the recommendations arising from this initiative is the need to deepen coordination and collaboration between statistics-generating organizations and their informants, establishing strategic alliances to enhance access to companies to strengthen coverage and quality of information; to maintain internal coordination; and to adopt technology to facilitate contact between data compilers and informants.

Figure 4
Costa Rica: services exports, 2016
(Billions of dollars)



Source: Central Bank of Costa Rica, Costa Rica: Exportación de servicios canalizados mediante redes de tecnología, información y comunicación (TIC), 2019 [online] https://www.bccr.fi.cr/indicadores-economicos/DocCuentasNacionalesProyecto/documentoscnadocpresentaciones/CR-Exportaciones-Servicios-Mediante-TIC-2017.pdf.
Note: exports of firms using technology networks to channel their sales correspond to cross-border supply (such as mode 1 exports), and include transportation, insurance and pension services, financial services, telecommunications services, and information and business services.

5. Information from platforms, private companies, and e-commerce associations

Collaboration with private sector actors and the application of data science to collect and process data on domestic and cross-border e-commerce have great potential to improve statistics. For example, Carballo, Salas and Volpe-Martincus (2020) used data on credit card purchases in cross-border e-commerce operations in Uruguay to quantify the evolution of that e-commerce during the COVID-19 pandemic. ECLAC, with the project "Big data for measuring and fostering the digital economy in Latin America and the Caribbean", applies big data techniques to produce different indicators on the digital economy, such as platform use and participation (ECLAC, 2020).

The periodic reports for investors produced by e-commerce platforms are also a direct source of useful information for estimating the volume of e-commerce. For example, Mercado Libre, Dafiti, and Falabella release information that includes the volume of sales over their digital platforms, or the volume of users, with figures disaggregated by country.[54]

Another source of information on e-commerce sales comes from national e-commerce associations or chambers. In general, this information comes from internal surveys of partners, many of which are MSMEs. For example, the Argentine Chamber of Electronic Commerce (CACE), the Colombian Chamber of Electronic Commerce (CCCE), or the Santiago Chamber of Commerce (CCS), report e-commerce sales estimates.

[54] See, for example, Mercado Libre (2021). This information has been used by UNCTAD for its estimates of B2C e-commerce sales (UNCTAD, 2021b).

VII. Final remarks

The adoption of e-commerce by firms, especially MSMEs, can impact countries' ability to achieve many of their development goals. However, the barriers to digital transformation and the characteristics of the enabling environment for e-commerce often require policies to make it easier for companies to engage in e-commerce.

This document has presented some emerging practices in different policy dimensions that can help to spur the development of e-commerce in Latin America and the Caribbean. As the various initiatives show, several governments in the region are making significant progress in improving the enabling environment for domestic and cross-border e-commerce, as well as the digital capabilities of MSMEs.

Given the recent growth of e-commerce in the region and especially its acceleration during the COVID-19 pandemic, for many organizations, this type of policy is still a field of experimentation and learning. Going forward, it will be important for the governments of the region and multilateral organizations to find ways to monitor and evaluate the impact of policies to support the development of e-commerce. This will provide the governments with a larger body of information and evidence to increase their know-how regarding best practices and maximizing the return on investments of public and private resources in e-commerce.

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