The Latin American **regulatory environment** for **digital trade**

Sofía Loria Obando
Nanno Mulder
Janos Ferencz

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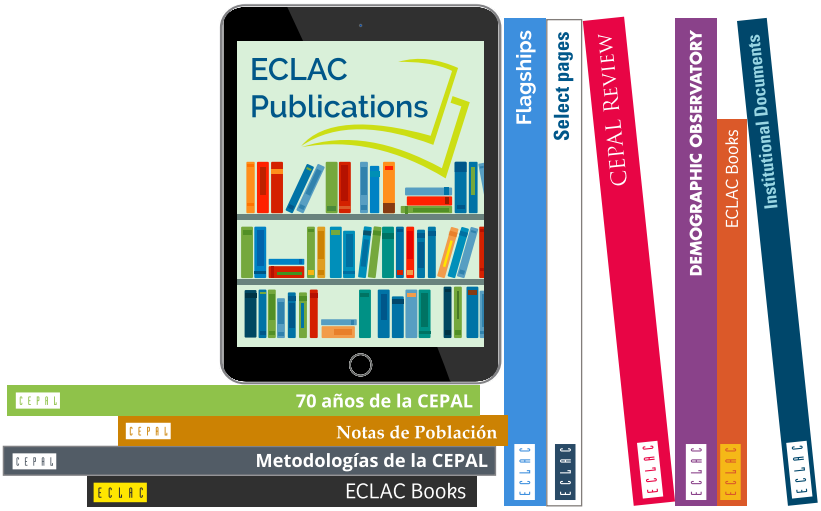

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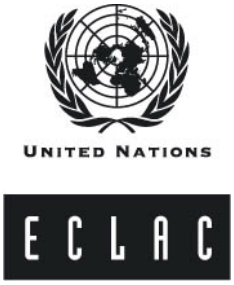

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Acronyms and abbreviations

CSSTRI	Computer Services Trade Restrictiveness Index
DGSTRI	Digital Services Trade Restrictiveness Index
ECLAC	Economic Commission for Latin America and the Caribbean
ERP	Enterprise Resource Planning
EU	European Union
FTA	Free Trade Agreement
ICPEN	International Consumer Protection and Enforcement Network
IPR	Intellectual Property Rights
ITID	International Trade and Integration Division
MERCOSUR	Southern Common Market
MSME	Micro, Small, and Medium Enterprise
OAS	Organization of American States
OECD	Organization for Economic Co-operation and Development
RACSA	Radiográfica Costarricense Sociedad Anónima
SME	Small and Medium Enterprises
SMP	Significant Market Power
STRI	Services Trade Restrictiveness Index
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UN	United Nations
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Conference on Trade and Development
VPN	Virtual Private Network
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

Abstract

The volume of trade in digitally enabled services in Latin America and the Caribbean is determined, in part, by the complexity and heterogeneity of the regulatory environment in home and destination markets, according to firm-level surveys conducted in the region. This report analyses the regulation of digitally enabled and computer services in 13 Latin American countries using the Digital Services Trade Restrictiveness Index (DSTRI) and the Services Trade Restrictiveness Index for computer services (CSSTRI) developed by the Organisation for Economic Co-operation and Development (OECD). The results for the period 2014–2019 show significant differences across these 13 countries, with some having relatively low import barriers to digitally enabled and computer services, while others have comparatively high barriers. A more harmonized and adequate legal framework can increase confidence, security and certainty —and, therefore, trade— in these types of services.

Introduction

The COVID-19 pandemic has accelerated the digitalization of the economy and trade in Latin America and the Caribbean (LAC). Digitally traded goods and services are ordered digitally, delivered digitally, or enabled by digital platforms (Ahmad and Ribarsky, 2018). Disruptive technologies such as artificial intelligence, big data, the Internet of things, machine learning, and robotics systems are also slowly spreading through the region. Both trends have created new trading opportunities, products, services, and markets.

Firms and individuals in LAC may find it difficult to reap the benefits of digital trade, partly because of the complex and heterogeneous regulatory environment throughout the region. This is confirmed by a survey carried out among 1,430 firms in the region in 2016 and 2017. Nine out of 20 of their main concerns alluded to cross-border e-commerce,[1] including the protection of intellectual property rights. Also, small exporters point to the high compliance cost of dealing with incompatible regulations (Suominen, 2019).

In this context, this report looks into the regulation of digitally enabled and computer services of thirteen Latin American countries: Argentina, Brazil, Bolivia (P.S. of), Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Mexico, Paraguay, Peru, and Uruguay (from now on the "selected countries"). This comparative analysis presents the current situation, discusses similarities and differences, examines trends, and highlights the most relevant changes over the past five years. The report builds on regulatory data collected from 2014 to 2019 following the OECD Digital Services Trade Restrictiveness Index for digitally enabled services (DGSTRI) and the Services Trade Restrictiveness Index (STRI) for computer services (CSSTRI).[2]

This report is divided into two sections. After this introduction, the report in its first section, first subsection, provides a brief overview of the diagnostic tools used to assess the regulatory environments of the selected countries for digitally enabled services and computer services and in the second subsection describes and compares such regulatory environments. Finally, section two presents the most relevant conclusions and recommendations.

[1] Based on 3 surveys of the Nextrade Group between December 2016-January 2017 and October 2017.

[2] For more information on the DGSTRI and CSSTRI see [online] https://oe.cd/ds/3gA, and http://oe.cd/stri, respectively.

I. Regulatory environment affecting digital trade in Latin America

This section explains first the diagnostic tools used to assess the digital regulatory environment for digitally enabled services and the selected countries' computer services. Secondly, it compares these regulatory environments, and highlights trends, differences, and commonalities among them.

A. Diagnostic tools to assess regulatory environments

The regulatory environment for cross-border e-commerce is assessed here using two tools: the Digital Services Trade Restrictiveness Index (DGSTRI) and the Services Trade Restrictiveness Index (STRI) for Computer Services (CSSTRI). Both indices are developed by the Organization for Economic Co-operation and Development (OECD, 2020). They capture de jure regulations currently in force in 54 countries, applied on a most favored nation (MFN) basis. Hence, they exclude preferential treatments resulting from free trade agreements.

ECLAC has been collaborating with OECD to expand the coverage of the STRI from six countries (Argentina -only the DGSTRI-, Brazil, Chile, Colombia, Costa Rica, and Mexico) to another seven countries (Argentina —computer services—, Bolivia (P.S. of), Dominican Republic, Ecuador, Guatemala, Paraguay and Uruguay). In both cases, the indices for DGSTRI and CSSTRI range from 0 (absence of trade restrictions) to 1 (high restrictions).

The DGSTRI identifies, catalogs, and quantifies cross-cutting barriers that affect digitally traded services. Its main objective is to identify trade restrictions. However, it also includes specific trade facilitating measures, such as international standards on electronic contracts, electronic authentication methods, or online processing of taxes (Ferencz, 2019).

The DGSTRI covers the following five categories:[3]

(i) Infrastructure and connectivity: measures related to communication infrastructures required to trade services digitally, including best practice regulations on interconnections among network operators, limitations or blockages of the use of communication services, and other policies affecting cross-border data flows.

(ii) Electronic transactions: measures related to discriminatory conditions for issuing licenses to engage in e-commerce activities, the possibility for online tax registration and declaration for non-resident foreign providers, deviations from international guidelines regarding contract rules, and the existence of dispute settlement mechanisms for cross-border transactions, among others.

(iii) Payment systems: measures affecting payments made by using electronic methods, including discriminatory access, deviation from international standards, and general restrictions on internet banking and insurance.

(iv) Intellectual property rights: measures related to discrimination against foreign firms on trademarks and copyrights and related rights, as well as enforcement procedures.

(v) Other barriers affecting trade in digitally enabled services: other obstacles to digital trade, such as limitations on downloading and streaming, restrictions on online advertising and commercial or local presence requirements to provide cross-border services.

Each of the policy areas within the DGSTRI is weighted according to their importance for international competitiveness as suggested by an expert panel of mostly private companies. The policy areas "Infrastructure and connectivity", "Electronic transactions", are given a higher weight than "Payment systems", "Intellectual property rights" and "Other barriers".

In turn, the STRI more generally identifies policy measures that restrict trade in general. It covers 22 economic sectors and includes the following five policy areas:

(i) Restrictions on foreign entry

(ii) Restrictions on the movement of people

(iii) Other discriminatory measures

(iv) Barriers to competition

(v) Regulatory transparency

Of these 22 sectors, computer services are singled out in this report.[4] These have expanded significantly in the past two decades due to the development of the knowledge-based and data-driven economy. They play an essential role in building the digital infrastructure needed to empower the digital transformation across other sectors (e.g., enabling the digital delivery of other goods and services). According to the services sectoral classification W/120 compiled by the World Trade Organization (WTO), this sector includes consultancy services related to installing computer hardware, software implementation services, data processing services, and database services.

The CSSTRI provides information on the regulatory environment that affects trade in the computer services sector.[5] It provides an overarching view of the horizontal regulatory environment, including policy areas such as foreign direct investment regulation, barriers affecting the movement of

[3] Annex A presents the complete list of measures that encompass the DGSTRI.
[4] Other sectors include telecommunications, distribution services, motion pictures, broadcasting, and sound recording.
[5] Annex B shows the complete list of measures that encompass the CSSTRI.

professionals (e.g., computer engineers), barriers to competition, discriminatory practices on public procurement or regulatory transparency. Computer engineers' services may require installing or repairing the necessary equipment to allow these networks' operation. This, in turn, may require travel to the customer's country. Finally, preferential measures for local suppliers, discriminatory access to public procurement, and competition barriers may reduce available services and increase the cost of digital services.

The DSTRI and the STRI for computer services are highly complementary. The DSTRI covers cross-cutting measures that affect mostly the cross-border supply of any kind of digital services, while STRI for computer services measures sector-specific barriers across different modes of supplies, including services supplied through commercial presence and through the movement of people.

Together, the DSTRI and the CSSTRI provide a comprehensive overview of the regulations that affect digital trade in a given country through:

- Providing a detailed source of information for trade policy makers, trade negotiators and researches. As such, the STRI tools facilitate new insights into the current state of play of regulations across countries while annual monitoring of new policy developments and regulatory changes facilitate understanding of evolving trends. Outcomes and results help inform ongoing discussions and negotiations, including the WTO Joint Statement Initiative on E-commerce.[6]
- Contribute to understanding the impact of trade liberalisation. Services that are at the forefront of digital trade, such as computer services or telecommunications services, are heavily affected by a variety of barriers, including cumbersome procedures for licenses or authorisations, lack of regulatory transparency and predictability. Recent OECD estimates show that implementing good regulatory practices on services domestic regulations in line with the WTO Reference Paper on Services Domestic Regulation adopted in December 2021 could lead to annual trade costs savings around USD 20 billion in telecommunications and computer services.[7]
- Compare regulations across country, benchmark regulatory performance, and identify best practices. The STRI suite of tools allow cross-country comparisons and assessment of regulatory bottlenecks that could hinder greater participation in global value chains. As open services markets remain crucial for global efforts to promote economic recovery and strengthen the resilience of value chains in a post-pandemic era, better understanding of existing regulatory gaps and potential for low-hanging policy reforms will be more important than ever before.

B. Regulatory comparison of the rules governing digitally enabled services trade

This section reviews the selected countries' digital trade landscape, comparing trends, differences, and commonalities.

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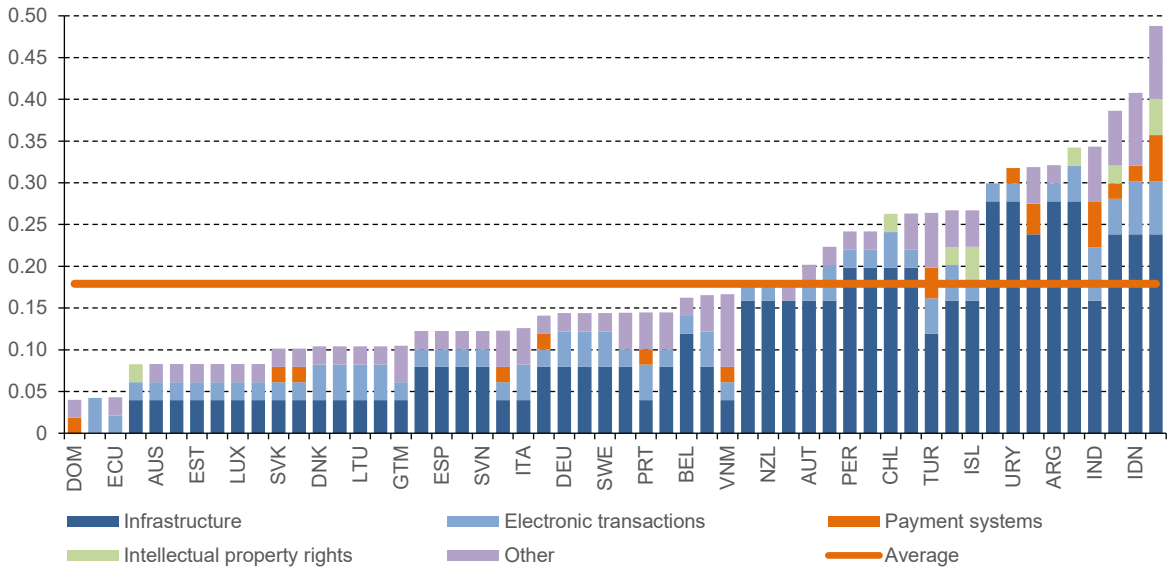
[6] A new OECD tool entitled the Digital Trade Inventory aims to complement the DSTRI by providing an inventory of existing rules, standards, and principles related to issues that are being discussed in the context of the Joint Statement Initiative on E-commerce at the WTO. For more, please see: https://www.oecd-ilibrary.org/trade/digital-trade-inventory_9a9821e0-en and Digital Trade Inventory-International Instruments|Compare your country.

[7] OECD-WTO, Services Domestic Regulation in WTO: Cutting red tape, slashing trade costs, and facilitating services trade, November 2021, available at: https://issuu.com/oecd.publishing/docs/oecd-wto-brief-sdr-2021.

1. Overview

The most common restrictions found in the countries' laws included in the DGSTRI are policies that impede access to communication infrastructure and cross-border data flows. Conversely, barriers affecting electronic transactions are less common (OECD, 2020). The DGSTRI scores of 54 countries range from 0.040 to 0.488, while the average is 0.179 (see Figure 1). Thirty-three countries are below the average and 21 above.

Figure 1
World (selected countries): digital services trade restrictiveness index, 2019



Source: Elaboration by the authors based on OECD, https://sim.oecd.org/Default.ashx?lang=En&ds=DGSTRI.

The Latin American nations are scattered among the 54 countries in figure 1. Argentina, Uruguay, Colombia, Brazil, Chile, Bolivia (P.S. of) and Peru impose more restrictions to digital services trade than the average of the OECD countries. In contrast, the Dominican Republic, Costa Rica, Ecuador, Mexico, Guatemala and Paraguay impose fewer restrictions than the OECD average. The OECD countries with the least restrictions show several commonalities (box 1).

Box 1
OECD countries with the least restrictions on digital services trade

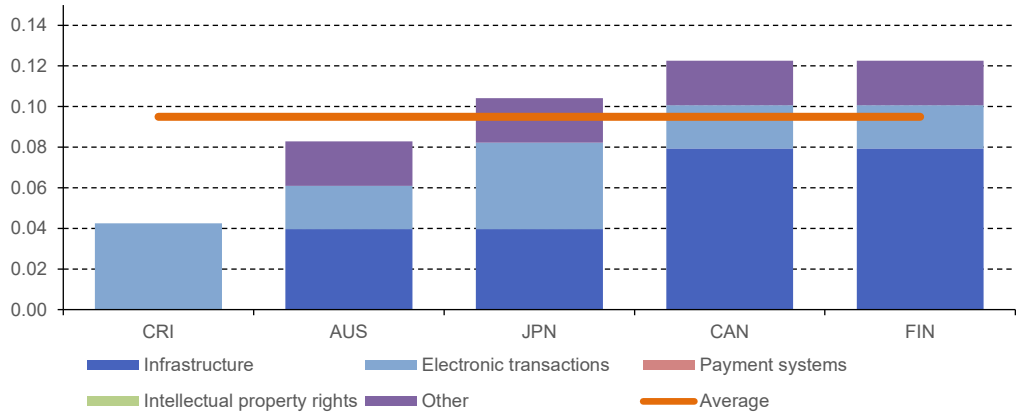
The OECD countries with the fewest restrictions on digital services trade are Finland, Canada, Japan, Australia and Costa Rica. The ranks for these countries vary from 0.043 to 0.123. Costa Rica and Australia are below the OECD members top performers' average of 0.095 (i.e., less restrictive).

These countries show several similarities:

- None of them impose restrictions on Payment Systems.
- None of them impose restrictions on Intellectual property rights.

Australia, Canada and Finland allow foreigners to declare their taxes online without requiring local presence, therefore facilitating international trade. Moreover, Australia adopted an innovative option to allow safe and efficient cross-border personal data flows (see box 2).

Figure 1
Selected countries: digital services trade restrictiveness index, 2019

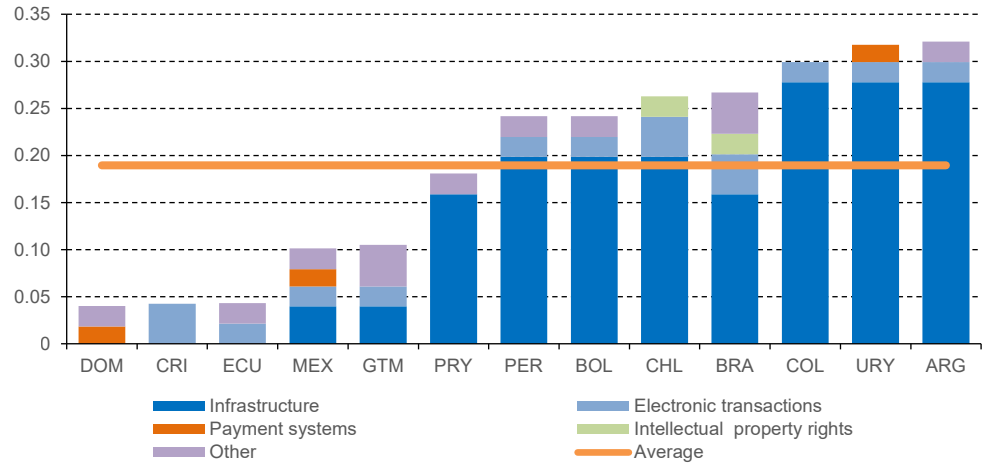


Source: Elaboration by the authors based on OECD, https://sim.oecd.org/Default.ashx?lang=En&ds=DGSTRI.

Source: OCDE, Digital Trade in Services Restrictiveness database, https://qdd.oecd.org/subject.aspx?Subject=STRI_DIGITAL.

Most restrictions on digital services trade in Latin American countries are related to infrastructure and electronic transactions (see figure 2). The LAC average of restrictions on digital services trade (with an average score of 0.190) is above that of all 54 countries covered (with an average score of 0.179). The scores in the region range from 0.040 to 0.321. The Dominican Republic, Costa Rica, Ecuador, Mexico, Guatemala and Paraguay have scores below the average (i.e., less restrictive). In contrast, the remaining seven countries have higher than average scores (i.e., more restrictive).

Figure 2
Latin America (selected countries): digital services trade restrictiveness index, 2019



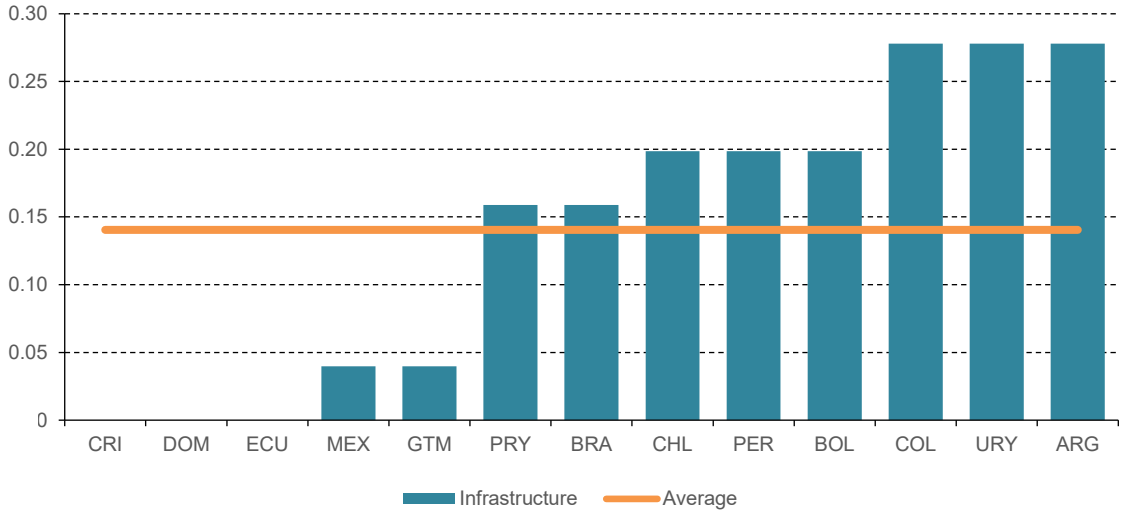
Source: Elaboration by the authors based on OECD, https://sim.oecd.org/Default.ashx?lang=En&ds=DGSTRI.

2. Specific policy areas

(a) Infraestructure and connectivity

All selected countries, except Dominican Republic, Costa Rica and Ecuador, have restrictions in communication infrastructures required for digital services trade (see figure 3). Argentina, Uruguay and Colombia, together with South Africa, are the four most restrictive countries in this policy area among all 54 countries included in the DGSTRI.

Figure 3
Latin America (selected countries): DGSTRI, infrastructure and connectivity for selected countries, 2019



Source: Elaboration by the authors based on OECD, https://sim.oecd.org/Default.ashx?lang=En&ds=DGSTRI.

Below the different components of this policy area are analyzed together with the performance of selected countries.

(i) Interconnection

The DGSTRI score related to infrastructure and connectivity (on network interconnection) depends on the presence of a dominant supplier of telecommunication services in the fixed and mobile market segments. If dominant suppliers are present, ex-ante regulations that mandate access to new entrants and provide rules on access conditions are needed. If these are absent, general competition rules are sufficient as long as incumbent providers are obliged to negotiate interconnection to new entrants in good faith. This is in line with international best practices as foreseen in the WTO Telecommunications Services Reference Paper.[8]

For instance, Costa Rica, Ecuador, Mexico and Peru have dominant operators and imposed asymmetric ex-ante regulations. Significant Market Power (SMP) suppliers must respond favorably to requests for interconnection from any domestic or foreign firm. This allows users of one supplier to communicate with users of another supplier and access a third supplier's services. These regulations facilitate digital transactions.

[8] https://www.wto.org/english/tratop_e/serv_e/telecom_e/tel23_e.htm.

In Chile, Movistar held a dominant position in the fixed-lines market segment (39% in December 2019).[9] However, no obligation existed for Movistar or any other SMP supplier to make interconnection reference offers public and interconnection process transparent. In Brazil, the telecommunication national agency ANATEL adopted the General Interconnection Resolution 693/2018[10] in July 2018, which for the first time defined the criteria for interconnection prices in mobile telephony. However, in all the selected countries, there is an obligation for telecommunication service providers to respond favorably to reasonable requests for interconnection.

Uruguay has dominant firms in all market segments. Providers may agree freely on prices, terms, and interconnection prices, if there is no discriminatory treatment between providers.[11] If providers fail to reach an agreement, the Communication Services Regulatory Unit[12] shall determine the interconnection prices, taking into account, among other aspects, the long-term average incremental costs.

(ii) Internet traffic management

Most selected countries have regulations that oblige internet or broadband service providers to give equal treatment to all Internet data that passes through their network.

In Bolivia (P.S. of), the internet service providers must give access to users to international content providers. However, non-discriminatory internet traffic management is not explicitly mandated. This is also the case of Guatemala.

In Brazil, traffic discrimination or degradation is only permitted based on technical requirements for the adequate provision of services and emergency services' prioritization. In any case, service providers in this country must abstain from causing damage to users and act transparently.

Chile's General Telecommunication law[13] sets forth the obligation for the Internet access providers to not arbitrarily block, interfere, discriminate, or restrict the right of any Internet user to access content, applications, or services. Internet traffic management is allowed if it does not limit competition.

Colombia's regulation also acknowledges the free choice of end-users to any content, application, or service via the internet unless prohibited by law or court order. All content, application, and service must receive equal treatment. Any arbitrary discrimination under its origin or ownership or any blockage of content is prohibited. In Argentina, the "Digital Law"[14] of 2014 also guarantees net neutrality. It forbids any restriction, discrimination, distinction, blockage, interference, or degradation except by court order or the user's express request.

In Costa Rica, the General Telecommunications Law provides a guiding principle of technological neutrality. However, its national broadband strategy suggests that final users enjoy quality services and exercise their right to freedom of choice and equitable and nondiscriminatory treatment. It also mentions that, in the provision of broadband, every citizen has the right to see any lawful content. The Law prohibits any barriers or blocking of ports, as they are attempts to restrict the free flow of information. Even though there are no discriminatory traffic management cases, no law currently details such obligation's scope.

In Mexico, for instance, the Federal Telecommunications and Broadcasting Law[15] of 2014 recognizes the end users' access right to all content without any limitation, degradation, restriction, or discrimination. All service providers in that country must abstain from obstruction, interference,

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9 https://www.subtel.gob.cl/wp-content/uploads/2021/01/PPT_Series_DICIEMBRE_2019_VF2.pdf.
10 http://www.anatel.gov.br/legislacao/resolucoes/2018/1142-resolucao-693.
11 https://www.impo.com.uy/bases/decretos-originales/442-2001.
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14 http://servicios.infoleg.gob.ar/infolegInternet/anexos/235000-239999/239771/norma.htm.
15 http://www.diputados.gob.mx/LeyesBiblio/ref/lftr.htm.

inspection, filter, or discrimination of content, applications, or service. Internet traffic management is allowed, provided it does not impair free competition.

(iii) Use of communication services

All selected countries have no restrictions on the use of communication services. For instance, no blocking seems to exist in the use of Virtual Private Networks (VPNs). These are often used as extensions of private networks across a public network with an encrypted connection to grant more privacy and anonymity to internet communications.

This freedom in the use of communications translates into several obligations. These include: allowing employees, freelancers, business travelers, and others to remotely access applications hosted on proprietary networks, securely transmit data, visit websites that otherwise could be restricted, make payments in different currencies and buy products and services otherwise unavailable.

Even though this freedom also generates controversy due to possible tax evasion, copyright infractions, and other illegal endeavors, the selected countries' regulations have no policy restrictions in this sense. Nevertheless, as opposed to detailed net neutrality rules, no specific reference related to VPNs' use and regulation has been found.

(iv) Cross-border data flows

Finally, cross-border data transmission regulations are also accounted for in the DGSTRI scoring for infrastructure and connectivity. This inclusion is justified due to its ability to hinder or help create new business models and its capacity to affect connectivity.

Data is the most strategic asset in the digital economy. Data and their management constitute a new commodity that may be monetized, capitalized, or traded. In the region, particularly Brazil has the potential to become a strong regional leader in a data-driven economy. However, accessibility, privacy, and data protection regulations may limit this potential, as described below.

In Mexico, the General Personal Data Protection Law incorporates the accountability principle. However, controllers are held accountable and must demonstrate compliance by adopting several mechanisms such as personal data protection policies and a supervision system, including audits.

In Mexico, any domestic or international transfer of personal data is subject to its holder's consent, except for certain circumstances. For instance, when a transfer is made between controllers or pertains to personal data used for the exercise of the same or compatible purposes that motivated the processing of personal data in the first place. In principle, all data transfers must be formalized through contractual clauses, collaboration agreements, or any other legal instrument that demonstrates the scope of the personal data processing and the obligations assumed by the involved parties. Additionally, the controller may only transfer personal data abroad when the third-party recipient or person in charge agrees to protect the personal data following the principles and duties outlined in the law[16] and the applicable provisions.

In contrast, in Costa Rica, regulations on cross-border data flows are succinct. Data controllers may only transfer data when authorized by the owners and complying with the principles and rights granted in the Law on Protection of the Individual Against the Processing of their Personal Data.[17] The data exporter must enter a contract with the data recipient, which must provide at least the same obligations to which the person responsible for transferring such data is subject.

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[16] Available at http://www.diputados.gob.mx/LeyesBiblio/ref/lfpdppp.htm.

[17] http://www.pgrweb.go.cr/scij/Busqueda/Normativa/Normas/nrm_texto_completo.aspx?param1=NRTC&nValor1=1&nValor2=70975.

Chile's Personal Data Protection Law[18] represents a similar low-level regulation. The transfer of data is only possible when authorized by law or by its holder. Article 4 of this law does not provide any more specifics. For the upgrade of the current regime, a bill[19] is currently under discussion before Congress. If approved, it will regulate the new technologies used to collect and disseminate data and integrate the accountability principle as Mexico, among other provisions. International data transfers would also fall under this new law, adding conditions for legal dataflows beyond data holder consent, such as contractual safeguards and an adequate data protection level. This new law would list the criteria to determine such adequacy.

Colombia prohibits cross-border data transfers to countries with insufficient data protection. An adequate level of data protection exists when the foreign law provisions comply with its Superintendence of Industry and Commerce standards. This form of discretion could have a dissuasive impact and may represent a challenge for companies trying to engage in digital trade with other Colombian firms. Nevertheless, this prohibition does not apply when the data holder has given his authorization for the transfer.

In Brazil, international personal data transfers are allowed since Law 13079/2018 for personal data protection entered into force in September 2020. These transfers are permitted under several conditions.[20] These include an adequate degree of security by the recipient country, application of certain safeguards by the data controller, and the holder's consent acknowledging the international data transfer. In 2016, government agencies, including the Secretary of Information Technology of the Ministry of Planning, Development, and Management, included data localization as a requirement for public procurement contracts involving cloud-computing services.[21]

Additionally, the Central Bank of Brazil implemented Regulation no. 4,658 in April 2018.[22] This Regulation stipulates financial institutions' requirements on hiring data processing, data storage, and cloud computing services in the country or abroad. The provision of such services by foreign entities is subject to additional requirements. One of these is an agreement for exchanging information between the Central Bank and supervisory authorities of countries where services are delivered. Financial institutions should inform the Central Bank about the countries where they a) provide services and b) store, process, and manage the data. Without this agreement, the Central Bank needs to give its authorization. Nonetheless, the Central Bank may veto or impose restrictions on the contract if noncompliance is found with the Regulation's requirements or if it hampers the Central Bank's performance.

In Argentina, international data transfers are permitted if the receiving country provides an adequate level of data protection. However, this requirement is not necessary if the data holder grants consent. In 2016, model contractual clauses were established to guarantee an adequate level for other countries. According to Resolution AAIP 34/2019,[23] Uruguay is the only country in Latin America that provides sufficient data protection. According to the EU General Data Protection Regulation, Argentina and Uruguay are the only countries in the region with an adequate protection level.[24]

Paraguay was one of the few countries in the region that did not have, until very recently, a data protection law covering cross-border data transfers. Law 6534,[25] enacted October 2020, only allows

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18 https://www.leychile.cl/Navegar?idNorma=141599.
19 https://www.camara.cl/legislacion/ProyectosDeLey/tramitacion.aspx?prmID=11661&prmBoletin=11144-07.
20 This Law amended Law 12965/2014.
21 https://www.gov.br/produtividade-e-comercio-exterior/pt-br/assuntos/micro-e-pequena-empresa/arquivos/guia-de-orientacoes-para-contratacao-de-servicos-em-nuvem.
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23 https://www.boletinoficial.gob.ar/detalleAviso/primera/202373/20190226.
24 https://www.cnil.fr/fr/la-protection-des-donnees-dans-le-monde.
25 https://www.bacn.gov.py/leyes-paraguayas/9417/ley-n-6534-de-proteccion-de-datos-personales-crediticios.

international data transfers when the law's guarantees are met, meaning cross-border data transfers are subject to approval on a case-by-case basis.

Finally, Bolivia (P.S. of), Ecuador and Guatemala do not currently have a data protection law. However, a bill[26] is now under discussion before congress in Ecuador, which includes a chapter dedicated to cross-border data transfers. This chapter would allow personal data transfers to a country with an adequate protection level and safeguards, as defined by the bill. A bill is also under discusión in Guatemala.[27]

Discrepancies between regulations may deter foreign providers from selling services, especially those of smaller size. Limitations to cross-border data flows, as those mentioned, may also affect digital trade, particularly electronic transactions involving personal data.

The approach to personal data protection usually differs from country to country, which is why regulation also differs. An interesting approach is found for instance in Australia (box 2).

Box 2
Cross-border data flows in Australia

The Australian Privacy Act 1988 contains 13 privacy principles to manage the processing of personal information from beginning to end by government entities as well as private entities with an annual turnover of more than $3 million, or less, when handling sensitive information such as health data (including for instance information disclosed to a gym or weight loss clinic).

Section 16C of the Privacy Act is a key element of this regulation. It sets forth the accountability principle, making the entity responsible for personal information disclosed to a recipient located outside of Australia. This entity must assure that the recipient of personal information will manage the disclosed personal information in accordance with the Australian privacy principles. Unless a substantially similar protection is provided, enforcement mechanisms are available to the individual affected or when the individual has agreed to the disclosure.

Some advanced features include the possibility for an individual to enforce stopping the receipt of unwanted direct marketing, having the option under certain circumstances to not identify him or herself or use a pseudonym. Also, the Australian Privacy Commissioner has the power to monitor compliance of the privacy of personal information held by telecommunications carriers.

Source: Elaboration by the authors based on the Australian Privacy Act 1988.

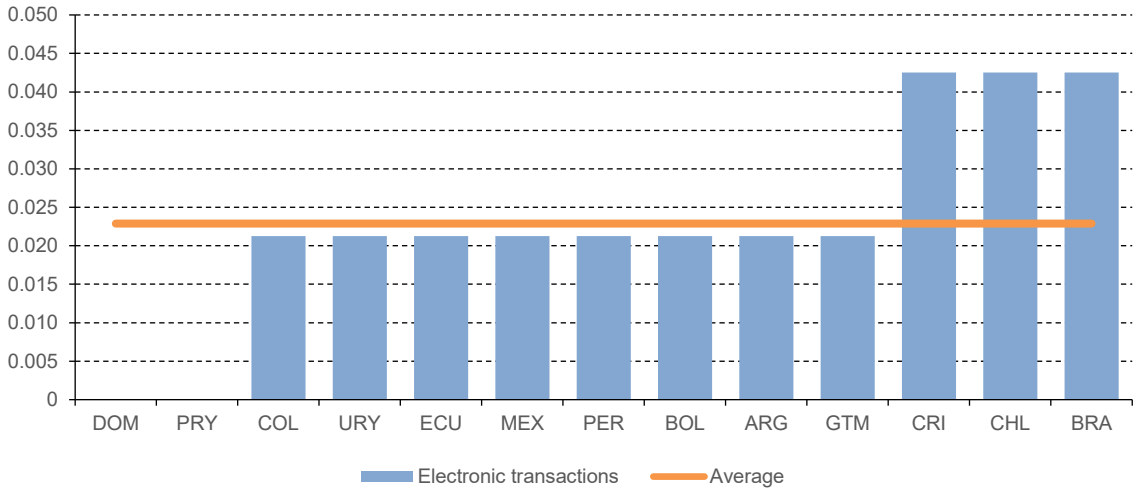
(b) Measures affecting electronic transactions

All selected countries, except the Dominican Republic and Paraguay, have restrictions on electronic transactions (see figure 4). Chile, Brazil and Costa Rica's scores (0.043) are above the DGSTRI's all countries —general average which is of 0.029. The LAC average of measures affecting electronic transactions is 0.02289 (see figure 4).

[26] https://www.nmslaw.com.ec/wp-content/uploads/2019/09/Proyecto-de-Ley-Org%C3%A1nica-de-Protecci%C3%B3n-de-Datos-Personales.pdf.

[27] https://www.congreso.gob.gt/detalle_pdf/iniciativas/1353.

Figure 4
Latin America (selected countries): DGSTRI, electronic transactions for selected countries, 2019



Source: Elaboration by the authors based on OECD, https://sim.oecd.org/Default.ashx?lang=En&ds=DGSTRI.

(i) E-commerce

None of the selected countries have laws or regulations that mandate service providers to obtain a license or authorization to engage in e-commerce. Apart from regular business licenses, no other permissions are needed to perform online sales. As a result, the DGSTRI records no discriminatory conditions for foreign services suppliers.

Existing regulations only refer to e-commerce to regulate consumers' rights. These require, for example, accurate information about the supplier, the product, and the service offered. This requirement holds for the Mercosur Member States[28] and Chilean draft regulation on E-commerce.[29]

Few free trade agreements (FTAs) in the region have a specific e-commerce chapter. Examples are agreements between Chile and Colombia,[30] Chile and Uruguay, Colombia and Costa Rica[31], the EU, Colombia and Peru,[32] and the EU and Chile.[33] These FTAs seek to avoid the application of customs duties to digital products of the other party. Also, they underline the importance of the coherence of data protection with international standards to ensure the confidence of the users of electronic commerce.

In the Colombia-Costa Rica FTA, both Parties agreed to implement various actions to foster electronic commerce. These include: facilitate the use of e-commerce by MSMEs; maintain cross-border information flows; and promote codes of conduct, model contracts, trust marks, guidelines, and enforcement mechanisms in the private sector. Both countries participate actively in regional and multilateral fora to promote cross-border e-commerce, recognize mutually electronic signature certificates issued to the public, and facilitate the use of cross-border certification services. However, other commitments remain vague.

Insufficient regulation in this area could entail the risk of arbitrary discretion from the authorities and uncertainty for businesses, which ultimately could undermine trade in the region. Companies, especially

[28] http://www.loa.org.ar/legNormaDetalle.aspx?id=4862.
[29] https://www.economia.gob.cl/wp-content/uploads/2020/10/2020.10.05-Reglamento-de-Comercio-Electronico.pdf.
[30] https://www.subrei.gob.cl/acuerdos-comerciales/acuerdos-comerciales-vigentes/colombia.
[31] http://rtais.wto.org/UI/PublicShowMemberRTAIDCard.aspx?rtaid=839.
[32] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02012A1221%2801%29-20181213.
[33] http://rtais.wto.org/UI/PublicShowMemberRTAIDCard.aspx?rtaid=33.

small ones, may find it challenging to navigate each country's legal landscape to understand which rules apply to their business. It may be challenging to know if they require a standard business license, especially in a hybrid (online and offline) business model.

(ii) Online tax registration and declaration

Another challenge that businesses may face is the registration and declaration of taxes. Non-resident providers of digitally enabled services are usually required to pay the consumer's country's consumption tax. Consequently, the DGSTRI reports if online tax registration and declaration are available to non-resident foreign providers. If this were the case, it would reduce their compliance cost.

Argentina, Bolivia (P.S. of), Colombia, Dominican Republic, Ecuador, Guatemala, Mexico and Paraguay offer online tax registration and declaration for foreign nationals residing outside the host country. Although it is also possible in Chile, the contributor's representatives must have residency in the country. Foreigners must have a special visa to carry out economic activities the country. The Chilean internal revenue service[34] requires the representative to visit their offices to attest his/her domestic representation.

In Brazil, the tax registry depends on the state. In Sao Paulo, non-residents require to grant a power of attorney to a local person to register. This may discourage businesses, particularly SMEs, from doing business as the compliance costs could be substantial.

(iii) Internationally standardized contract rules

Another factor increasing compliance costs is the deviation of national contract rules for cross-border transactions from internationally standardized rules. To check if this is the case, the DGSTRI verifies if countries have ratified the UN Convention on the Use of Electronic Communications in International Contracts.[35] This convention was adopted in 2005 by the General Assembly resolution A/60/21. It updates and complements the UN Convention on Contract for International Sales of Goods. Moreover, it builds upon other UNCITRAL instruments, such as the Model Law on Electronic Commerce and the Model Law on Electronic Signatures.

The UN Convention on the Use of Electronic Communications in International Contracts also promotes cross-border electronic commerce. It facilitates electronic means to eliminate legal obstacles in electronic communications, streamlines the legal recognition of cross-border communications and electronic signatures, and provides countries with a simple, modern, and standardized regulatory body.

Despite its importance, only fourteen countries have ratified it, given that many countries decided to enact their own domestic laws. The Dominican Republic and Paraguay are the only countries in the region that ratified it. Although Colombia signed it in 2007, it has not ratified it yet.

(iv) Electronic signature

All the selected countries have domestic laws or regulations that give equal validity to electronic signatures as to hand-written ones. This increases confidence in e-commerce by proving that any communication reaches the recipient party without being altered. Nevertheless, the regulatory framework to integrate all technological developments present in e-commerce remains limited.

The selected countries have domestic laws not originally designed to regulate cross-border contractual relations. They do not provide details on, for example, the use of electronic communications in international contracts, dispatch, and receipt of electronic communications, the use of automated message systems for contract formation, and errors in electronic communications. A harmonization of frameworks in the region in this sense could foster the firms' confidence in e-commerce and boost this type of trade for the

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[34] http://www.sii.cl/servicios_online/1031-1032.html.

[35] https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=X-18&chapter=10.

whole region. In this context, Mercosur has signed an agreement on mutual recognition of digital signature certificates, which is yet to be ratified by its Member states.

Costa Rica's Law of Certificates, Digital Signatures, and Electronic Documents is an example of a domestic law that makes cross-border contractual communication challenging for firms. Article 13 provides for the homologation of foreign digital certificates. According to this law, a digital certificate issued abroad is valid if it complies with three conditions. First, it needs to be endorsed by a certifier registered in the country. Second, it has to meet all requirements outlined in the law. Third, there should be a reciprocal agreement between Costa Rica and the foreign certifier's country of origin. The Argentinean Digital Signature Law follows the same approach.

(v) E-dispute settlement mechanisms

As Latin American businesses and consumers participate actively in cross-border e-commerce, disputes sometimes arise between consumers and companies or among firms. The DGSTRI looks at the existence of dispute settlement mechanisms to resolve cross-border digital trade conflicts. Such instruments may include judicial or extra-judicial procedures. It also captures methods to settle disputes related to the registration of domain names.

All selected countries have online dispute resolution alternatives, particularly forms of mediation. Nevertheless, several difficulties remain, including agreements on the applicable law and jurisdiction. For instance, the Mexican government has established an electronic dispute resolution system named Concilianet, which offers online mediation. Consumer protection agencies of Brazil, Chile, Costa Rica, Mexico, Peru, and another 35 countries, belonging to the International Consumer Protection and Enforcement Network (ICPEN), have released an online tool for consumers to submit their complaints and report international scams.[36]

Along these lines, the Costa Rican Regulation for the Promotion of Competition and Effective Defense of the Consumer[37] added a new chapter in 2017 that requires all merchants to establish a free, transparent, and effective mechanism to receive consumer complaints. To resolve any dispute, a business or client should use the same means as the one adopted for the e-commerce transaction.

Peru has a Cibertribunal[38] that offers conciliation and arbitration services for Peruvian domain names and other ICT disputes related to, for example, e-commerce, electronic contracts, and intellectual property.

Finally, the Latin American eCommerce Institute and eConfianza Trustmark program have also developed an online dispute resolution regional program. This program promotes, for example, best practices to increase consumers' trust and model frameworks for cross-border transactions. The network includes chambers or national associations of e-commerce from Argentina, Brazil, Colombia, Chile, the Dominican Republic, Ecuador, Mexico, Venezuela (the Bolivarian Republic of), Paraguay, Peru, and Uruguay.

Nevertheless, the region needs to update several issues to keep with recent trends and promote cross-border e-commerce. These include, for example, the price, complexity, duration, dematerialization of different proceedings, and the enforcement of decisions. Other key themes are logistics and customs matters, and the availability of trustworthy online means of payment.

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[36] https://www.econsumer.gov.

[37] http://www.pgrweb.go.cr/scij/Busqueda/Normativa/Normas/nrm_texto_completo.aspx?param1=NRTC&nValor1=1&nValor2=85162&nValor3=110031&strTipM=TC.

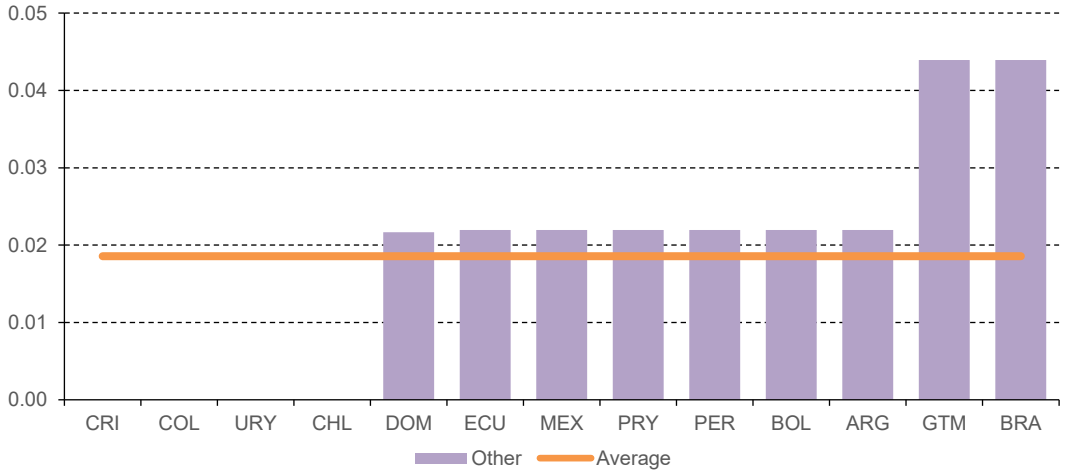
[38] https://www.cibertribunalperuano.pe/services.

(c) Payment systems

Payment systems are essential to facilitate the cross-border electronic buying or selling of products and services. In parallel to the expansion of e-commerce during the pandemic, several new payment settlement methods and payment platforms have surged.

Out of the thirteen countries, the Dominican Republic, Mexico and Uruguay (all three with a score of 0.018) are the only ones that restrict payments using electronic methods. All three countries are above the DGSTRI all countries general average of 0.0068. The LAC average of measures related to payment systems is 0.00425 (see figure 5).

Figure 5
Latin America (selected countries): DGSTRI, other barriers for selected countries, 2019



Source: Elaboration by the authors based on OECD, https://sim.oecd.org/Default.ashx?lang=En&ds=DGSTRI.

The DGSTRI Payment Systems policy area comprises 3 sections: discriminatory access to payment settlement methods, deviation from international standards in payment security, and restrictions on internet banking or insurance.

(i) Access to payment settlement methods

Few countries (i.e., Colombia, Paraguay, and Peru) have regulations on electronic payment settlement methods as most people in the region continue to prefer cash. Peru pioneered a mobile wallet, in which people can put money and make payments from their mobile phones.[39]

According to the DGSTRI, none of the selected countries, except for the Dominican Republic, impose requirements that impede access to electronic payment methods. There are no limits to use a local bank account or restrictions on the use of currencies for international payments. However, several have vague rules regulating e-payments and their unique characteristics.

In the Dominican Republic, although the exchange regime is based on the free convertibility of the national currency with other currencies, the intermediation may only be carried out by authorized financial intermediation entities and exchange agents. Moreover, to become an exchange agent it is necessary to be listed as a stock company in accordance with domestic laws.

[39] https://mibim.pe/.

(ii) National payment security standards

National standards for payment security, sometimes based on international standards, are the second area of possible restrictions. Examples of the latter are ISO/IEC 7816 for electronic identification cards with contacts, ISO/IEC 14443 for contactless integrated circuit cards, and ISO/IEC 27001 for information security management systems.

In Chile, banks are subject to specific requirements to guarantee internet transactions' security. The latter requires, for example, data encryption for wire transfers or data processing of their clients. In Costa Rica, businesses are obliged to carry out the transactions and payments in a secure electronic environment and use a certified entity to validate their processes and technology.

Mexico is the only selected country that deviates from international standards, having no explicit international payment security rules. However, it is difficult to assess accurately whether its regulations prevent fraud and identity theft due to the lack of updated information on the settlement methods' progress.

(iii) Internet banking and insurance

Internet banking and insurance is a third set area of possible restrictions referring to payment systems. In this area, regulations may exist affecting the use of electronic payments and credit services, such as maximum amounts on payments by electronic means or the obligation of using intermediaries for online payments and credit services.

In Uruguay, the current regulation of electronic payment methods[40] allows commercial establishments, other than financial ones, to offer the cash withdrawal service as a complement to the purchase of a good or service. This functionality may be enabled for any means of electronic payment, except for credit cards, although each transaction has a withdrawal limit of 1,500 indexed units.[41]

The remaining selected countries reported by the DGSTRI have no restrictions. Argentina introduced a regulatory reform in 2015[42] that eliminated prior limits. Until 2015, individuals and companies could not purchase foreign currency. This meant that online payment services were unable to handle transactions between local and foreign currencies. Moreover, the reform eliminated a 35% tax applied to Argentinean residents on the online purchase of goods and services using a credit or debit card.

(d) Intellectual property rights

The protection of intellectual property rights (IPR) is essential to create a suitable environment for businesses and promote innovation in digital sectors. IPR enforcement is a critical regulatory challenge for companies that intend to offer services in the region.

Chile and Brazil are the only countries restricting intellectual property rights protection (see figure 6). Both display a score of 0.022, which surpassed the DGSTRI all-countries general average of 0.0036. The LAC average of measures related to intellectual property rights is 0.00333.

(i) Trademark protection

According to the DGSTRI, none of the selected countries deny foreign firms access to national trademark registration and protection on a non-discriminatory basis. Brazil, Colombia, and Mexico have ratified the Madrid Agreement recognizing the international registration of trademarks. Brazil's incorporation in 2019 into the International Trademark System of the World Intellectual Property Organization (WIPO) is a significant gain for the whole region.

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[40] https://www.bcu.gub.uy/Acerca-de-BCU/Normativa/Documents/Recopilacion-de-Normas/Sistema-de-Pagos/libro_septimo.pdf.
[41] As of March 6th, 2020, an Index unit is equivalent to 4,4592 Uruguayan pesos.
[42] http://www.bcra.gob.ar/Pdfs/comytexord/A5850.pdf.

(ii) Copyrights and related rights protection

Measures related to the protection of copyright and related rights refer to granting of national treatment to foreign right holders following international agreements. These include the Berne Convention for the Protection of Literary and Artistic Works, the WIPO Copyright Treaty, WIPO Performances and Phonograms Treaty, or the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

These measures also refer to the scope of exceptions to copyright and related rights, seeking to determine if such exceptions are confined to certain special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the right holder.

Under the treaties and agreements mentioned above, all the selected countries are obliged by their commitments, except Brazil. This country has not yet ratified the WIPO Copyright Treaty and the WIPO Performances Phonograms Treaty.

In Chile, the Intellectual Property Law[43] distinguishes between three groups. These are nationals, foreigners based in Chile, whose rights are protected under this law, and foreign right holders not based in Chile. The latter enjoy protection only insofar Chile is bound by obligations arising from international treaties to which it is a party.

In Bolivia (P.S. of), some of the identified exceptions are not considered to be in agreement with international rules. For instance, before the term of protection of a work of art has expired, the State may decree its use due to public necessity of the economic rights in a work that is considered to be of great cultural value to the country, or of social or public interest, upon payment of a fair compensation to the owner of the work.

(iii) Enforcement of intellectual property rights

None of the selected countries seem to have a legal void in their enforcement of intellectual property rights. Each country has judicial or administrative procedures to enforce IP rights, particularly copyrights and trademarks. All have judicial or administrative enforcement measures, provisional measures to stop an alleged infringement, and criminal enforcement proceedings in case of distribution or commercial sale of protected material.

Nevertheless, effective enforcement remains an issue around the globe, including in Latin America. Challenges include the authorities' lack of capacity, lack of effective handling of complaints, or long backlogs of cases due to difficulties with investigations. Moreover, the ease of copying content digitally is hindering the government's combat against piracy.

Governments need to step up the fight against counterfeiting, which represents a threat to innovation and content creation and presents new challenges in the digital economy. They can address this issue through new provisions on IPRs in their copyright laws. For instance, Chile reformed its copyright law[44] to refer to internet service providers and computer programming, among other digital-related concepts.

A 2020 Report by the European Commission on the protection and enforcement of intellectual property rights in third countries includes Argentina, Brazil, and Ecuador.[45] This report points out copyright piracy, especially online and satellite piracy, as one of the widespread issues and meager penalties resulting from IP infringements. Stakeholders report some progress in Argentina over the last two years, as cooperation between right holders and enforcement authorities has improved, but it

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[43] https://www.bcn.cl/leychile/navegar?idNorma=28933.
[44] Available at https://www.bcn.cl/leychile/navegar?idNorma=1012827.
[45] https://trade.ec.europa.eu/doclib/docs/2020/january/tradoc_158561.pdf.

continues to be weak. In Brazil, IPR enforcement remains an issue due to a lack of enforcement capacities, appropriate training, and sanctions. Moreover, counterfeit and pirated offers on e-commerce platforms and audiovisual, music downloading, and streaming websites have increased. In Ecuador, IPR enforcement is also a serious concern, as counterfeited products are widespread online.

Another challenge is the harmonization of IPR regulation among the selected countries. Businesses, especially SMEs, may find it challenging to navigate and understand the various protection requirements. Since 1995,[46] Mercosur States reiterated their aspiration to harmonize their intellectual property rules in specific areas. These include trademarks, source indications of and designations of origin. This harmonization aims to reduce distortions and impediments to trade in products and services within their territories. The EU has created a free-of-charge helpdesk[47] to support European companies on IPR regulations in Mercosur and Chile (and other markets such as Colombia, Mexico, and Peru).

3. Other dimensions

Some other dimensions are also relevant for the selected countries' digital trade policy. These include performance requirements, limitations on downloading and streaming, restrictions on online advertising, commercial or local presence requirements. Similarly, conditions regarding the supply of computer and related services may also hinder a thriving digital environment.

(a) Other barriers affecting trade in digitally enabled services

Brazil, Guatemala, Mexico, Argentina, Bolivia (P.S. of), Peru, Ecuador, Paraguay and Dominican Republic have additional barriers affecting trade in digitally enabled services (see Figure 7). Only Brazil and Guatemala's score (0.044) are above the DGSTRI all-countries general average (0.029). The LAC average of other barriers affecting trade in digitally enabled services is 0.01856 (see figure 5).

According to the DGSTRI, none of the selected countries, except Bolivia (P.S. of), apply measures such as mandatory use of local software, encryption technology, specific authentication schemes in online transactions, or compulsory technology transfers. No restrictions have been found on online advertising as none of these countries have specific regulations for these topics. Also, there seem to be no government limitations affecting downloading and streaming, such as blocking access to content.

Some governments in the selected countries have temporarily blocked applications, taking advantage of a lack of regulation on this issue. It is desirable to introduce rules on this issue to avoid arbitrary government decisions in this context.

One crucial measure that considerably limits trade in digital services is the requirement of commercial or local presence to provide cross-border services. The latter often translates into an obligation to establish a local representative. In Chile, Colombia, Costa Rica, Dominican Republic and Uruguay, this is not the case as no such obligation exists nor an establishment to supply a service or perform an economic activity.

In the remaining countries considered here, however, some commercial presence is required:

- In Brazil, foreign companies must establish themselves legally to obtain a local country code top-level domain.[48] Businesses may choose another opt-level domain for which establishment is not a pre-condition. However, consumers may trust more websites having a local top-level domain name.

[46] Available at OAS website http://www.sice.oas.org/trade/mrcsrs/decisions/deco895.asp.

[47] http://www.iprhelpdesk.eu/news/managing-ip-your-business-mercosur-and-chile.

[48] A two-letter Internet domains specifically designated for a particular country, sovereign state or autonomous territory for use to service their community. For instance: .br for Brazil, .uy for Uruguay and .cr for Costa Rica.

- In Ecuador, every national or foreign company that negotiates or enters obligations in Ecuador must have a representative in the country. Additionally, commercial presence is required for certain types of services. These include public services, public construction, or exploitation of natural resources.
- In Mexico, the foreign direct investment law also requires local presence, and under certain circumstances, commercial presence.[49]
- In Paraguay, according to Civil the Code,[50] any foreign company wishing to exercise its activity in the country must establish a representation with residence in the country. Local presence is therefore required to provide cross-border services.
- In Peru, foreign direct investment, such as investments in intangible technological contributions, needs to be registered before the competent national institution. These intangibles include trademarks, industrial models, technical assistance, technical documents, and patented or non-patented technical knowledge embodied in physical goods. After this registration, foreign investors acquire certain rights such as transferring capital from their investments abroad in freely convertible currency without prior authorization, including the sale of shares, participations or rights, capital reduction, or partial or total liquidation of companies' dividends or proven net profits from their investment. Moreover, foreign companies must register in the Peruvian National Registry of Suppliers to participate in a state bidding process.
- In Bolivia (P.S. of), for companies registered abroad to perform acts of commerce comprised in their corporate purpose, they must establish a branch or permanent representation domiciled in Bolivia (P.S. of).
- In Guatemala, although no commercial presence is mandated, companies legally registered abroad that wish to establish or operate in any form in the country or wish to have one or more branches or agencies, must at least have one permanent representative in Guatemala.

Other instruments affecting digital trade include preferential measures for local computer suppliers, discriminatory access to public procurement, and barriers to competition in computer services. These restrictions, covered by the CSSTRI, translate into fewer and costlier digitally traded services.

(b) Computer related services restrictions

The Computer Services Trade Restrictiveness Index (CSSTRI) results for 55 countries ranges from 0.123 to 0.511, with an average of 0.245 (see Figure 6). This index considers five policy areas: restrictions on foreign entry, restrictions to the movement of people, other discriminatory measures, barriers to competition, and regulatory transparency. Thirty one countries have scores below the average, whereas 24 have scores above. Countries with the least restricted regulatory environment (such as Korea and France) for computer services trade are on the left-hand side.[51] On the opposite side of the spectrum are Bolivia (P.S. of) and Iceland.

Only five out of thirteen Latin American countries have scores above the CSSTRI all countries average (0.245). These are Peru (0.261), Mexico (0.269), Brazil (0.347), Guatemala (0.368) and Bolivia (P.S. of) (0.511). The remaining selected countries are below the general average.

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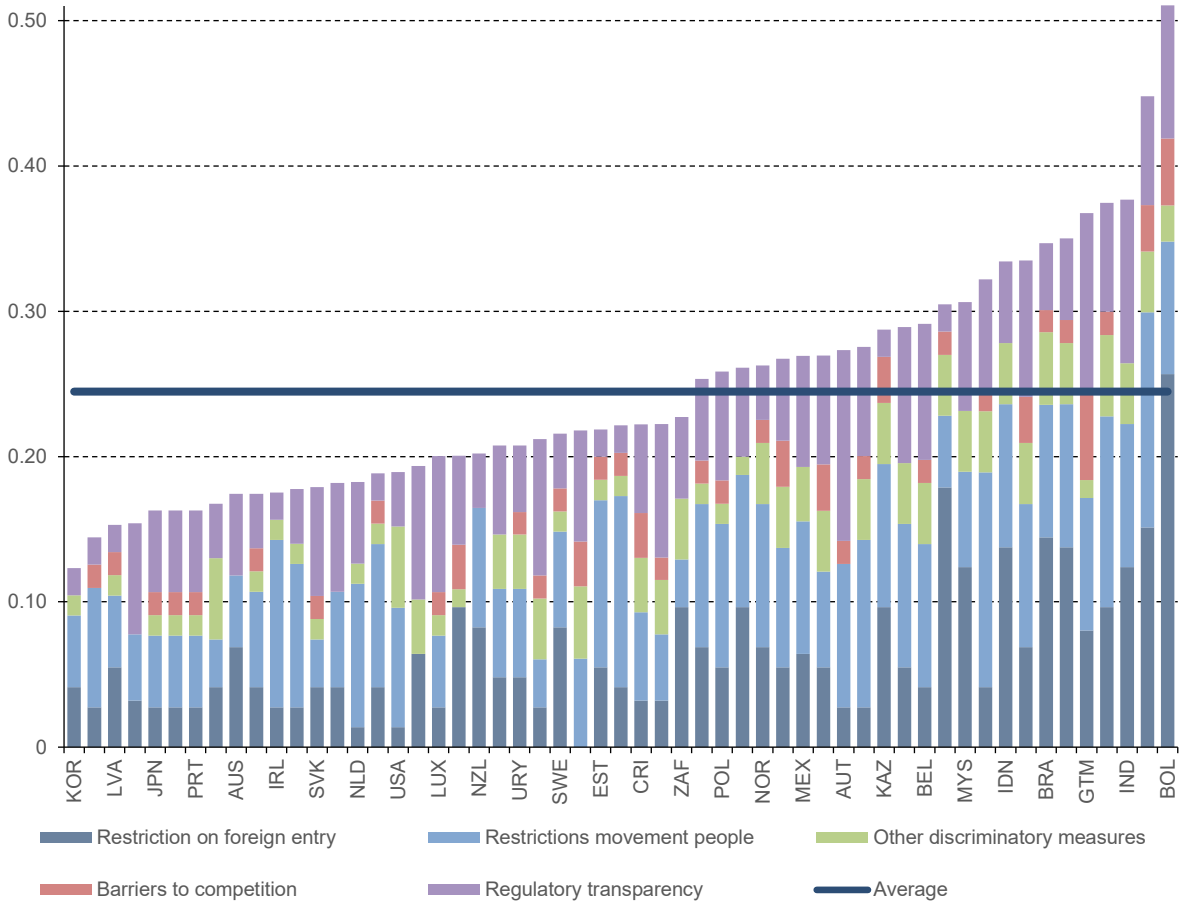
[49] http://www.diputados.gob.mx/LeyesBiblio/pdf/44_150618.pdf.

[50] https://www.oas.org/dil/esp/Codigo_Civil_Paraguay.pdf.

[51] Computer services include consultancy services related to installing computer hardware, software implementation services, data processing services, and database services.

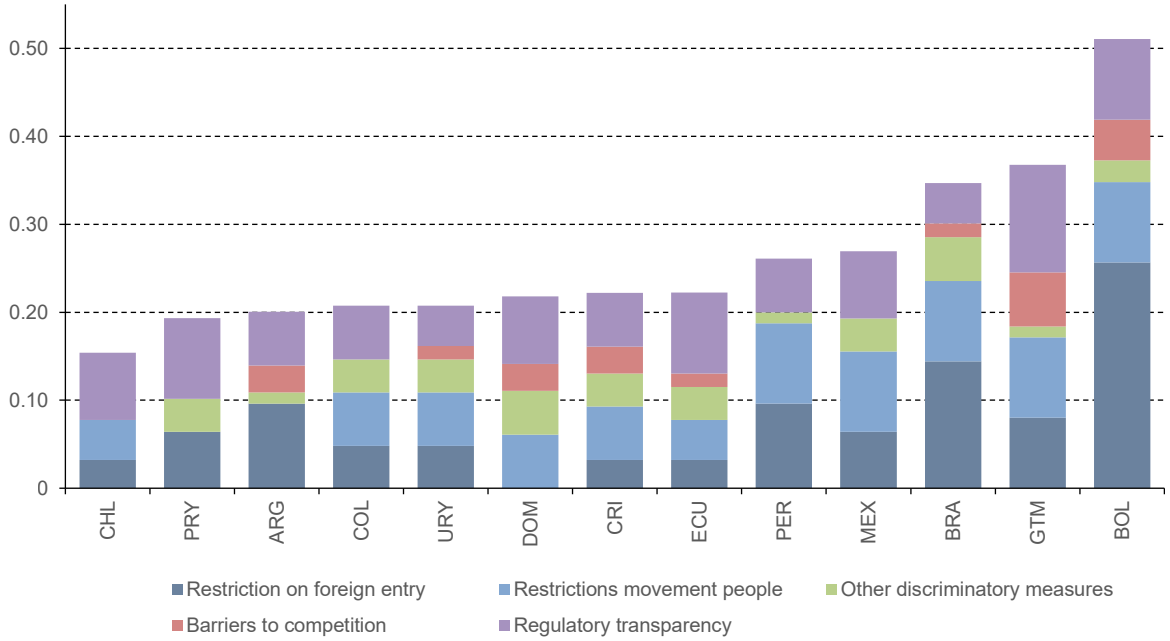
Figure 6
World (selected countries): computer services trade restrictiveness index, 2019



Source: Elaboration by the authors based on OECD https://stats.oecd.org/Index.aspx?DataSetCode=STRI.

The most common restrictions captured by the CSSTRI for all Latin American countries in 2019 are foreign entry restrictions, regulatory transparency and other discriminatory measures such as restrictions on foreign participation in public procurement (see figure 7).

Figure 7
Latin America (selected countries): computer services trade restrictiveness index, 2019



Source: Elaboration by the authors based on OECD https://stats.oecd.org/Index.aspx?DataSetCode=STRI.

A combined reading of each country's digital trade and computer services restrictions is needed to understand their digital trade regulatory environment better. Below a summary is provided for each of the thirteen countries.

(i) Argentina

Argentina has several restrictions regarding foreign entry, competition, and regulatory transparency. Most of board directors in Argentinean entities must have their residence in Argentina. Moreover, the cross-border supply of services, including computer services, requires a local presence. Also, firms can only sell computer engineering services from Buenos Aires if they are part of the Buenos Aires Engineers professional association.

(ii) Plurinational State of Bolivia

The Bolivian Investment promotion law constrains the way the placement of investment contributions may be made (i.e. commercial companies, public companies, mixed capital companies in which the State has a majority shareholding, public companies and contracts or other joint investment instruments). All these investment mechanisms need to comply with the constitutional precepts and shall be subject to the Investment Promotion Law, the Commercial code and other applicable regulations.

Furthermore, Bolivian nationality is required to perform the functions of director, administrator, advisor or director in State institutions and in private institutions whose activity is directly related to the interests of the State, particularly in the economic and financial fields.

The Bolivian law similarly provides for restrictions on the type of shares or bonds held by foreign investors. Foreign companies may only issue publicly offered securities in the country after obtaining a special authorization which is subject to reciprocal treatment by the foreign country.

Moreover, any transfer of capital coming from abroad has to be channeled through the national financial system and all foreign investments must comply with the transfer pricing regulations established in Bolivia (P.S. of).

Finally, as mentioned before, in Bolivia (P.S. of), investments entail a compulsory technology transfer in accordance with the development needs of the productive sector, and they must include at least one of the following modalities:

- Generation of capacities and skills in the Bolivian personnel from technical high schools, technical institutes, and technological universities of the Plurinational Educational System in the technical areas developed by the investment;
- Transfer of machinery and state-of-the-art technological equipment to technical high schools, technical institutes, and technological universities of the Plurinational Educational System and public entities linked to the investment area and;
- Develop applied research within the company aimed to improve the industrial process or to contribute to public welfare. The application of what is established in paragraphs a) and c) must take place during the investment process.

Moreover, 85 percent of the employees serving the same employer must be of Bolivian nationality. Of the total salaries paid by the same employer, 85 percent shall be allocated in favor of national employees. In general, in no company or establishment shall the number of foreign workers exceed 15 percent of the total of employees and this percentage shall exclusively include technicians. The female personnel will not be able to exceed 45% in the companies or establishments that, by their nature, do not require to use the work of these in a greater proportion.

In general, priority will be given to the Bolivian investors' proposals over the foreign investor's proposals, provided that the Bolivian investors' proposals present similar or better characteristics. The prioritization referred to must guarantee the greatest benefit for the country.

(iii) Brazil

Brazil has restrictions in all policy areas. For instance, a specific approval regime applies to establish an affiliate in the country by a foreign company. This regime requires the publication of an executive decree issued by the federal government authorizing this establishment only if it contributes to Brazil's national interests.

Like other Latin American countries, the Brazilian government gives preference to local suppliers. If a Brazilian company wants to apply for a temporary work visa, the firm must prove that at least two-thirds of its workforce are Brazilian employees. However, there are several exceptions, and the Council for Immigration is entitled to reduce this requirement.

Other conditions apply if a company wants to appoint a foreigner as administrator, manager, director, or officer with management powers in Brazil. It must invest 600,000 reales (approximately USD 105,000) per foreigner appointed in these positions or 150,000 reales (approximately USD 26,300) with the condition to create at least ten new jobs per foreign manager appointed during the following two years.

No foreign equity restrictions apply in computer services firms in Brazil. However, no remittances for royalty payments for the use of patents or trademarks are allowed between affiliates of companies located in Brazil and its overseas headquarters, neither when most of the company's capital in Brazil belongs to the foreign recipient of the royalty payments.

Furthermore, registration in the Brazilian Central bank is required for remittances abroad, repatriation of capital, and registration of reinvestment of profit.

Concerning restrictions on people's cross-border movement, independent service suppliers and contractual service suppliers need a temporary visa to visit the country. Brazilian companies must justify the need for recruiting a foreign professional by proving that this individual has specific skills and knowledge that unavailable in any potential Brazilian candidate. In intra-corporate transferees, the Ministry of Labor and Employment may grant them a work permit to obtain a temporary visa after considering the Brazilian workforce's interests.

The public procurement regulations prohibit differential treatment between Brazilian and foreign companies in the procurement process. However, the government has preference margins of up to 25% of the price for goods and services produced in Brazil. These margins for each good or service depend on, among other things, the impact of local production on jobs, income creation, and tax revenue. They must be established by decree depending on the different goods and services provided. There is a margin of preference of 18% of Brazilian computer programs' price and licensing in computer services. Brazilian firms or foreign companies based in the country are preferred when two offers are equal.

(iv) Chile

Chilean law also requires computer services firms to give preferences to local suppliers. Companies with more than 25 workers must demonstrate that at least 85% are Chilean employees. Technical personnel is excluded from this quota if they possess specific skills and Chilean citizens may not replace them.

In the case of engineers and technicians, the law establishes that membership to a professional association is voluntary. Therefore no one is obliged to join to practice its profession. However, (computer) engineers and technicians hired in Chile but graduated abroad must request authorization from the Chilean School of Engineers and Technicians to work. A unique registry enrolls these professionals and identifies the activity they are authorized to perform during a certain time.

(v) Colombia

In Colombia, foreign technical or scientific personnel may not exceed 20% of total engineers in a domestic or foreign firm's subsidiary. With the Ministry of Labor's permission, firms may exceed this quota for up to one year. During this period, they must train national professionals to replace the foreigners until reestablishing the minimum of 80% domestic workers.

Colombia also has restrictions on public procurement. Foreign suppliers of goods and services can only participate in biddings if Colombia has agreed on reciprocity with the firm's country of origin. Bilateral agreements, treaties, or conventions establish this reciprocity. Otherwise, foreign bidders may participate in biddings under the same conditions as Colombian firms only if the latter can do the same in the former's countries.

Under similar conditions, domestic goods and services providers predominate over foreign ones. When two foreign bidders are in identical conditions, the one that uses more local content, local employees and offers better technology transfer conditions is preferred. There are also local SMEs' preferences, such as limited calls before the resolution opening the respective procurement process.

Regulatory transparency in Colombia has improved after 2017. Regulatory reforms prepared for the President's signature must be published in the Transparency section of the respective Ministry's website at least fifteen (15) calendar days ahead. Citizens are then allowed to provide suggestions or alternative proposals.

(vi) Costa Rica

Unlike many other Latin American countries, Costa Rica has a state-owned firm called Radiográfica Costarricense S.A. (RACSA), providing cloud computing, database, infrastructure, and

data center services. The Costa Rican Electricity Institute (ICE) is its owner, serving mainly the public sector. A special law may authorize the possible future sale of RACSA shares.

Participation of foreign suppliers is also based on reciprocity. Foreign firms cannot include in their offer price the cost of customs duties and other international charges. Additionally, local SMEs enjoy unique preferences. For instance, in the case of equal conditions, these firms are given priority.

(vii) Dominican Republic

In the Dominican Republic, computer engineers must be members of the Association of Engineers, Arquitexts and Surveyors to be able to practice their profession.

Public procurement procedures provide explicit preferences for local suppliers using the reciprocity principle, seeking fair treatment to Dominican bidders when participating in other countries. For this purpose, the government grants a similar treatment to foreign bidders in terms of the conditions, requirements, conditions, requirements, procedures and criteria used in the tenders.

Moreover, the participation of a foreign company or individual in tenders requires their association with a national or mixed capital company. In all the cases, the participation of nationals in the management positions must exceed fifty percent (50%) and firms must grant greater benefits and responsibilities to national professionals. When a foreign company or individual is associated with a national company or individual, the maximum foreign participation is fifty percent (50%), and such percentage may reach up to seventy percent (70%) provided that at that given time it is not possible for national companies or individuals to participate with a percentage higher than 30%, when it is a mixed capital company. Contracts not respecting the above requirements shall be null and void.

(viii) Ecuador

Every foreign citizen or company that wants to do business in Ecuador must have a country representative. Additionally, commercial presence is required for certain services such as public services, public work, or natural resource exploitation.

Additionally, public procurement regulations[52] provide explicit preferences for local suppliers. The contracting specifications shall contain valuation criteria and a preference margin that encourage and promote domestic providers of goods and services.

(ix) Guatemala

In case of a concession, the concessionaire is obliged to proceed with the payment of the salaries and benefits of its workers, which must preferably be Guatemalan. The specific operation of foreign companies engaged in the rendering of professional services, for which a university degree is required, is prohibited.

(x) Mexico

Mexico has several restrictions in place on foreign market entry registered by the CSSTRI. For instance, the Foreign Investment Commission needs to approve direct or indirect participation above 49% by foreign investors in Mexican companies' capital stock if the company stock value at the acquisition date exceeds MXN 4,005 million (approximately USD 203 million as of June 2019). The criteria include the impact on employment and labor training, technological improvement, and contribution to improving the sector's competitiveness. Notwithstanding, in deciding on the merits of an application, the Commission may only impose requirements that do not distort international trade.

[52] https://portal.compraspublicas.gob.ec/sercop/wp-content/uploads/2018/11/LEY-ORGANICA-DEL-SISTEMA-NACIONAL-DE-CONTRATACION-PUBLICA.pdf.

As elsewhere, at least 90% of employees in every company or establishment must be Mexican nationals, except for directors, administrators, and other managerial-level employees. In the categories of technicians and professionals, the workers must be Mexican unless there are no available workers in a specific branch. Foreign workers may not exceed 10% of total employment in the sector. Above this share, employers and foreign workers have a joint obligation to train Mexican workers.

Technicians and other professionals sent by the parent company to Mexico are subject to labor market tests. They may be employed by the subsidiary company in Mexico only if no qualified national worker is available to perform the job. Directors, executives, and managers are exempted from labor market tests.

Mexico also has restrictions on two types of public tenders. Some national biddings are only open to Mexican companies. Other international tenders are limited to firms from Mexico and countries with whom it has an FTA containing a public procurement chapter.

Failed national tenders are open to bidders from anywhere. Failure in this context means that domestic firms cannot carry out the work, or their price offer is inconvenient. The latter means that the lowest price bid of goods, leases, or services in the domestic market is at least 15% higher than that of identical ones delivered in other countries. However, foreign firms may not participate if their government does not grant reciprocal treatment to Mexican bidders.

(xi) Paraguay

In Paraguay, any foreign company that wishes to set up business in the country must establish a domestic representation. Local presence is therefore required to provide cross-border services.

Additionally, public procurement open to foreign suppliers has explicit preferences for local suppliers. Law 4558[53] gives preference to locally produced goods and services, even if they are 20% more expensive than the foreign equivalent. Likewise, international bids must comply with three conditions. First, they should respect international treaties to which Paraguay is a party. Second, market research shows no national suppliers' offer satisfies the required quantity, quality, or price. Third, no proposal has met the established requirements of a national bid.

Moreover, foreign individuals or firms may be denied participation in international tenders if their country of residence does not grant reciprocal treatment to Paraguayan suppliers or contractors, goods, or services.

(xii) Peru

In Peru, the CSSTRI reveals restrictions on foreign market entry and public procurement. Foreign direct investors in services firms are restricted in their board members' appointments, as its majority must be residents. Directors must have an immigration card for the registry as their company's legal representatives in the Single Registry of Taxpayers.

Peru automatically authorizes foreign direct investment but requires their registration before the competent national institution. There is no screening. However, if other nations adopt protectionist or discriminatory measures detrimental to Peru's national interest, its Constitution allows the country to adopt countermeasures.

As most of the selected countries, Peru also applies performance requirements. In both national and foreign-owned companies, foreign employees' share may not exceed 20% of the total. Employers may request a waiver for specialized professional, technical personnel, or managerial personnel of a new or renewed business activity. Among the exceptions to this quota are foreign employees who work in a multinational services company. Moreover, the salaries of all foreign employees may not exceed 30% of the total payroll.

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[53] https://www.bacn.gov.py/leyes-paraguayas/3856/establece-mecanismos-de-apoyo-a-la-produccion-y-empleo-nacional-a-traves-de-los-procesos-de-contrataciones-publicas.

Employed engineers in the country should have a university degree and be a member of the Peruvian Association of Engineers. A foreign engineer interested in working in Peru must request authorization from the corresponding national authority. He/she must demonstrate the capacity to practice the profession, master the Spanish language, and adequately know the country's legislation regulating engineering. After obtaining the approval, the foreign engineer is registered for one year. Each year this approval can be extended.

Domestic and foreign firms must be registered before the Suppliers' National Registry to participate in public procurement processes. Foreign companies receive the same treatment as Peruvian ones.

(xiii) Uruguay

Uruguay also gives explicit preferences for local suppliers. National providers of goods and services are granted a preference margin. In services, this margin is 8% of the service price. Bidding regulations follow national strategies that promote specific domestic industries.

II. Conclusions and recommendations

The digitalization of the economy and trade has changed the way businesses and consumers shop, bank, interact, communicate, study, and entertain themselves. It has lowered entry and exit barriers for many markets. Companies have gained access to a much broader client base, both at home and overseas markets. Digitalization has in general lowered the cost of engaging in international trade, connected businesses to consumers worldwide, and facilitated cooperation within global supply chains. It has also created entirely new markets, products, and market opportunities derived from the new digital economy's data.

Digitalization has also facilitated outsourcing non-core activities by firms, allowing them to achieve scale economies and cost savings. For instance, businesses use cloud computing to access IT products and services with a minimum upfront cost and paying what they consume only. They can quickly scale down or up, which is critical for a business trying to increase its client base far away from its "normal" geographical markets.

Communication between suppliers, partners, and clients has also become cheaper, together with sharing files, collecting payments, marketing products and services, and hiring and training employees. Lower entry barriers also foster innovation in SMEs, which generally do not have budgets for research, development, and experimentation. This has helped level the playing field between SMEs and large corporations.

Digitalization has allowed niche products and services, initially catered to small markets, to be integrated into more prominent and robust offerings for exports to multiple markets. Services that previously required local presence can, in principle, be sold cross-border, saving businesses costs and challenges of opening subsidiaries abroad. However, some countries may hold back this possibility by requiring businesses to establish a local presence to provide digitally enabled services. This is for instance the case in Argentina, Brazil, Ecuador, Guatemala, Mexico, Paraguay, and Peru.

The benefits for countries from digital trade depend in part on its broadband infrastructure and connectivity. The delivery of digital goods and services crucially depends on data flowing between digital firms and their clients. Metadata generated through digitally traded products and services

contribute to a data-driven economy. Data are gathered, organized, exchanged, and ultimately capitalized. Firms derive value from data flows on top of the intrinsic value of the service itself.

The COVID-19 pandemic has changed the functioning of the economies and trade. It also has challenged well-established market structures. In the words of former OECD Secretary-General Ángel Gurría: "The crisis has created the momentum for long-overdue reforms that can help spread the benefits of digital transformation to achieve inclusive and resilient growth. It also highlights the urgent need to bridge the digital divides between territories, families, students, workers, and firms".[54]

A. Harmonization of the regulatory digital environment in Latin America

Digitally deliverable services represent a growing share of Latin American countries' exports, both within the region and beyond. The services sector accounts for 57% of Latin American GDP, a higher figure than that of other developing regions.[55]

Despite the remarkable progress of MERCOSUR Member States in the past decade in terms of digitalization (measured by number of internet users and number of companies using Internet) and digital trade (measured by number of online purchases), the challenge of a single marketplace where consumers buy products and services online seamlessly and unhampered by national borders, remains an aspirational objective (Suominen, 2018).

Latin America, particularly in challenging times such as the current sanitary crisis due to COVID-19, could benefit greatly from streamlining the regulatory environment behind backbone digital infrastructure and from fine-tuning and harmonizing its regulations on cross-border e-commerce, increasing therefore the dynamism of the economy, generating new jobs and more wealth.

Currently, its full potential is hindered by a heterogeneous and complex regulatory landscape that stakeholders such as individuals, firms or governments are forced to disentangle and navigate. The promotion of a more harmonized adequate legal framework would increase confidence, security, and certainty in developing IT enabled services in the region, and would particularly reduce costs and uncertainty to firms, particularly SMEs.

B. Implementation of trade facilitation measures

Universal internet access is a key factor in digital trade. People, businesses and governments should be enabled to exchange information and interact in a more efficient way and on a bigger scale. It would also help firms to save costs, increase productivity and at the same time foster more inclusive communities and increase the coverage of public services such as education and health.

The share of the population with access to the Internet in Latin America is relatively low (an average of 68% in 2019) when compared to the OECD country average of 85%.[56] That is to say that an important percentage of the population can neither participate nor take advantage of the digital economy in Latin America.

The number of online transactions per capita in the region is the lowest in the world, with only 9.2 online transactions per year (ECLAC, 2020). This phenomenon responds to a combination of factors, including the low number of companies offering their products and services through digital channels.

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54 https://ec.europa.eu/international-partnerships/news/latin-america-and-caribbean-digital-transformation-key-recovery-and-building-back-better-says_en.

55 https://databank.worldbank.org/source/world-development-indicators#.

56 World Bank Development Indicators https://data.worldbank.org/.

The biggest exporting economies in Latin America (all part of the selected countries) have a high percentage of firms connected to the Internet, but only a handful of them actually sell online.

The region should step up its efforts to improve internet connectivity, in particular in rural areas. Likewise, countries need to deepen regional integration and regional value chains to enhance their competitiveness and strengthen their geopolitical position in the world. This integration would facilitate the movement of data across regional networks. This goal however requires coordinated action and cooperation to guarantee real legal interoperability.

Other essential parts are the creation of trust in e-commerce and valid and innovative payment methods. Regulations on computer services, telecommunications, distribution services, motion pictures, broadcasting, and sound recording, among other areas, must also be addressed, as they influence the overall trade environment of each country and therefore of the region.

Trade facilitation measures are therefore needed in all the areas that underpin digital trade activities, particularly those that ease conditions for communication infrastructure and the movement of data across borders. Complementary policies easing conditions on electronic transactions as well as horizontal measures on investment in ICT services and lowering barriers to the movement of ICT professionals could further help Latin American economies reap the benefits of digitalization.

C. Regulatory cooperation across the Latin American region

Most of the times, the selected countries have adopted an individualistic approach to deal with the digital trade environment. This has led to a great variety of regulations in the region. This represents a challenge for foreign direct investors that target more than one country in the region, as well as for international treaties where multiple countries in the region engage in FTAs acting as a single bloc.

The seventh Ministerial Conference on the Information Society in Latin America and the Caribbean held in November 2020[57] proposed a digital agenda for the region aiming to address some of these challenges, particularly the promotion of a regional digital market which would expedite cross-border digital commerce through a regulatory harmonization, and a regional digital market which would promote a digital regulatory coherence at a regional level namely in the areas of data protection, cross-border data flow, digital commerce and defense of consumer rights in online platforms as well as the interoperability of digital signatures in the region.

In general, lowering barriers to digital trade would pave the way towards reducing trade costs for firms, particularly for SMEs, for opening new market opportunities, and ensuring consumers and downstream business benefit from better services at lower prices. Regulatory cooperation across the Latin America region will be key to enable a comprehensive, sustainable and inclusive digital transformation.

[57] https://repositorio.cepal.org/bitstream/handle/11362/46439/1/S2000903_es.pdf.

Bibliography

Ahmad, N. and J. Ribarsky, (2018), Towards a Framework for Measuring the Digital Economy, Paris: OECD Publishing.

Casalini, F. and J. López González (2019), "Trade and Cross-Border Data Flows", OECD Trade Policy Papers, No. 220, OECD Publishing, Paris, https://doi.org/10.1787/b2023a47-en.

(ECLAC) Economic Commission for Latin America and the Caribbean (2020), Las oportunidades de la digitalización en América Latina frente al COVID-19, Santiago: ECLAC, http://hdl.handle.net/11362/45360.

Ferencz, J. (2019), "The OECD Digital Services Trade Restrictiveness Index", OECD Trade Policy Papers, No. 221, Paris: OECD Publishing, https://doi.org/10.1787/16ed2d78-en.

López González, J. and J. Ferencz (2018), "Digital Trade and Market Openness", OECD Trade Policy Papers, No. 217, OECD Publishing, Paris, https://doi.org/10.1787/1bd89c9a-en.

López González, J. and M. Jouanjean (2017), "Digital Trade: Developing a Framework for Analysis", OECD Trade Policy Papers, No. 205, Paris: OECD Publishing https://doi.org/10.1787/524c8c83-en.

OECD (2020), Services Trade Restrictiveness Index: Policy trends up to 2020, Paris: OECD Publishing.

Suominen, K. (2019), "El comercio digital en América Latina: ¿qué desafíos enfrentan las empresas y cómo superarlos?", Serie comercio internacional, N° 145 (LC/TS.2019/76), Santiago: ECLAC.

_____(2018), Fueling Digital Trade in Mercosur: A Regulatory Roadmap, Washington, DC: IDB.

Annexes

Annex 1
Comprehensive list of measures for the digital service trade restriction index

Digital STRI
1. Infrastructure and connectivity
Interconnection is mandated (fixed) (fixed)
Interconnection is mandated (mobile) (mobile)
Interconnection prices and conditions are regulated (fixed) (fixed)
Interconnection prices and conditions are regulated (mobile) (mobile)
Interconnection reference offers are made public (fixed) (fixed)
Interconnection reference offers are made public (mobile) (mobile)
Vertical separation is required (fixed) (fixed)
Vertical separation is required (mobile) (mobile)
Memo: Non-discriminatory Internet traffic management is mandated
Memo: There is at least one dominant firm in the market segment considered (fixed) (fixed)
Memo: There is at least one dominant firm in the market segment considered, mobile termination (mobile)
Memo: There is at least one dominant firm in the market segment considered, mobile origin
Restrictions on the use of communication services
Memo: Free cross-border transfer of personal data or application of the accountability principle
Cross-border transfer of personal data is possible when certain private sector safeguards are in place
Cross-border data flows: cross-border transfer of personal data is possible to countries with substantially similar privacy protection laws
Cross-border data flows: cross-border transfer is subject to approval on a case-by-case basis
Cross-border data flows: certain data must be stored locally
Cross-border data flows: transfer of data is prohibited
2. Electronic transactions
Discriminatory conditions for licenses to engage in e-commerce
Memo: License or authorisation is required to engage in e-commerce
Online tax registration and declaration is available to non-resident foreign providers
National contract rule for cross-border transaction deviate from internationally standardised rules
Laws or regulations explicitly protect confidential information
Laws or regulations provide electronic signature with the equivalent legal validity with hand-written signature
Dispute settlement mechanism exist to resolve disputes arising from cross-border digital trade
3. Payment systems
Discriminatory access to payment settlement methods
National payment security standards deviate from international standards
Restrictions on Internet banking or insurance
4. Intellectual property rights
Foreign firms are discriminated against on trademark protection
Discriminatory treatment of foreigners for the protection of copyrights and related rights
Memo: Exceptions to copyright protection are limited in accord with international rules*
Enforcement of intellectual property rights: Judicial or administrative enforcement measures and remedies are available
Enforcement of intellectual property rights: Provisional measures are available

Digital STRI
Enforcement of intellectual property rights: Criminal enforcement proceedings and penalties are available
5. Other barriers affecting trade in digitally enabled services
Performance requirements affecting cross-border digital trade
Limitations on downloading and streaming affecting cross-border digital trade
Restrictions on online advertising
Commercial presence is required in order to provide cross-border services
Local presence is required in order to provide cross-border services
Firms have redress when business practices restrict competition in a given market
Other restrictions on digitally enabled services

Source: Ferencz González, 2019, OECD.

Annex 2
CSSTRI measures
Comprehensive list of measures from the Computer Services sector in the Service Trade Restriction Index

STRI - Computer Services
1. Restrictions on foreign entry
Foreign equity restrictions: maximum foreign equity share allowed (%)
There are limits to the proportion of shares that can be acquired by foreign investors in publicly-controlled firms
Legal form: only joint ventures are allowed
Legal form: other restrictions
Board of directors: majority must be nationals
Board of directors: majority must be residents
Board of directors: at least one must be national
Board of directors: at least one must be resident
Managers must be national
Managers must be resident
Screening explicitly considers economic interests
Screening exists without exclusion of economic interests
Memo: thresholds for screening projects
Acquisition and use of land and real estate by foreigners is restricted
Restrictions on the type of shares or bonds held by foreign investors
Conditions on subsequent transfer of capital and investments
Restrictions on cross-border mergers and acquisitions (M&A)
Performance requirements
Commercial presence is required in order to provide cross-border services
Local presence is required for cross-border supply
Memo: Free cross-border transfer of personal data or application of the accountability principle
Cross-border transfer of personal data is possible when certain private sector safeguards are in place
Cross-border data flows: cross-border transfer of personal data is possible to countries with substantially similar privacy protection laws
Cross-border data flows: cross-border transfer is subject to approval on a case-by-case basis
Cross-border data flows: certain data must be stored locally
Cross-border data flows: transfer of data is prohibited
Other restrictions on foreign entry
2. Restrictions to movement of people
Quotas: intra-corporate transferees
Quotas: contractual services suppliers
Quotas: independent services suppliers
Labour market tests: intra-corporate transferees
Labour market tests: contractual services suppliers
Labour market tests: independent services suppliers
Limitation on duration of stay for intra-corporate transferees (months)
Limitation on duration of stay for contractual services suppliers (months)
Limitation on duration of stay for independent services suppliers (months)

STRI - Computer Services
Laws or regulations establish a process for recognising qualifications gained abroad
Memo: Licence or authorisation is required to practice
3. Other discriminatory measures
Foreign suppliers are treated less favourably regarding taxes and eligibility to subsidies
Public procurement: Explicit preferences for local suppliers
Public procurement: Procurement regulation explicitly prohibits discrimination of foreign suppliers
Public procurement: The procurement process affects the conditions of competition in favour of local firms
Memo: thresholds above which tender is mandated
Memo: The procurement process below the value thresholds affects the conditions of competition in favour of local firms
Other restrictions in other discriminatory measures
4. Barriers to competition
Decisions by the regulatory body can be appealed
Firms have redress when business practices restrict competition in a given market
National, state or provincial government control at least one major firm in the sector
Publicly-controlled firms are exempted from the application of the general competition law
Prices or fees are regulated
Restrictions on advertising
Minimum capital requirements
Other restrictions in barriers to competition
5. Regulatory transparency
There is a legal obligation to communicate regulations to the public within a reasonable time prior to entry into force
There is an adequate public comment procedure open to interested persons, including foreign suppliers
Range of visa processing time (days)
Multiple entry visa for business visitors
Cost to obtain a business visa (USD)
Number of documents needed to obtain a business visa
Number of working days to complete all mandatory procedures to register a company
Total cost to complete all official procedures required to register a company (in % of income per capita)
Number of mandatory procedures to register a company
Other restrictions in regulatory transparency

Source: Taken from https://oe.cd/stri.

The volume of trade in digitally enabled services in Latin America and the Caribbean is determined, in part, by the complexity and heterogeneity of the regulatory environment in home and destination markets, according to firm-level surveys conducted in the region. This report analyses the regulation of digitally enabled and computer services in 13 Latin American countries using the Digital Services Trade Restrictiveness Index (DSTRI) and the Services Trade Restrictiveness Index for computer services (CSSTRI) developed by the Organisation for Economic Co-operation and Development (OECD). The results for the period 2014–2019 show significant differences across these 13 countries, with some having relatively low import barriers to digitally enabled and computer services, while others have comparatively high barriers. A more harmonized and adequate legal framework can increase confidence, security and certainty —and, therefore, trade— in these types of services.

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