

The landscape of B2C e-commerce marketplaces in Latin America and the Caribbean

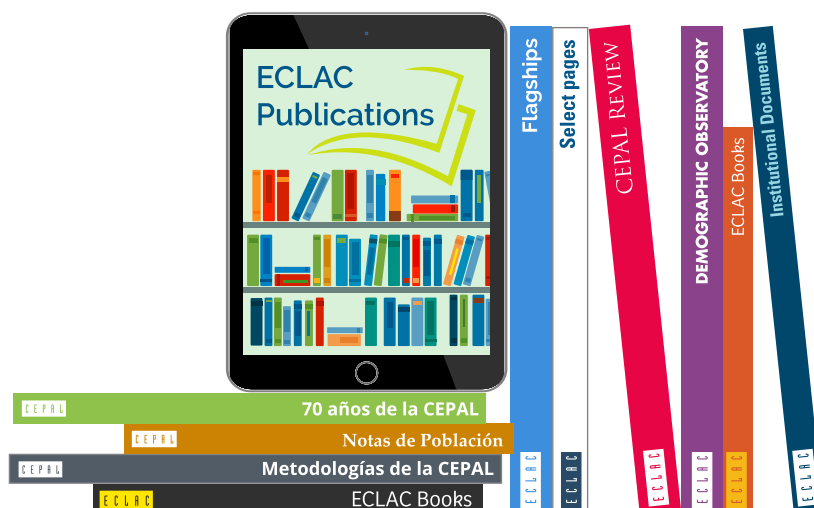
Estefanía Lotitto
Bernardo Díaz de Astarloa



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The landscape of B2C e-commerce marketplaces in Latin America and the Caribbean

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This document has been prepared by Estefanía Lotitto and Bernado Díaz de Astarloa, consultants with the Division of Production, Productivity and Management and the Division of International Trade and Integration of the Economic Commission for Latin America and the Caribbean (ECLAC), as part of the activities of United Nations Development Account project 2023W, entitled "Global Initiative towards post-Covid-19 resurgence of the MSME sector". The comments from Nanno Mulder and Valeria Jordán, and from Jesse Weltevreden, Professor of Digital Commerce at the Centre for Market Insights (CMI) at the Amsterdam University of Applied Sciences, are gratefully acknowledged.

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United Nations publication
ISSN: 1680-8754 (electronic version)
ISSN: 1020-5179 (print version)
LC/TS.2022/194
Distribution: L
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Printed at United Nations, Santiago
S.22-00697

This publication should be cited as: E. Lotitto and B. Díaz de Astarloa "The landscape of B2C e-commerce marketplaces in Latin America and the Caribbean", *Production Development series*, No. 231 (LC/TS.2022/194), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2022.

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Contents

Abstract	5
Introduction	7
I. Definitions and data	9
II. Exploring the marketplace landscape in LAC	13
A. Main marketplaces in the LAC region	13
1. Characterization of LAC B2C online marketplaces	15
B. Size and concentration.....	21
C. Trends in marketplace activity.....	24
III. Determinants of the B2C marketplace ecosystem	27
A. Literature on enablers of marketplace development	27
B. Estimates of determinants of marketplace growth and development in LAC	28
IV. Final comments	31
Bibliography	33
Annex	37
Series Production Development: issues published.....	40

Tables

Table 1	Marketplaces with the largest traffic shares in LAC, 2019-2021	14
Table 2	Total traffic of marketplaces with the largest traffic shares in LAC, 2019-2021	14
Table 3	Number of visits to global marketplaces with no country focus, selected LAC markets, May-July 2022	15
Table 4	Most popular product categories, by number of URLs, 2022.....	19

Table 5	Traffic evolution by URL shopping type, 2019-2021.....	26
Table 6	Country-level determinants of online marketplace traffic, baseline	29
Table 7	Country-level determinants of online marketplace traffic, full controls	30

Figures

Figure 1	Unique users and gross merchandise volume, Mercado Libre, 2019Q1-2022Q1.....	11
Figure 2	Cross-country distribution of URLs shares, 2022.....	16
Figure 3	Distribution of marketplaces by type, LAC, 2022	16
Figure 4	Types of marketplaces by country, 2022.....	17
Figure 5	Marketplaces by geographical scope, 2022.....	19
Figure 6	Marketplaces by owner type, 2022	20
Figure 7	Web or app-based URLs by shopping type, 2022	21
Figure 8	Marketplace concentration by country, 2021.....	22
Figure 9	Platforms' website traffic per capita and number of URLs per capita, 2021.....	23
Figure 10	Platform traffic per capita, number of platforms per capita, and size of URLs in LAC countries, 2021.....	23
Figure 11	Evolution of marketplace traffic and number of websites, 2019-2021.....	25
Figure 12	Change in marketplace traffic by country, 2019-2021	25

Abstract

The digitization of economy, and particularly the e-commerce can encourage innovation and contribute to the process of digital transformation of micro, small and medium enterprises (MSME) through the implementation of digital technologies and new business models, which can improve the efficiency and productivity of companies beyond its effects on access to new markets. Despite potential gains, activity of online platforms implies risks and challenges in terms of antitrust regulation, data protection, cybersecurity, and market dynamic. Better quality of institutions and an effective judiciary system and a competitive business environment are associated with higher efficient of platforms.

Data and evidence for the Latin America and the Caribbean (LAC) region remain scarce still. This paper analyzes data set of online marketplace activity in the region between 2019 and 2021. Besides, it describes the main characteristics of online platforms in the region, as well as their distribution across countries and the evolution of traffic during such period. These data also were combined with country-level indicators to study structural determinants of those marketplace activities.

Introduction

E-commerce platforms can bring welfare improvements through several channels. First, e-commerce enables consumers to access stores that do not have a physical location near them and purchase a product online that they may have previously purchased at a brick-and-mortar store without making a physical trip. This implies convenience gains through reduced search and transportation costs.¹ On the supply side, online retailers can offer a wider variety of products, implying gains from variety, and access more consumers (domestically and abroad) at lower costs, potentially increasing scale.² In addition, the adoption of e-commerce can encourage innovation and contribute to the process of digital transformation of micro, small and medium enterprises (MSME) through the implementation of digital technologies and new business practices and models, which can improve the efficiency and productivity of companies beyond its effects on access to new markets. E-commerce also has the potential to contribute to the reduction of gender gaps.³

Several papers have attempted to estimate the gains from e-commerce, including online platforms. Jo, Matsumura, and Weinstein (2019) use data from Rakuten (the Japanese version of Amazon) to estimate the gains from online sales in Japan, including those through price convergence across regions. Couture, Faber, Gu, and Liu (2020) study a program that increased internet access in Chinese villages and find more modest gains. Huang and Bronnenberg (2020) use a detailed consumer survey from the Netherlands in the narrower context of apparel purchases to measure the consumer gains from e-commerce. Dolfen et al. (forthcoming) estimate U.S. consumer gains from e-commerce of about 1% of annual consumption in 2017.⁴

¹ See Dolfen et al. (2022).

² Brynjolfsson, Hu, and Smith (2003) and Quan and Williams (2018) provide evidence of variety gains for book titles and shoes, respectively.

³ See Barafani and Barral Verna (2020).

⁴ See also Freund and Weinhold (2004), Blum and Goldfarb (2006), Hortaçsu et al. (2009), Gómez-Herrera et al. (2014), Lendle et al. (2016), World Bank (2016), Fernandes et al. (2019), and Goldfarb and Tucker (2019).

Despite its potential gains, activity of online platforms implies risks and challenges. In its report on digital platforms, the University of Chicago's Stigler Center (2019) has identified concerns regarding anti-trust, news media, privacy and data protection, and politics. Chava et al. (2022) find that the rollout of a major e-commerce firm's fulfillment centers in the U.S. reduced traditional retail workers' income in geographically proximate counties by 2.4%, with sharper decreases among young and old workers. Moreover, sales and employment at proximate stores decrease by 4% and 2.1%, respectively.

Despite these recent advancements in our knowledge about the extent and effects of online marketplaces, data and evidence for the Latin America and the Caribbean (LAC) region remain scarce.

In this paper, we aim to fill this gap by analyzing a novel data set of online marketplace activity in 33 LAC countries between 2019 and 2021. We describe the main characteristics of online platforms in the region, as well as their distribution across countries and the evolution of traffic during the sample period. Then, we combine these data with country-level indicators to study structural determinants of marketplace activity.

This study follows previous efforts by the International Trade Center (ITC) to map online marketplace activity in Africa. Applying the same methodology used in this study, the International Trade Centre (ITC) and the Amsterdam University of Applied Sciences built a database of around 630 African online marketplaces.⁵ In ITC and the Amsterdam University of Applied Sciences (2020) (ITCAU, 2020, from now on) they analyze these data and find that online marketplaces in Africa are predominantly classified sites (i.e., do not allow for online transactions) and domestically oriented, with restrictions based on the origin of sellers. The largest and most active marketplaces tend to be present only in the largest, most advanced economies, such as Nigeria, Egypt, South Africa, and Kenya.

In a closely related paper, Costa et. al (2021) analyze harmonized online marketplace data similar to the one used in this study from 43 OECD and G20 countries between 2013 and 2019. In line with our results, they find that marketplace activity tends to concentrate in a limited number of large platforms, and that larger and higher income countries tend to have bigger and fewer online platforms per capita than smaller and poorer countries. This suggest that network effects tend to drive the diffusion and uptake of online platforms across countries. Costa et. al (2021) also study structural determinants of platform development and find that digital readiness, as measured by digital skills and broadband connectivity, are positively associated with higher marketplace activity. Better quality of institutions (such as a high degree of personal freedom, better control of corruption and an effective judiciary system) and a competitive business environment are also associated with higher platform diffusion and uptake.

The report is organized as follows. The next section provides an overview of recent in the LAC e-commerce ecosystem. Section I describes the sources of data and the methodology as well as the main definitions used throughout the report. Section II exploits the online marketplace data to provide a characterization of the marketplace landscape and its recent trends. In section III, marketplace data is combined with country-level indicators to explore potential determinants of online marketplace development. Section iv concludes the report and derives policy insights for firms and policy makers.

⁵ The data are available at the African Marketplace Explorer, <https://ecomconnect.org/page/african-marketplace-explorer>.

I. Definitions and data

The analysis below exploits data on traffic and characteristics of business to consumer (B2C) or consumer to consumer (C2C) marketplaces that sell goods in the LAC region.⁶ For the purposes of this study, a marketplace or “platform” is defined as a website that facilitates trades between multiple buyers and sellers. This includes websites that do not allow buyers and sellers to transact directly on the website, such as classified sites, but does not include single-seller online stores. Following ITCAU (2020), even if, technically, classified sites could fall outside standard definitions of e-commerce, they have nevertheless been considered for this study because they constitute the predominant form of B2C online marketplace developing countries, including in LAC, as will be clear below. Because they can act as a digital gateway, these sites can motivate the development of full e-commerce sites.

The final dataset is a combination of commercially available data and free available data collected by the Centre for Market Insights (CMI) of the Amsterdam University of Applied Sciences during 2021 and 2022.⁷ The dataset was built in two phases. First, it involved mapping all the B2C online marketplaces in LAC. To do this, the starting point were the CMI Global Marketplace Outlook dataset, and a database of LAC online platforms built by *insightzimpact*, a global data resource center.⁸ Additional platforms were identified using SimilarWeb’s “Similar Sites Tool”.⁹ Finally, a Google search was performed in Spanish and Portuguese to check whether relevant URLs were missing in the data.

A key issue is the criterion by which a marketplace is assigned to a specific region. The CMI database considers marketplaces as “local” whenever they have a “country focus”, that is, when marketplaces have a URL targeting a specific market. This could be either by a country-specific URL, subdomain, or webpage. Therefore, global marketplaces without a specific country focus, such as AliExpress, Etsy, or Wish, are not included in the data. Global marketplaces that do have a country focus,

⁶ This includes marketplaces that sell goods and services, but not those that only sell services.

⁷ See <https://www.cmihva.nl/> for more information about the CMI.

⁸ See <https://i2ifacility.org/>.

⁹ Similarweb is a platform that combines first-party analytics, anonymous traffic data, public data, and modelling to offer data and insights about the digital landscape. See <https://www.similarweb.com/>.

such as Amazon Brazil (amazon.com.br) or Amazon Mexico (amazon.com.mx) are included in the data, but Amazon global (amazon.com) is not, even if, say, individuals in Argentina, Chile or Peru can purchase from Amazon global. From the point of view of capturing overall e-commerce activity in B2C and C2C marketplaces for goods in LAC, in particular cross-border activity, this represents a limitation of the data, since, in many countries, a significant fraction of online purchases is done in global marketplaces.¹⁰ This feature of the data should be considered when interpreting traffic patterns below.

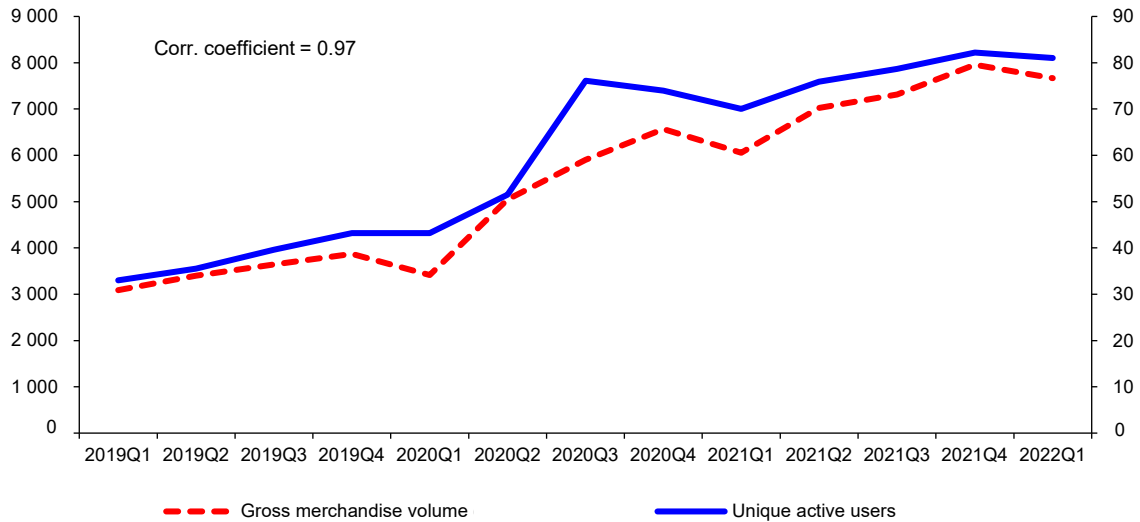
Once online marketplaces were identified, the second phase involved gathering information about marketplace traffic and characteristics. Information about web traffic from January 2019 to December 2021 was collected via Similarweb. A proprietary algorithm estimates total traffic from real time data about the online browsing behavior of consumer panels around the world. Information about marketplace characteristics was collected by the CMI as follows. First, trained CMI coders performed a website content analysis by looking at marketplace characteristics such as type of products offered, ownership, or geographical scope. Second, data about the URL registration date was collected by consulting the websites simplywhois.com and domaintools.com.

The list of marketplaces includes those active by September 2022. Hence, the data cannot precisely account for entry and exit of marketplaces during the sample period. However, traffic data can help to identify marketplace entry (e.g., marketplaces with positive traffic at some point but zero traffic before) and marketplaces that still have an active URL but are potentially inactive from users' perspective (e.g., marketplaces with positive traffic at some point but zero traffic after).

As noted by Costa et al. (2021), using traffic rather than sales to infer marketplace activity assumes that traffic to an online marketplace has a high correlation with sales. In fact, data from Mercado Libre, a leading online marketplace in the LAC region, shows that the number of unique users is strongly correlated with gross merchandise volume. As can be seen in figure 1, both series trend upwards between the first quarter of 2019 and the first quarter of 2022 and their correlation coefficient is 0.97. Still, even though traffic data is only a proxy of the actual volume of activity of platforms, it has two main advantages. The first is that it is available consistently across platforms, countries, and years and at high frequencies (e.g., daily, or monthly). Only few, large marketplaces, such as Mercado Libre or Amazon, publish sales data on a regular basis. The second is that traffic can be used to measure activity of non-transactional marketplaces, such as classified sites, which are predominant in developing countries.

¹⁰ According to a 2020 survey by Statista, 53% of e-commerce consumers in Brazil selected AliExpress to be their most trusted international e-commerce brand. According to Euromonitor, Amazon global is the 6th most visited website in Peru.

Figure 1
Unique users and gross merchandise volume, Mercado Libre, 2019Q1-2022Q1
(Millions of dollars and millions)



Source: Authors based on Mercado Libre's financial results, available at <https://investor.mercadolibre.com/>.

Finally, country indicators are collected from a variety of public sources provided by international organizations, including the United Nations, the World Bank, the International Monetary Fund, the International Telecommunications Union, and the Universal Postal Union. Indicators cover a wide range of dimensions that could affect marketplace growth and development, including socioeconomic and demographic characteristics, digital and information and communications technology (ICT) infrastructure, use of digital devices, and use of social networks.

II. Exploring the marketplace landscape in LAC

This section presents descriptive statistics of the marketplace landscape and its development in LAC, based on the number of websites (and/or URLs) and data on traffic. The next section explores country-level determinants of marketplace growth and development.

A. Main marketplaces in the LAC region

As of August 2022, there were 893 B2C or C2C online marketplaces in the LAC region, accounting for 2,876 websites (URLs).¹¹ ¹² We start our analysis of the marketplace landscape by presenting the most important marketplaces among these by their level of traffic. Table 1 presents those marketplaces with traffic shares greater than 1%,¹³ sorted according to their average share in 2019-2021, taking into account that this only includes marketplaces with a LAC country focus. Table 2 shows total traffic for these marketplaces. On average, these marketplaces account for slightly more than 70% of total traffic in the region in 2019-2021.

¹¹ Data on marketplaces' characteristics are based on active URLs, which are as of August 2022, which is why, when presenting information about characteristics, all figures are dated 2022. Traffic data is available up to December, 2021 instead.

¹² One marketplace may have several URLs, one for each country in which it operates. For example, <https://www.mercadolivre.com.ar/> and <https://www.mercadolivre.com.br/> are two different URLs belonging to the same marketplace.

¹³ The Appendix includes total traffic for these marketplaces.

Table 1
Marketplaces with the largest traffic shares in LAC, 2019-2021
(Percentages)

Marketplace name	Traffic share			
	2019	2020	2021	Average
Mercado Libre	38.6	33.1	32.5	34.7
Olx	7.9	6.9	6.2	7.0
Amazon	4.9	6.9	8.3	6.7
Americanas	6.1	6.8	5.7	6.2
Casas Bahia	1.9	3.6	3.6	3.0
Shopee	-	-	2.3	2.3
Falabella	1.8	2.0	2.0	1.9
Coppel	1.1	1.8	1.9	1.6
Walmart	1.1	1.4	1.6	1.4
Dafiti	1.3	1.3	1.2	1.3
Submarino	1.4	1.4	1.0	1.3
Sodimac	1.1	1.3	1.3	1.2
Consulta Remédios	1.2	-	-	1.2
Yapo.Cl	1.2	-	-	1.2
Zoom	1.0	1.3	-	1.1
Pepper	-	-	1.1	1.1
Extra	-	1.1	1.1	1.1
Shoptime	-	1.1	-	1.1
Carsales.Com	1.2	1.0	1.1	1.1
Ripley	-	1.0	1.1	1.0
Liverpool	-	1.0	1.1	1.0
Combined share	71.7	73.0	73.0	72.6

Source: Authors based on LACME data base. Only marketplaces with a country focus are considered in this table.

Table 2
Total traffic of marketplaces with the largest traffic shares in LAC, 2019-2021
(Millions of visits)

Marketplace name	Traffic			
	2019	2020	2021	Average
Mercado Libre	7 934	8 509	8 597	8 347
Olx	1 624	1 787	1 629	1 680
Amazon	1 007	1 779	2 194	1 660
Americanas	1 251	1 757	1 503	1 504
Casas Bahia	394	915	960	756
Falabella	364	525	527	472
Coppel	218	468	497	395
Walmart	220	352	434	335
Dafiti	277	328	321	309
Submarino	283	348	276	302
Sodimac	224	335	340	300
Carsales.Com	244	262	292	266
Shopee	-	-	620	207
Extra	-	294	289	194
Ripley	-	259	286	181
Liverpool	-	259	279	179
Zoom	211	322	-	177
Pepper	-	-	297	99
Shoptime	-	287	-	96
Consulta Remédios	246	-	-	82
Yapo.Cl	245	-	-	82
Total	14 743	18 783	19 340	17 622

Source: Authors based on LACME data base. Only marketplaces with a country focus are considered in this table.

Mercado Libre is, by far, the largest marketplace by traffic in the region among this type of marketplaces, with an average of 8,347 million visits and a 34.7% traffic share in 2019-2021. It is followed by OLX (7%), Amazon (6.7%), and Americanas (6.2%). Interestingly, since 2019, Mercado Libre and OLX have consistently lost traffic share to other marketplaces. While Mercado Libre and OLX lost 6.1 and 1.7 percentage points (pp.) of traffic share, respectively, Amazon gained 3.4 pp., Casas Bahia gained 1.7 pp. and other, smaller marketplaces emerged, such as Shopee or Ripley.

To give a more complete view of consumers' e-commerce activity in the region, we complement these data from a small sample of traffic in global marketplaces that do not have a country focus in LAC, for the period May-July 2022. As emerges from table 3, AliExpress is the largest marketplace, with 230 million visits during May-July 2022, followed by Amazon (165 million), and Ebay (64.3).

Table 3
Number of visits to global marketplaces with no country focus, selected LAC markets, May-July 2022
(Millions)

Marketplace name	Market						Total traffic	Share (percentajes)
	Argentina	Brazil	Chile	Colombia	Mexico	Peru		
AliExpress	7.3	165.5	27.9	4.7	15.5	9.3	230.1	46.8
Amazon	24.0	59.1	19.1	23.2	26.9	12.8	165.1	33.6
Ebay	6.7	14.8	6.7	3.1	29.2	3.8	64.3	13.1
Etsy	1.8	3.1	1.1	0.9	7.2	0.7	14.8	3.0
Shein	0.4	0.4	4.6	0.5	5.4	1.2	12.5	2.5
Craigslist	0.3	0.2	0.1	0.1	2.2	0.1	2.8	0.6
Taobao	0.1	0.6	0.1	0.0	0.3	0.1	1.3	0.3
Allegro	0.1	0.2	0.0	0.0	0.0	0.0	0.3	0.1
Flipkart	0.0	0.1	0.0	0.0	0.1	0.0	0.3	0.1
Rakuten	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.1
OLX	-	0.1	0.0	0.0	0.0	0.0	0.1	0.0

Source: Similarweb.

1. Characterization of LAC B2C online marketplaces

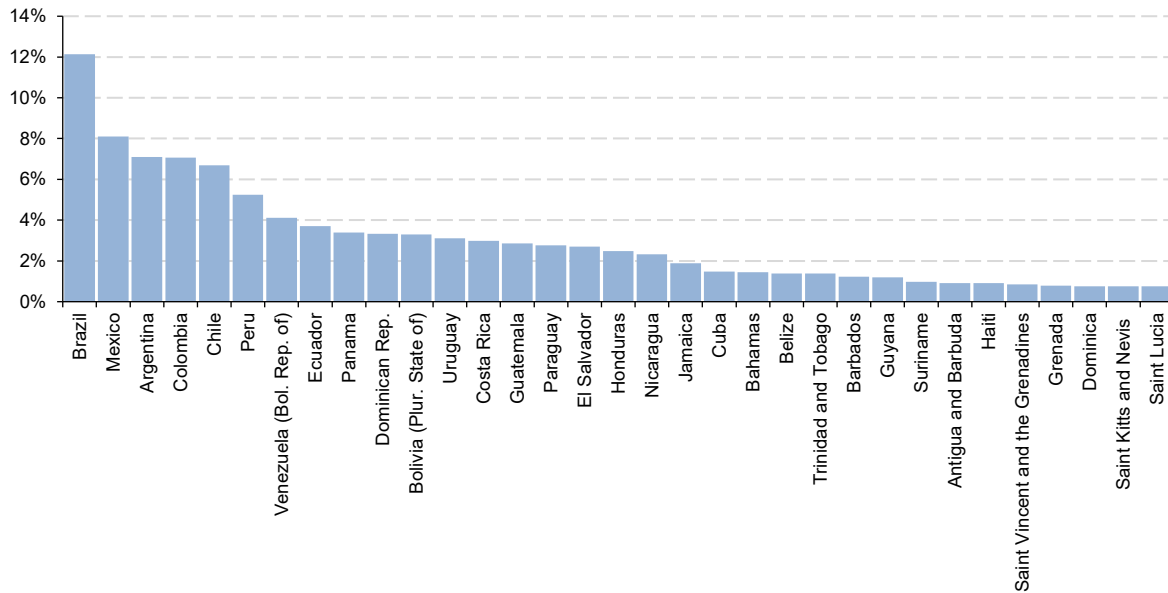
Starting with the distribution of marketplaces across countries, Brazil, Mexico, Argentina, Colombia and Chile, the largest economies in the region, concentrate more than 40% of all URLs (figure 2). Economies in the Caribbean, such as St. Lucia, Dominica or St. Kitts and Nevis, show the lowest shares in the sample, with less than 1% each. As will be noted in the next subsection, traffic data shows a more concentrated pattern, associated to countries' size and income, and the existence of network effects.

Transactions and shopping type. According to the data, 82% of active URLs are non-transactional, i.e., they do not integrate payments and other services that allow users to buy or sell goods directly through the platform (figure 3). Transactional sites account for 16% of all websites. The remaining 2% are semi-transactional platforms, that is, marketplaces where some, but not all goods, can be purchased.¹⁴ As can be seen in figure 4, the distribution of URL types within countries is roughly similar, with non-transactional sites being the most common type of site in all countries.

¹⁴ For example, in Mercado Libre, cars can be published for sale but cannot be purchased online, while other categories can be.

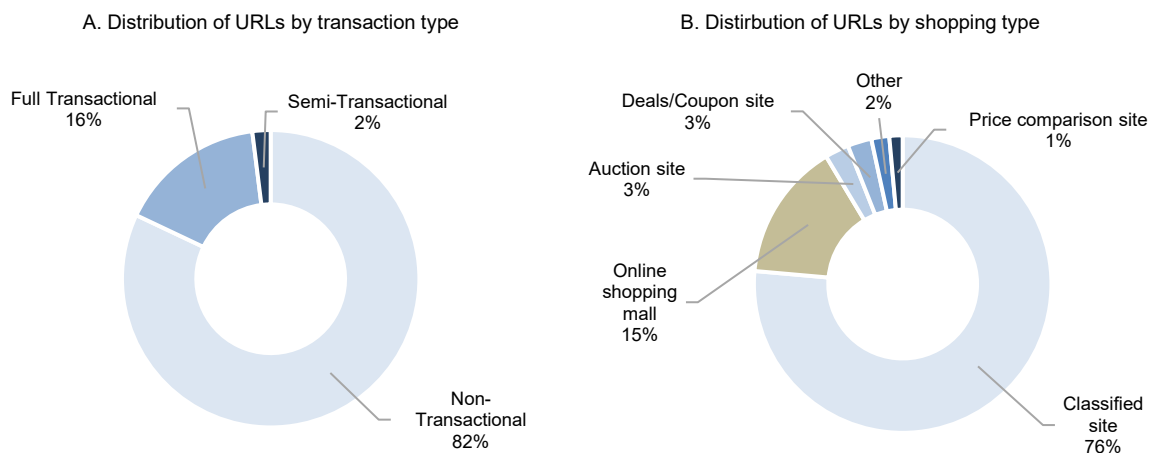
The large proportion of non-transactional websites has to do with the fact that 76.6% of URLs in the region are classified sites, where goods are only advertised online but cannot be purchased on the marketplace (figure 3, Panel B). As noted by ITCAU (2020), classified sites are based on relatively simple technology and do not offer integrated payment solutions. Indeed, only 0.45% of classified websites in the data facilitate payments between buyers and sellers within their platform. Instead, in general, potential buyers must contact the seller to arrange for payment and delivery of goods.

Figure 2
Cross-country distribution of URLs shares, 2022



Source: Authors based on the LACME database.

Figure 3
Distribution of marketplaces by type, LAC, 2022

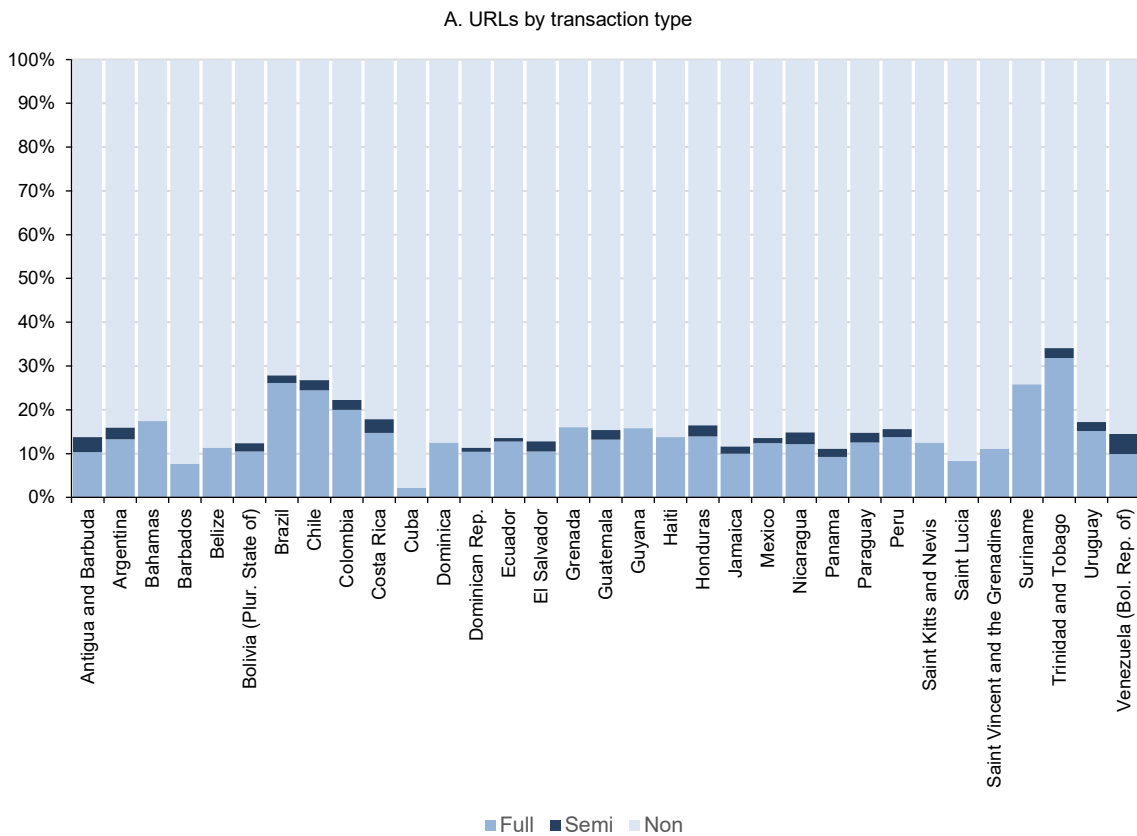


Source: Authors based on the LACME database.

The second most predominant type of marketplace in the region after classified site is online shopping mall, which accounts for 15.6% of URLs (figure 3). Online shopping malls are the most innovative, high-tech, and high-service e-commerce platforms, which facilitate payments between buyers and sellers (ITCAU, 2020). More than 90% of online shopping malls in LAC are transactional, while approximately 8% are semi-transactional. Online shopping malls typically provide additional services, such as logistics or customer service, and make seller performance data available.

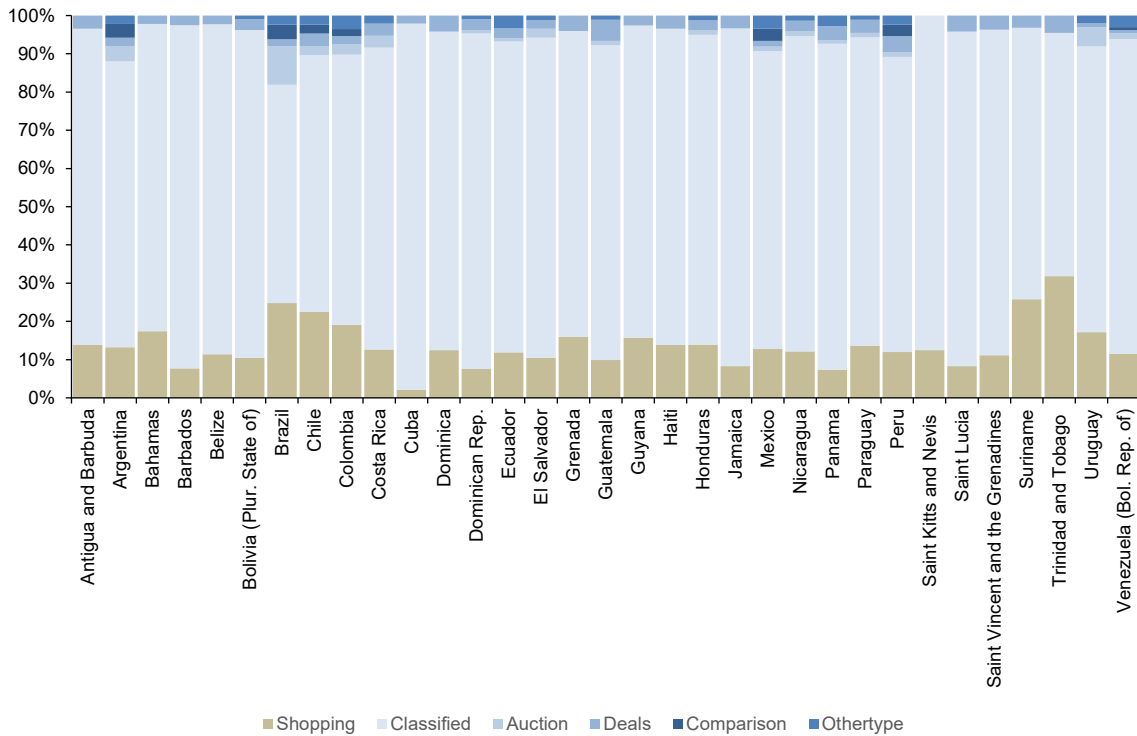
Besides classified sites and online shopping malls, there are other types of marketplaces such as auction sites, price comparison sites, and deal or coupon sites. Most of these types of sites are non-transactional (70.3%, 100% and 59% respectively).¹⁵

Figure 4
Types of marketplaces by country, 2022



¹⁵ Some marketplaces may be transactional or not depending on which country they operate. For instance, in some countries, Mercado Libre functions as a classified ads site, while in others it is an online shopping mall.

B. URLs by shopping type



Source: Authors based on the LACME database.

What is traded in LAC marketplaces? Only marketplaces that offer goods are considered in our sample data. However, 70% of websites also sell services. When looking at online shopping malls, more than 92% are specialized in goods only. Most classified sites (85%) sell both goods and services. Regarding the types of products that marketplaces sell, 81% are generic marketplaces, while the rest is specialized. Table 4 presents the top-5 categories by popularity (i.e., number of URLs) for transactional and non-transactional sites. The most popular type of specialization is vehicles (which typically cannot be purchased online), followed by fashion (which typically can be purchased online).

Regarding websites specialized in selling goods made by craftsmen and artists, they represent less than 1% of the landscape. The same figure applies to those specialized in sustainable goods. Only 1% of sites are specialized in supporting local merchants and retailers.

Most of marketplaces (71.6%) allow users to publish both new and used items. The remaining 28.4% is evenly split between used and new products. These statistics vary by shopping type and the aggregate figures are mostly shaped by the characteristics of classified sites, which are the leading form of marketplace in the region. Instead, more than 71% of online shopping malls sell exclusively new products.

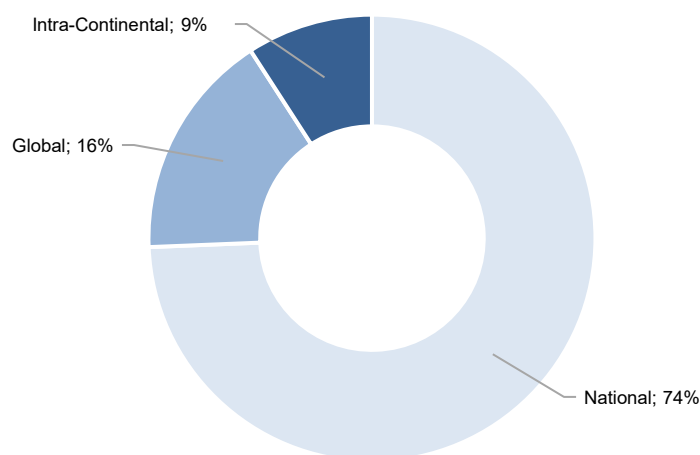
Table 4
Most popular product categories, by number of URLs, 2022

Product category	Number of URLs	Share of total (porcentajes)
Non-transactional sites		
Vehicles	292	55.0
Vehicles and Real Estate	40	7.4
Boats	19	3.5
Fashion	9	1.7
Electronics	7	1.3
Full-transactional sites		
Fashion	33	6.1
Food and groceries	19	3.5
Books	9	1.7
Vehicles	8	1.5
Art and antiques	8	1.5

Source: Authors based on the LACME database.

Location and ownership. Regarding geographical scope, 74% of LAC marketplaces are national sites that only operate in a single country.¹⁶ 16% belong to global platforms with websites around the world, while the remaining 9% operates in multiple countries in the region (figure 5)¹⁷. Global marketplaces with a country focus operate in 10.7 LAC countries on average, while intra-continental marketplaces are active in about four countries on average. Among those marketplaces that belong to global platforms (e.g., Amazon Brazil or Amazon Mexico), information about headquarters is available for 75% of URLs: 17% are based in the United States, 13% in Spain, 8% in Brazil and 6% in Mexico.

Figure 5
Marketplaces by geographical scope, 2022

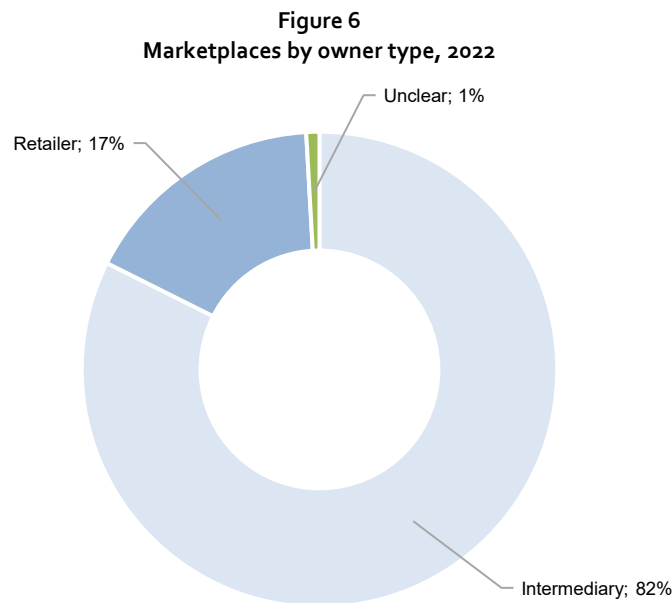


Source: Authors based on the LACME database.

¹⁶ Recall that global marketplaces without a country focus, such as AliExpress, Etsy, Wish, or Amazon, to name a few, are not included in the database.

¹⁷ This analysis can also be done by URL, but global companies will be over-represented since they are present in several countries, while national marketplaces are active in just one. Indeed, when looking at the URL share by geographical scope, 63% are global, 25% are national and the rest is intra-continental.

It is increasingly frequent for large platform operators to offer their own branded products. When the operator of a marketplace trades on its own platform (for example, Amazon-branded products on Amazon.com), the marketplace is classified as “retailer-owned”. Instead, when the firm that operates the marketplace does not trade its own goods on the platform, the marketplace is characterized as being “owned by a third party or intermediary”. Using these definitions, more than 82% of the marketplaces in LAC are operated by intermediaries, while around 16% are retailer-owned (figure 6)¹⁸. When looking at URLs instead of marketplaces, 90% are intermediaries and 9% are retailer-owned. This figure is strongly influenced by the high proportion of classified sites in the region. More than 99% of classified sites are owned by an intermediary, while this number falls to 4,6% for online shopping malls.



Source: Authors based on the LACME database.

Who can sell on LAC’s marketplaces. Three quarters of marketplaces in LAC allow the participation of domestic sellers only. The remaining 25% allows merchants from other countries.¹⁹ When looking at marketplaces by their geographical scope, the share of marketplaces that allow foreign sellers is higher among global marketplaces (36%) than among national (21%) and intra-continental (24%) marketplaces.

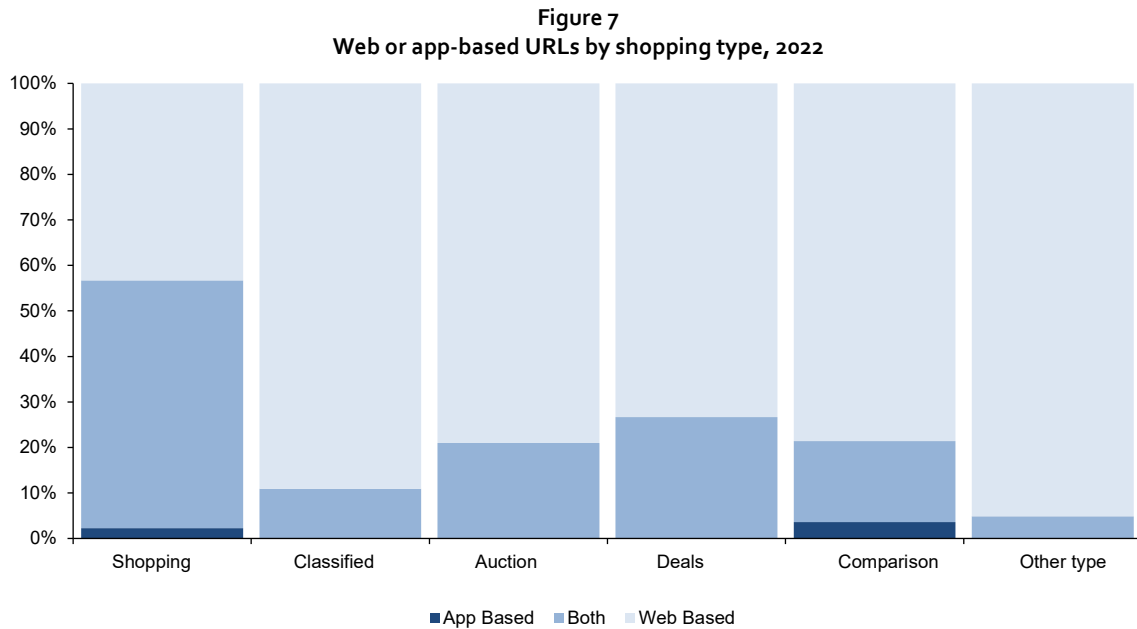
On the other hand, 62% of marketplaces in the region have an open registration for sellers, that is, anyone can open an account directly and start selling, while 36% require sellers to send a request to the operator or are open only upon invitation.²⁰ At the URL level, open registration climbs to 80%. Regarding the profile of sellers available online, nearly 45% of marketplaces show contact details, reviews, or products’ overview. This figure is similar when looking at URLs (50% do not include sellers’ profiles).

¹⁸ The owner type could not be determined for almost 1% of cases.

¹⁹ When looking at the data by URL instead of marketplace, the share of websites open to foreign sellers increases to 43%.

²⁰ There is no information on this variable for 2% of marketplaces.

Regarding whether URLs in the region are web-based or app-based, more than 81% are web-based only, while 18% have developed an app and are optimized for mobile devices. This figure is shaped by the fact that classified sites, the largest kind of shopping type in the region, are web based in almost 90% of the cases. Instead, this figure drops to 43% for online shopping malls (figure 7).



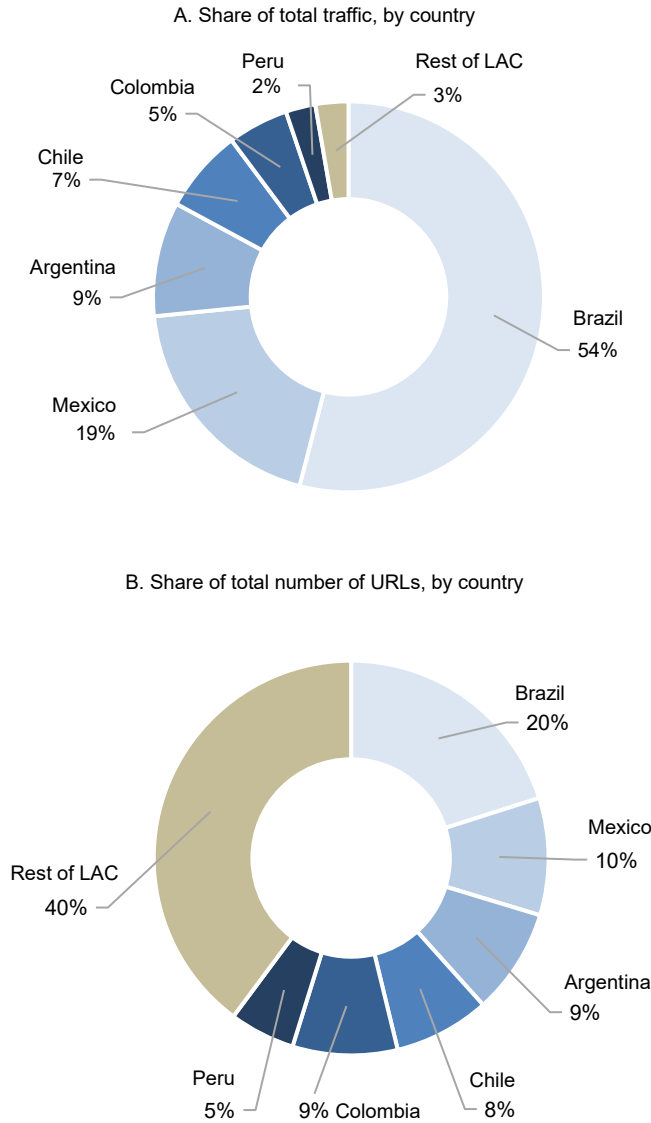
Source: Authors based on the LACME database.

Finally, less than 5% of websites in the region have physical stores. This number varies by shopping type, going from 1.3% for classified sites, to 16.5% for online shopping malls and 35.8% for auction sites.

B. Size and concentration

Marketplace traffic is highly concentrated in the largest economies of the region. Brazil accounted for 54% of total traffic in the region in 2021, and Argentina, Chile, Colombia, Mexico, and Peru, together, represented 43% (figure 8A). Concentration is lower when considering the number of URLs. By this measure, the six largest countries in terms of traffic concentration account for almost 60% of the total number of URLs (figure 8B).

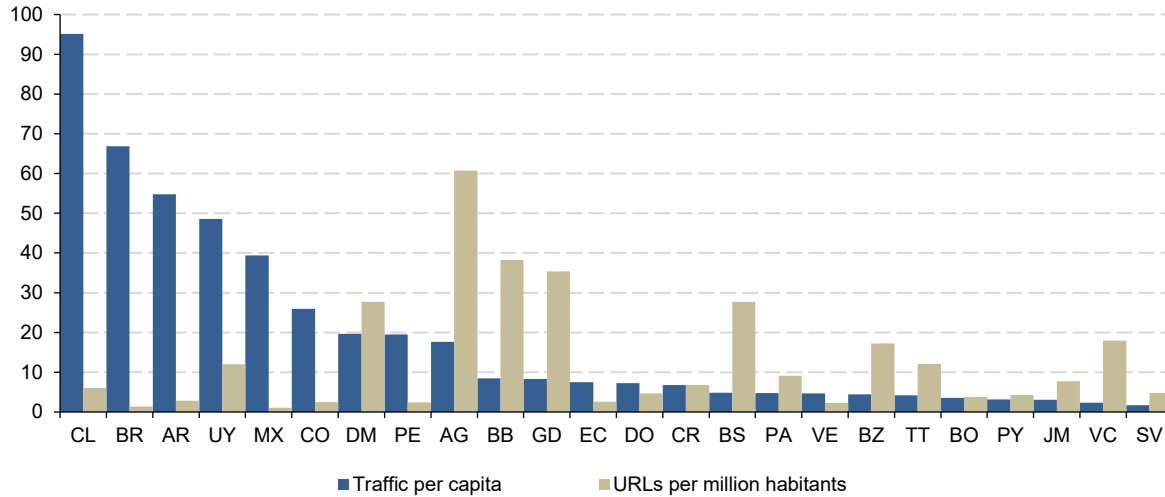
Figure 8
Marketplace concentration by country, 2021



Source: Authors based on LACME data base.

Costa et al. (2021) point to the importance of network effects in driving online platforms penetration and expansion across countries. That is, marketplaces become more valuable for users as more users participate in them. In line with their findings, we find that LAC countries with higher GDP per capita or population tend to have higher marketplace traffic per capita and a smaller number of platforms per capita (figure 9). However, this negative relationship between traffic per capita and number of URLs per capita is weaker among LAC countries than among OECD countries studied by Costa et al. (2021).

Figure 9
Platforms' website traffic per capita and number of URLs per capita, 2021

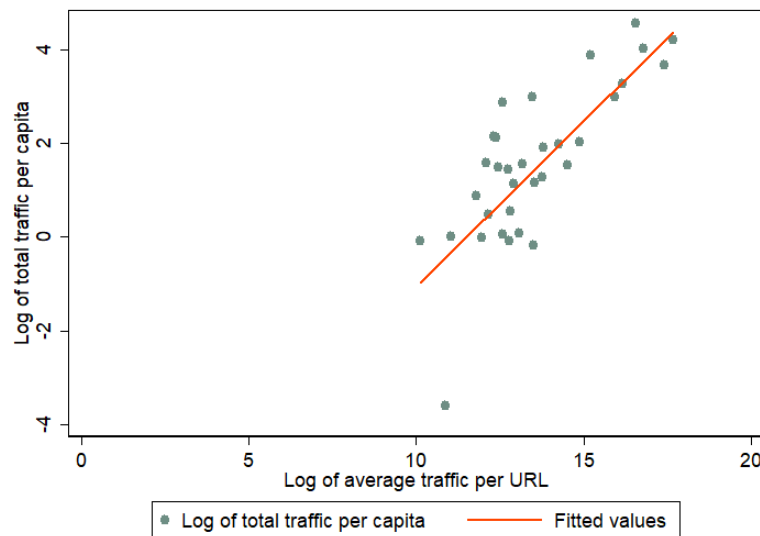


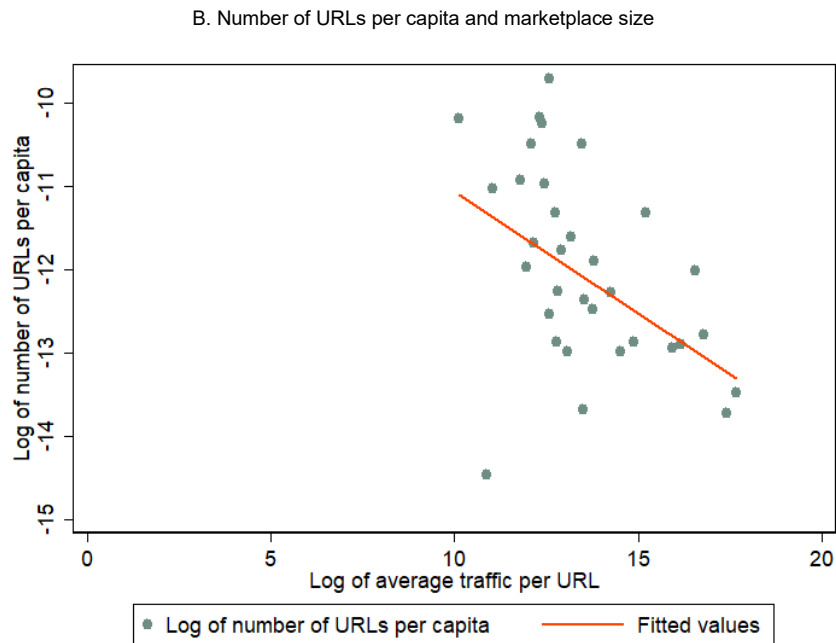
Source: Authors based on LACME database.

Figure 10 further suggests that the role of network effects in driving marketplace penetration in LAC countries is relevant. Panel A shows that countries with higher marketplace traffic per capita tend to have larger marketplaces, as measured by their average traffic. Panel B reveals that there is a negative association between the average size of platforms in a country and the number of platforms per capita. This means higher marketplace traffic per capita is associated to platforms having a larger size and not to there being a higher number of platforms.

Figure 10
Platform traffic per capita, number of platforms per capita, and size of URLs in LAC countries, 2021

A. Traffic per capita and marketplace size





Source: Authors based on LACME data base.

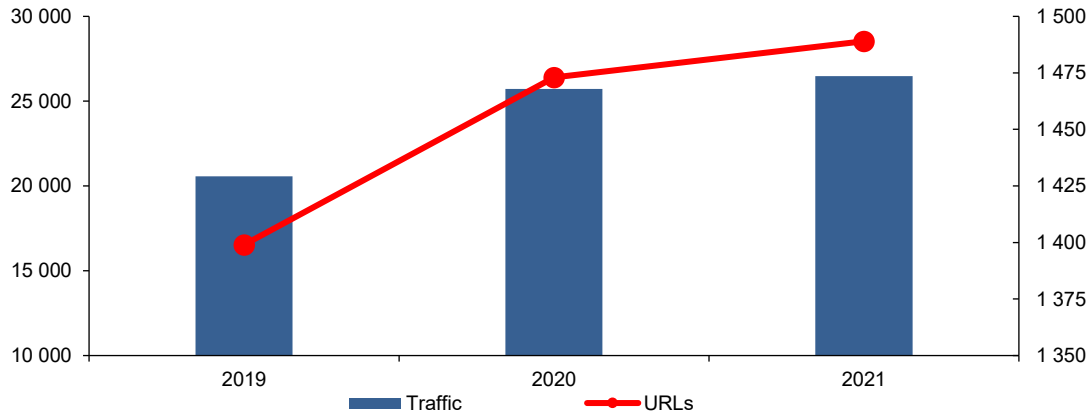
C. Trends in marketplace activity

This subsection describes the recent evolution of marketplace activity as measured by traffic. Figure 11 shows the evolution of online marketplace traffic and the number of websites with positive traffic between 2019 and 2021. Aggregate traffic grew 29% between 2021 and 2019, from 20.6 to 26.5 billion visits. Most of this growth is explained by the 25% increase in traffic experienced during the COVID-19 pandemic in 2020 compared to 2019.²¹ In turn, the number of marketplace websites with positive traffic increased 6.4% between 2019 and 2021, from 1,399 to 1,489 URLs, and then decreased slightly in 2021. As with traffic, most of this increase accrued during the first wave of the COVID-19 pandemic in 2020.

Changes in traffic can be decomposed into the intensive and the extensive margins, i.e., changes in visits to existing marketplaces versus changes in visits due to a change in the number of marketplaces, respectively. From this perspective, the 2019-2021 increase in marketplace activity happened almost entirely along the intensive margin, with a 28.5% increase in traffic at continuing websites. The remaining 0.5% was due to the net change in traffic in websites that either switched from no traffic to positive traffic or from positive to no traffic between 2019 and 2021.

²¹ ECLAC, KAS, and IDB (2021) describe changes in firms' and consumers' behavior that resulted in increased penetration of e-commerce in LAC.

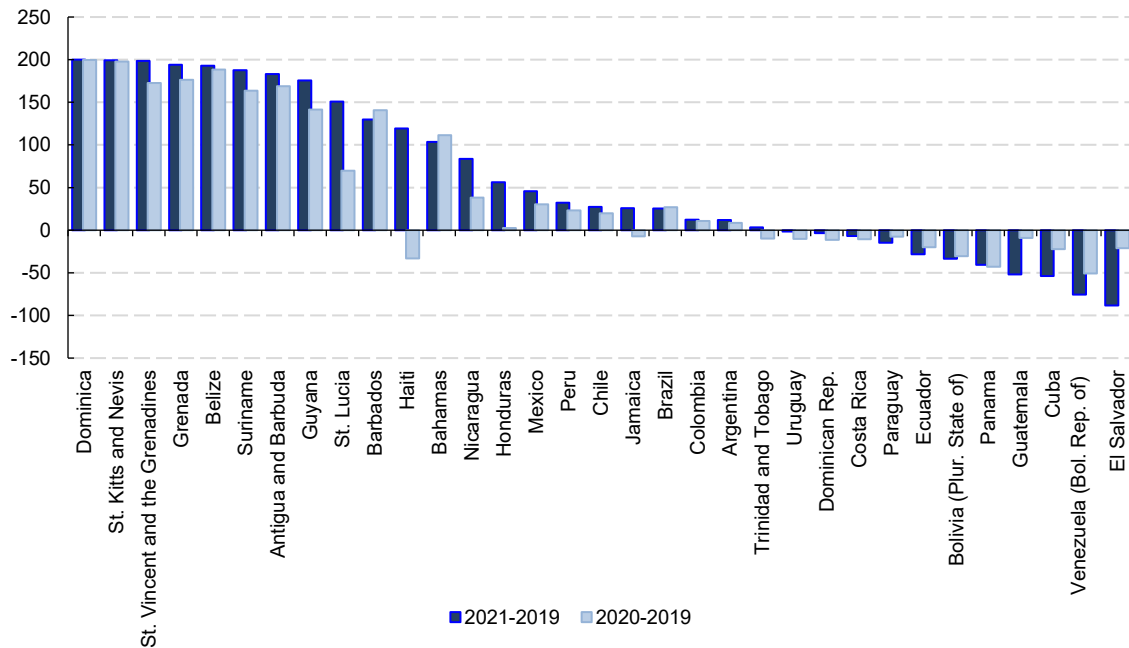
Figure 11
Evolution of marketplace traffic and number of websites, 2019-2021
(Millions)



Source: Authors based on the LACME database.

Note: Based on traffic and URL data for 33 countries: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, and Venezuela.

Figure 12
Change in marketplace traffic by country, 2019-2021



Source: Authors based on the LACME database. Normalized rates of change are defined as $\hat{x} = 2 \times (x_t - x_{t-1}) / (x_t + x_{t-1})$.

Next, we describe the dynamics of online traffic by country and type of marketplace. Not all countries experienced the same traffic dynamics, as can be seen in figure 12, which presents normalized rates of change for 2019-2020 and 2019-2021.²² Most countries saw an increase in marketplace traffic between 2019 and 2021. In particular, with some exceptions, Caribbean economies, which showed the lowest levels of traffic at the beginning of the sample period, experienced the largest increases in traffic. In some countries, however, traffic decreased, even significantly. For instance, in Venezuela and El Salvador, traffic decreased by 76% and 88%, respectively, between 2019 and 2021.

Online marketplace traffic showed different dynamics depending on the type of marketplace or URL. As table 5 shows, online shopping malls experienced the sharpest increase and traffic grew 39% between 2019 and 2021, followed by deals and coupons sites, where traffic increased 17%. Traffic on price comparison and auction sites increased 9% and 3%, respectively. On the other hand, activity in classified and other sites decreased slightly (1% and 9%, respectively).

Table 5
Traffic evolution by URL shopping type, 2019-2021

URL type	Traffic (millions)			Change (percentages)	
	2019	2020	2021	2019-2020	2019-2021
Online shopping mall	15 166.3	20 049.8	21 048.6	32%	39%
Classified site	4 198.1	4 314.3	4 146.9	3%	-1%
Price comparison site	485.9	616.2	529.0	27%	9%
Deals/coupon site	352.6	395.4	410.8	12%	17%
Other	277.4	259.3	253.5	-7%	-9%
Auction site	88.1	84.1	91.1	-4%	3%

Source: Authors based on LACME database.

²² Normalized rates of change are defined as $\hat{x} = 2 \times \frac{x_t - x_{t-1}}{x_t + x_{t-1}} \times 100$. They are bounded between -200 and 200 (when either x_t or x_{t-1} is zero, respectively) and, compared to the standard formula, they have the advantage of adjusting for very low initial levels, which would result in outlier growth rates.

III. Determinants of the B2C marketplace ecosystem

This section starts by reviewing previous efforts to assess and quantify enablers of online platforms growth and development. Then, it presents the results of the analysis of marketplace determinants in LAC, which exploits data on marketplaces and marketplace traffic across LAC countries between 2019 and 2021, together with country characteristics.

A. Literature on enablers of marketplace development

Despite the growing importance of online digital platforms in shaping economic activity and creating economic value, relatively little has been studied empirically about factors enabling or affecting their growth. In part, this is related to the limited access to comprehensive and internationally comparable national statistics about digital technology adoption in general, and platforms activity in particular (UNCTAD, 2020; OECD, 2019; Stigler Center, 2019).

Studies that assess potential factors enabling online marketplace development and internet sales typically consider three categories: physical infrastructure, the institutional environment, and socio-economic factors.²³ In what follows, we summarize the evidence and leave a detailed review of the literature to the appendix.

Physical infrastructure. Conceptually, physical infrastructure includes the most elemental factors without which online marketplaces would not develop, such as internet networks and digital devices, but also those that affect the extent and quality of the value proposition of marketplaces, such

²³ UNCTAD (2015) identifies internet access, payment mechanisms, delivery solutions, and the legal and regulatory framework as facilitating factors. Except for the latter, these factors formed the basis for the design of the B2C e-commerce index. Rossotto et al. (2018) propose a distinction between physical enablers and market and behavioral enablers. Costa et al. (2021) suggest a taxonomy based on structural characteristics, which include socio-economic and demographic dimensions, digital preparedness, and platform concentration, and structural policies, which include the broad institutional environment, product market regulation, and digital services regulation.

as electronic payments, logistics, cloud services, and internet security. In general, the literature has found a positive association between broadband penetration and marketplace activity. Availability of digital devices, such as computers, tablets, and smartphones, have also been found to positively affect online sales. Security and trust are other aspects of ICT infrastructure that have been identified as enablers of e-commerce and platform development.

Institutional and regulatory environment. The institutional environment encompasses a broad array of measures to regulate behavior and shape incentives of consumers to buy online and of firms to entry into new markets, expand, innovate, and compete. This includes dimensions that characterize access of platforms and other e-commerce businesses to factor markets, especially capital and labor markets, which affect the business environment. UNCTAD (2015) notes that, while the adoption of specific regulation may not be a necessary condition for e-commerce to emerge, it is essential for its sustainable growth. Different studies have found that higher degrees of personal freedom, better control of corruption, and an effective judiciary system are associated to faster development of e-commerce and online platforms. Having e-commerce specific regulation and ICT laws are also positively correlated with higher levels of e-commerce activity. Openness to trade is another factor that has been found to influence the development of e-commerce. The latter includes factors related to payment regulations, customs and logistics procedures, and cross-border duties and taxes.

Socioeconomic factors. Socioeconomic and demographic factors ensure that individuals not only have access to technology but also that they use it, and therefore nurture the demand for e-commerce. These include income and demographics, but also the level of entrepreneurship and technological and digital readiness of firms and consumers, including digital skills and financial literacy. A vast literature finds that education is positively associated to the capacity of individuals to use the internet and engage in B2C online commerce activities. In particular, a higher level of digital skills is associated to higher e-commerce activity. The literature studying factors that compel SMEs to engage in e-commerce highlights the role of perceived benefits, costs, and organizational culture in internet adoption of SMEs, as well as the role of technology readiness and owners' innovativeness. Financial inclusion, in particular credit and debit card penetration, has been found to influence e-commerce growth within countries, as well as the use of digital money through smartphones, particularly in less developed economies.

B. Estimates of determinants of marketplace growth and development in LAC

This subsection analyzes the determinants of online marketplace traffic at the country level, following the approach in Costa et al. (2021). Specifically, the empirical strategy relies on estimating the following baseline linear model for the determination of (the log of) total traffic, T_{ct} , in country c in year t :

$$T_{ct} = \alpha + \beta \mathbf{X}_{ct} + \theta_t + \epsilon_{ct} \quad (1)$$

where θ_t are year fixed effects to control for aggregate shocks affecting all countries, and \mathbf{X}_{ct} is a vector of controls at the country level which are expected to affect diffusion of online marketplaces. These include GDP per capita, population, the share of urban population, the share of population 34 years old or younger, fixed broadband internet penetration, the cost of fixed broadband internet, the International Telecommunication Union's cybersecurity score, the World Bank's Ease of Doing Business score, and the Universal Postal Union's postal development score. After examining total marketplace traffic, we estimate the model decomposing traffic T_{ct} into the intensive and extensive margins:

$$\log T_{ct} = \log \bar{T}_{ct} + \log N_{ct}, \quad (2)$$

where \bar{T}_{ct} is average traffic per URL and N_{ct} is the number of URLs.

We estimate equation (1) using data for 33 LAC countries with available data for the 2019-2021 period.

Table 6 presents the estimation results of a specification with GDP per capita and population only, while table 7 presents estimation results from a specification with full controls.

Results in table 6 indicate that countries that are more populated tend to show higher online marketplace traffic. Although there is a positive relationship between GDP per capita and marketplace traffic, it is not statistically significant. In particular, a 1% increase in population is associated with a 1.5% increase in total traffic. The positive association of traffic with population derives from more populous countries having both larger platforms and a higher number of platforms, as indicated by columns (2) and (3). These patterns are consistent with the presence of network effects driving the positive association population and marketplace traffic.

Table 6
Country-level determinants of online marketplace traffic, baseline

	Dependent variable		
	(1) Total traffic	(2) Average URL traffic	(3) No. of URLs
GDP per capita	0.085 (0.067)	0.050 (0.055)	0.035 (0.018)
Population	1.489 ^a (0.088)	0.945 ^a (0.073)	0.544 ^a (0.024)
Year fixed-effects	Yes	Yes	Yes
Obs.	99	99	99
Adj. R ²	0.75	0.66	0.84

Source: Authors based on LACME database.

Note: All variables in logarithms.

^a 1%.

Next, we include other controls that could affect marketplace traffic and present the results in table 7. In general, only population, fixed broadband internet subscriptions per capita, the business environment, and the share of urban population have statistically significant coefficients, and with the signs that should be expected (i.e., positive coefficients). While the coefficient on population increases slightly, a 10% increase in internet penetration is associated with a 5.8% increase in total traffic, mostly through higher average traffic per website (about 60% of the effect), although the latter relationship is not statistically significant. A more enabling business environment and a higher share of the population living in cities are associated with higher marketplace activity. These effects also seem to operate through higher average traffic more than a higher number of URLs.

Table 7
Country-level determinants of online marketplace traffic, full controls

	Dependent variable		
	(1) Total traffic	(2) Average URL traffic	(3) No. of URLs
GDP per capita	-0.107 (0.091)	-0.086 (0.083)	-0.022 (0.019)
Population	1.661 ^a (0.444)	1.007 ^b (0.407)	0.654 ^a (0.095)
Internet subscriptions	0.579 ^c (0.307)	0.343 (0.281)	0.236 ^a (0.065)
Price of internet (1GB)	0.066 (0.309)	0.065 (0.283)	0.000 (0.066)
Cybersecurity score	0.020 (0.013)	0.016 (0.012)	0.004 (0.003)
Postal dev. score	0.033 (0.031)	0.022 (0.028)	0.011 ^c (0.007)
Doing business score	0.082 ^b (0.034)	0.062 ^c (0.031)	0.021 ^a (0.007)
Urban population (share)	0.025 ^c (0.014)	0.019 (0.012)	0.006 ^b (0.003)
Population below 34 years old	0.032 (0.026)	0.014 (0.024)	0.018 ^a (0.006)
Year fixed-effects	Yes	Yes	Yes
Obs.	99	99	99
Adj. R ²	0.87	0.78	0.95

Source: Authors based on LACME database.

Note: GDP per capita, population, number of internet subscriptions and price in logarithms.

^a 1%.

^b 5%.

^c 10%.

IV. Final comments

Despite the growing importance of online digital platforms in shaping and organizing economic activity, measures of platform diffusion and uptake are scarce, especially for developing countries. This paper contributes to our understanding of platform activity in developing countries by analyzing a novel dataset of marketplace traffic and characteristics covering more than 2,000 websites belonging to around 900 B2C marketplaces across 33 LAC countries between 2019 and 2021.

The results show that marketplace traffic is concentrated in the largest economies of the region: the seven largest economies concentrate more than 90% of marketplace traffic. Moreover, this feature comes from more populous and higher income countries having larger platforms rather than a higher number of websites, which suggest that network effects play a role in shaping platform diffusion in LAC countries. Concentration is also high across marketplaces. Mercado Libre, the largest marketplace in the region, concentrates about 30% of marketplace traffic, and the 20 marketplaces with highest traffic share account for about 65% of total traffic. These results are line with recent studies using similar data for OECD and G20 countries.

During 2019-2021, online traffic grew almost 30%. Practically all this growth is explained by the intensive margin, that is, increased traffic in existing marketplaces rather than by entry of new marketplaces. Moreover, most of the growth between 2019 and 2021 accrued during the first wave of the COVID-19 pandemic. Growth was heterogeneous across countries. Caribbean countries tend to show the largest traffic growth rates, albeit starting from the lowest levels in the region, while some economies, such as Venezuela and Honduras, experienced significant declines in online traffic activity.

The analysis of country-level determinants of marketplace activity are not very conclusive. The results are consistent with the presence of network effects and suggest, as should be expected, that higher internet penetration is associated with higher marketplace activity, mostly through the intensive margin (i.e., higher average traffic per website). These results should be taken with care, however, as the data do not include global marketplaces without a LAC country focus and cover a short period of time, which includes the COVID-19 pandemic. The latter triggered higher marketplace activities in most

countries in the region and may distort more stable relationships between country-level characteristics and their effect on e-commerce activity.

Since our analysis does not allow us to draw conclusions about causal effects of country characteristics on marketplace growth, readers should be careful in drawing policy implications about which actions should be prioritized to foster e-commerce for development. However, we can make some exploratory remarks in this respect. First, the data are clear in showing that, in general, marketplace activity accelerated in 2020 but stabilized in 2021. While the COVID-19 pandemic catalyzed e-commerce operations in most countries, governments should not rely on this impulse only, as it will likely not be enough to fully harness the benefits of e-commerce. Moreover, a significant share of countries was not able to take advantage of the pandemic to propel e-commerce, which suggests these countries still face structural limitations that impede e-commerce to take off.

A consistent feature of the marketplace landscape in the LAC region is the prevalence of websites that do not allow users to finalize transactions digitally. Most likely, this reflects gaps in the development and adoption of electronic payments solutions and integration of marketplaces with logistics solutions. These two dimensions are key to fully develop e-commerce ecosystems.

Finally, although new players seem to have entered the e-commerce ecosystem in LAC, the data reveal strong concentration patterns and are consistent with the existence of network effects. Therefore, governments should be careful to monitor competition patterns in the e-commerce market to avoid dominant positions and mitigate economic risks associated with competition between traditional SMEs who lack the capabilities to operate effectively in digital channels and large, established marketplaces.

Going forward, it will be key to pursue in-depth studies that can shed lighter on the mechanisms through which country-level characteristics affect platform activity, including event studies and impact evaluation of specific policies. Continuing to build and develop harmonized datasets such as the one used in this paper is a step towards that end.

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Annex

Literature review on the determinants of marketplace development

This appendix details the results of the literature studying determinants of online platform activity. Given the limited number of studies that focus specifically on online platforms, in what follows we also include results from papers looking at determinants of internet sales or e-commerce more generally. We prioritize papers exploiting cross-country data.

Physical infrastructure

Internet connectivity. Based on data from 1,400 platforms active in 43 OECD and G20 countries between 2013 and 2019, Costa et al. (2021) find that an increase from the 25th to the 75th percentile of broadband penetration is associated with a 16% increase in the number of platforms. However, they find a low and statistically insignificant association between broadband penetration and marketplace traffic. In related papers, Woo Kang, Wang, and Ramizo (2021) and Ho, Kauffman and Liang (2011) do find a positive association between internet penetration and B2C e-commerce revenue. Suominen (2018) uses data on platform sellers in 65 countries in the period 2011-2015 and finds that, controlling for GDP per capita, increased provision of broadband connectivity and ICT services is positively associated with the birth of new online sellers, which can contribute to the growth of platform-enabled online trade.

Digital devices. The literature also finds evidence of a positive association between access to digital devices, such as computers, tablets, and mobile phones, and online sales (Woo Kang, Wang, and Ramizo, 2021; Tan, Pan, Ziangua, and Lihua, 2015). Reports from local e-commerce associations in LAC also record a growing share of e-commerce sales made by mobile phones (CACE, 2022; AMVO, 2022).

Security and trust. Security and trust are other aspects of ICT infrastructure that have been identified as enablers of e-commerce and platform development (Ho et al., 2011; Woo Kang and Ramizo, 2021; Burroughs and Sabherwal, 2002; Chau and Deng, 2018; Lee and Wong, 2016; Alyoubi, 2015; Sarkar et al., 2020; Zhu et al., 2019). Ho et al. (2011) also find a positive association between e-commerce revenue and secure servers' growth. Relatedly, Rossotto et al. (2018) emphasize that interoperability of data protection standards is an essential enabler of digital platforms in emerging markets.

Institutional and regulatory environment

The results in Costa et al. (2021) suggest that higher degrees of personal freedom, better control of corruption, and an effective judiciary system are associated to faster development of online platforms. This result extends to the business environment. In fact, lack of competition and barriers to entry into services markets, such as restrictive product market regulations and occupational licensing requirements, are associated with lower online platform diffusion and uptake. Regulations that affect the ability of online platforms to transfer data across borders are also found to be important drivers of online platforms' development, with cross-border data freedom being associated with larger platforms, especially international ones.

Drawing on a sample of 80 countries, Martinez, and Williams (2010) provide evidence supporting the idea that strong national institutions engender trust and can foster business transactions conducted using ICT, especially in developing countries. Zhu and Thatcher (2010) perform a cross-country analysis and find that the legal environment significantly affects a country's e-commerce activities and revenues and has a crucial impact on both the breadth and depth of e-business adoption. Moreover, the relevance of the legal environment depends on what stage of e-commerce adoption the country is. Their results suggest that at the infant stage of e-commerce, supportive government policies, effective legal environment and compatible socio-cultural infrastructure are powerful facilitators of e-commerce adoption. But as e-commerce becomes more prevalent, supportive government policies and

socio-cultural infrastructure continue fostering e-commerce activities, while the effect of the legal environments becomes negligible.

Regarding e-commerce policy specifically, in a study done across 10 different countries, Gibbs et al. (2003) find that e-commerce legislation affects the extent of e-commerce adoption. Similarly, by using national indicators, Boyer-Wright and Kottemann (2009) find that ICT laws influence a country's online commerce transactions.

Openness to trade is another factor that influences the development of e-commerce. Gibbs et al. (2003) show that trade enabling policies are likely to have a strong impact on e-commerce. Ho et al. (2011) find that trade openness has a positive impact on B2C online commerce. Conversely, Suominen (2018) finds that restrictive payment regulations, inefficient customs and logistics procedures, logistics, and high duties and taxes act as barriers that halt cross-border e-commerce.

Ho et al. (2011) also provide empirical proof that the availability of venture capital is a factor that fosters e-commerce and adds to a literature strand that recognizes that it results in the development of e-commerce-related technologies around the world (Gibbs et al., 2003; Kshetri, and D., 2002, and Zacharakis et al., 2003). However, Rossotto et al. (2018) suggest that further research is needed to assess whether access to capital is a constraint to the development of platforms in emerging markets, since even though some platforms in these regions could attract a considerable amount of capital, others have encountered the challenges typical of technology entrepreneurship.

Socioeconomic and demographic factors

Education and skills. A vast literature finds that education is positively associated to the capacity of individuals to use the internet and engage in B2C online commerce activities.²⁴ Costa et al. (2021) find that platform diffusion is greater in countries with better digital skills. Siyal et al. (2006) find that income and education level and exposure to the Internet were significant predictors in explaining the rate of adoption of e-commerce. Bădîrcea et al. (2021) note that the proportion of internet users shopping online is higher among those with higher education.

Financial literacy and inclusion. Ho et al. (2011) find that financial card penetration influence e-commerce growth within countries. Similarly, Woo Kang, J. et al. (2021) find evidence that financial inclusiveness matter in facilitating internet retail sales and argue that the appearance of mobile phones has allowed vulnerable groups with low incomes and literacy to experience the opportunities of telecommunication services.

Firm capabilities. The literature studying factors that compel SMEs to engage in e-commerce highlights the role of perceived benefits, costs, and organizational culture in internet adoption of SMEs, as well as the role of technology readiness and owners' innovativeness (Villa et al., 2018; Alam, 2009; Rayahu and Day, 2015; Hadi et al., 2020).

²⁴ See Caselli and Coleman (2001), Burroughs and Sabherwal (2002), Pohjola (2003), Ho et al. (2011), Tarafdar and Vaidya (2006), Boyer-Wright and Kottemann (2009), Nicoletti, von Rueden and Andrews (2020).



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