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Recent trends

In the last decade, Ecuador has made efforts to enhance digital access and use for all. The share of Internet users as well as active mobile broadband and fixed broadband subscriptions have considerably increased in during this period. In particular, active mobile broadband subscriptions (per 100 people) increased from 8.8 in 2008 to 54.7 in 2018 but remained below the Latin America and the Caribbean (LAC) average (73.5) and the Organisation for Economic Co-operation and Development (OECD) average (103.6). Perceived e-commerce safety and trust in online privacy are above LAC and OECD averages.

Ecuador's performance in enabling digital innovation showed mixed results in the last decade. High-technology exports as a share of total manufactured exports increased from 5.0% in 2008 to 5.3% in 2018 but remain below averages in LAC (8.6%) and the OECD (15.1%). Further efforts are needed for the digital transformation of government. Ecuador is among the underperformers in LAC for open government data policies in the OECD OURdata Index. Similarly, the country ranks below LAC and OECD averages in the E-Government Development Index (EGDI).

National strategies and international co-operation for digital transformation

The 2017-21 *Toda una Vida* (A lifetime) national development plan (NDP) and *Política Ecuador Digital* (Digital Ecuador Policy) are the main references for the development and digital transformation of the country. The NDP focuses on three main objectives: universal rights, economy at the service of society, and better institutions. The Digital Ecuador Policy is based on three axes: connectivity; efficiency and security of information; and innovation and competitiveness. The first axis aims to expand telecommunications service coverage and migrate to higher speed networks. The second aims to guarantee citizen participation, democratic public services, simplified transactions, efficient public management, access to and use of open data and information and data security. The third aims to turn Ecuador into a model of innovation and competitiveness in the region through the development of smart cities, the digital transformation of firms and the creation of a National Strategy for E-Commerce.

The Ministry of Telecommunications and Information Society is developing strategic projects related to the three axes. Cheaper Internet will increase telecommunications coverage and benefit poor households with preferential tariffs. Digital Social Fingerprint will improve public services by providing public institution information on an integrated digital platform. Ecuador is also working on a National Cybersecurity Strategy. Last, a project to include ICT in education curricula will help develop the computational thinking and digital skills needed to achieve innovation and competitiveness. To mitigate the economic impact of the coronavirus (Covid-19), the government agreed with the telecommunications industry to increase the data provided to mobile service users and expand landline bandwidth at no extra cost, to meet the growing demand for networks. The Ministry of Telecommunications also assigned a phone number for up-to-date pandemic information, including testing locations and telemedicine information (CAF, 2020).

In terms of international co-operation, Ecuador received bilateral technical support from Brazil for the implementation of terrestrial digital television, following the Japanese-Brazilian model. As part of a triangular co-operation project, Ecuador and Germany shared their e-government experiences with El Salvador. Ecuador also participated in the European Union-backed MAGIC project (2015-17) to streamline global scientific and academic collaboration. Programmes to boost knowledge sharing, training and access to e-infrastructure were among its main achievements. The country also forms part of the Cyber Resilience for Development, a European Union project designed to promote cyber-resilience and digital security in order to protect public and private enterprises across the globe.

Digital indicators - Ecuador[1]

	Ecuador		LAC[2]		OECD[3]	
Enhancing access						
	2008	**2018**	**2008**	**2018**	**2008**	**2018**
Fixed broadband subscriptions (per 100 inhabitants)[4]	1.1	11.4	4.1	13.9	22.7	32.9
	2010	**2018**	**2010**	**2018**	**2010**	**2018**
Active mobile-broadband subscriptions (per 100 inhabitants)[4]	8.8	54.7	5.4	73.5	37.7	103.6
	2015	**2018**	**2015**	**2018**	**2015**	**2018**
Proportion of population covered by at least 3G network[5]	91.9	93.0	86.1	94.6	98.2	98.8
	2008	**2017**	**2008**	**2017**	**2008**	**2007**
Fixed broadband speed (in Mbit/s)[4]	0.26	5.0	0.58	5.1	2.2	27.7
Strengthening their effective use	**Ecuador**		**LAC**		**OECD**	
	2008	**2018**	**2008**	**2018**	**2008**	**2018**
E-Government Development Index (EGDI)[6]	0.48	0.61	0.52	0.65	0.72	0.82
	2008	**2017**	**2008**	**2017**	**2008**	**2017**
Share of Internet users (% of population)[4]	18.8	57.3	25.3	62.9	65.0	83.4
	2015	**2019**	**2015**	**2019**	**2015**	**2019**
UNCTAD B2C E-Commerce Index[7]	45.0	39.9	46.4	51.5	73.9	85.0
	2017		**2017**		**2017**	
Share of individuals engaging in online shopping[8]	8.8		14.8		N/A	
Enabling digital innovation	**Ecuador**		**LAC**		**OECD**	
	2008	**2018**	**2008**	**2018**	**2008**	**2018**
High-technology exports (% of manufactured exports)[9]	5.0	5.3	9.3	8.6	15.6	15.1
Share of ICT service imports, as % of total trade in services[7]	0.93	0.25	3.1	3.9	4.6	6.7
	2012	**2016**	**2012**	**2016**	**2012**	**2016**
ICT patent applications filed under the Patent Cooperation Treaty (per million people)[10]	0.01	0.07	0.14	0.34	30.9	38.2
	2006	**2014**	**2006**	**2014**	**2006**	**2014**
R&D expenditures, as % of GDP[11]	0.13	0.44	0.35	0.40	1.7	1.9
	2019		**2019**		**2019**	
OECD OURdata Index[12]	0.29		0.43		0.61	
Ensuring quality jobs for all	**Ecuador**		**LAC**		**OECD**	
	2006-15		**2006-15**		**2006-15**	
Contributions to changes in total employment, by digital intensity of sectors, 2006-16[13]	N/A		6.9		4.8	
	2018		**2018**		**2018**	
Share of informal employment to total employment[14]	72.7		54.9		N/A	
	2008	**2015**	**2008**	**2015**	**2008**	**2015**
Tertiary gross enrolment rate (%)[9]	38.8	44.9	41.5	51.0	64.4	70.1
	2016		**2016**		**2016**	
Tertiary graduates by field (%) - Education[11]	18.8		16.0		9.8	
Tertiary graduates by field (%) - Health[11]	12.7		13.8		14.5	
Tertiary graduates by field (%) - Engineering[11]	9.0		12.5		14.6	
Promoting an inclusive digital society	**Ecuador**		**LAC**		**OECD**	
	2015	**2016**	**2015**	**2016**	**2015**	**2016**
E-waste generated, kilograms per inhabitant[15]	5.4	5.5	6.9	7.2	17.7	17.7
	2015	**2018**	**2015**	**2018**	**2015**	**2018**
Number of students per computer[16]	N/A	N/A	2.4	1.6	1.8	1.1
	2018		**2018**		**2018**	
Percentage of women scoring at Level 2 or 3 in problem solving in technology-rich environments[17]	4.4		7.7		27.7	
Strengthening trust	**Ecuador**		**LAC**		**OECD**	
	2020		**2020**		**2020**	
CAF GovTech Index[18]	3.6		4.4		N/A	
	2016	**2018**	**2016**	**2018**	**2016**	**2018**
Global Cybersecurity Index (ITU)[19]	0.35	0.37	0.36	0.43	0.56	0.79
	2018	**2019**	**2018**	**2019**	**2018**	**2019**
E-commerce safety (%)[20]	N/A	63.8	72.0	63.1	61.7	58.3
Trust in online privacy (%)[20]	N/A	66.7	52.8	54.9	41.7	45.6
Fostering market openness	**Ecuador**		**LAC**		**OECD**	
	2015	**2019**	**2015**	**2019**	**2015**	**2019**
OECD Digital Services Trade Restrictiveness Index[13]	N/A	N/A	0.24	0.24	0.13	0.15
	2018		**2018**		**2018**	
OECD FDI RRI[13]	N/A		0.07		0.06	

Sources, footnotes and technical details can be found at the end of the country notes.

Technical notes

1. The table as best as possible follows the seven key areas identified in the OECD Going Digital project: 1) enhancing access to digital technologies; 2) strengthening their effective use; 3) enabling digital innovation; 4) ensuring quality jobs for all; 5) promoting an inclusive digital society; 6) strengthening trust; and 7) fostering market openness (OECD, 2019a). Indicators are chosen depending on data availability for LAC countries. Potential bias exists from the way components have been aggregated on index indicators.
2. LAC average is a simple average. Composition of countries depends on availability of country data. Each average includes as many LAC countries as possible.
3. OECD average is a simple average that includes all OECD member countries as of May 2020.
4. Data from ITU (2020), *World Telecommunication/ICT Indicators Database 2020* (database). Fixed broadband speed in Mbit/s refers to the advertised maximum theoretical download speed guaranteed to users associated with a fixed broadband Internet monthly subscription.
5. Data from UN Statistics Division, UN Global SDG Database (database). Data for 2015 and 2018 or latest available year.
6. Data from UN E-government Knowledgebase (2019), *Data Center* (database). The E-Government Development Index is a composite indicator that consists of three indexes (Online Service Index, Telecommunication Infrastructure Index and Human Capital Index), which are equally weighted. It ranges from 0 to 1, with 1 being the most developed.
7. Data from UNCTAD (2020), *UNCTADSTAT* (database). The UNCTAD B2C E-commerce Index measures an economy's preparedness to support online shopping. It ranges from 0 to 100, with 100 being the highest support.
8. Own calculations based on data from Latinobarómetro (2019), *Libros de Códigos por País/Año* (database). Data for 2017. Data from public opinion surveys using randomly selected, nationally representative samples.
9. Data from World Bank (2020a), *World Bank DataBank* (database).
10. Data from World Bank (2020b), *TCdata360*. Data for 2012 and 2016 or latest available year.
11. Data from UNESCO (2019), *UNESCO Institute for Statistics* (database). R&D Expenditures, as % of GDP data from 2006 and 2016 or latest available year.
12. Data from OECD (2020a), *OECD.Stat* (database); and OECD (2020b). The OECD OURdata Index assesses governments' efforts to implement open data in three critical areas: openness, usefulness and re-usability of government data. It ranges from 0 to 1, with 1 being the highest score.
13. Data from OECD (2020a), *OECD.Stat* (database). The OECD Digital Services Trade Restrictiveness Index identifies, catalogues and quantifies barriers that affect trade in digitally enabled services across 46 countries. It ranges from 0 to 1, with 1 being the most restrictive. The Foreign Direct Investment Regulatory Restrictiveness Index (FDI RRI) measures four types of statutory restrictions on foreign direct investment: 1) foreign equity restrictions; 2) screening and prior approval requirements; 3) rules for key personnel; and 4) other restrictions on the operation of foreign enterprises. The FDI RRI is a composite index, which ranges from 0 to 1, with 1 being the most restrictive.
14. Data from ILOSTAT, data from 2018 or latest available year.
15. Data from the Global E-waste Statistics Partnership.
16. OECD calculations based on OECD (2020c), *Programme for International Student Assessment* (database). Data for 2015 and 2018.
17. Data from the OECD (2019d), *Survey of Adult Skills (2018)*. Percentages for problem solving in technology-rich environments are computed so that the sum of percentages for the following mutually exhaustive categories equals 100%: opted out of the computer-based assessment; no computer experience; failed ICT core test; below Level 1, at Level 1, at Level 2 and at Level 3.
18. Data from CAF (2020), *The GovTech Index 2020: Unlocking the Potential of GovTech Ecosystems in Latin America, Spain and Portugal*. The GovTech Index 2020 measures the maturity of the GovTech ecosystem. It is based on 28 indicators across 7 dimensions, which on aggregate form 3 equally weighted pillars: start-up industry, government policies and procurement systems.
19. The Global Cybersecurity Index measures countries' commitment to cybersecurity at a global level. It has five pillars: 1) legal measures; 2) technical measures; 3) organisational measures; 4) capacity building; and 5) co-operation. It ranges from 0 to 1, with 1 being the highest level of cybersecurity.
20. Data from The Economist Intelligence Unit (2019), *EIU Inclusive Internet Index* (database). Indicators present perceived e-commerce safety and trust in online privacy among randomly sampled individuals in selected countries. It ranges from 0% to 100%, with 100% indicating absolute confidence in e-commerce safety and trust in online privacy.

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