



ECUADOR

99th

Ecuador ranks 99th among the 131 economies featured in the GI 2020.

The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GI aims to capture the multi-dimensional facets of innovation.

The following table shows the rankings of Ecuador over the past three years, noting that data availability and changes to the GI model framework influence year-on-year comparisons of the GI rankings. The statistical confidence interval for the ranking of Ecuador in the GI 2020 is between ranks 92 and 100.

Rankings of Ecuador (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	99	96	97
2019	99	98	98
2018	97	96	97

- Ecuador performs better in innovation inputs than innovation outputs in 2020.
- This year Ecuador ranks 96th in innovation inputs, higher than last year and the same as 2018.
- As for innovation outputs, Ecuador ranks 97th. This position is higher than last year and the same as 2018.

33rd

Ecuador ranks 33rd among the 37 upper middle-income group economies.

15th

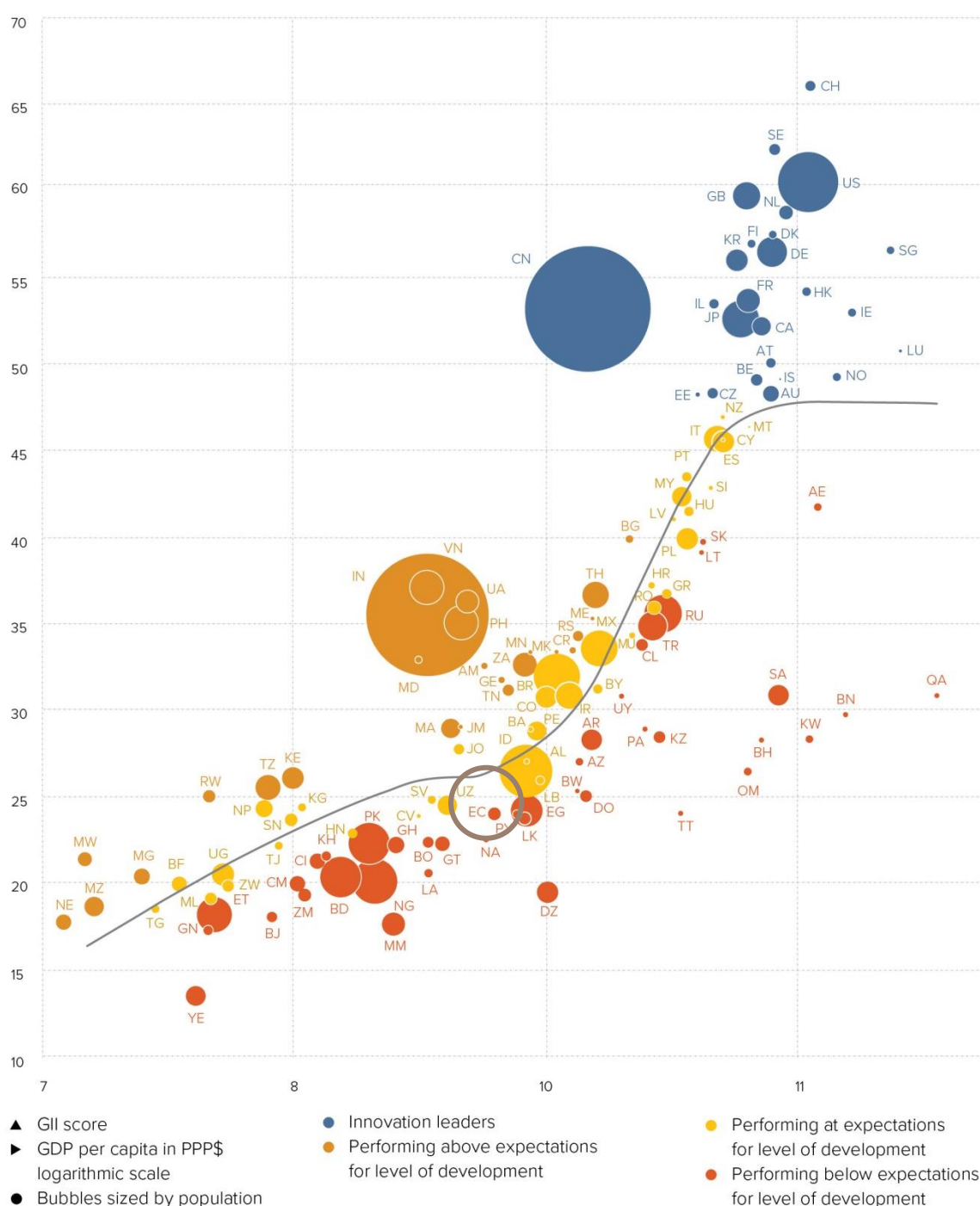
Ecuador ranks 15th among the 18 economies in Latin America and the Caribbean.

EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected and those below are performing below expectations.

Relative to GDP, Ecuador is performing below expectations for its level of development.

The positive relationship between innovation and development

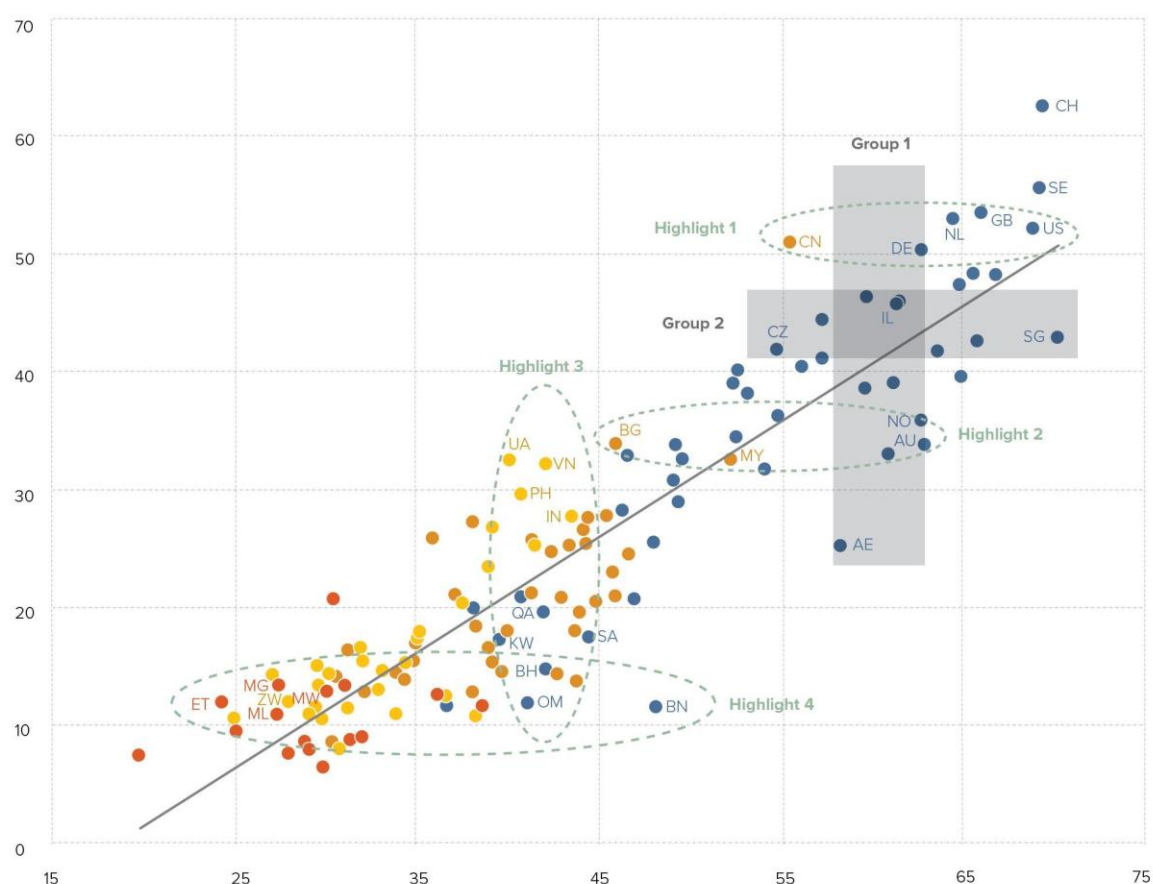


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

Ecuador produces less innovation outputs relative to its level of innovation investments.

Innovation input to output performance, 2020

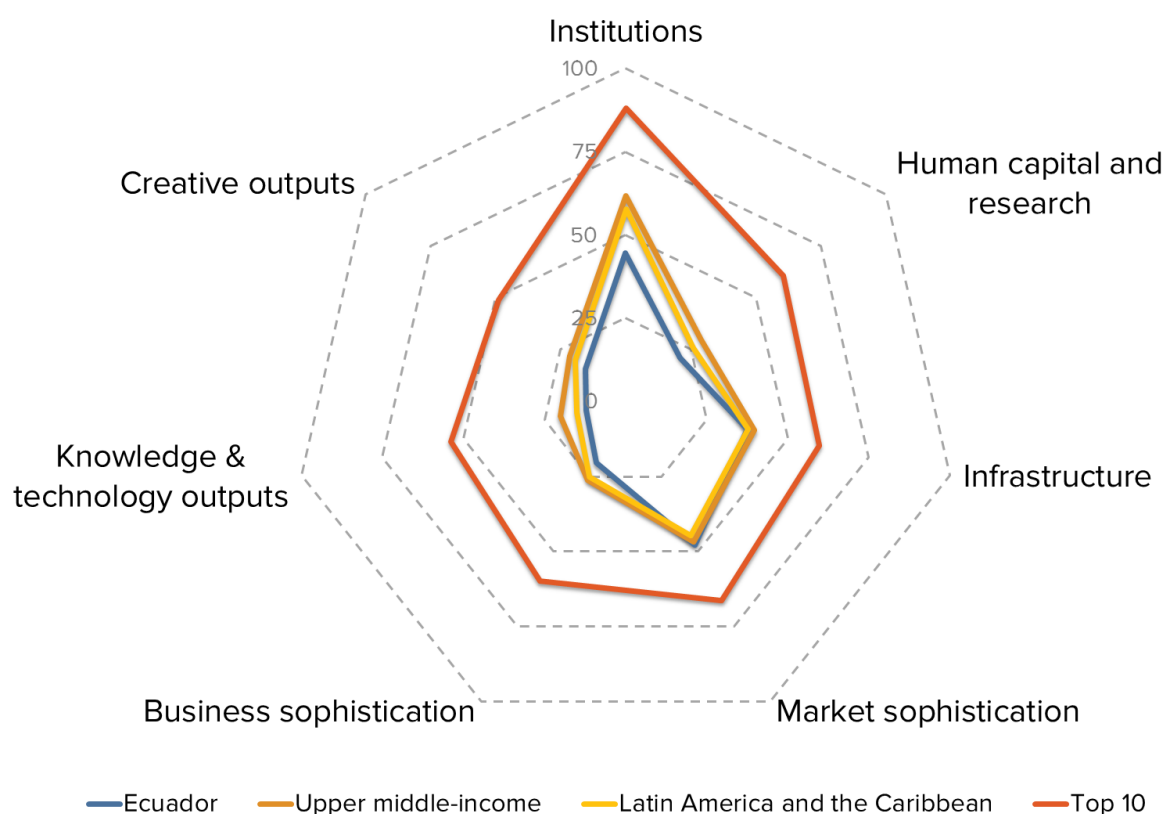


- ▲ Output score
- Input score
- High income group
- Lower middle-income group
- Upper middle-income group
- Low income group
- Fitted values

AU	Australia	IN	India	NL	Netherlands	CH	Switzerland
BH	Bahrain	IL	Israel	NO	Norway	UA	Ukraine
BN	Brunei Darussalam	KW	Kuwait	OM	Oman	AE	United Arab Emirates
BG	Bulgaria	MG	Madagascar	PH	Philippines	GB	United Kingdom
CN	China	MW	Malawi	QA	Qatar	US	United States of America
CZ	Czech Republic	ML	Mali	SA	Saudi Arabia	VN	Viet Nam
ET	Ethiopia	MY	Malaysia	SG	Singapore	ZW	Zimbabwe
DE	Germany			SE	Sweden		

BENCHMARKING ECUADOR AGAINST OTHER UPPER MIDDLE-INCOME GROUP ECONOMIES AND LATIN AMERICA AND THE CARIBBEAN

Ecuador's scores in the seven GII pillars



Upper middle-income group economies

Ecuador has high scores in one out of the seven GII pillars: Market sophistication, which is above average for the upper middle-income group.

Conversely, Ecuador scores below average for its income group in six pillars: Institutions, Human capital & research, Infrastructure, Business sophistication, Knowledge & technology outputs and Creative outputs.

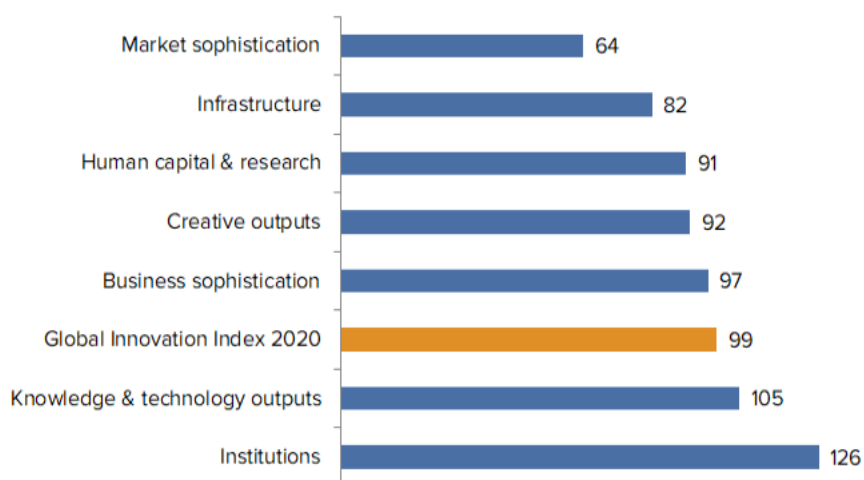
Latin America and the Caribbean

Compared to other economies in Latin America and the Caribbean, Ecuador performs:

- above average in one of the seven GII pillars: Market sophistication; and
- below average in six out of the seven GII pillars: Institutions, Human capital & research, Infrastructure, Business sophistication, Knowledge & technology outputs and Creative outputs.

OVERVIEW OF ECUADOR RANKINGS IN THE SEVEN GII AREAS

Ecuador performs best in Market sophistication and its weakest performance is in Institutions.



*The highest possible ranking in each pillar is 1.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Ecuador in the GII 2020.

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
2.1.1	Expenditure on education, % GDP	41	1	Institutions	126
2.1.3	School life expectancy, years	47	1.2.1	Regulatory quality*	123
2.3.4	QS university ranking, average score top 3*	58	1.2.3	Cost of redundancy dismissal, salary weeks	121
3.2.3	Gross capital formation, % GDP	54	1.3	Business environment	128
3.3	Ecological sustainability	58	1.3.1	Ease of starting a business*	127
3.3.1	GDP/unit of energy use	34	1.3.2	Ease of resolving insolvency*	126
3.3.2	Environmental performance*	54	2.1.2	Government funding/pupil, secondary, % GDP/cap	104
4.1.3	Microfinance gross loans, % GDP	2	2.3.3	Global R&D companies, top 3, mn US\$	42
5.1.2	Firms offering formal training, %	2	5.1.4	GERD financed by business, %	100
5.3.2	High-tech imports, % total trade	54	5.3.3	ICT services imports, % total trade	128
7.1.1	Trademarks by origin/bn PPP\$ GDP	39	6.3.3	ICT services exports, % total trade	121
			7.1.2	Global brand value, top 5,000, % GDP	80

STRENGTHS

GII strengths for Ecuador are found in five of the seven GII pillars.

- Human capital & research (91): shows strengths in the indicators Expenditure on education (41), School life expectancy (47) and QS university ranking (58).
- Infrastructure (82): demonstrates strengths in the sub-pillar Ecological sustainability (58) and in the indicators Gross capital formation (54), GDP/unit of energy use (34) and Environmental performance (54).
- Market sophistication (64): has strength in the indicator Microfinance gross loans (2).
- Business sophistication (97): displays strengths in the indicators Firms offering formal training (2) and High-tech imports (54).
- Creative outputs (92): the indicator Trademarks by origin (39) reveals a strength.

WEAKNESSES

GII weaknesses for Ecuador are found in five of the seven GII pillars.

- Institutions (126): exhibits weaknesses in the sub-pillar Business environment (128) and in the indicators Regulatory quality (123), Cost of redundancy dismissal (121), Ease of starting a business (127) and Ease of resolving insolvency (126).
- Human capital & research (91): shows weaknesses in the indicators Government funding/pupil (104) and Global R&D companies (42).
- Business sophistication (97): demonstrates weaknesses in the indicators GERD financed by business (100) and ICT services imports (128).
- Knowledge & technology outputs (105): displays weakness in the indicator ICT services exports (121).
- Creative outputs (92): the indicator Global brand value (80) reveals a weakness.

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2019 rank
97	96	Upper middle	LCN	17.4	202.8	10,251.7	99
Score/Value Rank				Score/Value Rank			
INSTITUTIONS..... 44.6 126 ○ ◇				BUSINESS SOPHISTICATION..... 20.6 97			
1.1	Political environment.....		48.0	94	5.1	Knowledge workers..... 28.2 74	
1.1.1	Political and operational stability*.....		55.4	116 ◇	5.1.1	Knowledge-intensive employment, %..... 13.1 98 ◇	
1.1.2	Government effectiveness*.....		44.3	87	5.1.2	Firms offering formal training, %..... 73.7 2 ● ◆	
1.2	Regulatory environment.....		38.6	121 ◇	5.1.3	GERD performed by business, % GDP..... 0.2 53	
1.2.1	Regulatory quality*.....		18.3	123 ○ ◇	5.1.4	GERD financed by business, %..... 0.1 100 ○ ◇	
1.2.2	Rule of law*.....		30.2	103	5.1.5	Females employed w/advanced degrees, %..... 8.7 77	
1.2.3	Cost of redundancy dismissal, salary weeks.....		31.8	121 ○ ◇	5.2	Innovation linkages..... 13.4 119	
1.3	Business environment.....		47.3	128 ○ ◇	5.2.1	University/industry research collaboration*..... 34.7 99	
1.3.1	Ease of starting a business*.....		69.1	127 ○ ◇	5.2.2	State of cluster development..... 39.0 100	
1.3.2	Ease of resolving insolvency*.....		25.5	126 ○ ◇	5.2.3	GERD financed by abroad, % GDP..... 0.0 78	
					5.2.4	JV-strategic alliance deals/bn PPP\$ GDP..... 0.0 112	
					5.2.5	Patent families 2+ offices/bn PPP\$ GDP..... 0.0 90	
HUMAN CAPITAL & RESEARCH..... 21.0 91				5.3 Knowledge absorption..... 20.1 97			
2.1	Education.....		35.8	93	5.3.1	Intellectual property payments, % total trade..... 0.2 95	
2.1.1	Expenditure on education, % GDP.....		5.0	41 ●	5.3.2	High-tech imports, % total trade..... 8.2 54 ●	
2.1.2	Government funding/pupil, secondary, % GDP/cap.....		5.3	104 ○ ◇	5.3.3	ICT services imports, % total trade..... 0.0 128 ○ ◇	
2.1.3	School life expectancy, years.....		15.2	47 ●	5.3.4	FDI net inflows, % GDP..... 0.9 115 ◇	
2.1.4	PISA scales in reading, maths, & science.....		n/a	n/a	5.3.5	Research talent, % in business enterprise..... n/a n/a	
2.1.5	Pupil-teacher ratio, secondary.....		20.6	99 ◇	KNOWLEDGE & TECHNOLOGY OUTPUTS.... 12.3 105		
2.2	Tertiary education.....		20.5	95	6.1	Knowledge creation..... 7.2 86	
2.2.1	Tertiary enrolment, % gross.....		44.9	66	6.1.1	Patents by origin/bn PPP\$ GDP..... 0.2 107	
2.2.2	Graduates in science & engineering, %.....		15.8	90	6.1.2	PCT patents by origin/bn PPP\$ GDP..... 0.1 63	
2.2.3	Tertiary inbound mobility, %.....		0.8	92	6.1.3	Utility models by origin/bn PPP\$ GDP..... 0.2 47	
2.3	Research & development (R&D).....		6.8	70	6.1.4	Scientific & technical articles/bn PPP\$ GDP..... 6.5 71	
2.3.1	Researchers, FTE/mn pop.....		399.5	72	6.1.5	Citable documents H-index..... 9.1 80	
2.3.2	Gross expenditure on R&D, % GDP.....		0.4	70	6.2	Knowledge impact..... 18.2 89	
2.3.3	Global R&D companies, avg. exp. top 3, mn \$US.....		0.0	42 ○ ◇	6.2.1	Growth rate of PPP\$ GDP/worker, %..... -0.5 103	
2.3.4	QS university ranking, average score top 3*.....		13.9	58 ●	6.2.2	New businesses/th pop. 15-64..... n/a n/a	
					6.2.3	Computer software spending, % GDP..... 0.0 65	
					6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP..... 4.3 59	
					6.2.5	High- and medium-high-tech manufacturing, %..... 12.8 75	
INFRASTRUCTURE..... 37.3 82				6.3 Knowledge diffusion..... 11.4 116 ◇			
3.1	Information & communication technologies (ICTs)....		57.9	84	6.3.1	Intellectual property receipts, % total trade..... n/a n/a	
3.1.1	ICT access*.....		47.6	94 ◇	6.3.2	High-tech net exports, % total trade..... 0.3 92	
3.1.2	ICT use*.....		43.7	90 ◇	6.3.3	ICT services exports, % total trade..... 0.1 121 ○	
3.1.3	Government's online service*.....		72.9	64	6.3.4	FDI net outflows, % GDP..... 0.9 59	
3.1.4	E-participation*.....		67.4	80	CREATIVE OUTPUTS..... 15.6 92		
3.2	General infrastructure.....		23.3	80	7.1	Intangible assets..... 23.1 81	
3.2.1	Electricity output, kWh/mn pop.....		1,763.4	84	7.1.1	Trademarks by origin/bn PPP\$ GDP..... 57.1 39 ●	
3.2.2	Logistics performance*.....		38.1	61	7.1.2	Global brand value, top 5,000, % GDP..... 0.0 80 ○ ◇	
3.2.3	Gross capital formation, % GDP.....		24.7	54 ●	7.1.3	Industrial designs by origin/bn PPP\$ GDP..... 1.2 62	
3.3	Ecological sustainability.....		30.8	58 ●	7.1.4	ICTs & organizational model creation*..... 52.9 66	
3.3.1	GDP/unit of energy use.....		11.9	34 ●	7.2	Creative goods and services..... 5.2 103	
3.3.2	Environmental performance*.....		51.0	54 ●	7.2.1	Cultural & creative services exports, % total trade..... 0.0 93	
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....		0.6	73	7.2.2	National feature films/mn pop. 15-69..... 2.1 64	
					7.2.3	Entertainment & Media market/th pop. 15-69..... n/a n/a	
					7.2.4	Printing and other media, % manufacturing..... 1.0 59	
					7.2.5	Creative goods exports, % total trade..... 0.1 109	
MARKET SOPHISTICATION..... 47.8 64				7.3 Online creativity..... 11.0 81			
4.1	Credit.....		40.4	69	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69..... 2.0 79	
4.1.1	Ease of getting credit*.....		45.0	101 ◇	7.3.2	Country-code TLDs/th pop. 15-69..... 1.1 82	
4.1.2	Domestic credit to private sector, % GDP.....		35.7	85	7.3.3	Wikipedia edits/mn pop. 15-69..... 43.9 73	
4.1.3	Microfinance gross loans, % GDP.....		6.1	2 ● ◆	7.3.4	Mobile app creation/bn PPP\$ GDP..... 0.3 78	
4.2	Investment.....		44.0	[37]			
4.2.1	Ease of protecting minority investors*.....		44.0	98			
4.2.2	Market capitalization, % GDP.....		n/a	n/a			
4.2.3	Venture capital deals/bn PPP\$ GDP.....		n/a	n/a			
4.3	Trade, competition, and market scale.....		59.0	78			
4.3.1	Applied tariff rate, weighted avg., %.....		7.4	99			
4.3.2	Intensity of local competition*.....		69.8	62			
4.3.3	Domestic market scale, bn PPP\$.....		202.8	65			

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; + a survey question. ⊕ indicates that the economy's data are older than the base year; see Appendix II for details, including the year of the data, at <http://globalinnovationindex.org>. Square brackets [] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.

DATA AVAILABILITY

The following tables list data that are either missing or outdated for Ecuador.

Missing data

Code	Indicator name	Country year	Model year	Source
2.1.4	PISA scales in reading, maths & science	n/a	2018	OECD Programme for International Student Assessment (PISA)
4.2.2	Market capitalization, % GDP	n/a	2018	World Federation of Exchanges
4.2.3	Venture capital deals/bn PPP\$ GDP	n/a	2019	Thomson Reuters
5.3.5	Research talent, % in business enterprise	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
6.2.2	New businesses/th pop. 15–64	n/a	2018	World Bank
6.3.1	Intellectual property receipts, % total trade	n/a	2018	World Trade Organization
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2018	PwC

Outdated data

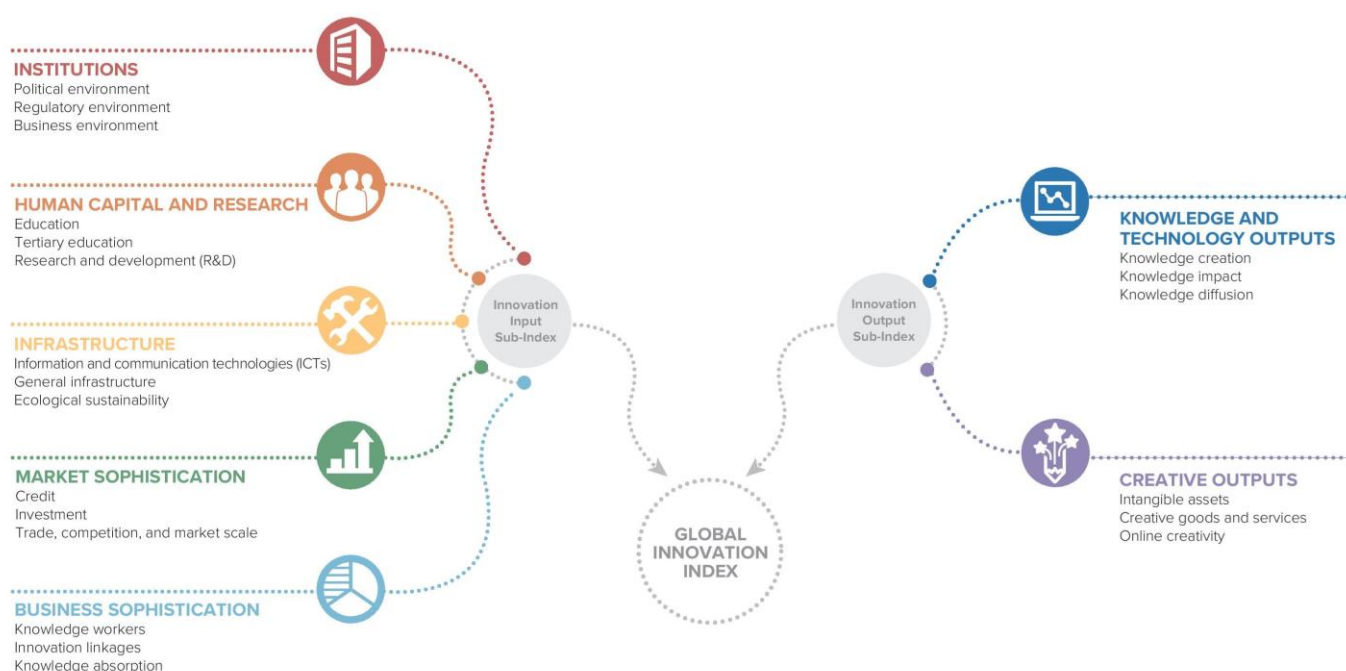
Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	2015	2018	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2015	2017	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2015	2017	UNESCO Institute for Statistics
2.2.2	Graduates in science & engineering, %	2016	2017	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	2015	2017	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2014	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2014	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.1.2	Firms offering formal training, %	2016	2018	World Bank
5.1.3	GERD performed by business, % GDP	2014	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.1.4	GERD financed by business, %	2014	2017	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.2.3	GERD financed by abroad, % GDP	2014	2017	UNESCO Institute for Statistics
7.2.2	National feature films/mn pop. 15–69	2015	2017	UNESCO Institute for Statistics

ABOUT THE GLOBAL INNOVATION INDEX

The Global Innovation Index (GII) is co-published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations. In 2020, the GII presents its 13th edition devoted to the theme *Who Will Finance Innovation?*

Recognizing that innovation is a key driver of economic development, the GII aims to provide an innovation ranking and rich analysis referencing around 130 economies. Over the last decade, the GII has established itself as both a leading reference on innovation and a “tool for action” for economies that incorporate the GII into their innovation agendas.

Framework of the Global Innovation Index 2020



The Index is a ranking of the innovation capabilities and results of world economies. It measures innovation based on criteria that include institutions, human capital and research, infrastructure, credit, investment, linkages; the creation, absorption and diffusion of knowledge; and creative outputs.

The GII has two sub-indices: the Innovation Input Sub-Index and the Innovation Output Sub-Index, and seven pillars, each consisting of three sub-pillars.



www.globalinnovationindex.org



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