



## COSTA RICA

### 56th

Costa Rica ranks 56th among the 131 economies featured in the GII 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 GII aims to capture the multi-dimensional facets of innovation.

The following table shows the rankings of Costa Rica over the past three years, noting that data availability and changes to the GII model framework influence year-on-year comparisons of the GII rankings. The statistical confidence interval for the ranking of Costa Rica in the GII 2020 is between ranks 52 and 61.

Rankings of Costa Rica (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	56	66	51
2019	55	68	48
2018	54	64	51

- Costa Rica performs better in innovation outputs than innovation inputs in 2020.
- This year Costa Rica ranks 66th in innovation inputs, higher than last year and lower compared to 2018.
- As for innovation outputs, Costa Rica ranks 51st. This position is lower than last year and the same as 2018.

### 12th

Costa Rica ranks 12th among the 37 upper middle-income group economies.

### 3rd

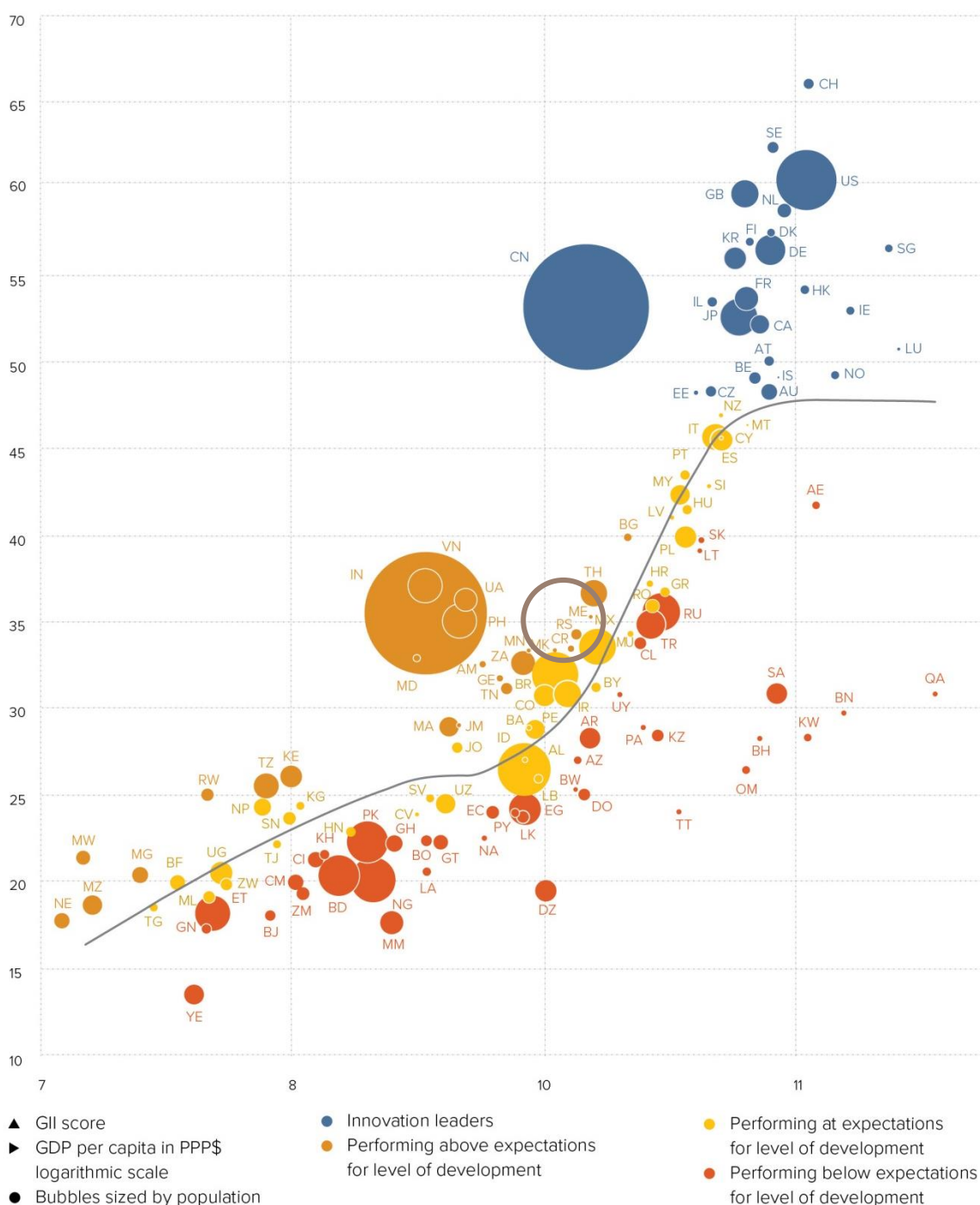
Costa Rica ranks 3rd among the 18 economies in Latin America and the Caribbean.

## 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, Costa Rica is performing above expectations for its level of development.

### The positive relationship between innovation and development

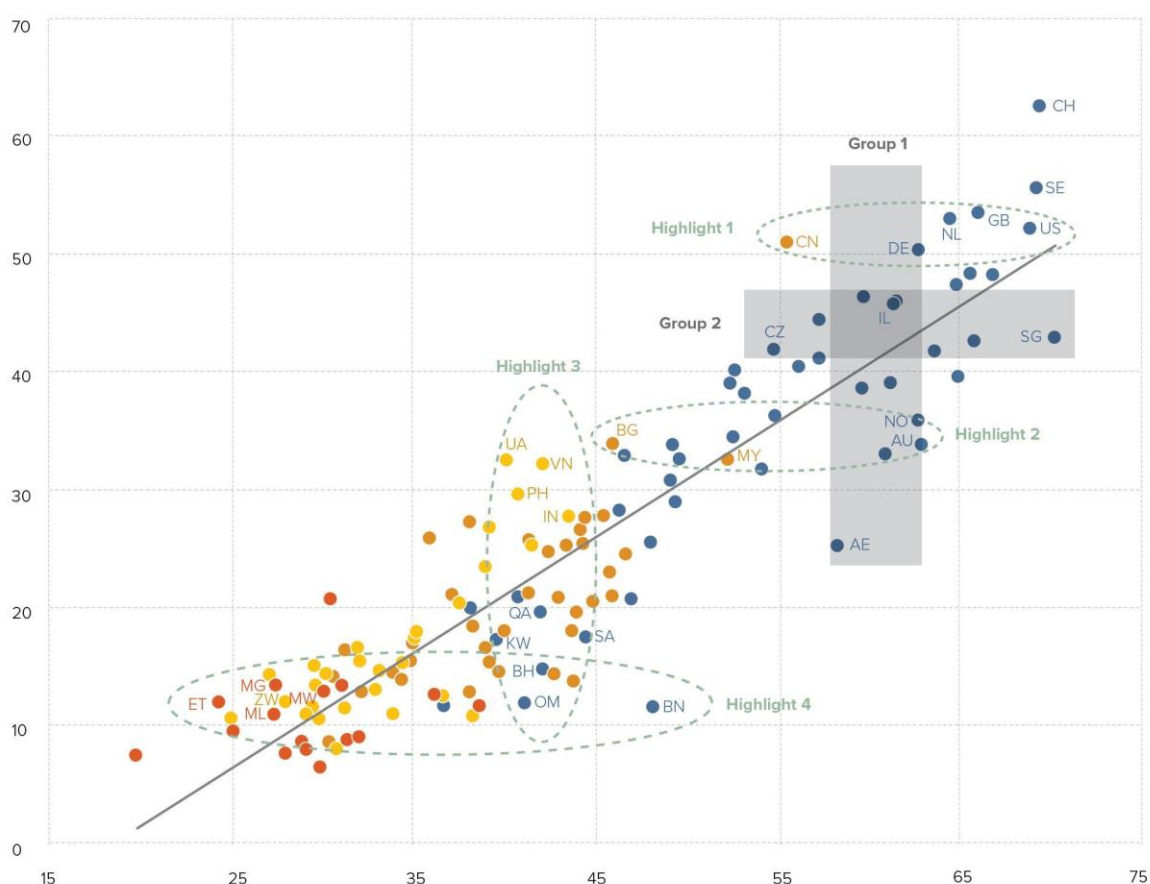


# EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

Costa Rica produces more innovation outputs relative to its level of innovation investments.

## Innovation input to output performance, 2020



▲ Output score  
► Input score

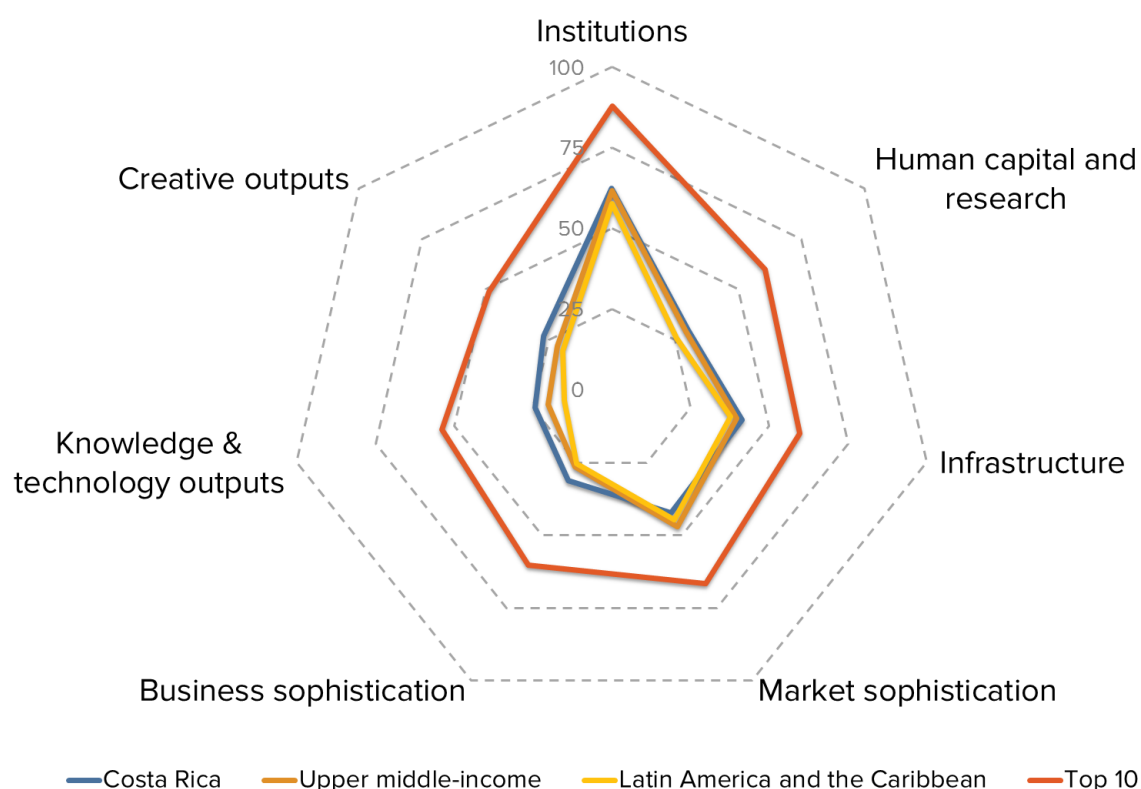
● High income group  
● Lower middle-income group  
● Upper middle-income group  
● Low income group

— 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 COSTA RICA AGAINST OTHER UPPER MIDDLE-INCOME GROUP ECONOMIES AND LATIN AMERICA AND THE CARIBBEAN

## Costa Rica's scores in the seven GII pillars



## Upper middle-income group economies

Costa Rica has high scores in six out of the seven GII pillars: Institutions, Human capital & research, Infrastructure, Business sophistication, Knowledge & technology outputs and Creative outputs, which are above average for the upper middle-income group.

Conversely, Costa Rica scores below average for its income group in one pillar: Market sophistication.

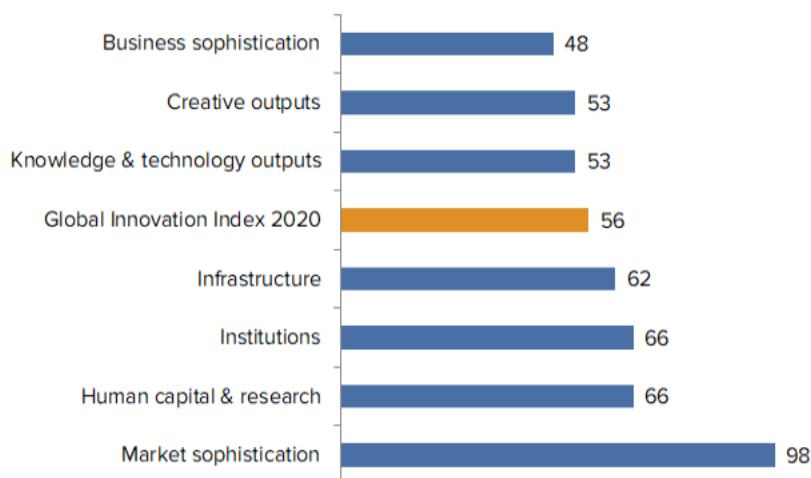
## Latin America and the Caribbean

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

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

## OVERVIEW OF COSTA RICA RANKINGS IN THE SEVEN GII AREAS

Costa Rica performs best in Business sophistication and its weakest performance is in Market sophistication.



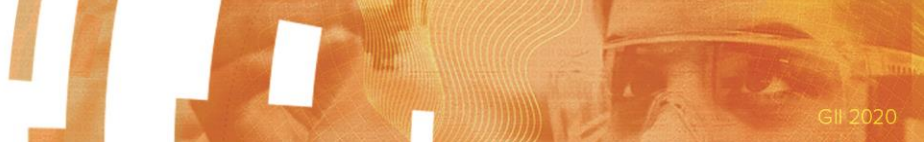
\*The highest possible ranking in each pillar is 1.

## INNOVATION STRENGTHS AND WEAKNESSES

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

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
2.1.1	Expenditure on education, % GDP	6	1.3	Business environment	112
3.3.1	GDP/unit of energy use	13	1.3.1	Ease of starting a business*	110
4.1.1	Ease of getting credit*	14	1.3.2	Ease of resolving insolvency*	114
5.1.2	Firms offering formal training, %	11	2.2.2	Graduates in science & engineering, %	92
5.3	Knowledge absorption	23	2.3.3	Global R&D companies, top 3, mn US\$	42
5.3.1	Intellectual property payments, % total trade	7	3.2	General infrastructure	113
6.3	Knowledge diffusion	19	3.2.3	Gross capital formation, % GDP	110
6.3.2	High-tech net exports, % total trade	28	4.2	Investment	128
6.3.3	ICT services exports, % total trade	6	4.2.2	Market capitalization, % GDP	69
7.1.1	Trademarks by origin/bn PPP\$ GDP	22	5.1.4	GERD financed by business, %	88
7.2	Creative goods and services	23	6.1.1	Patents by origin/bn PPP\$ GDP	120
7.2.1	Cultural & creative services exports, % total trade	1	6.2.1	Growth rate of PPP\$ GDP/worker, %	98
7.2.4	Printing & other media, % manufacturing	12	7.1.3	Industrial designs by origin/bn PPP\$ GDP	110





## **STRENGTHS**

GII strengths for Costa Rica are found in six of the seven GII pillars.

- Human capital & research (66): the indicator Expenditure on education (6) demonstrates a strength.
- Infrastructure (62): exhibits strength in the indicator GDP/unit of energy use (13).
- Market sophistication (98): the indicator Ease of getting credit (14) reveals a strength.
- Business sophistication (48): displays strengths in the sub-pillar Knowledge absorption (23) and in the indicators Firms offering formal training (11) and Intellectual property payments (7).
- Knowledge & technology outputs (53): reveals strengths in the sub-pillar Knowledge diffusion (19) and in the indicators High-tech net exports (28) and ICT services exports (6).
- Creative outputs (53): shows strengths in the sub-pillar Creative goods and services (23) and in the indicators Trademarks by origin (22), Cultural & creative services exports (1) and Printing & other media (12).

## **WEAKNESSES**

GII weaknesses for Costa Rica are found in all seven of the GII pillars.

- Institutions (66): exhibits weaknesses in the sub-pillar Business environment (112) and in the indicators Ease of starting a business (110) and Ease of resolving insolvency (114).
- Human capital & research (66): shows weaknesses in the indicators Graduates in science & engineering (92) and Global R&D companies (42).
- Infrastructure (62): displays weaknesses in the sub-pillar General infrastructure (113) and in the indicator Gross capital formation (110).
- Market sophistication (98): shows weaknesses in the sub-pillar Investment (128) and in the indicator Market capitalization (69).
- Business sophistication (48): the indicator GERD financed by business (88) demonstrates a weakness.
- Knowledge & technology outputs (53): displays weaknesses in the indicators Patents by origin (120) and Growth rate of PPP (98).
- Creative outputs (53): the indicator Industrial designs by origin (110) reveals a weakness.

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2019 rank
51	66	Upper middle	LCN	5.0	91.6	15,747.5	55
Score/Value Rank				Score/Value Rank			
<b>INSTITUTIONS</b> ..... 62.6 66				<b>BUSINESS SOPHISTICATION</b> ..... 31.1 48			
<b>1.1</b>	<b>Political environment</b> .....	<b>62.9</b>	<b>50</b>	<b>5.1</b>	<b>Knowledge workers</b> .....	<b>29.9</b>	<b>66</b>
1.1.1	Political and operational stability*.....	71.4	59	5.1.1	Knowledge-intensive employment, %.....	27.4	52
1.1.2	Government effectiveness*.....	58.6	48	5.1.2	Firms offering formal training, %.....	54.7	11 ● ◆
<b>1.2</b>	<b>Regulatory environment</b> .....	<b>67.8</b>	<b>56</b>	5.1.3	GERD performed by business, % GDP.....	0.1	56
1.2.1	Regulatory quality*.....	54.4	48	5.1.4	GERD financed by business, %.....	3.7	88 ○ ◆
1.2.2	Rule of law*.....	59.1	42 ◆	5.1.5	Females employed w/advanced degrees, %.....	11.6	60
1.2.3	Cost of redundancy dismissal, salary weeks.....	18.7	76	<b>5.2</b>	<b>Innovation linkages</b> .....	<b>18.0</b>	<b>87</b>
<b>1.3</b>	<b>Business environment</b> .....	<b>57.3</b>	<b>112</b> ○ ◆	5.2.1	University/industry research collaboration*.....	42.5	62
1.3.1	Ease of starting a business*.....	79.9	110 ○	5.2.2	State of cluster development.....	47.9	62
1.3.2	Ease of resolving insolvency*.....	34.6	114 ○ ◆	5.2.3	GERD financed by abroad, % GDP.....	0.0	63
<b>HUMAN CAPITAL &amp; RESEARCH</b> ..... 30.0 66				5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....	0.0	70
<b>2.1</b>	<b>Education</b> .....	<b>54.7</b>	<b>37</b> ● ◆	5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....	0.0	76
2.1.1	Expenditure on education, % GDP.....	7.0	6 ● ◆	<b>5.3</b>	<b>Knowledge absorption</b> .....	<b>45.4</b>	<b>23</b> ● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap.....	21.1	45	5.3.1	Intellectual property payments, % total trade.....	2.8	7 ● ◆
2.1.3	School life expectancy, years.....	15.9	37	5.3.2	High-tech imports, % total trade.....	8.9	50
2.1.4	PISA scales in reading, maths, & science.....	414.8	59	5.3.3	ICT services imports, % total trade.....	1.5	44
2.1.5	Pupil-teacher ratio, secondary.....	12.4	57	5.3.4	FDI net inflows, % GDP.....	4.7	31
<b>2.2</b>	<b>Tertiary education</b> .....	<b>28.1</b>	<b>78</b>	5.3.5	Research talent, % in business enterprise.....	n/a	n/a
2.2.1	Tertiary enrolment, % gross.....	55.2	51	<b>KNOWLEDGE &amp; TECHNOLOGY OUTPUTS</b> .... 24.4 53			
2.2.2	Graduates in science & engineering, %.....	15.5	92 ○ ◆	<b>6.1</b>	<b>Knowledge creation</b> .....	<b>6.8</b>	<b>91</b>
2.2.3	Tertiary inbound mobility, %.....	n/a	n/a	6.1.1	Patents by origin/bn PPP\$ GDP.....	0.1	120 ○
<b>2.3</b>	<b>Research &amp; development (R&amp;D)</b> .....	<b>7.2</b>	<b>67</b>	6.1.2	PCT patents by origin/bn PPP\$ GDP.....	0.1	57
2.3.1	Researchers, FTE/mn pop.....	380.4	73	6.1.3	Utility models by origin/bn PPP\$ GDP.....	0.2	49
2.3.2	Gross expenditure on R&D, % GDP.....	0.4	71	6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	5.3	84
2.3.3	Global R&D companies, avg. exp. top 3, mn \$US.....	0.0	42 ○ ◆	6.1.5	Citable documents H-index.....	10.9	70
2.3.4	QS university ranking, average score top 3*.....	15.9	56	<b>6.2</b>	<b>Knowledge impact</b> .....	<b>21.2</b>	<b>78</b>
<b>INFRASTRUCTURE</b> ..... 41.1 62				6.2.1	Growth rate of PPP\$ GDP/worker, %.....	-0.3	98 ○
<b>3.1</b>	<b>Information &amp; communication technologies (ICTs)</b> ....	<b>69.4</b>	<b>58</b>	6.2.2	New businesses/th pop. 15-64.....	2.6	50
3.1.1	ICT access*.....	66.8	64	6.2.3	Computer software spending, % GDP.....	0.0	47
3.1.2	ICT use*.....	66.4	50 ◆	6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	2.8	77
3.1.3	Government's online service*.....	67.4	75	6.2.5	High- and medium-high-tech manufacturing, %.....	25.6	43
3.1.4	E-participation*.....	77.0	57	<b>6.3</b>	<b>Knowledge diffusion</b> .....	<b>45.3</b>	<b>19</b> ● ◆
<b>3.2</b>	<b>General infrastructure</b> .....	<b>18.0</b>	<b>113</b> ○	6.3.1	Intellectual property receipts, % total trade.....	0.0	75
3.2.1	Electricity output, kWh/mn pop.....	2,303.2	74	6.3.2	High-tech net exports, % total trade.....	5.7	28 ●
3.2.2	Logistics performance*.....	33.9	72	6.3.3	ICT services exports, % total trade.....	6.2	6 ● ◆
3.2.3	Gross capital formation, % GDP.....	18.3	110 ○	6.3.4	FDI net outflows, % GDP.....	0.8	64
<b>3.3</b>	<b>Ecological sustainability</b> .....	<b>36.0</b>	<b>46</b>	<b>CREATIVE OUTPUTS</b> ..... 26.8 53			
3.3.1	GDP/unit of energy use.....	14.9	13 ● ◆	<b>7.1</b>	<b>Intangible assets</b> .....	<b>28.4</b>	<b>62</b>
3.3.2	Environmental performance*.....	52.5	50	7.1.1	Trademarks by origin/bn PPP\$ GDP.....	79.7	22 ●
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....	0.9	63	7.1.2	Global brand value, top 5,000, % GDP.....	2.6	75
<b>MARKET SOPHISTICATION</b> ..... 42.1 98				7.1.3	Industrial designs by origin/bn PPP\$ GDP.....	0.1	110 ○
<b>4.1</b>	<b>Credit</b> .....	<b>44.9</b>	<b>53</b>	7.1.4	ICTs & organizational model creation*.....	63.0	36 ◆
4.1.1	Ease of getting credit*.....	85.0	14 ●	<b>7.2</b>	<b>Creative goods and services</b> .....	<b>31.2</b>	<b>23</b> ● ◆
4.1.2	Domestic credit to private sector, % GDP.....	62.6	54	7.2.1	Cultural & creative services exports, % total trade.....	3.7	1 ● ◆
4.1.3	Microfinance gross loans, % GDP.....	0.1	64	7.2.2	National feature films/mn pop. 15-69.....	3.6	52
<b>4.2</b>	<b>Investment</b> .....	<b>17.2</b>	<b>128</b> ○ ◆	7.2.3	Entertainment & Media market/th pop. 15-69.....	n/a	n/a
4.2.1	Ease of protecting minority investors*.....	48.0	96	7.2.4	Printing and other media, % manufacturing.....	2.2	12 ● ◆
4.2.2	Market capitalization, % GDP.....	5.1	69 ○	7.2.5	Creative goods exports, % total trade.....	0.1	96
4.2.3	Venture capital deals/bn PPP\$ GDP.....	0.0	66	<b>7.3</b>	<b>Online creativity</b> .....	<b>19.3</b>	<b>55</b>
<b>4.3</b>	<b>Trade, competition, and market scale</b> .....	<b>64.3</b>	<b>55</b>	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....	11.2	37 ◆
4.3.1	Applied tariff rate, weighted avg., %.....	1.8	53	7.3.2	Country-code TLDs/th pop. 15-69.....	1.5	75
4.3.2	Intensity of local competition*.....	72.9	39	7.3.3	Wikipedia edits/mn pop. 15-69.....	59.5	53
4.3.3	Domestic market scale, bn PPP\$.....	91.6	86	7.3.4	Mobile app creation/bn PPP\$ GDP.....	7.3	50

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 Costa Rica.

### Missing data

Code	Indicator name	Country year	Model year	Source
2.2.3	Tertiary inbound mobility, %	n/a	2017	UNESCO Institute for Statistics
5.3.5	Research talent, % in business enterprise	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2018	PwC

### Outdated data

Code	Indicator name	Country year	Model year	Source
2.3.1	Researchers, FTE/mn pop.	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
4.2.2	Market capitalization, % GDP	2017	2018	World Federation of Exchanges
5.1.1	Knowledge-intensive employment, %	2010	2018	International Labour Organization
5.1.2	Firms offering formal training, %	2009	2018	World Bank
5.1.3	GERD performed by business, % GDP	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
6.2.5	High- & medium-high-tech manufacturing, %	2016	2017	United Nations Industrial Development Organization
7.2.1	Cultural & creative services exports, % total trade	2013	2018	World Trade Organization
7.2.4	Printing & other media, % manufacturing	2016	2017	United Nations Industrial Development Organization

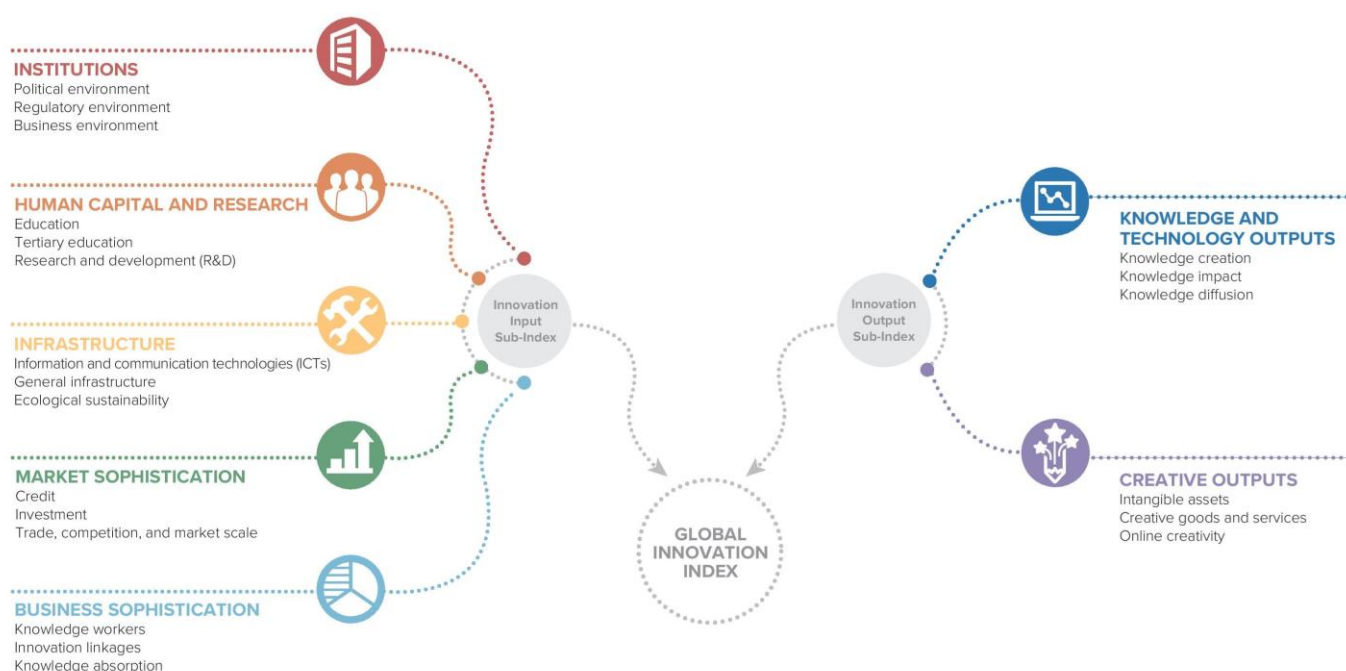


## ABOUT THE GLOBAL INNOVATION INDEX

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 13<sup>th</sup> 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](http://www.globalinnovationindex.org)



GII app for iOS



GII app for android