Global Innovation Index 2021

COSTA RICA

56th Costa Rica ranks 56th among the 132 economies featured in the GII 2021.

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 2021 is between ranks 51 and 58.

Rankings for Costa Rica (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	56	66	49
2020	56	66	51
2019	55	68	48

- Costa Rica performs better in innovation outputs than innovation inputs in 2021.
- This year Costa Rica ranks 66th in innovation inputs, the same as last year but higher than 2019.
- As for innovation outputs, Costa Rica ranks 49th. This position is higher than last year but lower than 2019.

10th Costa Rica ranks 10th among the 34 upper middle-income group economies.

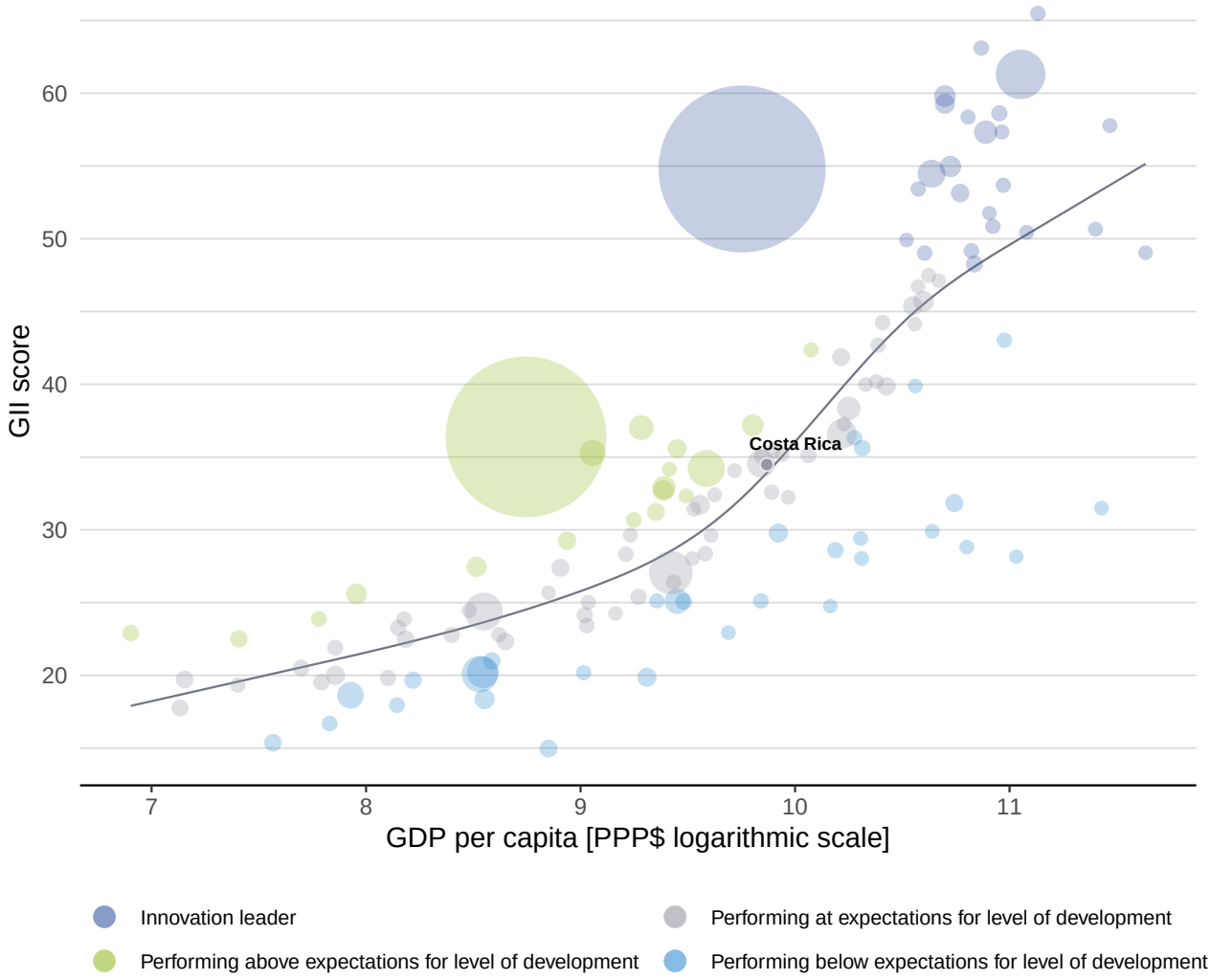
3rd Costa Rica ranks 3rd among the 18 economies in Latin America and the Caribbean.

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's performance is at expectations for its level of development.

The positive relationship between innovation and development

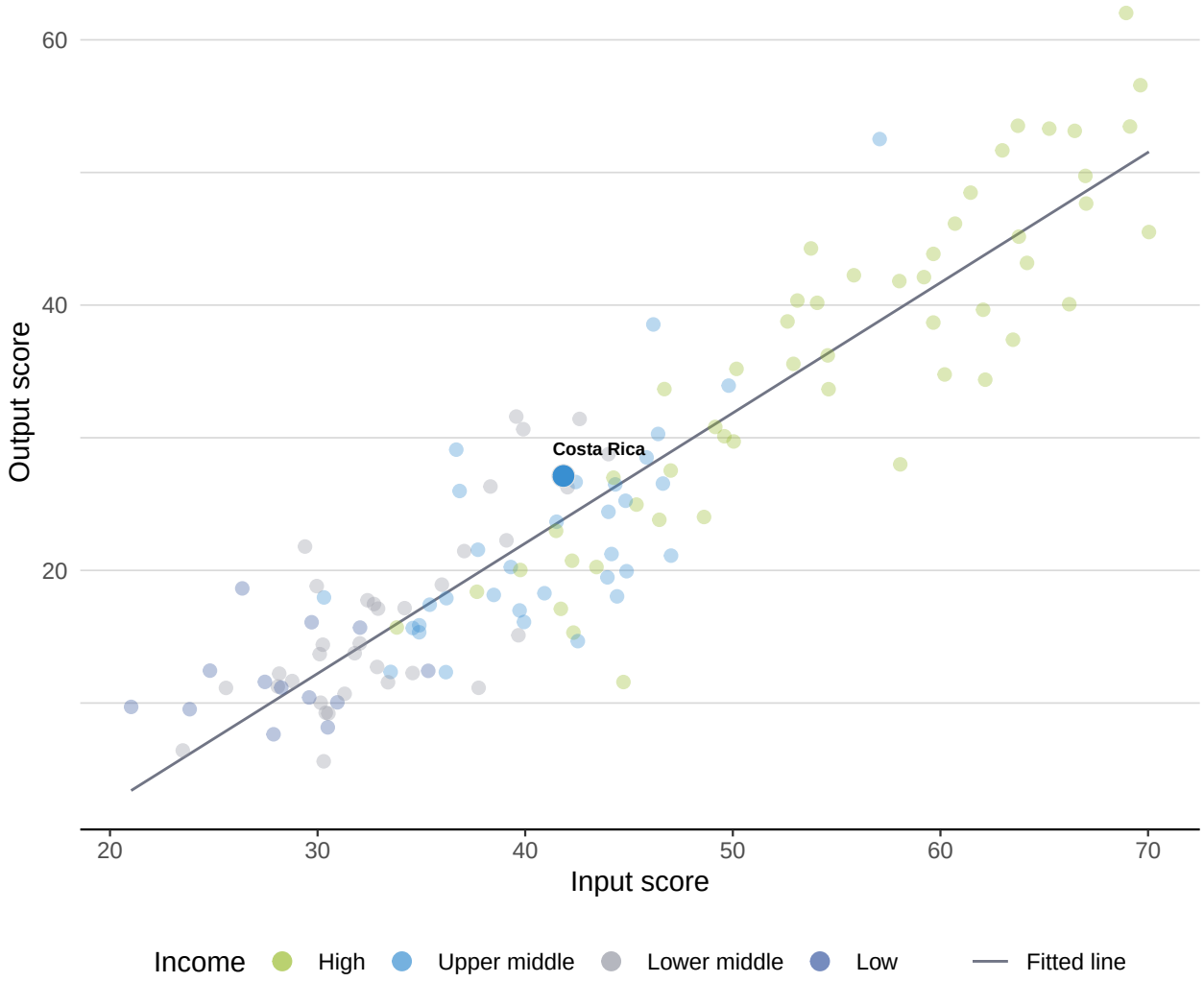


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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



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

The seven GII pillar scores for Costa Rica

Upper middle-income group economies

Costa Rica performs above the upper middle-income group average in six pillars, namely: Institutions; Human capital and research; Infrastructure; Business sophistication; Knowledge and technology outputs; and, Creative outputs.

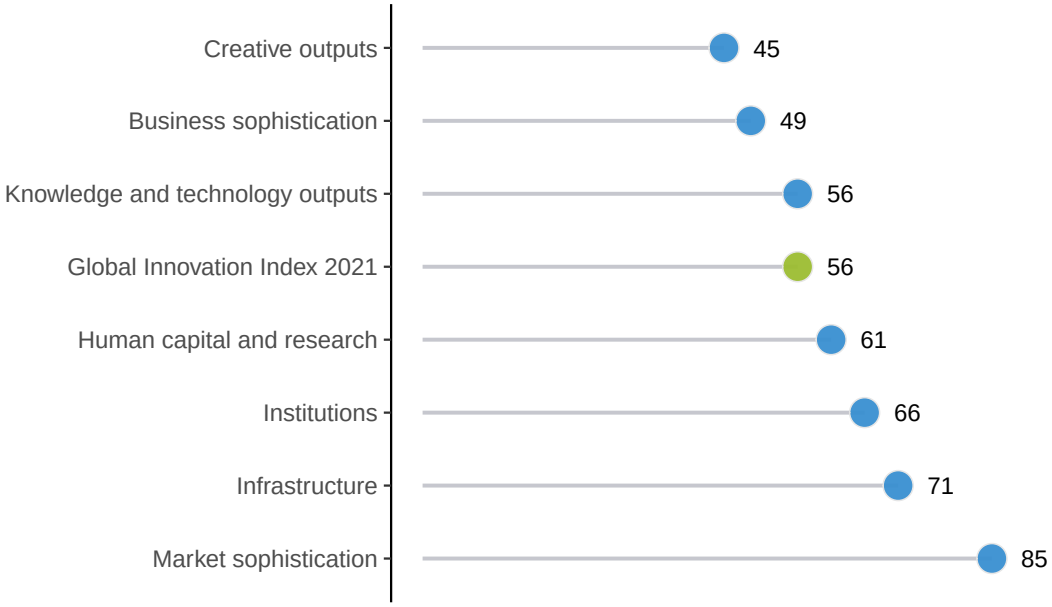
Latin America and the Caribbean

Costa Rica performs above the regional average in six pillars, namely: Institutions; Human capital and research; Infrastructure; Business sophistication; Knowledge and technology outputs; and, Creative outputs.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

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

The seven GII pillar ranks for Costa Rica



Note: The highest possible ranking in each pillar is one.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Costa Rica in the GII 2021.

Strengths and weaknesses for Costa Rica

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
2.1	Education	18	1.3	Business environment	112
2.1.1	Expenditure on education, % GDP	6	1.3.1	Ease of starting a business	110
3.3.1	GDP/unit of energy use	14	1.3.2	Ease of resolving insolvency	114
4.1.1	Ease of getting credit	14	2.2.2	Graduates in science and engineering, %	99
4.3.1	Applied tariff rate, weighted avg., %	20	2.3.3	Global corporate R&D investors, top 3, mn US$	41
5.1.2	Firms offering formal training, %	12	3.2	General infrastructure	115
5.3	Knowledge absorption	22	3.2.3	Gross capital formation, % GDP	114
5.3.1	Intellectual property payments, % total trade	7	4.2	Investment	125
6.3.4	ICT services exports, % total trade	7	4.2.2	Market capitalization, % GDP	72
7.1.1	Trademarks by origin/bn PPP$ GDP	16	4.2.3	Venture capital investors, deals/bn PPP$ GDP	73
7.2	Creative goods and services	22	5.1.4	GERD financed by business, %	93
7.2.1	Cultural and creative services exports, % total trade	1	7.1.2	Global brand value, top 5,000, % GDP	80
7.2.4	Printing and other media, % manufacturing	13	7.1.3	Industrial designs by origin/bn PPP$ GDP	109

Costa Rica

GII 2021 rank
56

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$	GII 2020 rank
49	66	Upper middle	LCN	5.1	99.0	19,309	56

		Score/ Value	Rank	
Institutions		**63.1**	**66**	
1.1	**Political environment**	**63.2**	**51**	
1.1.1	Political and operational stability*	69.6	60	
1.1.2	Government effectiveness*	60.1	48	
1.2	**Regulatory environment**	**68.8**	**52**	
1.2.1	Regulatory quality*	56.5	50	◆
1.2.2	Rule of law*	61.1	42	◆
1.2.3	Cost of redundancy dismissal	18.7	77	
1.3	**Business environment**	**57.3**	**112**	○ ◇
1.3.1	Ease of starting a business*	79.9	110	○
1.3.2	Ease of resolving insolvency*	34.6	114	○ ◇
Human capital and research		**32.4**	**61**	
2.1	**Education**	**62.5**	**18**	● ◆
2.1.1	Expenditure on education, % GDP	7.0	6	● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	24.1	19	◆
2.1.3	School life expectancy, years	16.5	24	◆
2.1.4	PISA scales in reading, maths and science	414.8	59	
2.1.5	Pupil-teacher ratio, secondary	13.3	58	
2.2	**Tertiary education**	**28.2**	**80**	
2.2.1	Tertiary enrolment, % gross	57.7	52	
2.2.2	Graduates in science and engineering, %	15.1	99	○
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**6.6**	**72**	
2.3.1	Researchers, FTE/mn pop.	345.0	74	
2.3.2	Gross expenditure on R&D, % GDP	0.4	72	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	41	○ ◇
2.3.4	QS university ranking, top 3*	15.1	59	
Infrastructure		**40.7**	**71**	
3.1	**Information and communication technologies (ICTs)**	**67.7**	**64**	
3.1.1	ICT access*	69.4	63	
3.1.2	ICT use*	67.8	51	◆
3.1.3	Government's online service*	68.2	72	
3.1.4	E-participation*	65.5	77	
3.2	**General infrastructure**	**18.2**	**115**	○
3.2.1	Electricity output, GWh/mn pop.	2,268.5	77	
3.2.2	Logistics performance*	34.6	72	
3.2.3	Gross capital formation, % GDP	15.4	114	○
3.3	**Ecological sustainability**	**36.3**	**43**	
3.3.1	GDP/unit of energy use	17.2	14	● ◆
3.3.2	Environmental performance*	52.5	50	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	1.1	65	
Market sophistication		**43.0**	**85**	
4.1	**Credit**	**43.5**	**54**	
4.1.1	Ease of getting credit*	85.0	14	●
4.1.2	Domestic credit to private sector, % GDP	58.8	57	
4.1.3	Microfinance gross loans, % GDP	0.1	64	
4.2	**Investment**	**17.0**	**125**	○ ◇
4.2.1	Ease of protecting minority investors*	48.0	96	
4.2.2	Market capitalization, % GDP	4.4	72	○
4.2.3	Venture capital investors, deals/bn PPP$ GDP	0.0	73	○
4.2.4	Venture capital recipients, deals/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**68.4**	**67**	
4.3.1	Applied tariff rate, weighted avg., %	1.6	20	●
4.3.2	Domestic industry diversification	80.2	77	
4.3.3	Domestic market scale, bn PPP$	99.0	84	

		Score/ Value	Rank	
Business sophistication		**30.0**	**49**	
5.1	**Knowledge workers**	**29.3**	**73**	
5.1.1	Knowledge-intensive employment, %	27.4	56	
5.1.2	Firms offering formal training, %	54.7	12	●
5.1.3	GERD performed by business, % GDP	0.1	58	
5.1.4	GERD financed by business, %	1.3	93	○ ◇
5.1.5	Females employed w/advanced degrees, %	12.2	62	
5.2	**Innovation linkages**	**16.9**	**97**	
5.2.1	University-industry R&D collaboration†	42.3	68	
5.2.2	State of cluster development and depth†	49.2	51	
5.2.3	GERD financed by abroad, % GDP	0.0	81	
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	85	
5.2.5	Patent families/bn PPP$ GDP	0.0	83	
5.3	**Knowledge absorption**	**43.7**	**22**	● ◆
5.3.1	Intellectual property payments, % total trade	2.8	7	● ◆
5.3.2	High-tech imports, % total trade	8.9	46	
5.3.3	ICT services imports, % total trade	1.3	58	
5.3.4	FDI net inflows, % GDP	4.5	24	
5.3.5	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**22.9**	**56**	
6.1	**Knowledge creation**	**6.1**	**100**	
6.1.1	Patents by origin/bn PPP$ GDP	0.2	101	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.1	63	
6.1.3	Utility models by origin/bn PPP$ GDP	0.0	63	
6.1.4	Scientific and technical articles/bn PPP$ GDP	9.0	92	
6.1.5	Citable documents H-index	10.8	71	
6.2	**Knowledge impact**	**27.4**	**73**	
6.2.1	Labor productivity growth, %	1.6	32	
6.2.2	New businesses/th pop. 15–64	2.6	50	
6.2.3	Software spending, % GDP	0.3	31	◆
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	2.8	78	
6.2.5	High-tech manufacturing, %	13.3	83	
6.3	**Knowledge diffusion**	**35.3**	**27**	◆
6.3.1	Intellectual property receipts, % total trade	0.0	79	
6.3.2	Production and export complexity	51.6	47	
6.3.3	High-tech exports, % total trade	5.7	32	
6.3.4	ICT services exports, % total trade	6.6	7	● ◆
Creative outputs		**31.3**	**45**	
7.1	**Intangible assets**	**38.5**	**42**	
7.1.1	Trademarks by origin/bn PPP$ GDP	85.8	16	● ◆
7.1.2	Global brand value, top 5,000, % GDP	0.0	80	○ ◇
7.1.3	Industrial designs by origin/bn PPP$ GDP	0.1	109	○
7.1.4	ICTs and organizational model creation†	63.0	36	◆
7.2	**Creative goods and services**	**31.3**	**22**	● ◆
7.2.1	Cultural and creative services exports, % total trade	5.1	1	● ◆
7.2.2	National feature films/mn pop. 15–69	3.6	52	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Printing and other media, % manufacturing	2.2	13	● ◆
7.2.5	Creative goods exports, % total trade	0.1	93	
7.3	**Online creativity**	**17.0**	**67**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	11.2	37	◆
7.3.2	Country-code TLDs/th pop. 15–69	1.5	76	
7.3.3	Wikipedia edits/mn pop. 15–69	51.0	63	
7.3.4	Mobile app creation/bn PPP$ GDP	4.1	60	

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 IV 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 for Costa Rica

Code	Indicator name	Economy year	Model year	Source
2.2.3	Tertiary inbound mobility, %	n/a	2018	UNESCO Institute for Statistics
4.2.4	Venture capital recipients, deals/bn PPP$ GDP	n/a	2020	Refinitiv Eikon
5.3.5	Research talent, % in businesses	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2020	PwC

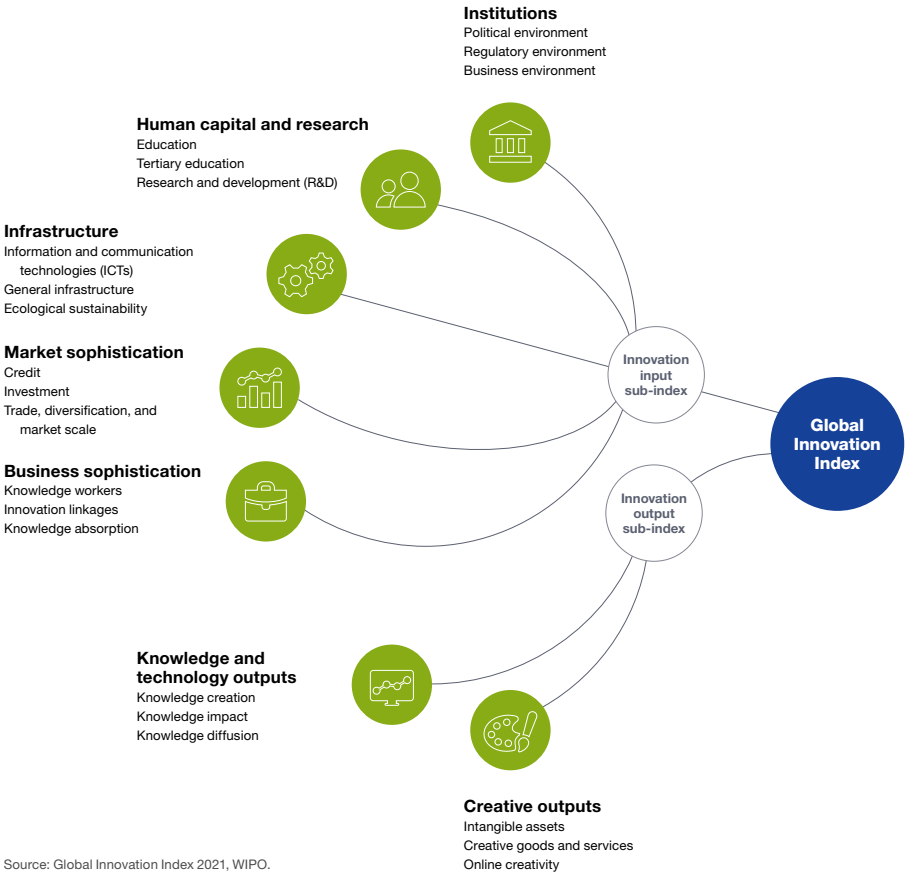
Outdated data for Costa Rica

Code	Indicator name	Economy year	Model year	Source
2.3.1	Researchers, FTE/mn pop.	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.1	Knowledge-intensive employment, %	2010	2019	International Labour Organization
5.1.2	Firms offering formal training, %	2010	2019	World Bank
5.1.3	GERD performed by business, % GDP	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
7.2.4	Printing and other media, % manufacturing	2016	2018	United Nations Industrial Development Organization

ABOUT THE GLOBAL INNOVATION INDEX

The Global Innovation Index (GII) is published by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.

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.



Source: Global Innovation Index 2021, WIPO.

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.