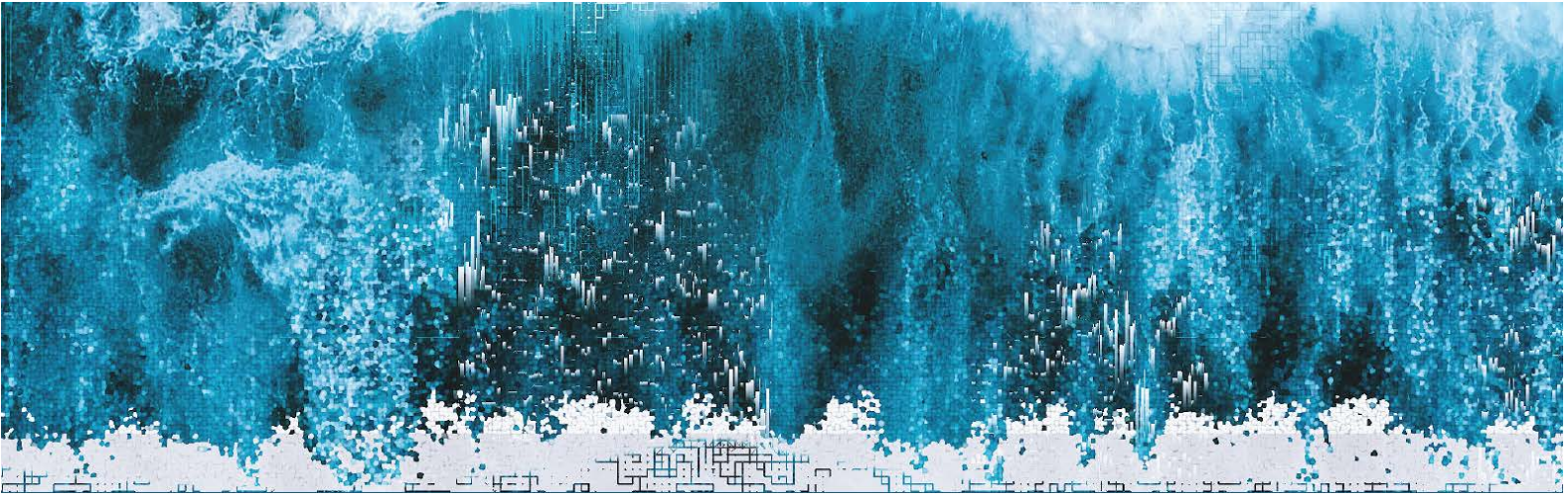


GLOBAL INNOVATION INDEX 2018

Costa Rica

54th Costa Rica is ranked 54th in the GII 2018, moving down 1 position from the previous year.

The GII indicators are grouped into innovation inputs and outputs. The following table reflects Costa Rica's rankings over time[1].

Costa Rica's ranking over time

	GII	Input	Output	Efficiency
2018	54	64	51	43
2017	53	57	50	43
2016	45	50	44	50

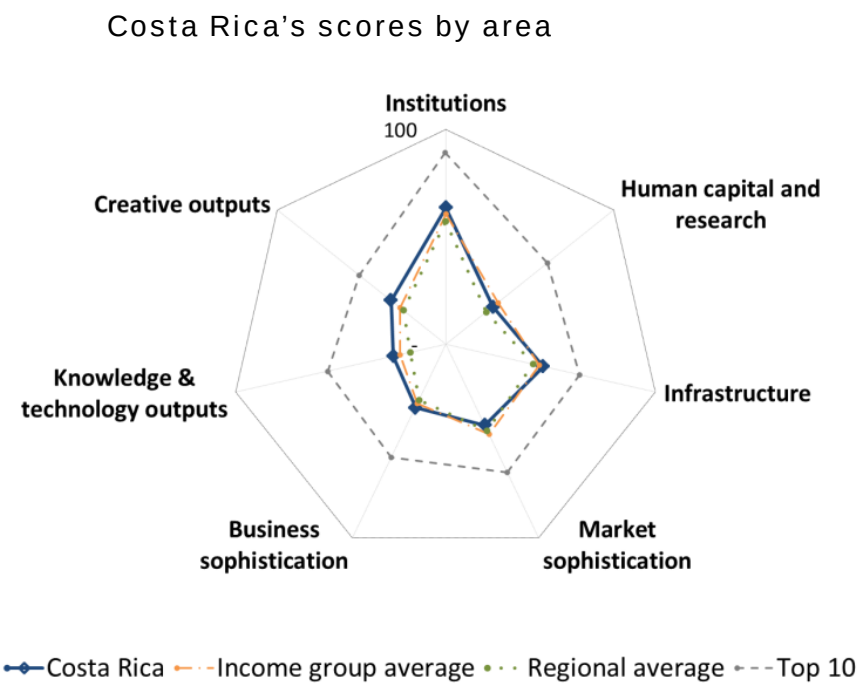
- Costa Rica shows a gradual decline in the ranking of both innovation inputs and outputs.
- This year Costa Rica ranks 64th in innovation inputs, dropping 7 positions from last year.
- Innovation outputs position 51st, 1 position down from last year. Compared to the 44th rank it held in 2016, its current position is now 7 spots lower.
- Relative to its overall GII rank, Costa Rica is fairly efficient in translating its innovation inputs into outputs. Its Innovation Efficiency Ratio remains stable at the 43rd spot this year. This relatively good rank is influenced by a higher ranking in innovation outputs (51st) than inputs (64th).

10th Costa Rica is ranked 10th among the 34 upper-middle-income countries in the GII 2018.

2nd Costa Rica is ranked 2nd among the 18 countries in Latin America and the Caribbean.

[1] Note that year-on-year comparisons of the GII ranks are imperfect and influenced by changes in the GII model and data availability.

Benchmarking Costa Rica to other upper-middle-income countries and the Latin America and the Caribbean region



Upper-middle-income countries

Costa Rica has high scores in 5 of the 7 GII areas – **Institutions, Infrastructure, Business Sophistication, Knowledge & Technology Outputs,** and **Creative Outputs**, in which it scores above the average of the upper-middle-income group.

Top scores in the areas *Regulatory environment, Information & Communication Technologies (ICTs), Knowledge absorption, Knowledge impact,* and *Intangible assets* are behind these high rankings.

Latin America and the Caribbean region

Compared to other countries in the Latin America and the Caribbean region, Costa Rica performs above average in 6 of the 7 GII areas: Institutions, Human Capital & Research, Infrastructure, Business Sophistication, Knowledge & Technology Outputs, and Creative Outputs.

Costa Rica's innovation profile

Strengths

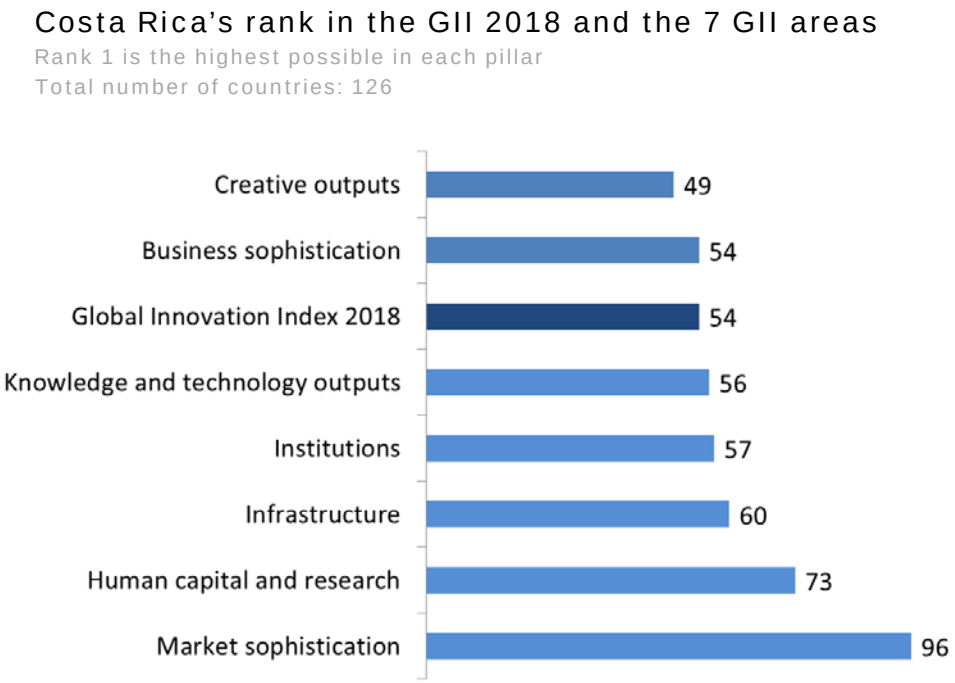
- Costa Rica's strengths are scattered across the various areas of the GII.
- In **Business Sophistication** (54th), it has strong performance in three indicators: *Firms offering formal training* (13th), *Intellectual property payments* (8th), and *FDI inflows* (27th).
- On the **innovation input** side, Costa Rica also demonstrates strong performance in indicator *Expenditure on education* (12th) in **Human Capital & Research** (73rd), *GDP per unit of energy use* (17th) in **Infrastructure** (60th), and *Ease of getting credit* (11th) in **Market Sophistication** (96th).
- On the **innovation output** side, comparative strengths are found in both the GII areas capturing innovation outputs. In **Knowledge & Technology Outputs** (56th), Costa Rica exhibits strengths in indicators *ICT services exports* (10th) and *Productivity growth* – which ranks 2nd globally.

- In **Creative Outputs** (49th), indicators *Trademarks by origin* (21st) and *Printing & other media* (13th) are highlighted as strengths for the country.

Weaknesses

- Relativeness weaknesses are equally scattered.
- In **Business Sophistication** (54th), Costa Rica shows weaknesses in three indicators: *R&D financed by business* (87th), *R&D financed by abroad* (88th), and *Joint venture–strategic alliance deals* (104th).
- In **Human Capital & Research** (73rd), the country performs relatively weakly in indicators *Graduates in science & engineering* (86th) and *Global R&D companies' expenditures* (40th).
- In **Market Sophistication** (96th), the area *Investment* (124th) and the indicator *Market capitalization* (84th) are both signaled as relative weaknesses.
- On the **innovation output** side, Costa Rica exhibits weaknesses in four indicators: *Patents by origin* (109th) and *Intellectual property receipts* (97th) in **Knowledge & Technology Outputs** (56th), and *Industrial designs by origin* (104th) and *Mobile app creation* (84th) in **Creative Outputs** (49th).

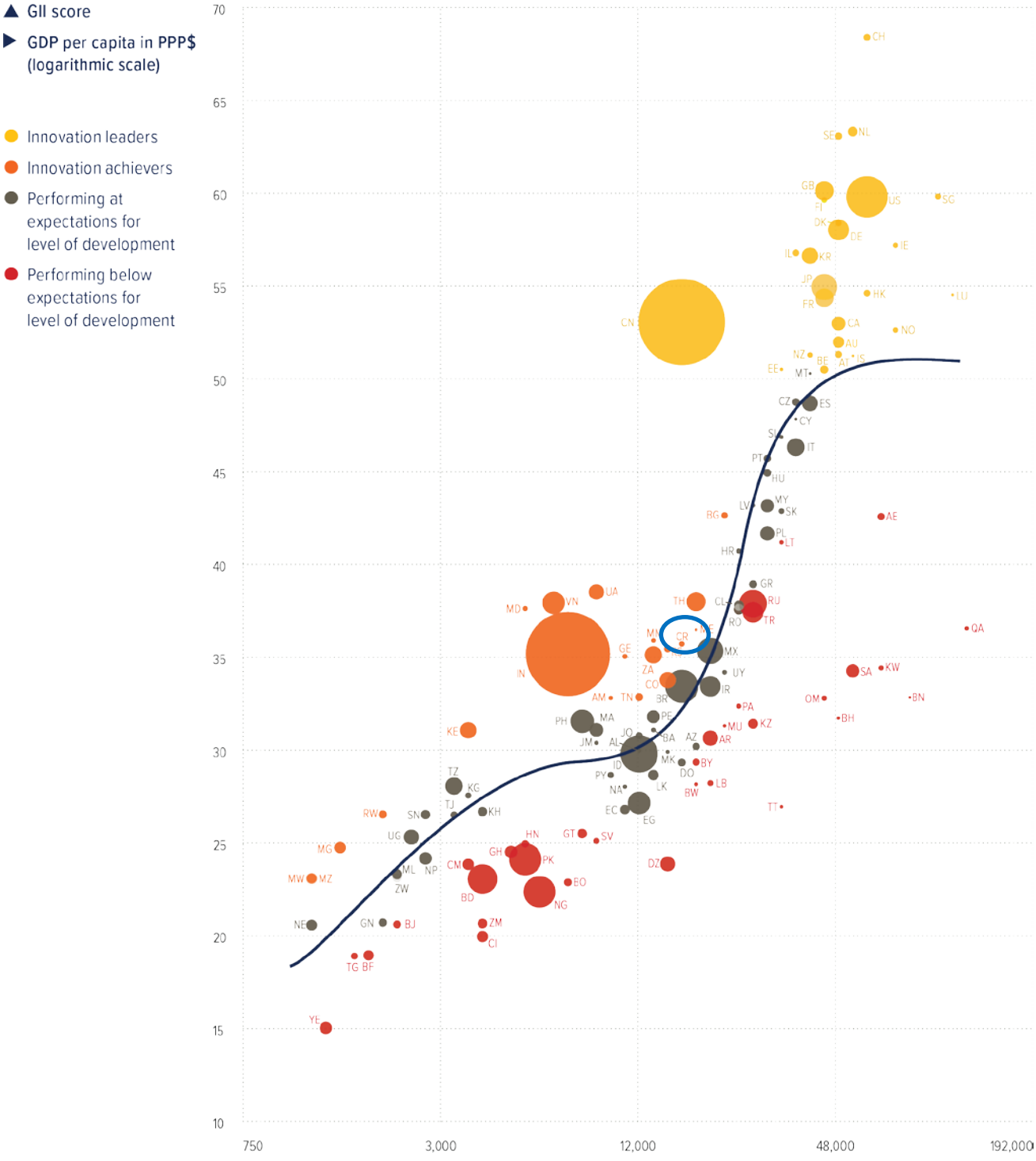
The following figure presents a summary of Costa Rica's ranks in the 7 GII areas, as well as the overall rank in the GII 2018.



Expected vs. Observed Innovation Performance

The GII bubble chart shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The depicted trendline gives an indication of the expected innovation performance at different levels of income. Countries located above the trendline are performing better that what would be expected based on their income level. Countries below the line are Innovation Under-performers relative to GDP.

Relative to GDP, Costa Rica performs above its expected level of development.



Missing and Outdated Data

More and better data improves the ability of a country to understand its strengths and weaknesses and give policymakers greater capacity to plan and adapt public policies accordingly. The GII 2018 covers 126 countries that complied with the minimum indicator coverage of 35 indicators in the Innovation Input Sub-Index (66%) and 18 indicators in the Innovation Output Sub-Index (66%).

The following tables show data for Costa Rica that is not available or that is outdated.

Missing Data

Code	Indicator	Country Year	Model Year	Source
2.2.3	Tertiary inbound mobility, %	n/a	2016	UNESCO Institute for Statistics
5.3.5	Research talent, % in business enterprise	n/a	2016	UNESCO Institute for Statistics
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2016	PwC's Global Entertainment and Media Outlook, 2017–2021

Outdated Data

Code	Indicator	Country Year	Model Year	Source
2.3.1	Researchers, FTE/mn pop.	2014	2016	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	2014	2016	UNESCO Institute for Statistics
4.1.3	Microfinance gross loans, % GDP	2015	2016	Microfinance Information Exchange, Mix Market
4.2.2	Market capitalization, % GDP	2011	2016	World Bank, World Development Indicators
5.1.1	Knowledge-intensive employment, %	2013	2016	ILO, ILOSTAT
5.1.2	Firms offering formal training, % firms	2010	2013	World Bank, Enterprise Surveys
5.1.3	GERD performed by business, % GDP	2014	2016	UNESCO Institute for Statistics
5.1.4	GERD financed by business, %	2014	2015	UNESCO Institute for Statistics
5.2.3	GERD financed by abroad, %	2014	2015	UNESCO Institute for Statistics
6.2.5	High- & medium-high-tech manufactures, %	2014	2015	UNIDO, Industrial Statistics
6.3.1	Intellectual property receipts, % total trade	2015	2016	WTO, Trade in Commercial Services
7.2.4	Printing & other media, % manufacturing	2014	2015	UNIDO, Industrial Statistics
7.3.3	Wikipedia edits/mn pop. 15–69	2014	2017	Wikimedia Foundation

COSTA RICA

GII 2018 rank **54**

Output rank	Input rank	Income	Region	Efficiency ratio	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2017 rank
51	64	Upper-middle	LCN	43	4.9	85.2	16,877.2	53

		Score/Value	Rank	
	Institutions	**63.7**	**57**	
1.1	Political environment	63.3	45	◆
1.1.1	Political stability & safety*	81.9	30	◆
1.1.2	Government effectiveness*	54.0	49	
1.2	Regulatory environment	69.6	51	
1.2.1	Regulatory quality*	54.5	52	
1.2.2	Rule of law*	56.7	45	◆
1.2.3	Cost of redundancy dismissal, salary weeks	18.7	71	
1.3	Business environment	58.0	107	◇
1.3.1	Ease of starting a business*	81.7	97	
1.3.2	Ease of resolving insolvency*	34.4	108	◇
	Human capital & research	**28.0**	**73**	
2.1	Education	54.4	40	
2.1.1	Expenditure on education, % GDP	7.1	12	● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	23.7	31	◆
2.1.3	School life expectancy, years	15.4	43	
2.1.4	PISA scales in reading, maths & science	415.8	54	
2.1.5	Pupil-teacher ratio, secondary	12.7	51	
2.2	Tertiary education	21.0	93	◇
2.2.1	Tertiary enrolment, % gross	54.0	47	
2.2.2	Graduates in science & engineering, %	13.1	86	○ ◇
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	Research & development (R&D)	8.7	63	
2.3.1	Researchers, FTE/mn pop.	573.0	64	
2.3.2	Gross expenditure on R&D, % GDP	0.6	55	
2.3.3	Global R&D companies, top 3, mn US$	0.0	40	○ ◇
2.3.4	QS university ranking, average score top 3*	14.8	55	
	Infrastructure	**46.3**	**60**	
3.1	Information & communication technologies (ICTs)	63.5	55	
3.1.1	ICT access*	64.0	66	
3.1.2	ICT use*	61.8	42	◆
3.1.3	Government's online service*	63.8	55	
3.1.4	E-participation*	64.4	54	
3.2	General infrastructure	28.2	105	
3.2.1	Electricity output, kWh/cap	2,247.8	74	
3.2.2	Logistics performance*	27.1	88	
3.2.3	Gross capital formation, % GDP	20.1	86	
3.3	Ecological sustainability	47.2	38	
3.3.1	GDP/unit of energy use	13.7	17	●
3.3.2	Environmental performance*	67.9	29	◆
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	1.4	57	
	Market sophistication	**41.7**	**96**	
4.1	Credit	37.0	64	
4.1.1	Ease of getting credit*	85.0	11	● ◆
4.1.2	Domestic credit to private sector, % GDP	59.3	56	
4.1.3	Microfinance gross loans, % GDP	0.1	55	
4.2	Investment	26.6	124	○ ◇
4.2.1	Ease of protecting minority investors*	48.3	97	
4.2.2	Market capitalization, % GDP	4.1	84	○
4.2.3	Venture capital deals/bn PPP$ GDP	0.0	42	
4.3	Trade, competition, & market scale	61.6	60	
4.3.1	Applied tariff rate, weighted mean, %	1.8	49	
4.3.2	Intensity of local competition†	72.0	46	
4.3.3	Domestic market scale, bn PPP$	85.2	80	

		Score/Value	Rank	
	Business sophistication	**32.7**	**54**	
5.1	Knowledge workers	36.9	59	
5.1.1	Knowledge-intensive employment, %	25.0	57	
5.1.2	Firms offering formal training, % firms	54.7	13	●
5.1.3	GERD performed by business, % GDP	0.2	52	
5.1.4	GERD financed by business, %	1.5	87	○ ◇
5.1.5	Females employed w/advanced degrees, %	11.6	58	
5.2	Innovation linkages	22.0	91	
5.2.1	University/industry research collaboration†	43.5	48	
5.2.2	State of cluster development†	51.1	44	
5.2.3	GERD financed by abroad, %	1.4	88	○
5.2.4	JV–strategic alliance deals/bn PPP$ GDP	0.0	104	○
5.2.5	Patent families 2+ offices/bn PPP$ GDP	0.1	71	
5.3	Knowledge absorption	39.3	29	◆
5.3.1	Intellectual property payments, % total trade	2.8	8	● ◆
5.3.2	High-tech net imports, % total trade	9.1	50	
5.3.3	ICT services imports, % total trade	1.3	56	
5.3.4	FDI net inflows, % GDP	5.6	27	●
5.3.5	Research talent, % in business enterprise	n/a	n/a	
	Knowledge & technology outputs	**25.1**	**56**	
6.1	Knowledge creation	5.5	87	
6.1.1	Patents by origin/bn PPP$ GDP	0.1	109	○
6.1.2	PCT patents by origin/bn PPP$ GDP	0.1	61	
6.1.3	Utility models by origin/bn PPP$ GDP	0.2	42	
6.1.4	Scientific & technical articles/bn PPP$ GDP	5.4	75	
6.1.5	Citable documents H index	10.0	64	
6.2	Knowledge impact	43.5	34	
6.2.1	Growth rate of PPP$ GDP/worker, %	7.2	2	● ◆
6.2.2	New businesses/th pop. 15–64	2.1	49	
6.2.3	Computer software spending, % GDP	0.3	55	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	3.7	72	
6.2.5	High- & medium-high-tech manufactures, %	0.3	45	
6.3	Knowledge diffusion	26.3	39	
6.3.1	Intellectual property receipts, % total trade	0.0	97	○ ◇
6.3.2	High-tech net exports, % total trade	5.3	33	
6.3.3	ICT services exports, % total trade	6.1	10	● ◆
6.3.4	FDI net outflows, % GDP	0.8	56	
	Creative outputs	**32.8**	**49**	
7.1	Intangible assets	49.4	41	
7.1.1	Trademarks by origin/bn PPP$ GDP	84.2	21	●
7.1.2	Industrial designs by origin/bn PPP$ GDP	0.2	104	○
7.1.3	ICTs & business model creation†	68.5	35	◆
7.1.4	ICTs & organizational model creation†	63.9	31	◆
7.2	Creative goods & services	27.1	49	
7.2.1	Cultural & creative services exports, % total trade	0.4	30	
7.2.2	National feature films/mn pop. 15–69	4.0	48	
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	n/a	
7.2.4	Printing & other media, % manufacturing	2.2	13	● ◆
7.2.5	Creative goods exports, % total trade	0.4	60	
7.3	Online creativity	5.2	69	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	11.3	37	
7.3.2	Country-code TLDs/th pop. 15–69	1.8	69	
7.3.3	Wikipedia edits/mn pop. 15–69	11.0	62	
7.3.4	Mobile app creation/bn PPP$ GDP	0.4	84	○

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question.
indicates that the country'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; see page 75 of this appendix for details.