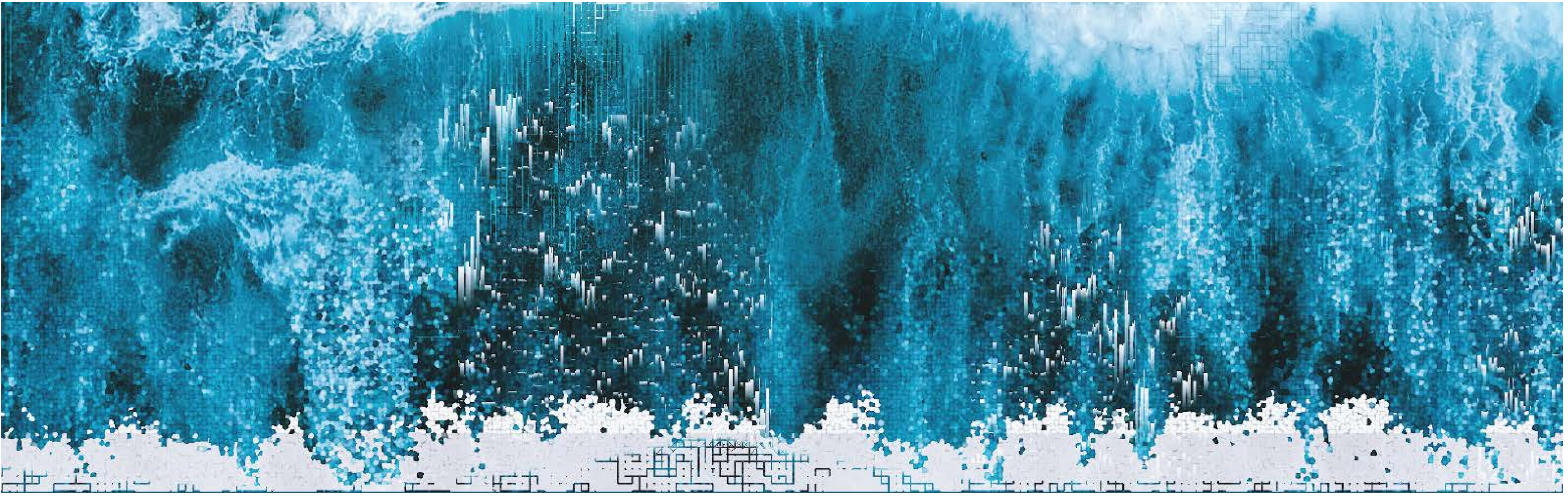


GLOBAL INNOVATION INDEX 2018

Slovenia

30th Slovenia is ranked 30th in the GII 2018, moving up 2 positions from the previous year.

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

Slovenia's ranking over time

	GII	Input	Output	Efficiency
2018	30	31	29	27
2017	32	30	34	44
2016	32	31	33	39

- Over the last three years, Slovenia demonstrates stability in innovation inputs, positioning 30th-31st globally.
- This year the country improves in innovation outputs, reaching the 29th position, up 5 spots from last year.
- In the Innovation Efficiency Ratio, Slovenia ranks 27th, gaining 17 spots from the 44th position it held in 2017. This ratio shows that Slovenia is becoming more efficient in translating its innovation inputs into more outputs. Such higher ranking is partly influenced by the higher and improved ranking in innovation outputs (29th) relative to inputs (31st).

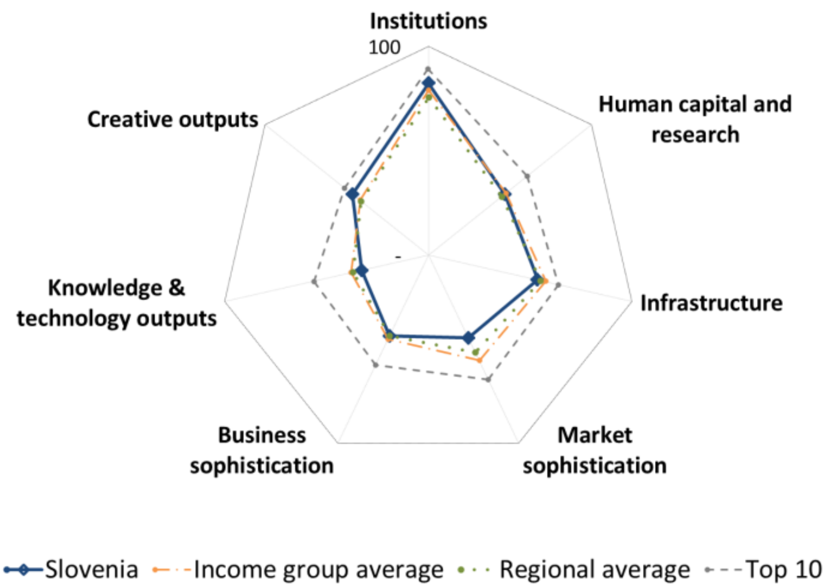
29th Slovenia is ranked 29th among the 47 high-income countries in the GII 2018.

19th Slovenia is ranked 19th among the 39 countries in Europe.

[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 Slovenia to other high-income countries and the Europe region

Slovenia's scores by area



High-income countries

Slovenia has high scores in 2 of the 7 GII areas – **Institutions** and **Creative Outputs**, in which it scores above the average of the high-income group.

Top scores in areas such as *Business environment* and *Intangible assets* are behind these high rankings.

Europe region

Compared to other countries in the Europe region, Slovenia performs above-average in 4 of the 7 GII areas: Institutions, Human Capital & Research, Business Sophistication, and Creative Outputs.

Slovenia's innovation profile

Strengths

- Most of the comparative strengths for Slovenia are concentrated on the **innovation output** side of the GII where the country presents strengths in both the GII output areas.
- In **Knowledge & Technology Outputs** (34th), three indicators are marked as strong. These are *Patents by origin* (12th), *ISO 9001 quality certificates* (9th), and *Scientific & technical articles* where the country gains the 3rd position in the world.
- In **Creative outputs** (16th), Slovenia's top-ranked GII area, the indicators *Trademarks by origin* (9th), *National feature films* (9th), and *Wikipedia edits* (12th) are GII strengths for the country.
- On the **innovation input** side, most of Slovenia's GII strengths lie in **Institutions** (19th), where it has strong performance in the area *Business environment* (14th). At the indicator level, GII strengths are found in *Political stability & safety* (15th) and *Ease of resolving insolvency* (9th).
- Slovenia also shows strong performance in two other indicators, *ISO 14001 environmental certificates* (14th) within **Infrastructure** (35th) and within **Business Sophistication** (29th) *R&D financed by business*, where it ranks 5th in the world.

Weaknesses

- Slovenia's relative GII weaknesses are mostly accrued among **innovation inputs**, and in particular in the following four GII input areas.

- **Market Sophistication** (78th), the lowest-ranked GII area for Slovenia, is highlighted as one of the weakness for Slovenia. Here the country performs weakly in one of its three components – *Credit* (83rd). At the indicator level, GII weaknesses are also found in *Ease of getting credit* (88th), *Market capitalization* (75th), and *Domestic market scale* (85th).

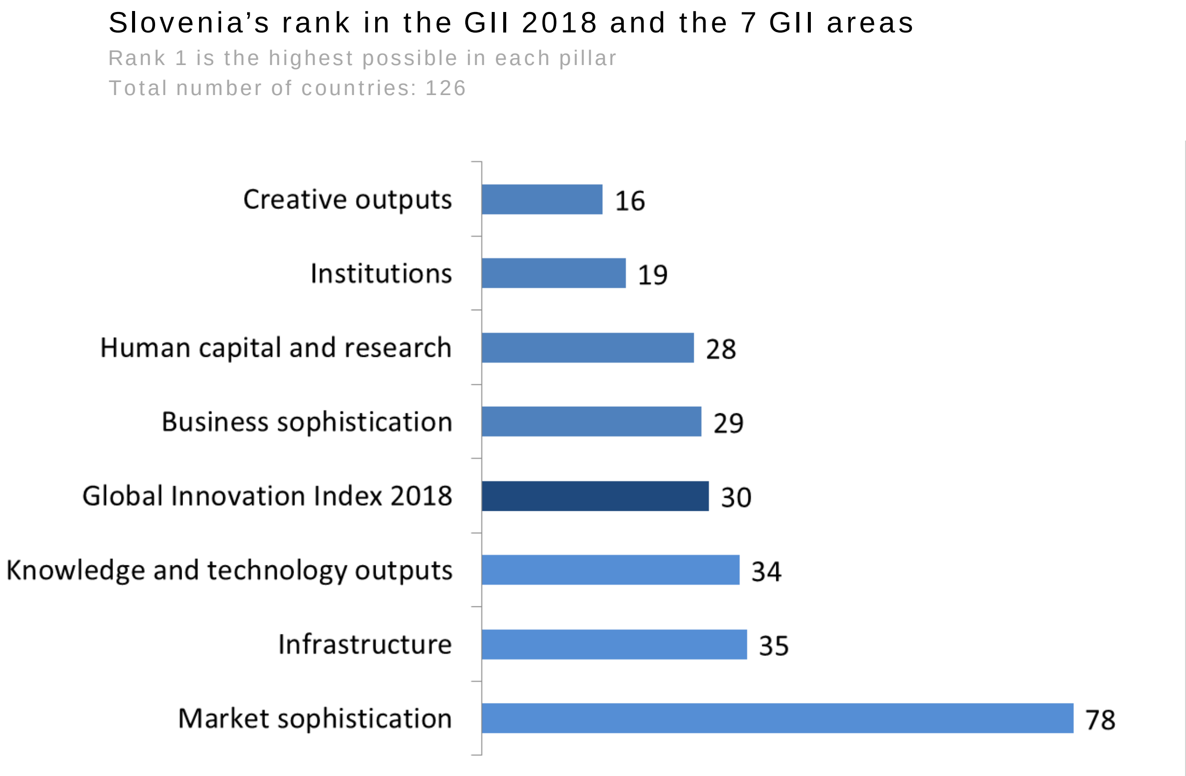
- The indicators *State of cluster development* (72nd), *Joint venture–strategic alliance deals* (77th), and *High-tech import*s (87th) are signaled as relatively weak within the area **Business Sophistication** (29th).

- In **Human Capital & Research** (28th), only one indicator – *Tertiary inbound mobility* (65th) – is indicated as a GII weakness.

- In **Infrastructure** (35th), one indicator, *Gross capital formation* (94th), presents relatively weak performance.

- On the **innovation output** side, only two relative weaknesses are found within the area **Knowledge & Technology Outputs** (34th). These are indicators *Utility models by origin* (47th) and *Computer software spending* (91st).

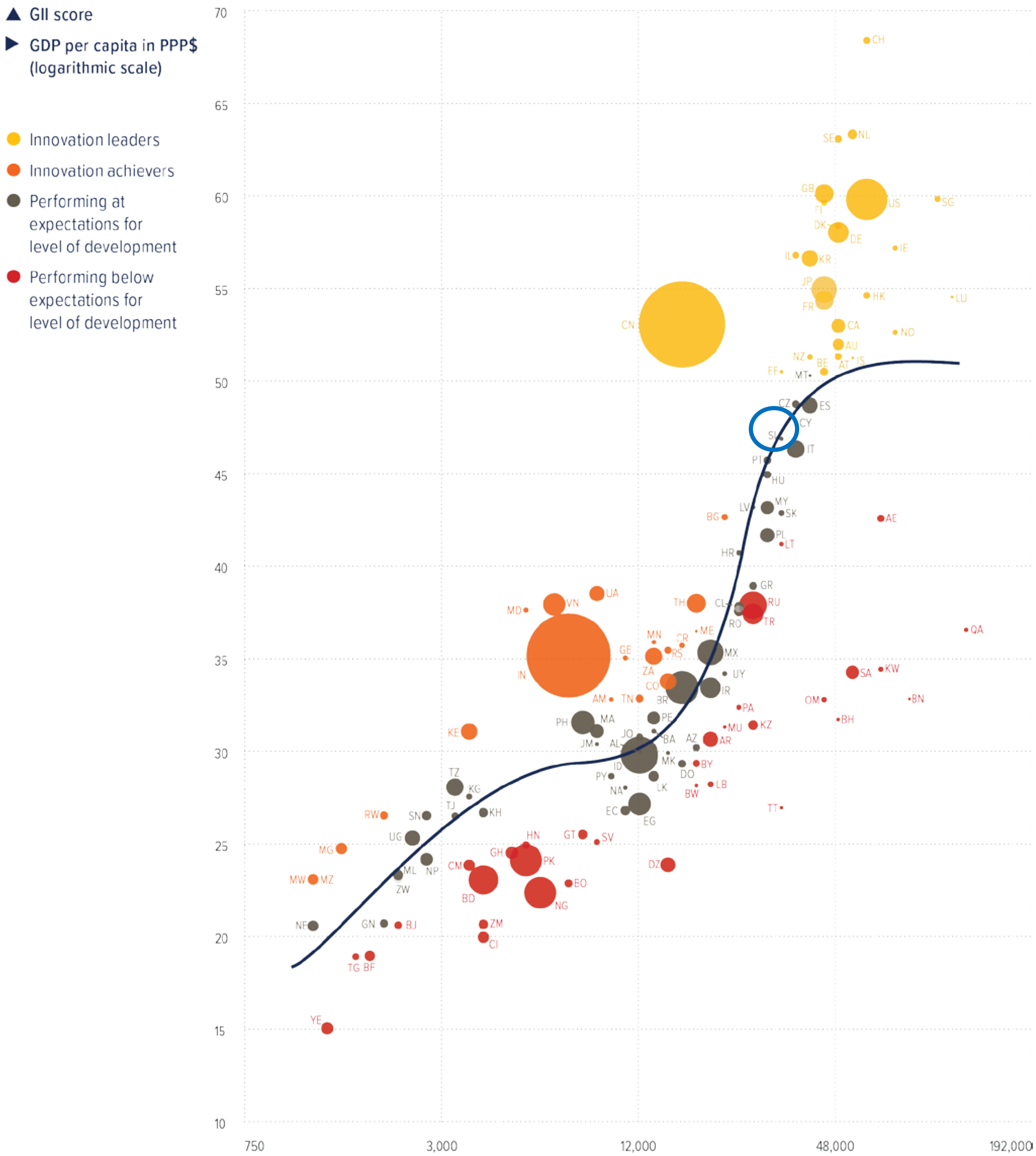
The following figure presents a summary of Slovenia's ranks in the 7 GII areas, as well as the overall rank in the GII 2018.



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, Slovenia performs at 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 Slovenia that is not available or that is outdated.

Missing Data

Code	Indicator	Country Year	Model Year	Source
4.1.3	Microfinance gross loans, % GDP	n/a	2016	Microfinance Information Exchange, Mix Market
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
2.1.3	School life expectancy, years	2015	2016	UNESCO Institute for Statistics (UIS)
2.1.5	Pupil-teacher ratio, secondary	2015	2016	UNESCO Institute for Statistics (UIS)
2.2.1	Tertiary enrolment, % gross	2015	2016	UNESCO Institute for Statistics (UIS)
2.2.2	Graduates in science & engineering, %	2015	2016	UNESCO Institute for Statistics (UIS)
2.2.3	Tertiary inbound mobility, %	2015	2016	UNESCO Institute for Statistics (UIS)
6.1.1	Patents by origin/bn PPP$ GDP	2011	2016	WIPO, Intellectual Property Statistics
6.1.3	Utility models by origin/bn PPP$ GDP	2010	2016	WIPO, Intellectual Property Statistics
6.2.5	High- & medium-high-tech manufactures, %	2014	2015	UNIDO, Industrial Statistics
7.1.1	Trademarks by origin/bn PPP$ GDP	2010	2016	WIPO, Intellectual Property Statistics
7.1.2	Industrial designs by origin/bn PPP$ GDP	2011	2016	WIPO, Intellectual Property Statistics
7.2.1	Cultural & creative services exports, % total trade	2015	2016	WTO, Trade in Commercial Services
7.3.3	Wikipedia edits/mn pop. 15–69	2016	2017	Wikimedia Foundation

SLOVENIA

GII 2018 rank

30

Output rank	Input rank	Income	Region	Efficiency ratio	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2017 rank
29	31	High	EUR	27	2.1	70.4	34,407.1	32

		Score/Value	Rank	
1	**Institutions**	**82.3**	**19**	
1.1	Political environment	77.9	23	
1.1.1	Political stability & safety*	87.7	15	●
1.1.2	Government effectiveness*	73.0	25	
1.2	Regulatory environment	81.5	26	
1.2.1	Regulatory quality*	60.5	42	
1.2.2	Rule of law*	73.7	27	
1.2.3	Cost of redundancy dismissal, salary weeks	10.7	35	
1.3	Business environment	87.6	11	●
1.3.1	Ease of starting a business*	91.5	40	
1.3.2	Ease of resolving insolvency*	83.7	9	●
2	**Human capital & research**	**46.7**	**28**	
2.1	Education	58.6	24	
2.1.1	Expenditure on education, % GDP	5.3	37	
2.1.2	Government funding/pupil, secondary, % GDP/cap	24.7	26	
2.1.3	School life expectancy, years ⓓ	17.2	16	
2.1.4	PISA scales in reading, maths & science	509.3	9	
2.1.5	Pupil-teacher ratio, secondary ⓓ	10.2	30	
2.2	Tertiary education	42.5	32	
2.2.1	Tertiary enrolment, % gross ⓓ	80.0	18	
2.2.2	Graduates in science & engineering, % ⓓ	25.7	27	
2.2.3	Tertiary inbound mobility, % ⓓ	2.7	65	○ ◇
2.3	Research & development (R&D)	39.1	26	
2.3.1	Researchers, FTE/mn pop.	3,899.2	24	
2.3.2	Gross expenditure on R&D, % GDP	2.0	18	
2.3.3	Global R&D companies, top 3, mn US$	51.3	28	
2.3.4	QS university ranking, average score top 3*	10.9	63	◇
3	**Infrastructure**	**53.6**	**35**	
3.1	Information & communication technologies (ICTs)	74.6	29	
3.1.1	ICT access*	79.1	28	
3.1.2	ICT use*	61.6	44	
3.1.3	Government's online service*	84.8	19	
3.1.4	E-participation*	72.9	37	
3.2	General infrastructure	38.7	58	
3.2.1	Electricity output, kWh/cap	7,830.4	21	
3.2.2	Logistics performance*	51.9	49	◇
3.2.3	Gross capital formation, % GDP	19.5	94	○
3.3	Ecological sustainability	47.5	37	
3.3.1	GDP/unit of energy use	8.8	63	
3.3.2	Environmental performance*	67.6	33	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	6.9	14	●
4	**Market sophistication**	**43.9**	**78**	○ ◇
4.1	Credit	31.8	83	○ ◇
4.1.1	Ease of getting credit*	45.0	88	○
4.1.2	Domestic credit to private sector, % GDP	46.7	75	◇
4.1.3	Microfinance gross loans, % GDP	n/a	n/a	
4.2	Investment	38.9	76	
4.2.1	Ease of protecting minority investors*	70.0	24	
4.2.2	Market capitalization, % GDP	13.6	75	○ ◇
4.2.3	Venture capital deals/bn PPP$ GDP	0.0	37	
4.3	Trade, competition, & market scale	61.1	62	
4.3.1	Applied tariff rate, weighted mean, %	1.6	19	
4.3.2	Intensity of local competition†	73.4	35	
4.3.3	Domestic market scale, bn PPP$	70.4	85	○

		Score/Value	Rank	
5	**Business sophistication**	**43.0**	**29**	
5.1	Knowledge workers	62.8	18	
5.1.1	Knowledge-intensive employment, %	42.4	20	
5.1.2	Firms offering formal training, % firms	41.5	31	
5.1.3	GERD performed by business, % GDP	1.5	13	
5.1.4	GERD financed by business, %	69.2	5	● ◆
5.1.5	Females employed w/advanced degrees, %	21.1	21	
5.2	Innovation linkages	29.1	62	
5.2.1	University/industry research collaboration†	46.1	43	
5.2.2	State of cluster development†	44.6	72	○ ◇
5.2.3	GERD financed by abroad, %	10.6	41	
5.2.4	JV–strategic alliance deals/bn PPP$ GDP	0.0	77	○
5.2.5	Patent families 2+ offices/bn PPP$ GDP	1.4	24	
5.3	Knowledge absorption	37.2	37	
5.3.1	Intellectual property payments, % total trade	0.7	52	
5.3.2	High-tech net imports, % total trade	6.6	87	○
5.3.3	ICT services imports, % total trade	1.7	33	
5.3.4	FDI net inflows, % GDP	3.1	52	
5.3.5	Research talent, % in business enterprise	55.2	18	
6	**Knowledge & technology outputs**	**32.9**	**34**	
6.1	Knowledge creation	32.7	29	
6.1.1	Patents by origin/bn PPP$ GDP ⓓ	10.2	12	●
6.1.2	PCT patents by origin/bn PPP$ GDP	1.4	24	
6.1.3	Utility models by origin/bn PPP$ GDP ⓓ	0.2	47	○
6.1.4	Scientific & technical articles/bn PPP$ GDP	37.7	3	● ◆
6.1.5	Citable documents H index	16.7	42	
6.2	Knowledge impact	45.0	29	
6.2.1	Growth rate of PPP$ GDP/worker, %	0.5	67	
6.2.2	New businesses/th pop. 15–64	3.1	40	
6.2.3	Computer software spending, % GDP	0.1	91	○ ◇
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	27.8	9	● ◆
6.2.5	High- & medium-high-tech manufactures, % ⓓ	0.4	19	
6.3	Knowledge diffusion	21.0	56	
6.3.1	Intellectual property receipts, % total trade	0.2	37	
6.3.2	High-tech net exports, % total trade	5.8	30	
6.3.3	ICT services exports, % total trade	1.8	55	
6.3.4	FDI net outflows, % GDP	0.7	59	
7	**Creative outputs**	**46.7**	**16**	
7.1	Intangible assets	56.3	20	
7.1.1	Trademarks by origin/bn PPP$ GDP ⓓ	111.2	9	● ◆
7.1.2	Industrial designs by origin/bn PPP$ GDP ⓓ	6.4	22	
7.1.3	ICTs & business model creation†	66.1	43	
7.1.4	ICTs & organizational model creation†	61.7	36	
7.2	Creative goods & services	38.2	22	
7.2.1	Cultural & creative services exports, % total trade ⓓ	0.9	15	
7.2.2	National feature films/mn pop. 15–69	13.4	9	●
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	n/a	
7.2.4	Printing & other media, % manufacturing	1.7	20	
7.2.5	Creative goods exports, % total trade	1.1	43	
7.3	Online creativity	36.0	23	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	20.8	28	
7.3.2	Country-code TLDs/th pop. 15–69	24.4	25	
7.3.3	Wikipedia edits/mn pop. 15–69 ⓓ	83.0	12	●
7.3.4	Mobile app creation/bn PPP$ GDP	42.8	12	

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.