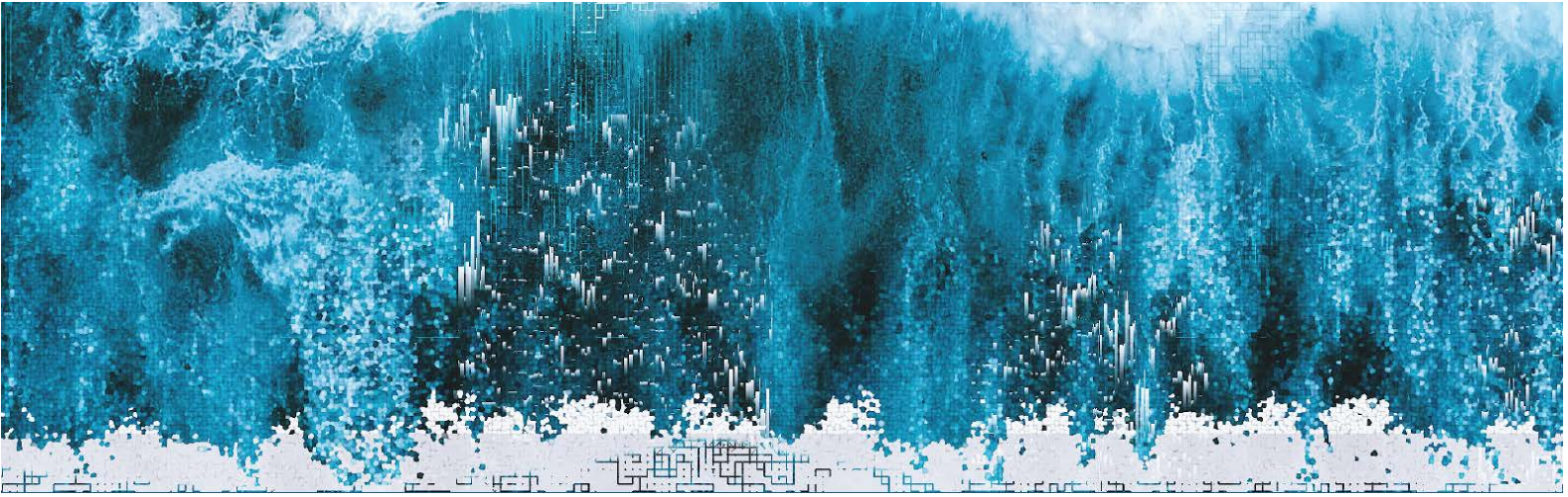


GLOBAL INNOVATION INDEX 2018

Russian Federation

46th The Russian Federation is ranked 46th 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 the Russian Federation's rankings over time[1].

Russian Federation's ranking over time

	GII	Input	Output	Efficiency
2018	46	43	56	77
2017	45	43	51	75
2016	43	44	47	69

- The Russian Federation performs better in innovation inputs than outputs.
- Its innovation outputs deteriorate this year, ranking 56th, down 9 from 2016.
- The country has stable ranking in innovation inputs, holding the 43rd-44th position over the last three years.
- Its efficiency in translating innovation inputs into outputs has reduced during the last three years, as demonstrated by a lower ranking in the Innovation Efficiency Ratio (77th), which moved down from the 75th position in 2017 and the 69th in 2016. This is partly influenced by the lower ranking in innovation outputs (43rd) mentioned above.

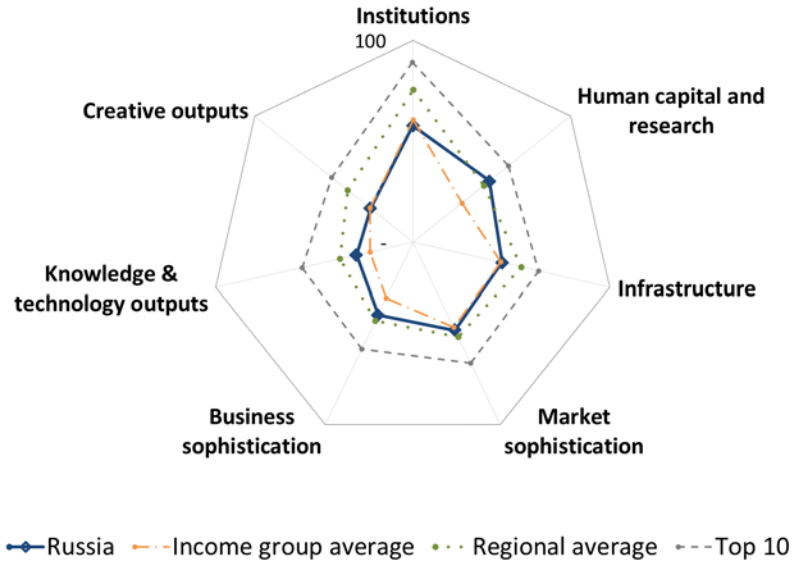
6th The Russian Federation is ranked 6th among the 34 upper-middle-income countries.

31st The Russian Federation is ranked 31st 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 the Russian Federation to other upper-middle-income countries and the Europe region

The Russian Federation's scores by area



Upper-middle-income countries

The Russian Federation has high scores in 5 out of the 7 GII areas – **Human Capital & Research, Infrastructure, Market Sophistication, Business Sophistication,** and **Knowledge & Technology Outputs**, in which it scores above the average of the upper-middle-income group.

Top scores in the areas *Education, Information & Communication Technologies (ICTs), Trade, competition & market scale, Knowledge workers,* and *Knowledge creation* are behind these high rankings.

Europe region

Compared to other countries in the European region, the Russian Federation performs above-average in **Human Capital & Research**.

The innovation profile of the Russian Federation

Strengths

- The Russian Federation presents much more strengths on the innovation input side of the GII than the output side.

- Most of them are in **Human Capital & Research** (22nd), which itself is highlighted as a strength. The Russian Federation has a strong performance also in one of its three elements – *Tertiary education* (19th) – and in indicators *Pupil-teacher ratio* (16th), *Tertiary enrolment* (13th), *Graduates in science & engineering* (15th), and *Quality of universities* (22nd).

- The country shows several strengths in **Business Sophistication** (33rd), where it exhibits strength in indicators *Knowledge-intensive employment* (17th), *Intellectual property payments* (18th), and *Females employed with advanced degrees* – in which it ranks 1st.

- In **Market Sophistication** (56th), the Russian Federation performs strongly in the area *Trade, competition & marker scale* (13th) and in the indicator *Domestic market scale* (6th).

- On the **innovation output** side, all GII strengths are in **Knowledge & Technology Outputs** (47th), where the Russian Federation has strong performance in indicators *Patents by origin* (16th), *Utility models by origin* (9th), and *Quality of scientific publications* (22nd).

Weaknesses

- On the **innovation input** side, the Russian Federation has relative weaknesses in three out of the five GII areas.

- In **Institutions** (74th), two indicators are marked as relative weaknesses: *Political stability and safety* (105th) and *Rule of law* (110th).

- In **Infrastructure** (63rd), the country performs relatively weakly in indicators *Logistics performance* (97th), *GDP per unit of energy use* (111th), and *ISO 14001 environmental certificates* (107th).

- In **Market Sophistication** (56th), relative GII weaknesses are found in indicators *Microfinance gross loans* (75th) and *Venture capital deals* (71st).

- On the **innovation output** side, two out of the three GII weaknesses are demonstrated in **Knowledge & Technology Outputs** (47th) in indicators *Productivity growth* (89th) and *ISO 9001 quality certificates* (101st).

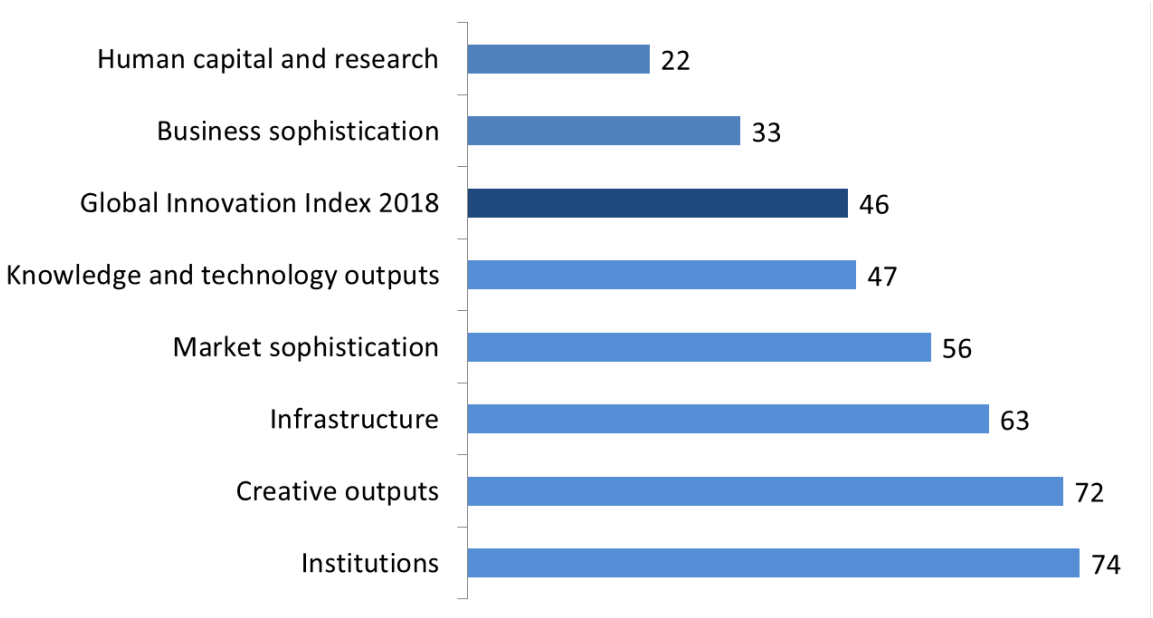
- In **Creative Outputs** (72nd), the Russian Federation has only one GII weakness in *ICTs & business model creation* (94th).

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

The Russian Federation's rank in the GII 2018 and the 7 GII areas

Rank 1 is the highest possible in each pillar

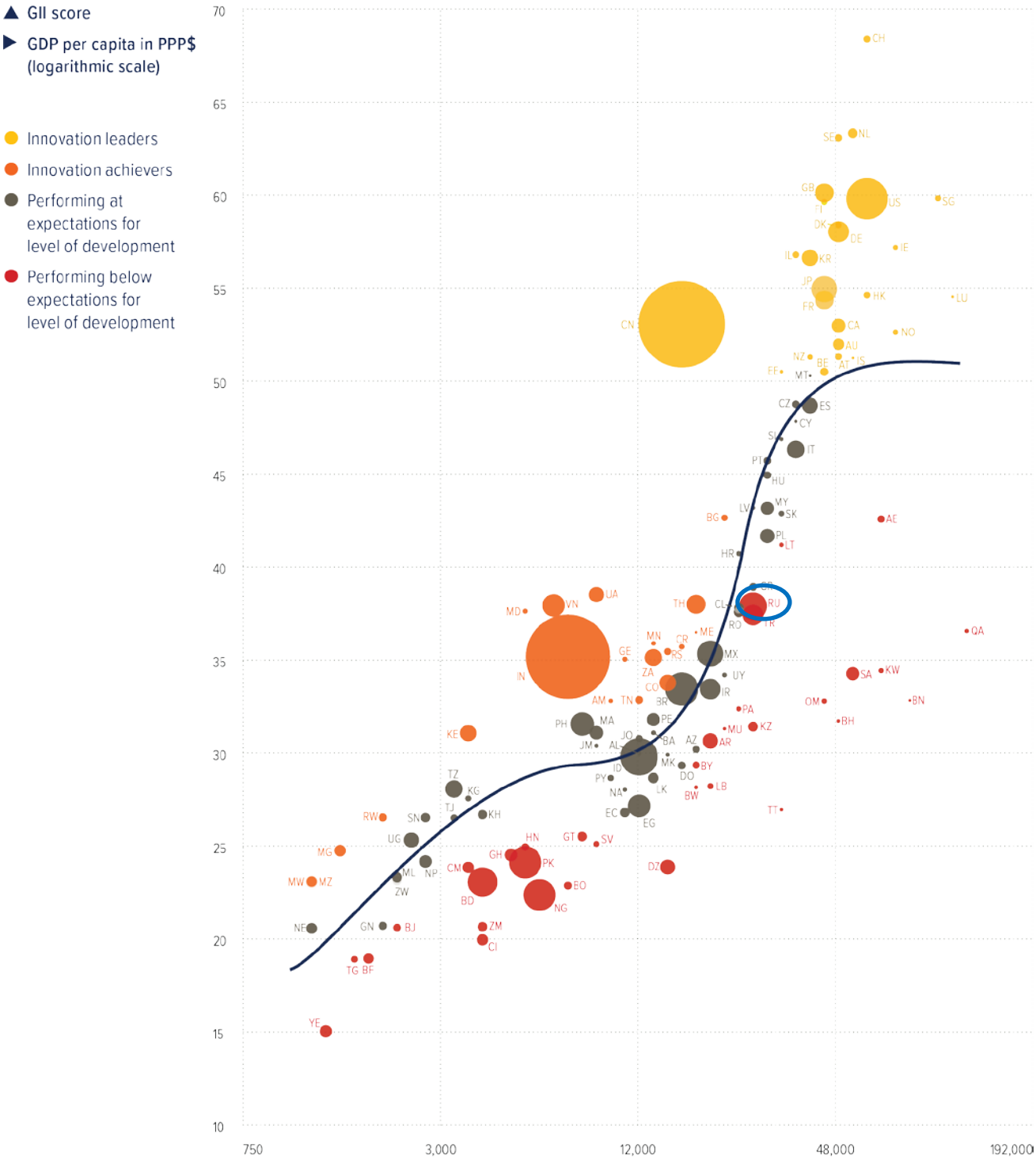
Total number of countries: 126



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, the Russian Federation performs below 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 the Russian Federation that is not available or that is outdated.

Missing Data

Code	Indicator	Country Year	Model Year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2014	UNESCO Institute for Statistics

Outdated Data

Code	Indicator	Country Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2012	2014	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2012	2016	UNESCO Institute for Statistics
2.2.2	Graduates in science & engineering, %	2015	2016	UNESCO Institute for Statistics
4.1.2	Domestic credit to private sector, % GDP	2015	2016	IMF, World Economic Outlook
5.1.2	Firms offering formal training, % firms	2012	2013	World Bank, Enterprise Surveys
7.2.5	Creative goods exports, % total trade	2015	2016	UN COMTRADE

RUSSIAN FEDERATION

GII 2018 rank **46**

Output rank	Input rank	Income	Region	Efficiency ratio	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2017 rank
56	43	Upper-middle	EUR	77	144.0	4,000.1	27,834.1	45

		Score/Value	Rank	
	Institutions	**57.8**	**74**	
1.1	Political environment	41.2	94	
1.1.1	Political stability & safety*	44.0	105	○ ◇
1.1.2	Government effectiveness*	39.8	87	
1.2	Regulatory environment	56.7	90	
1.2.1	Regulatory quality*	33.4	96	
1.2.2	Rule of law*	22.0	110	○ ◇
1.2.3	Cost of redundancy dismissal, salary weeks	17.3	68	
1.3	Business environment	75.4	45	
1.3.1	Ease of starting a business*	93.0	25	◆
1.3.2	Ease of resolving insolvency*	57.8	50	
	Human capital & research	**48.4**	**22**	● ◆
2.1	Education	57.5	27	
2.1.1	Expenditure on education, % GDP	3.8	85	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	15.5	38	
2.1.4	PISA scales in reading, maths & science	491.8	26	◆
2.1.5	Pupil-teacher ratio, secondary	8.8	16	●
2.2	Tertiary education	49.1	19	● ◆
2.2.1	Tertiary enrolment, % gross	81.8	13	● ◆
2.2.2	Graduates in science & engineering, %	29.0	15	●
2.2.3	Tertiary inbound mobility, %	3.9	52	
2.3	Research & development (R&D)	38.6	27	◆
2.3.1	Researchers, FTE/mn pop.	2,979.1	28	◆
2.3.2	Gross expenditure on R&D, % GDP	1.1	33	◆
2.3.3	Global R&D companies, top 3, mn US$	43.3	33	◆
2.3.4	QS university ranking, average score top 3*	49.6	22	● ◆
	Infrastructure	**45.2**	**63**	
3.1	Information & communication technologies (ICTs)	70.3	37	◆
3.1.1	ICT access*	72.3	45	◆
3.1.2	ICT use*	61.3	46	◆
3.1.3	Government's online service*	73.2	37	
3.1.4	E-participation*	74.6	32	
3.2	General infrastructure	35.8	73	
3.2.1	Electricity output, kWh/cap	7,395.0	27	◆
3.2.2	Logistics performance*	23.5	97	○
3.2.3	Gross capital formation, % GDP	23.8	51	
3.3	Ecological sustainability	29.5	95	◇
3.3.1	GDP/unit of energy use	4.4	111	○ ◇
3.3.2	Environmental performance*	63.8	47	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.3	107	○
	Market sophistication	**48.1**	**56**	
4.1	Credit	32.4	78	
4.1.1	Ease of getting credit*	75.0	26	
4.1.2	Domestic credit to private sector, % GDP	54.7	61	
4.1.3	Microfinance gross loans, % GDP	0.0	75	○
4.2	Investment	34.6	96	
4.2.1	Ease of protecting minority investors*	61.7	50	
4.2.2	Market capitalization, % GDP	32.0	45	
4.2.3	Venture capital deals/bn PPP$ GDP	0.0	71	○
4.3	Trade, competition, & market scale	77.4	13	● ◆
4.3.1	Applied tariff rate, weighted mean, %	3.4	69	
4.3.2	Intensity of local competition†	67.0	69	
4.3.3	Domestic market scale, bn PPP$	4,000.1	6	● ◆

		Score/Value	Rank	
	Business sophistication	**39.9**	**33**	◆
5.1	Knowledge workers	59.7	23	◆
5.1.1	Knowledge-intensive employment, %	43.8	17	● ◆
5.1.2	Firms offering formal training, % firms	46.2	26	
5.1.3	GERD performed by business, % GDP	0.6	29	◆
5.1.4	GERD financed by business, %	28.1	59	
5.1.5	Females employed w/advanced degrees, %	33.4	1	● ◆
5.2	Innovation linkages	21.9	92	
5.2.1	University/industry research collaboration†	47.6	41	
5.2.2	State of cluster development†	42.3	79	
5.2.3	GERD financed by abroad, %	2.7	69	
5.2.4	JV–strategic alliance deals/bn PPP$ GDP	0.0	65	
5.2.5	Patent families 2+ offices/bn PPP$ GDP	0.1	48	
5.3	Knowledge absorption	38.1	35	◆
5.3.1	Intellectual property payments, % total trade	1.7	18	● ◆
5.3.2	High-tech net imports, % total trade	8.1	62	
5.3.3	ICT services imports, % total trade	1.8	28	◆
5.3.4	FDI net inflows, % GDP	1.4	93	
5.3.5	Research talent, % in business enterprise	46.3	26	◆
	Knowledge & technology outputs	**28.9**	**47**	
6.1	Knowledge creation	32.8	28	◆
6.1.1	Patents by origin/bn PPP$ GDP	7.0	16	● ◆
6.1.2	PCT patents by origin/bn PPP$ GDP	0.3	46	
6.1.3	Utility models by origin/bn PPP$ GDP	2.8	9	● ◆
6.1.4	Scientific & technical articles/bn PPP$ GDP	7.2	64	
6.1.5	Citable documents H index	36.7	22	● ◆
6.2	Knowledge impact	32.5	80	
6.2.1	Growth rate of PPP$ GDP/worker, %	(0.3)	89	○
6.2.2	New businesses/th pop. 15–64	4.3	29	
6.2.3	Computer software spending, % GDP	0.3	48	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	1.3	101	○
6.2.5	High- & medium-high-tech manufactures, %	0.2	48	
6.3	Knowledge diffusion	21.5	51	
6.3.1	Intellectual property receipts, % total trade	0.2	41	◆
6.3.2	High-tech net exports, % total trade	2.3	50	
6.3.3	ICT services exports, % total trade	1.3	72	
6.3.4	FDI net outflows, % GDP	2.0	29	
	Creative outputs	**26.9**	**72**	
7.1	Intangible assets	39.0	71	
7.1.1	Trademarks by origin/bn PPP$ GDP	50.0	51	
7.1.2	Industrial designs by origin/bn PPP$ GDP	0.8	78	
7.1.3	ICTs & business model creation†	52.7	94	○
7.1.4	ICTs & organizational model creation†	58.6	47	
7.2	Creative goods & services	13.3	81	
7.2.1	Cultural & creative services exports, % total trade	0.1	57	
7.2.2	National feature films/mn pop. 15–69	1.1	76	
7.2.3	Entertainment & Media market/th pop. 15–69	5.0	48	
7.2.4	Printing & other media, % manufacturing	0.8	71	
7.2.5	Creative goods exports, % total trade	0.8	49	
7.3	Online creativity	16.2	44	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	3.3	61	
7.3.2	Country-code TLDs/th pop. 15–69	14.6	33	
7.3.3	Wikipedia edits/mn pop. 15–69	19.7	49	
7.3.4	Mobile app creation/bn PPP$ GDP	33.7	24	◆

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.