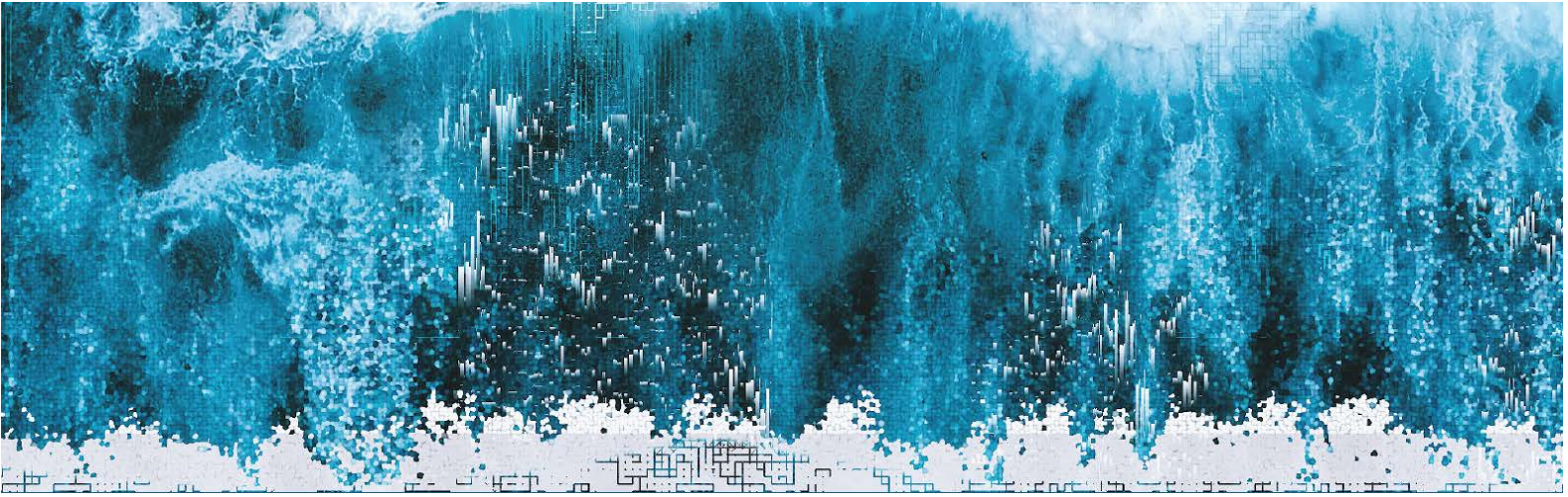


GLOBAL INNOVATION INDEX 2018

Republic of Moldova

48th The Republic of Moldova is ranked 48th in the GII 2018, moving up 6 positions from the previous year.

The GII indicators are grouped into innovation inputs and outputs. The following table reflects ranking of the Republic of Moldova over time[1].

Republic of Moldova's ranking over time

	GII	Input	Output	Efficiency
2018	48	79	37	6
2017	54	73	42	22
2016	46	74	36	4

- The Republic of Moldova ranks much better in innovation outputs compared to inputs.
- Its position in innovation inputs slightly deteriorates, ranking 79th, down 6 positions from 2017.
- This year the country moves up 5 positions and reaches the 37th spot in innovation outputs.
- The Republic of Moldova proves to be highly efficient in translating its innovation inputs into outputs, as demonstrated by the Innovation Efficiency Ratio which ranks 6th worldwide. The Efficiency Ratio is positively influenced by a much higher ranking in innovation outputs (37th) compared to its inputs (79th).

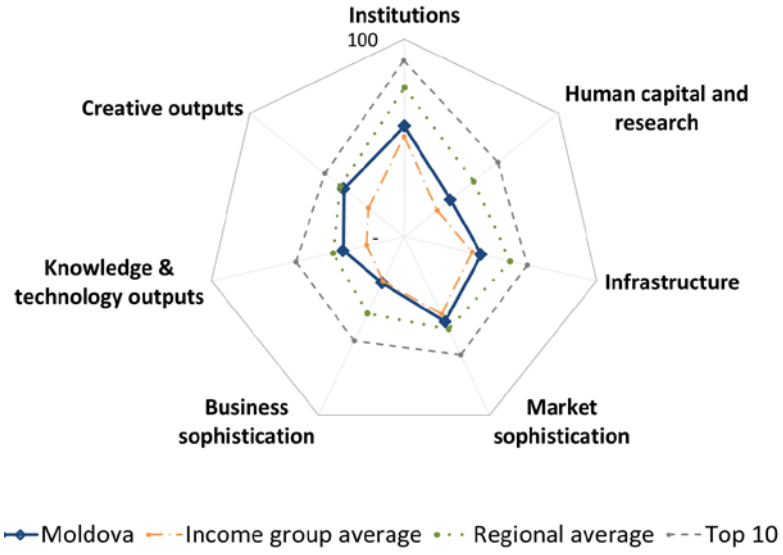
3rd The Republic of Moldova ranks 3rd among the 30 lower-middle-income countries in the GII 2018.

32nd The Republic of Moldova is ranked 32nd 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 Republic of Moldova to other lower-middle-income countries and the Europe region

Republic of Moldova's scores by area



Lower-middle-income countries

The Republic of Moldova has high scores in all the 7 GII areas – **Institutions, Human Capital & Research, Infrastructure, Market Sophistication, Business Sophistication, Knowledge & Technology Outputs,** and **Creative Outputs**, in which it scores above the average of the lower-middle-income group.

Top scores in areas such as *Business environment, Education, Information & Communication Technologies (ICTs), Investment, Knowledge workers, Knowledge creation,* and *Intangible assets* are behind these high rankings.

Europe region

Compared to other countries in the Europe region, the Republic of Moldova performs below-average in all the 7 GII areas.

Innovation profile of the Republic of Moldova

Strengths

- The **Innovation Efficiency Ratio** is the most important GII strength for the Republic of Moldova, in which it positions 6th globally.
- Most other GII strengths are accumulated on the **innovation output** side.
- In **Knowledge & Technology Outputs** (39th), strengths for the Republic of Moldova are found in the area *Knowledge creation* (16th) and in the indicators *Productivity growth* (19th), *ICT services exports* (17th), and *Utility models by origin*, where it ranks 1st globally.
- **Creative Outputs** (37th), the top-ranked GII area for the Republic of Moldova, present strengths in the area *Intangible assets* (5th) as well as in the indicators *Mobile app creation* (9th), *Trademarks by origin* and *Industrial designs by origin*, both ranking 4th globally.
- On the **innovation input** side, three of the four strengths are in **Human Capital & Research** (69th), where the Republic of Moldova shows strong ranks in the indicators *Expenditure on education* (13th), *Government funding per pupil* (7th), and *Pupil-teacher ratio* (17th).

- The other strength is identified in the indicator *Ease of starting a business* (20th) in **Institutions** (79th).

Weaknesses

- Relative GII weaknesses for the Republic of Moldova are mainly accrued among **innovation inputs**, scattered across the five GII input areas.

- In **Institutions** (79th), the country shows relatively weak performance in the indicator *Government effectiveness* (105th).

- In **Human Capital & Research** (69th), relative weaknesses lie in two indicators: *Global R&D companies expenditures* (40th) and *Quality of universities* (78th).

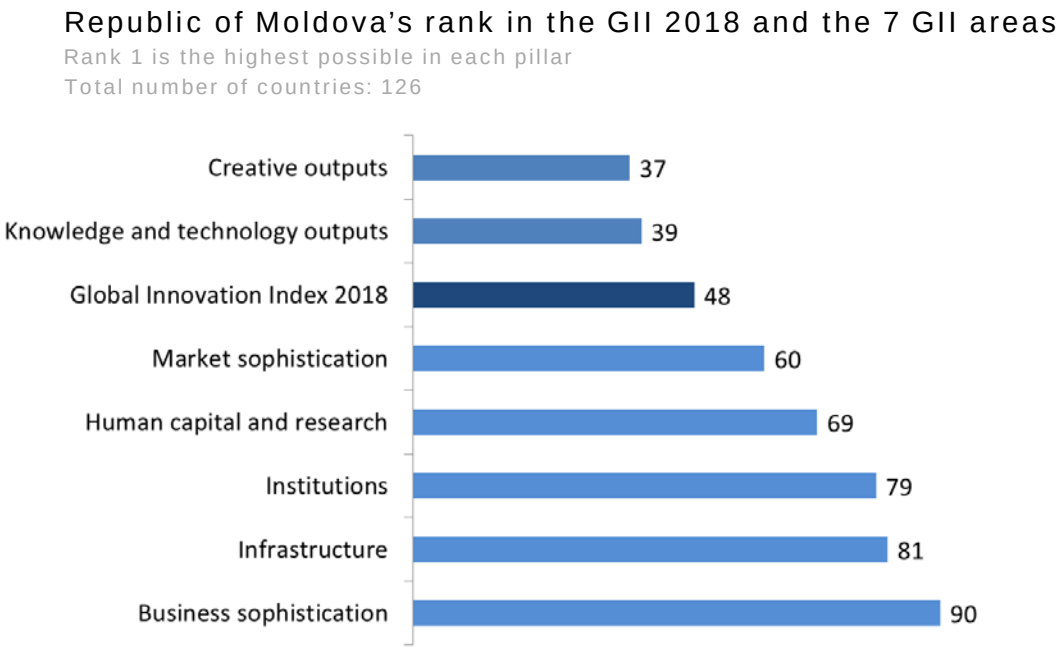
- In **Infrastructure** (81st), the area *Ecological sustainability* (111th) and its indicator *GDP per unit of energy use* (106th) are relatively weak.

- In **Market Sophistication** (60th), the Republic of Moldova is relatively weak in the area *Trade, competition & market scale* (106th) and its indicator *Domestic market scale* (122nd).

- Finally, in **Business Sophistication** (90th), the lowest-ranked GII area for the Republic of Moldova, the area *Innovation linkages* (117th) and the indicators *University-industry research collaboration* (110th), *State of cluster development* (118th), and *Research talent in business enterprise* (70th) present relatively weak performance

- On the **innovation output** side, three indicators are signaled as weak within **Creative Outputs** (37th): *ICTs & business model creation* (102nd), *National feature films* (96th), and *Creative goods exports* (111th).

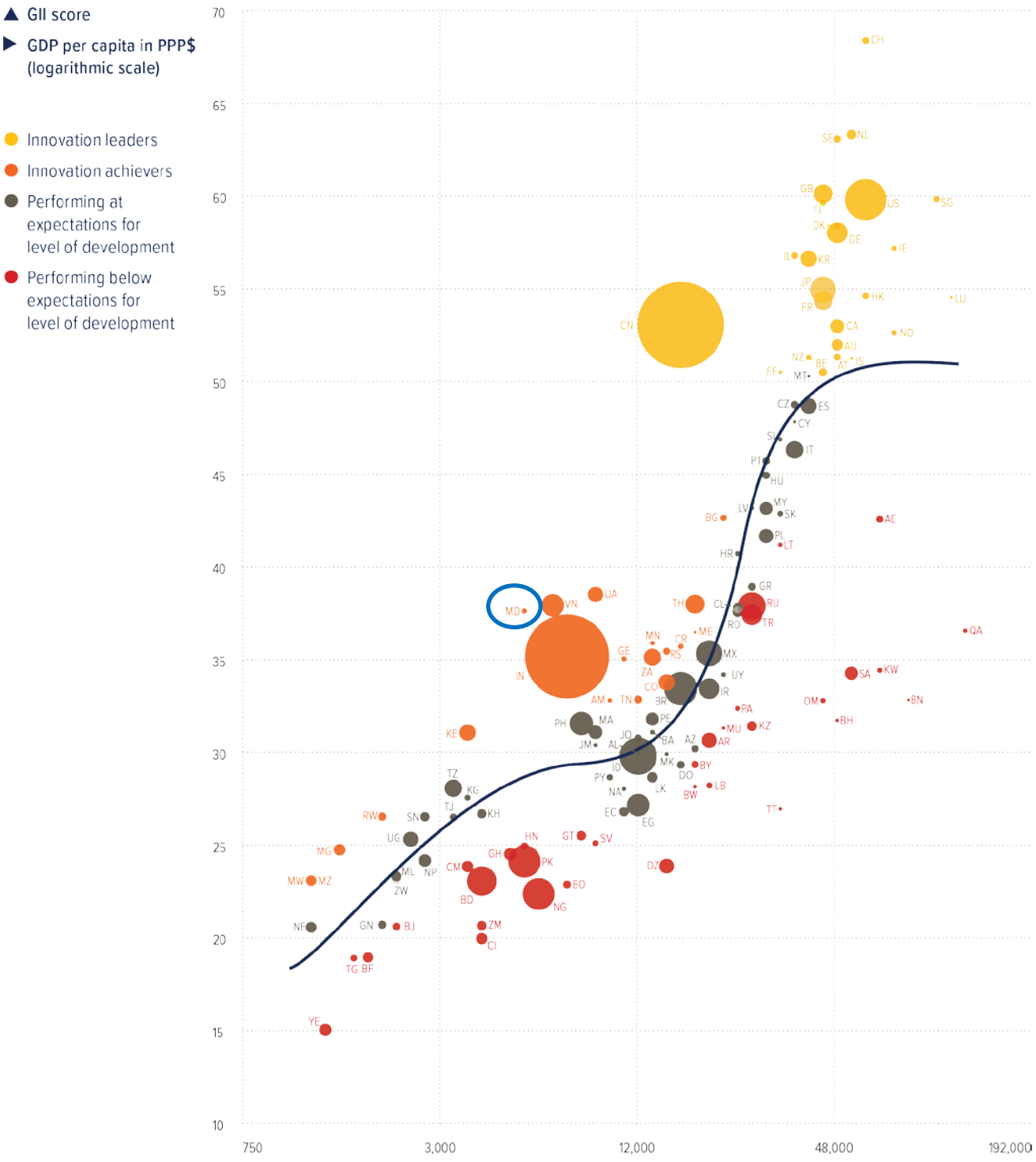
The following figure presents a summary of ranks for the Republic of Moldova in the 7 GII areas, as well as the overall rank in the GII 2018.



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, the Republic of Moldova performs well 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 the Republic of Moldova that is not available or that is outdated.

Missing Data

Code	Indicator	Country Year	Model Year	Source
4.2.2	Market capitalization, % GDP	n/a	2016	World Bank, World Development Indicators
4.2.3	Venture capital deals/bn PPP$ GDP	n/a	2017	Thomson Reuters, Thomson One Banker Private Equity, SDC Platinum
5.1.4	GERD financed by business, %	n/a	2015	UNESCO Institute for Statistics
5.2.4	JV–strategic alliance deals/bn PPP$ GDP	n/a	2017	Thomson Reuters, Thomson One Banker Private Equity, SDC Platinum
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
2.2.1	Tertiary enrolment, % gross	2015	2016	UNESCO Institute for Statistics
2.2.2	Graduates in science & engineering, %	2015	2016	UNESCO Institute for Statistics
7.3.3	Wikipedia edits/mn pop. 15–69	2014	2017	Wikimedia Foundation

MOLDOVA, REPUBLIC OF

GII 2018 rank **48**

Output rank	Input rank	Income	Region	Efficiency ratio	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2017 rank
37	79	Lower-middle	EUR	6 ●	4.1	20.1	5,660.7	54

		Score/Value	Rank	
	Institutions	**56.0**	**79**	
1.1	Political environment	39.3	99	
1.1.1	Political stability & safety*	58.2	79	
1.1.2	Government effectiveness*	29.9	105	○
1.2	Regulatory environment	55.6	96	
1.2.1	Regulatory quality*	41.1	77	
1.2.2	Rule of law*	29.2	95	
1.2.3	Cost of redundancy dismissal, salary weeks	23.7	93	
1.3	Business environment	73.2	49	◆
1.3.1	Ease of starting a business*	93.8	20	● ◆
1.3.2	Ease of resolving insolvency*	52.6	60	◆
	Human capital & research	**29.8**	**69**	
2.1	Education	55.0	39	◆
2.1.1	Expenditure on education, % GDP	6.7	13	● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	36.2	7	● ◆
2.1.3	School life expectancy, years[d]	11.6	91	
2.1.4	PISA scales in reading, maths & science	421.3	51	
2.1.5	Pupil-teacher ratio, secondary	9.2	17	● ◆
2.2	Tertiary education	30.8	67	
2.2.1	Tertiary enrolment, % gross[d]	41.2	66	
2.2.2	Graduates in science & engineering, %[d]	22.3	45	
2.2.3	Tertiary inbound mobility, %	3.6	56	
2.3	Research & development (R&D)	3.8	83	
2.3.1	Researchers, FTE/mn pop.	634.8	61	
2.3.2	Gross expenditure on R&D, % GDP	0.3	75	
2.3.3	Global R&D companies, top 3, mn US$	0.0	40	○ ◇
2.3.4	QS university ranking, average score top 3*	0.0	78	○ ◇
	Infrastructure	**39.9**	**81**	
3.1	Information & communication technologies (ICTs)	63.1	56	◆
3.1.1	ICT access*	75.6	37	◆
3.1.2	ICT use*	51.2	64	◆
3.1.3	Government's online service*	59.4	67	
3.1.4	E-participation*	66.1	49	
3.2	General infrastructure	30.2	99	
3.2.1	Electricity output, kWh/cap	1,715.8	83	
3.2.2	Logistics performance*	25.5	92	
3.2.3	Gross capital formation, % GDP	22.7	62	
3.3	Ecological sustainability	26.3	111	○
3.3.1	GDP/unit of energy use	4.9	106	○ ◇
3.3.2	Environmental performance*	52.0	90	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.8	74	
	Market sophistication	**47.5**	**60**	
4.1	Credit	29.5	89	
4.1.1	Ease of getting credit*	70.0	38	
4.1.2	Domestic credit to private sector, % GDP	30.6	98	
4.1.3	Microfinance gross loans, % GDP	0.4	38	
4.2	Investment	66.7	[10]	
4.2.1	Ease of protecting minority investors*	66.7	32	
4.2.2	Market capitalization, % GDP	n/a	n/a	
4.2.3	Venture capital deals/bn PPP$ GDP	n/a	n/a	
4.3	Trade, competition, & market scale	46.5	106	○ ◇
4.3.1	Applied tariff rate, weighted mean, %	3.5	71	
4.3.2	Intensity of local competition†	62.7	90	
4.3.3	Domestic market scale, bn PPP$	20.1	122	○ ◇

		Score/Value	Rank	
	Business sophistication	**25.9**	**90**	
5.1	Knowledge workers	34.8	67	
5.1.1	Knowledge-intensive employment, %	27.0	53	◆
5.1.2	Firms offering formal training, % firms	32.4	46	
5.1.3	GERD performed by business, % GDP	0.1	68	
5.1.4	GERD financed by business, %	n/a	n/a	
5.1.5	Females employed w/advanced degrees, %	14.1	44	
5.2	Innovation linkages	16.6	117	○
5.2.1	University/industry research collaboration†	28.3	110	○
5.2.2	State of cluster development†	27.3	118	○ ◇
5.2.3	GERD financed by abroad, %	4.2	63	
5.2.4	JV–strategic alliance deals/bn PPP$ GDP	n/a	n/a	
5.2.5	Patent families 2+ offices/bn PPP$ GDP	0.1	70	
5.3	Knowledge absorption	26.4	80	
5.3.1	Intellectual property payments, % total trade	0.5	60	
5.3.2	High-tech net imports, % total trade	7.7	68	
5.3.3	ICT services imports, % total trade	2.1	22	◆
5.3.4	FDI net inflows, % GDP	3.0	54	
5.3.5	Research talent, % in business enterprise	6.6	70	○
	Knowledge & technology outputs	**31.7**	**39**	◆
6.1	Knowledge creation	43.6	16	● ◆
6.1.1	Patents by origin/bn PPP$ GDP	4.8	25	◆
6.1.2	PCT patents by origin/bn PPP$ GDP	0.4	36	◆
6.1.3	Utility models by origin/bn PPP$ GDP	8.1	1	● ◆
6.1.4	Scientific & technical articles/bn PPP$ GDP	9.8	53	
6.1.5	Citable documents H index	4.7	96	
6.2	Knowledge impact	32.8	78	
6.2.1	Growth rate of PPP$ GDP/worker, %	2.9	19	●
6.2.2	New businesses/th pop. 15–64	1.8	54	
6.2.3	Computer software spending, % GDP	0.1	83	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	6.1	55	◆
6.2.5	High- & medium-high-tech manufactures, %	0.1	71	
6.3	Knowledge diffusion	18.8	69	
6.3.1	Intellectual property receipts, % total trade	0.2	42	
6.3.2	High-tech net exports, % total trade	0.5	83	
6.3.3	ICT services exports, % total trade	4.3	17	●
6.3.4	FDI net outflows, % GDP	0.3	80	
	Creative outputs	**39.1**	**37**	◆
7.1	Intangible assets	63.8	5	● ◆
7.1.1	Trademarks by origin/bn PPP$ GDP	160.8	4	● ◆
7.1.2	Industrial designs by origin/bn PPP$ GDP	18.5	4	● ◆
7.1.3	ICTs & business model creation†	50.6	102	○
7.1.4	ICTs & organizational model creation†	48.2	83	
7.2	Creative goods & services	13.2	83	
7.2.1	Cultural & creative services exports, % total trade	0.5	25	◆
7.2.2	National feature films/mn pop. 15–69	0.3	96	○
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	n/a	
7.2.4	Printing & other media, % manufacturing	1.1	55	
7.2.5	Creative goods exports, % total trade	0.0	111	○
7.3	Online creativity	15.4	46	◆
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	2.0	77	
7.3.2	Country-code TLDs/th pop. 15–69	2.2	64	◆
7.3.3	Wikipedia edits/mn pop. 15–69[d]	17.1	53	
7.3.4	Mobile app creation/bn PPP$ GDP	45.9	9	● ◆

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question.
[d] 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.