

GLOBAL INNOVATION INDEX 2018

Mongolia

53rd

Mongolia is ranked 53rd in the GII 2018.

The GII indicators are grouped into innovation inputs and outputs. The following table reflects Mongolia's rankings over time¹.

Mongolia's ranking over time

	GII	Input	Output	Efficiency
2018	53	66	47	30
2017	52	67	48	27
2016	55	66	51	47

- Over the last three years Mongolia notably improved innovation outputs, reaching 47th global position, up from 48th spot last year and 51st rank in 2016.
- Mongolia exhibits stability in innovation inputs, ranking 66-67 during 2016-2018.
- Mongolia is highly efficient in translating its innovation inputs into outputs. The country ranks 30th in the Innovation Efficiency Ratio, partly due to higher ranking innovation outputs (47th) compared to inputs (66th).

4th

Mongolia is ranked 4th among the 30 lower-middle income countries in the GII 2018.

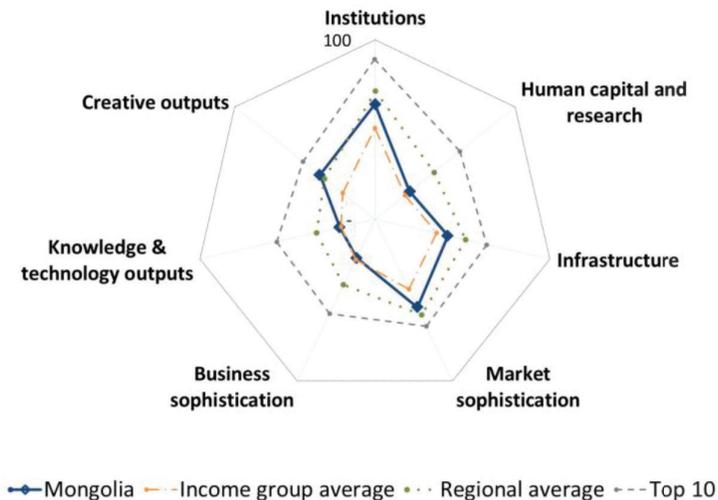
11th

Mongolia is ranked 11th among the 15 countries in South East Asia and Oceania.

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 Mongolia to other lower-middle income countries and the South East Asia and Oceania region

Mongolia's scores by area



Lower-middle income countries

Mongolia has high scores in 6 of the 7 GII areas – **Institutions, Human Capital & Research, Infrastructure, Market Sophistication, Knowledge & Technology Outputs, and Creative Outputs**, in which it scores above the average of the lower-middle income group in the GII 2018.

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

South East Asia and Oceania region

Compared to other countries in the South East Asia and Oceania region, Mongolia performs above average in **Creative Outputs**.

Mongolia's innovation profile

Strengths

- In **Innovation Inputs**, majority of Mongolia's GII strengths lie in **Market Sophistication** (32nd) – its highest ranking GII pillar. Mongolia demonstrates strong performance in the area *Credit* (10th) as well as in indicators *Ease of getting credit* (18th) and *Microfinance gross loans* – where it ranks 1st globally.
- In **Institutions** (56th), Mongolia exhibits GII strengths in two pillars: *Political stability & safety* (25th) and *Cost of redundancy dismissal* (20th).
- Indicator *Gross capital formation* (11th) is signaled as Mongolia's strength within **Infrastructure** (76th). Another indicator – *Firms offering formal training* (7th) – presents strong performance within **Business Sophistication** (101st).
- On the **Innovation Output** side, most of Mongolia's strengths are exhibited in **Creative Outputs** (34th), where it performs strongly in the area *Intangible assets* (6th). At the indicator level, Mongolia demonstrates GII strengths in *Industrial designs by origin* (14th), *National feature films* (5th), *Printing & other media* (16th) and *Trademarks by origin* – ranking 1st in the world.
- In **Knowledge & Technology Outputs** (71st), Mongolia shows GII strengths in the area *Knowledge creation* (22nd), and in indicator *Utility models by origin* – where it positions 1st globally.

Weaknesses

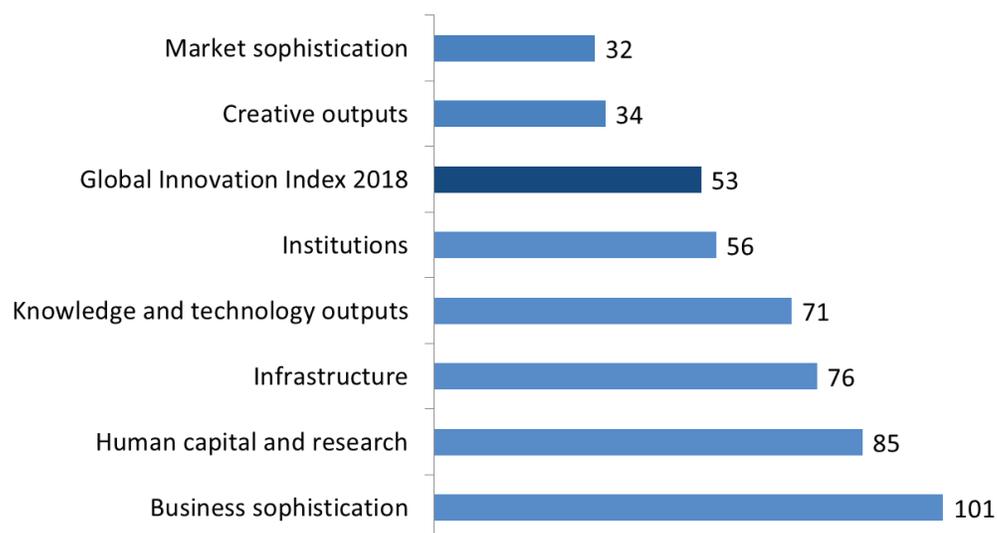
- Mongolia's relative weaknesses are mainly accrued in **Innovation Inputs**, among the four GII areas.
- **Business Sophistication** (101st) is the lowest ranking GII pillar for Mongolia. Country performs weakly in its areas *Innovation linkages* (119th) and *Knowledge absorption* (125th). At the indicator level, relative GII weaknesses lie in indicators *R&D performed by business* (83rd), *University-industry research collaboration* (113th), *State of cluster development* (117th), and *FDI net inflows* (126th).
- In **Human Capital & Research** (85th), GII weaknesses are found in two indicators: *Global R&D companies' average expenditure* (40th) and *QS university ranking* (78th).
- Indicator *ISO 14001 environmental certificates* (118th) is signaled as relative GII weakness in **Infrastructure** (76th). Another indicator – *Intensity of local competition* (108th) presents relatively weak performance in **Market Sophistication** (32nd).
- On the **Innovation Output** side, Mongolia exhibits relative weaknesses in following two indicators.
- *ISO 9001 quality certificates* (118th) is highlighted as a single GII weakness within the **Knowledge & Technology Outputs** (71st).
- In **Creative Outputs** (34th), Mongolia performs relatively weakly in *Cultural & creative services exports* (85th).

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

Mongolia's rank in the GII 2018 and the 7 GII areas

Rank 1 is the highest possible in each pillar

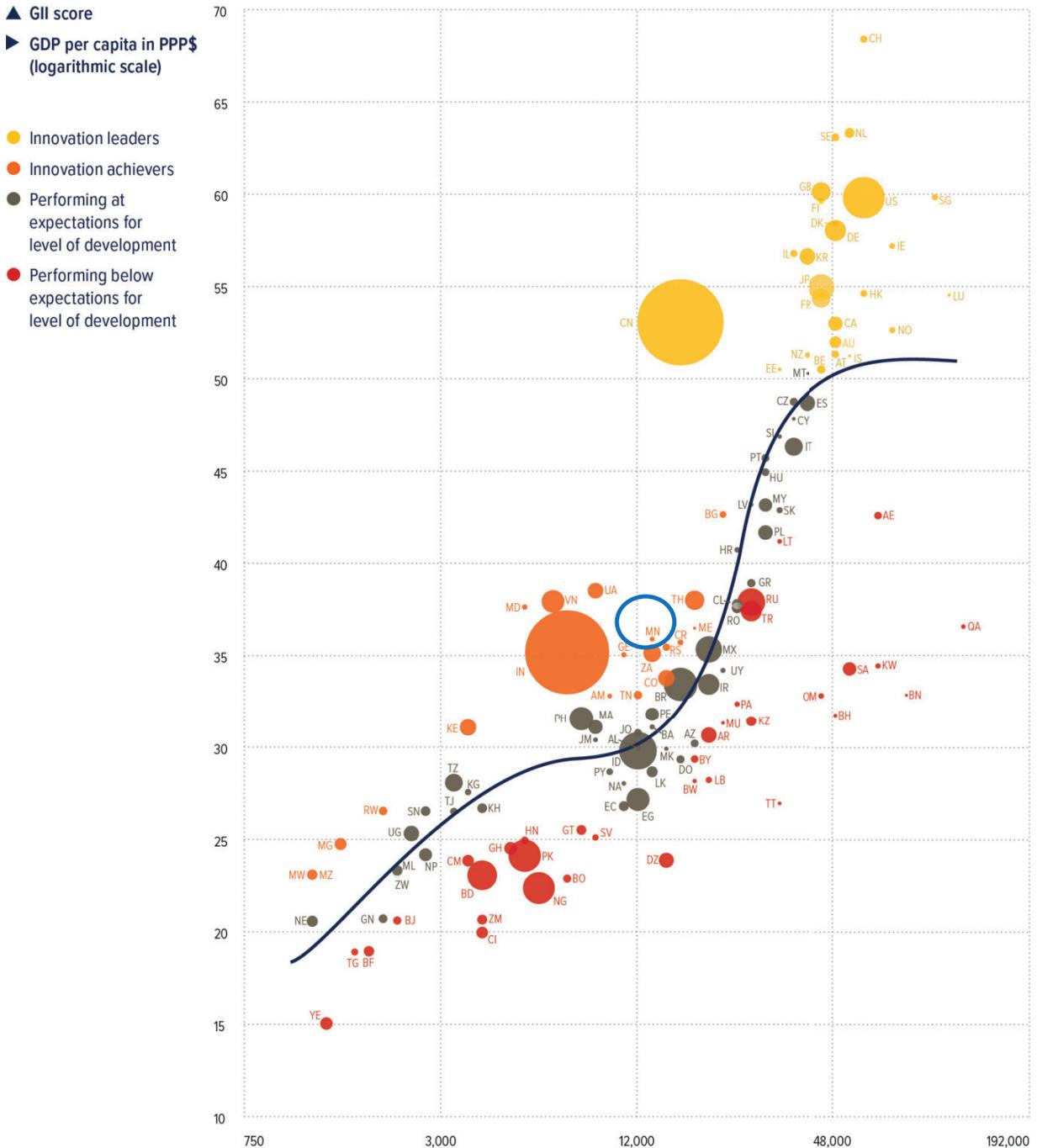
Total number of countries: 126



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 than what would be expected based on their income level. Countries below the line are Innovation Under-performers relative to GDP.

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



Missing and Outdated Data

More and better data improve 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 Mongolia that is not available or that is outdated.

Missing Data

Code	Indicator	Country Year	Model Year	Source
2.1.4	PISA scales in reading, maths & science	n/a	2015	OECD Programme for International Student Assessment (PISA)
2.3.1	Researchers, FTE/mn pop.	n/a	2016	UNESCO Institute for Statistics (UIS)
4.2.3	Venture capital deals/bn PPP\$ GDP	n/a	2017	Thomson Reuters, Thomson One Banker Private Equity, SDC Platinum
5.3.5	Research talent, % in business enterprise	n/a	2016	UNESCO Institute for Statistics (UIS)
6.2.1	Growth rate of PPP\$ GDP/worker, %	n/a	2016	The Conference Board, Total Economy Database
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
2.2.2	Graduates in science & engineering, %	2011	2016	UNESCO Institute for Statistics (UIS)
4.2.2	Market capitalization, % GDP	2012	2016	World Bank, World Development Indicators
4.3.1	Applied tariff rate, weighted mean, %	2015	2016	World Bank, World Development Indicators
6.1.2	PCT patents by origin/bn PPP\$ GDP	2016	2017	WIPO, Intellectual Property Statistics
6.2.2	New businesses/th pop. 15–64	2014	2016	World Bank, Doing Business (Entrepreneurship)
7.2.1	Cultural & creative services exports, % total trade	2007	2016	WTO, Trade in Commercial Services
7.3.3	Wikipedia edits/mn pop. 15–69	2014	2017	Wikimedia Foundation



Output rank	Input rank	Income	Region	Efficiency ratio	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2017 rank
47	66	Lower-middle	SEAO	30	3.1	38.4	12,978.6	52

		Score/Value	Rank			Score/Value	Rank
	Institutions	64.2	56 ◆		Business sophistication	23.9	101
1.1	Political environment	56.2	55 ◆	5.1	Knowledge workers.....	41.8	52 ◆
1.1.1	Political stability & safety*	83.6	25 ●◆	5.1.1	Knowledge-intensive employment, %.....	24.9	58
1.1.2	Government effectiveness*	42.5	76	5.1.2	Firms offering formal training, % firms.....	60.9	7 ●◆
1.2	Regulatory environment.....	69.5	52 ◆	5.1.3	GERD performed by business, % GDP.....	0.0	83 ○
1.2.1	Regulatory quality*	42.1	74	5.1.4	GERD financed by business, %.....	4.9	78
1.2.2	Rule of law*	37.8	74	5.1.5	Females employed w/advanced degrees, %.....	18.0	28 ◆
1.2.3	Cost of redundancy dismissal, salary weeks.....	8.7	20 ●◆	5.2	Innovation linkages	16.2	119 ○
1.3	Business environment.....	66.8	70	5.2.1	University/industry research collaboration†	26.1	113 ○◇
1.3.1	Ease of starting a business*	90.1	50	5.2.2	State of cluster development†	29.6	117 ○◇
1.3.2	Ease of resolving insolvency*	43.5	83	5.2.3	GERD financed by abroad, %.....	2.1	73
				5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....	0.1	33
				5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....	0.0	87
	Human capital & research	24.8	85	5.3	Knowledge absorption.....	13.8	125 ○◇
2.1	Education.....	45.7	70	5.3.1	Intellectual property payments, % total trade.....	0.4	73
2.1.1	Expenditure on education, % GDP.....	5.2	44	5.3.2	High-tech net imports, % total trade.....	5.3	106
2.1.2	Government funding/pupil, secondary, % GDP/cap.....	14.4	76	5.3.3	ICT services imports, % total trade.....	1.6	36 ◆
2.1.3	School life expectancy, years.....	15.5	39 ◆	5.3.4	FDI net inflows, % GDP.....	(11.2)	126 ○◇
2.1.4	PISA scales in reading, maths & science	n/a	n/a	5.3.5	Research talent, % in business enterprise	n/a	n/a
2.1.5	Pupil-teacher ratio, secondary	14.1	60				
2.2	Tertiary education.....	27.3	75		Knowledge & technology outputs	20.4	71
2.2.1	Tertiary enrolment, % gross.....	64.6	32 ◆	6.1	Knowledge creation.....	38.7	22 ●◆
2.2.2	Graduates in science & engineering, % ⁽²⁾	18.9	66	6.1.1	Patents by origin/bn PPP\$ GDP.....	3.0	33 ◆
2.2.3	Tertiary inbound mobility, %.....	0.9	82	6.1.2	PCT patents by origin/bn PPP\$ GDP ⁽²⁾	0.0	91
2.3	Research & development (R&D).....	1.3	100	6.1.3	Utility models by origin/bn PPP\$ GDP.....	5.5	1 ●◆
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	4.8	81
2.3.2	Gross expenditure on R&D, % GDP.....	0.2	91	6.1.5	Citable documents H index.....	3.7	105
2.3.3	Global R&D companies, top 3, mn US\$.....	0.0	40 ○◇	6.2	Knowledge impact.....	10.7	114 ○
2.3.4	QS university ranking, average score top 3*	0.0	78 ○◇	6.2.1	Growth rate of PPP\$ GDP/worker, %.....	n/a	n/a
				6.2.2	New businesses/th pop. 15-64 ⁽²⁾	6.3	23 ◆
				6.2.3	Computer software spending, % GDP.....	0.2	80
				6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	0.5	118 ○◇
				6.2.5	High- & medium-high-tech manufactures, %.....	0.1	88
	Infrastructure	41.4	76	6.3	Knowledge diffusion.....	11.8	110
3.1	Information & communication technologies (ICTs).....	52.3	78	6.3.1	Intellectual property receipts, % total trade.....	0.0	71
3.1.1	ICT access*	47.4	91	6.3.2	High-tech net exports, % total trade	0.7	72
3.1.2	ICT use*.....	39.0	81	6.3.3	ICT services exports, % total trade.....	0.3	106
3.1.3	Government's online service*.....	51.4	80	6.3.4	FDI net outflows, % GDP.....	0.4	75
3.1.4	E-participation*.....	71.2	39 ◆				
3.2	General infrastructure.....	41.7	49 ◆		Creative outputs	39.7	34 ◆
3.2.1	Electricity output, kWh/cap.....	1,862.5	79	7.1	Intangible assets.....	62.5	6 ●◆
3.2.2	Logistics performance*.....	20.5	102	7.1.1	Trademarks by origin/bn PPP\$ GDP.....	206.3	1 ●◆
3.2.3	Gross capital formation, % GDP.....	34.2	11 ●◆	7.1.2	Industrial designs by origin/bn PPP\$ GDP.....	8.4	14 ●◆
3.3	Ecological sustainability.....	30.4	91	7.1.3	ICTs & business model creation†.....	55.1	87
3.3.1	GDP/unit of energy use.....	6.7	86	7.1.4	ICTs & organizational model creation†	42.6	102
3.3.2	Environmental performance*	57.5	72	7.2	Creative goods & services	30.4	39 ◆
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....	0.1	118 ○	7.2.1	Cultural & creative services exports, % total trade ⁽²⁾	0.0	85 ○
	Market sophistication	54.4	32 ◆	7.2.2	National feature films/mn pop. 15-69.....	20.0	5 ●◆
4.1	Credit.....	68.0	10 ●◆	7.2.3	Entertainment & Media market/th pop. 15-69.....	n/a	n/a
4.1.1	Ease of getting credit*	80.0	18 ●	7.2.4	Printing & other media, % manufacturing.....	2.1	16 ●◆
4.1.2	Domestic credit to private sector, % GDP.....	58.6	57	7.2.5	Creative goods exports, % total trade.....	0.1	95
4.1.3	Microfinance gross loans, % GDP.....	16.5	1 ●◆	7.3	Online creativity	3.4	78
4.2	Investment.....	46.4	44	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....	0.6	100
4.2.1	Ease of protecting minority investors*	66.7	32	7.3.2	Country-code TLDs/th pop. 15-69.....	2.3	62 ◆
4.2.2	Market capitalization, % GDP ⁽²⁾	13.6	74	7.3.3	Wikipedia edits/mn pop. 15-69 ⁽²⁾	15.7	58
4.2.3	Venture capital deals/bn PPP\$ GDP.....	n/a	n/a	7.3.4	Mobile app creation/bn PPP\$ GDP.....	0.3	87
4.3	Trade, competition, & market scale.....	48.7	103				
4.3.1	Applied tariff rate, weighted mean, % ⁽²⁾	4.6	85				
4.3.2	Intensity of local competition†	58.2	108 ○◇				
4.3.3	Domestic market scale, bn PPP\$.....	38.4	103				

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

⁽²⁾ 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 &&& of this appendix for details.