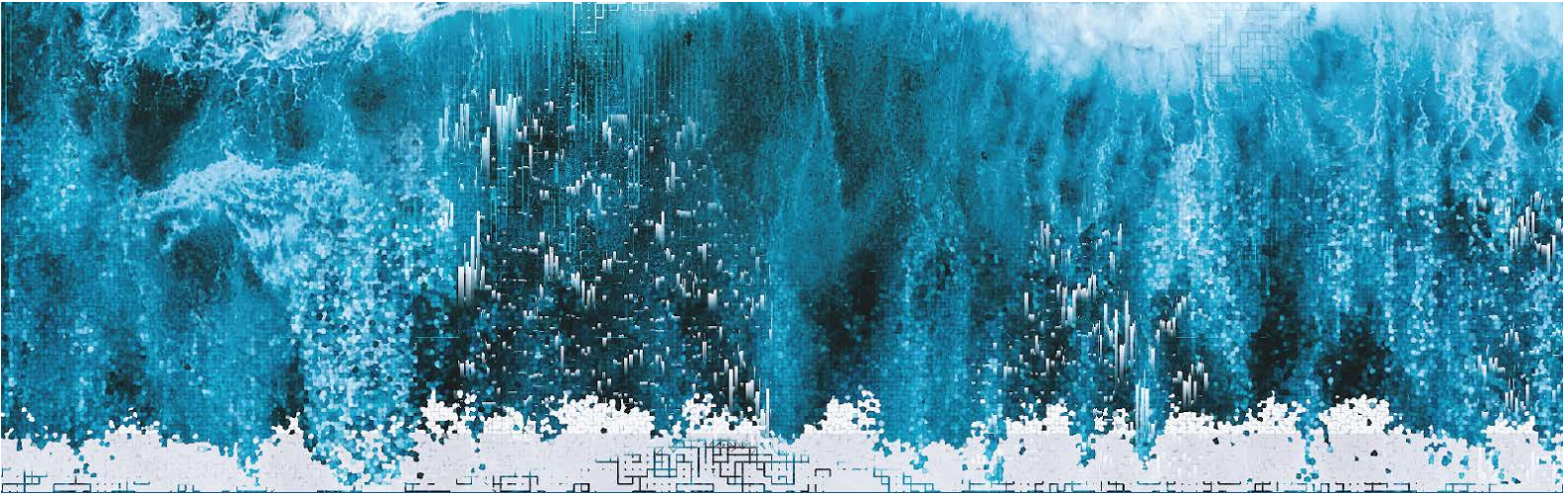


GLOBAL INNOVATION INDEX 2018

Islamic Republic of Iran

65th The Islamic Republic of Iran is ranked 65th in the GII 2018, rising 10 positions from last year.

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

Islamic Republic of Iran's ranking over time

	GII	Input	Output	Efficiency
2018	65	93	46	11
2017	75	98	57	16
2016	78	90	72	51

- The Islamic Republic of Iran has a much better performance in innovation outputs than in inputs. Over the last three years, it has improved significantly in innovation outputs and reached the 46th position this year, up from the 57th position in 2017 and the 72nd in 2016.
- Innovation inputs also improve this year, albeit they are still at the 93rd spot.
- The Islamic Republic of Iran is highly efficient in translating its innovation inputs into outputs. This is demonstrated by the Innovation Efficiency Ratio which shows a positive trend, jumping from the 51st position in 2016 to the 11th this year. The Efficiency Ratio is positively influenced by a much higher ranking in innovation outputs (46th) compared to inputs (93rd).

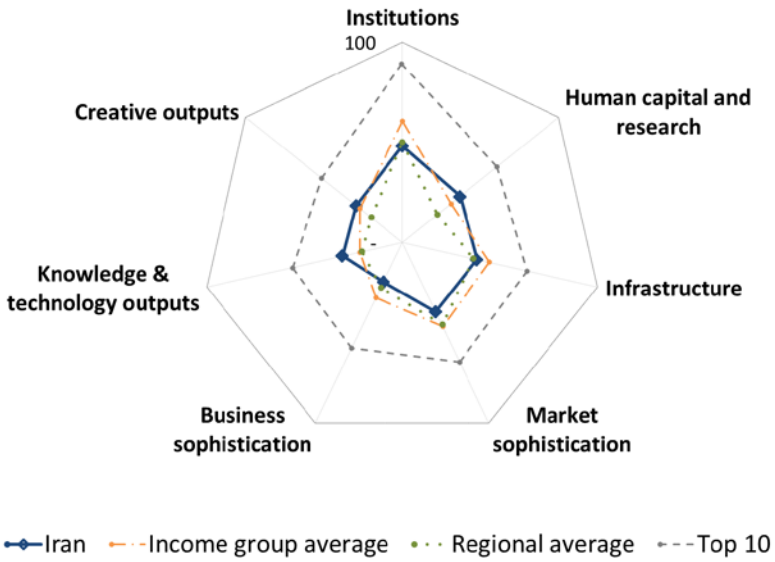
16th The Islamic Republic of Iran is ranked 16th among the 34 upper-middle-income countries.

2nd The Islamic Republic of Iran is 2nd among the 9 countries in Central and Southern Asia.

[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 Islamic Republic of Iran to other upper-middle-income countries and the Central and Southern Asia region

The Islamic Republic of Iran's scores by area



Upper-middle-income countries

The Islamic Republic of Iran has high scores in 3 out of the 7 GII areas – **Human Capital & Research, Knowledge & Technology Outputs,** and **Creative Outputs**, in which it scores above the average of the upper-middle-income group.

Top scores in the areas *Tertiary education, Knowledge impact,* and *Intangible assets* are behind these high rankings.

Central and Southern Asia region

Compared to other countries in the Central and Southern Asia region, the Islamic Republic of Iran performs above average in 4 out of the 7 GII areas: Human Capital & Research, Infrastructure, Knowledge & Technology Outputs, and Creative Outputs.

The innovation profile of the Islamic Republic of Iran

Strengths

- The major strength for the Islamic Republic of Iran is the **Innovation Efficiency Ratio** in which it is number 11 in the world.

- Apart from that, most of the strengths on the **innovation input** side are found in **Human Capital & Research** (45th), where the country demonstrates strong performance in the area *Tertiary education* (3rd), as well as in indicators *Tertiary enrolment* (24th) and *Graduates in science and engineering* (3rd).

- The Islamic Republic of Iran also shows strengths in **Infrastructure** (87th) in the area *General infrastructure* (39th) and in indicator *Gross capital formation* (8th). In **Market Sophistication** (106th), Iran has particular strength in indicator *Domestic market scale* (18th).

- On the **innovation output** side, most of the Islamic Republic of Iran's strengths are exhibited in **Knowledge & Technology Outputs** (41st), where two of its main elements – *Knowledge creation* (35th) and *Knowledge impact* (12th) – are marked as strengths. At the indicator level, strengths are shown in *Patents by origin* (14th), *Scientific and technical publications* (33rd), *Productivity growth* (1st), and *High- and medium-high-tech manufactures* (32nd).

- In **Creative Outputs** (59th), the Islamic Republic of Iran demonstrates strength in the area *Intangible assets* (26th) as well as in indicators *Trademarks by origin* (7th) and *Industrial designs by origin* (12th).

Weaknesses

- Most relative weaknesses for the Islamic Republic of Iran are in the input side of the GII. Several of them are found in **Market Sophistication** (106th), where it performs relatively weakly in the area *Investment* (125th) as well as in indicators *Ease of protecting minority investors* (123rd), *Applied tariff rate* (125th), and *Intensity of local competition* (116th).

- In **Business Sophistication** (108th), weak performance is shown in the area *Knowledge absorption* (122nd) and indicators *Joint venture–strategic alliance deals* (112th) and *Patent families filed in two or more offices* (110th).

- Other weaknesses on the innovation input side are in **Institutions** (110th), in indicators *Regulatory quality* (124th) and *Ease of resolving insolvency* (125th). *Global R&D companies expenditures* (40th) is the only relative weakness in **Human Capital & Research** (45th).

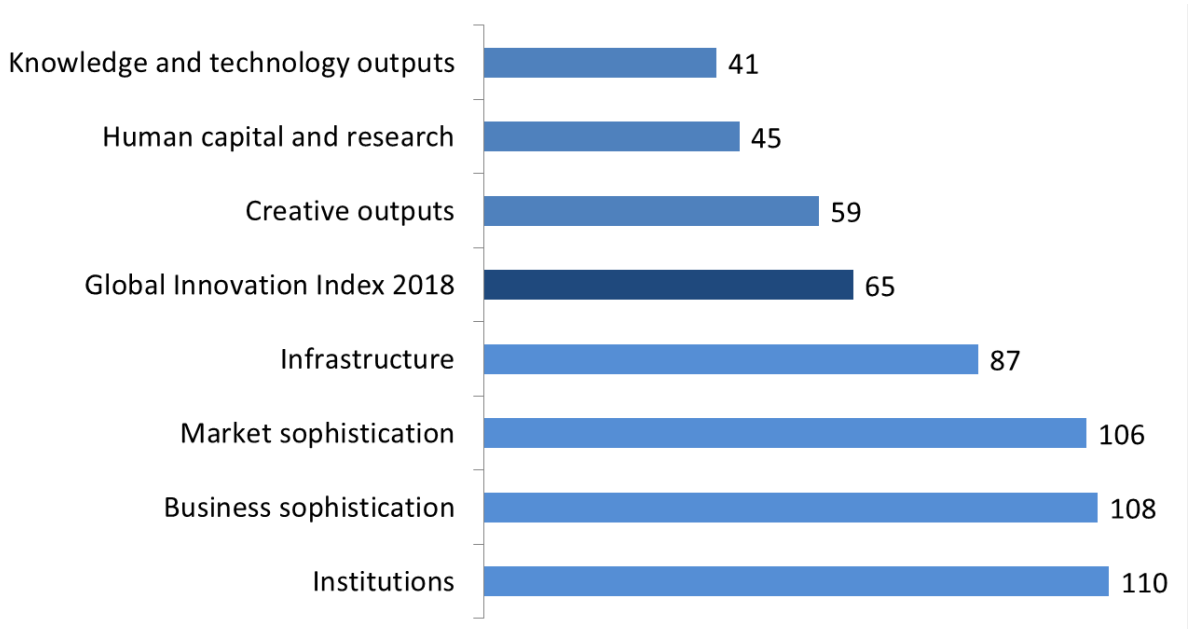
- On the **innovation output** side, the area *Knowledge diffusion* (123rd) is highlighted as a weakness in **Knowledge & Technology Outputs** (41st). Indicators *Printing & other media* (93rd) and *Mobile app creation* (95th) are the only two weaknesses found in **Creative Outputs** (59th).

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

The Islamic Republic of Iran's rank in the GII 2018 and the 7 GII areas

Rank 1 is the highest possible in each pillar

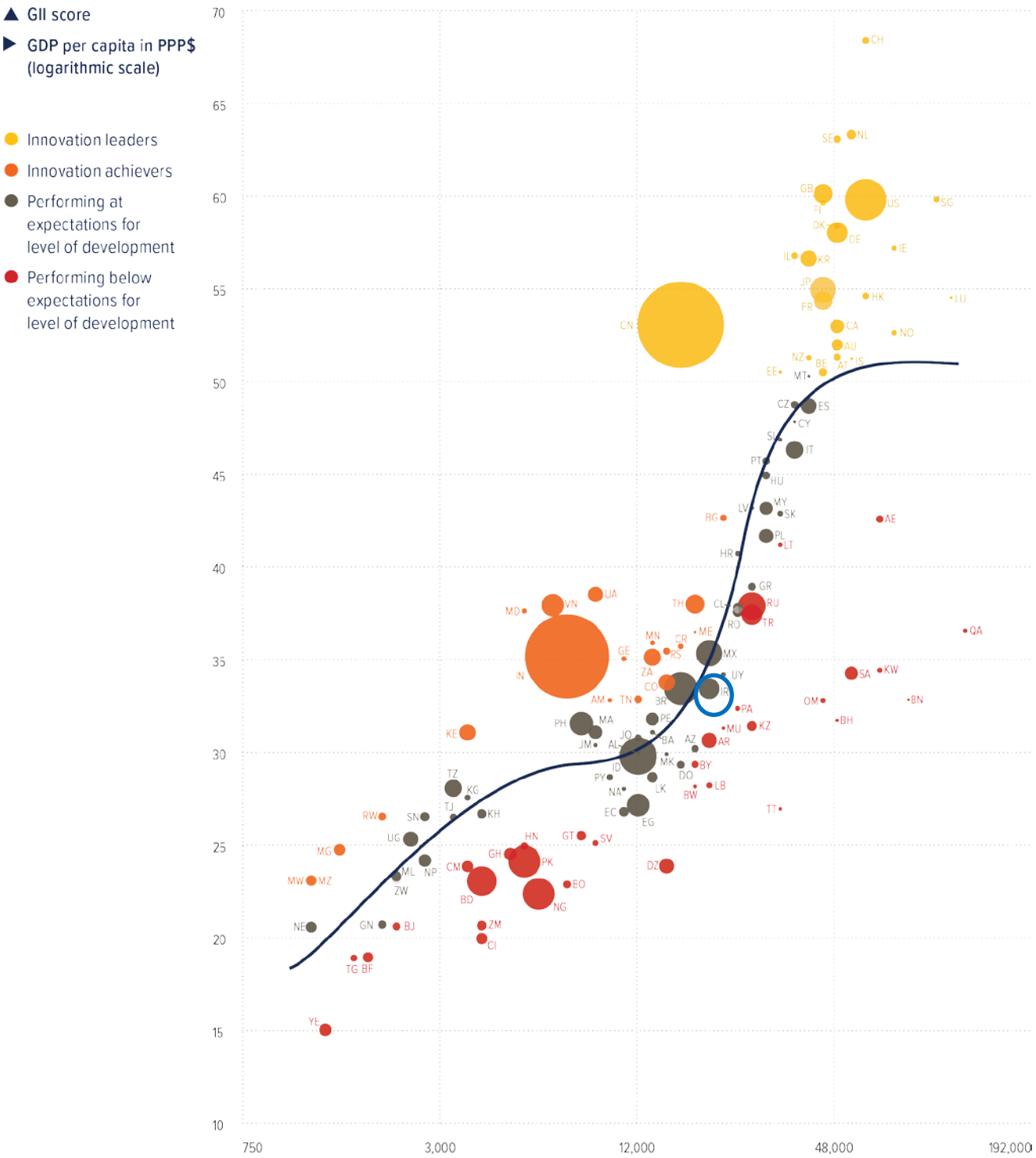
Total number of countries: 126



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 Islamic Republic of Iran 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 the Islamic Republic of Iran 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 PISA
4.1.3	Microfinance gross loans, % GDP	n/a	2016	Microfinance Information Exchange, Mix Market
4.2.3	Venture capital deals/bn PPP$ GDP	n/a	2017	Thomson Reuters, Thomson One Banker Private Equity, SDC Platinum
5.1.2	Firms offering formal training, % firms	n/a	2013	World Bank, Enterprise Surveys
5.1.5	Females employed w/advanced degrees, %	n/a	2016	ILO, ILOSTAT
5.2.3	GERD financed by abroad, %	n/a	2015	UNESCO Institute for Statistics
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2016	WIPO, Intellectual Property Statistics
6.2.2	New businesses/th pop. 15–64	n/a	2016	World Bank, Doing Business
7.2.1	Cultural & creative services exports, % total trade	n/a	2016	WTO, Trade in Commercial Services

Outdated Data

Code	Indicator	Country Year	Model Year	Source
2.1.3	School life expectancy, years	2015	2016	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2015	2016	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2013	2016	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	2013	2016	UNESCO Institute for Statistics
4.3.1	Applied tariff rate, weighted mean, %	2011	2016	World Bank, World Development Indicators
5.1.3	GERD performed by business, % GDP	2008	2016	UNESCO Institute for Statistics
5.1.4	GERD financed by business, %	2008	2015	UNESCO Institute for Statistics
5.3.1	Intellectual property payments, % total trade	2014	2016	WTO, Trade in Commercial Services
5.3.2	High-tech net imports, % total trade	2011	2016	UN COMTRADE
5.3.3	ICT services imports, % total trade	2014	2016	WTO, Trade in Commercial Services
5.3.5	Research talent, % in business enterprise	2008	2016	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	2014	2016	WTO, Trade in Commercial Services
6.3.2	High-tech net exports, % total trade	2011	2016	UN COMTRADE
6.3.3	ICT services exports, % total trade	2014	2016	WTO, Trade in Commercial Services
7.2.4	Printing & other media, % manufacturing	2014	2015	UNIDO, Industrial Statistics
7.2.5	Creative goods exports, % total trade	2011	2016	UN COMTRADE

IRAN, ISLAMIC REPUBLIC OF

GII 2018 rank **65**

Output rank	Input rank	Income	Region	Efficiency ratio	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2017 rank
46	93	Upper-middle	CSA	11 ●	81.2	1,630.9	20,199.6	75

		Score/Value	Rank	
	Institutions	**48.3**	**110**	◇
1.1	Political environment	42.5	87	
1.1.1	Political stability & safety*	47.4	98	
1.1.2	Government effectiveness*	40.1	84	
1.2	Regulatory environment	47.7	109	◇
1.2.1	Regulatory quality*	12.6	124	○ ◇
1.2.2	Rule of law*	24.4	105	◇
1.2.3	Cost of redundancy dismissal, salary weeks	23.1	91	
1.3	Business environment	54.5	114	◇
1.3.1	Ease of starting a business*	85.2	76	
1.3.2	Ease of resolving insolvency*	23.9	125	○ ◇
	Human capital & research	**36.7**	**45**	
2.1	Education	37.5	93	
2.1.1	Expenditure on education, % GDP	3.4	97	
2.1.2	Government funding/pupil, secondary, % GDP/cap	14.5	74	
2.1.3	School life expectancy, years[d]	14.9	54	
2.1.4	PISA scales in reading, maths & science	n/a	n/a	
2.1.5	Pupil-teacher ratio, secondary[d]	17.0	75	
2.2	Tertiary education	63.2	3	● ◆
2.2.1	Tertiary enrolment, % gross	68.8	24	●
2.2.2	Graduates in science & engineering, %	43.9	3	● ◆
2.2.3	Tertiary inbound mobility, %	0.4	92	
2.3	Research & development (R&D)	9.6	58	
2.3.1	Researchers, FTE/mn pop.[d]	671.0	59	
2.3.2	Gross expenditure on R&D, % GDP[d]	0.3	83	
2.3.3	Global R&D companies, top 3, mn US$	0.0	40	○ ◇
2.3.4	QS university ranking, average score top 3*	24.6	45	
	Infrastructure	**38.3**	**87**	◇
3.1	Information & communication technologies (ICTs)	39.1	97	◇
3.1.1	ICT access*	67.4	61	
3.1.2	ICT use*	35.4	87	◇
3.1.3	Government's online service*	33.3	104	◇
3.1.4	E-participation*	20.3	113	◇
3.2	General infrastructure	46.8	39	●
3.2.1	Electricity output, kWh/cap	3,547.4	55	
3.2.2	Logistics performance*	24.9	95	
3.2.3	Gross capital formation, % GDP	36.5	8	● ◆
3.3	Ecological sustainability	29.1	98	◇
3.3.1	GDP/unit of energy use	5.3	103	◇
3.3.2	Environmental performance*	58.2	70	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.5	86	
	Market sophistication	**38.3**	**106**	◇
4.1	Credit	38.6	58	
4.1.1	Ease of getting credit*	50.0	79	
4.1.2	Domestic credit to private sector, % GDP	66.1	48	
4.1.3	Microfinance gross loans, % GDP	n/a	n/a	
4.2	Investment	26.0	125	○ ◇
4.2.1	Ease of protecting minority investors*	33.3	123	○ ◇
4.2.2	Market capitalization, % GDP	25.3	58	
4.2.3	Venture capital deals/bn PPP$ GDP	n/a	n/a	
4.3	Trade, competition, & market scale	50.4	100	
4.3.1	Applied tariff rate, weighted mean, %[d]	15.2	125	○ ◇
4.3.2	Intensity of local competition†	54.6	116	○ ◇
4.3.3	Domestic market scale, bn PPP$	1,630.9	18	● ◆

		Score/Value	Rank	
	Business sophistication	**21.9**	**108**	◇
5.1	Knowledge workers	23.9	94	◇
5.1.1	Knowledge-intensive employment, %	17.8	81	
5.1.2	Firms offering formal training, % firms	n/a	n/a	
5.1.3	GERD performed by business, % GDP[d]	0.1	66	
5.1.4	GERD financed by business, %[d]	30.9	53	
5.1.5	Females employed w/advanced degrees, %	n/a	n/a	
5.2	Innovation linkages	25.5	75	
5.2.1	University/industry research collaboration†	36.3	89	
5.2.2	State of cluster development†	45.4	69	
5.2.3	GERD financed by abroad, %	n/a	n/a	
5.2.4	JV–strategic alliance deals/bn PPP$ GDP	0.0	112	○ ◇
5.2.5	Patent families 2+ offices/bn PPP$ GDP	0.0	110	○
5.3	Knowledge absorption	16.3	122	○ ◇
5.3.1	Intellectual property payments, % total trade[d]	0.2	88	
5.3.2	High-tech net imports, % total trade[d]	4.0	116	
5.3.3	ICT services imports, % total trade[d]	0.6	91	
5.3.4	FDI net inflows, % GDP	0.6	113	◇
5.3.5	Research talent, % in business enterprise[d]	15.0	59	
	Knowledge & technology outputs	**30.8**	**41**	
6.1	Knowledge creation	28.6	35	● ◆
6.1.1	Patents by origin/bn PPP$ GDP	9.6	14	● ◆
6.1.2	PCT patents by origin/bn PPP$ GDP	0.1	76	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific & technical articles/bn PPP$ GDP	17.2	33	● ◆
6.1.5	Citable documents H index	17.0	41	
6.2	Knowledge impact	53.6	12	● ◆
6.2.1	Growth rate of PPP$ GDP/worker, %	8.4	1	● ◆
6.2.2	New businesses/th pop. 15–64	n/a	n/a	
6.2.3	Computer software spending, % GDP	0.2	61	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	1.7	94	
6.2.5	High- & medium-high-tech manufactures, %[d]	0.3	32	●
6.3	Knowledge diffusion	10.1	123	○ ◇
6.3.1	Intellectual property receipts, % total trade[d]	0.0	84	
6.3.2	High-tech net exports, % total trade[d]	0.5	81	
6.3.3	ICT services exports, % total trade[d]	0.2	116	
6.3.4	FDI net outflows, % GDP	0.0	114	
	Creative outputs	**29.5**	**59**	
7.1	Intangible assets	53.7	26	● ◆
7.1.1	Trademarks by origin/bn PPP$ GDP	114.6	7	● ◆
7.1.2	Industrial designs by origin/bn PPP$ GDP	10.2	12	● ◆
7.1.3	ICTs & business model creation†	58.1	72	
7.1.4	ICTs & organizational model creation†	48.9	80	
7.2	Creative goods & services	7.7	102	◇
7.2.1	Cultural & creative services exports, % total trade	n/a	n/a	
7.2.2	National feature films/mn pop. 15–69	1.5	68	
7.2.3	Entertainment & Media market/th pop. 15–69	1.7	54	◇
7.2.4	Printing & other media, % manufacturing[d]	0.2	93	○ ◇
7.2.5	Creative goods exports, % total trade[d]	0.5	57	
7.3	Online creativity	3.2	80	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	1.8	80	
7.3.2	Country-code TLDs/th pop. 15–69	4.5	53	
7.3.3	Wikipedia edits/mn pop. 15–69	9.4	64	
7.3.4	Mobile app creation/bn PPP$ GDP	0.0	95	○

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.