

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2019 rank	
130	131	Low	NAWA	29.2	72.2	1,990.8	129	
		Score/Value	Rank				Score/Value	Rank
INSTITUTIONS 27.7 131 ○ ◇				BUSINESS SOPHISTICATION 18.7 [104]				
1.1	Political environment	0.0	131 ○ ◇	5.1	Knowledge workers	11.7	[122]	
1.1.1	Political and operational stability*.....	0.0	131 ○ ◇	5.1.1	Knowledge-intensive employment, %.....	12.4	101	
1.1.2	Government effectiveness*.....	0.0	131 ○ ◇	5.1.2	Firms offering formal training, %.....	14.3	88 ◇	
1.2	Regulatory environment	31.1	126 ◇	5.1.3	GERD performed by business, % GDP.....	n/a	n/a	
1.2.1	Regulatory quality*.....	1.3	130 ◇	5.1.4	GERD financed by business, %.....	n/a	n/a	
1.2.2	Rule of law*.....	0.0	131 ○ ◇	5.1.5	Females employed w/advanced degrees, %.....	1.1	109	
1.2.3	Cost of redundancy dismissal, salary weeks.....	27.4	109 ◇	5.2	Innovation linkages	15.9	[105]	
1.3	Business environment	51.9	124 ◇	5.2.1	University/industry research collaboration*.....	17.7	126 ○ ◇	
1.3.1	Ease of starting a business*.....	76.8	115	5.2.2	State of cluster development*.....	30.8	120 ◇	
1.3.2	Ease of resolving insolvency*.....	26.9	125 ◇	5.2.3	GERD financed by abroad, % GDP.....	n/a	n/a	
				5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....	n/a	n/a	
				5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....	0.0	101 ○ ◇	
HUMAN CAPITAL & RESEARCH 10.4 [125]				KNOWLEDGE & TECHNOLOGY OUTPUTS 6.7 128 ◇				
2.1	Education	20.5	[126]	6.1	Knowledge creation	3.8	116	
2.1.1	Expenditure on education, % GDP.....	n/a	n/a	6.1.1	Patents by origin/bn PPP\$ GDP.....	0.2	96 ●	
2.1.2	Government funding/pupil, secondary, % GDP/cap.....	11.8	88	6.1.2	PCT patents by origin/bn PPP\$ GDP.....	n/a	n/a	
2.1.3	School life expectancy, years.....	9.1	112	6.1.3	Utility models by origin/bn PPP\$ GDP.....	0.0	69	
2.1.4	PISA scales in reading, maths, & science.....	n/a	n/a	6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	4.3	96 ●	
2.1.5	Pupil-teacher ratio, secondary.....	26.8	111	6.1.5	Citable documents H-index.....	3.3	121	
2.2	Tertiary education	10.7	113	6.2	Knowledge impact	0.8	131 ○ ◇	
2.2.1	Tertiary enrolment, % gross.....	10.2	109	6.2.1	Growth rate of PPP\$ GDP/worker, %.....	-4.2	119 ○ ◇	
2.2.2	Graduates in science & engineering, %.....	n/a	n/a	6.2.2	New businesses/th pop. 15-64.....	n/a	n/a	
2.2.3	Tertiary inbound mobility, %.....	4.3	55 ●	6.2.3	Computer software spending, % GDP.....	0.0	106	
2.3	Research & development (R&D)	0.0	[121]	6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	0.2	129 ◇	
2.3.1	Researchers, FTE/mn pop.....	n/a	n/a	6.2.5	High- and medium-high-tech manufacturing, %.....	1.2	107 ○ ◇	
2.3.2	Gross expenditure on R&D, % GDP.....	n/a	n/a	6.3	Knowledge diffusion	15.5	91 ●	
2.3.3	Global R&D companies, avg. exp. top 3, mn \$US.....	0.0	42 ○ ◇	6.3.1	Intellectual property receipts, % total trade.....	0.1	66 ●	
2.3.4	QS university ranking, average score top 3*.....	0.0	77 ○ ◇	6.3.2	High-tech net exports, % total trade.....	0.1	118	
				6.3.3	ICT services exports, % total trade.....	2.6	38 ●	
				6.3.4	FDI net outflows, % GDP.....	-1.3	129 ◇	
INFRASTRUCTURE 17.1 129 ◇				CREATIVE OUTPUTS 7.8 124				
3.1	Information & communication technologies (ICTs)	14.7	131 ○ ◇	7.1	Intangible assets	13.6	117	
3.1.1	ICT access*.....	25.5	127	7.1.1	Trademarks by origin/bn PPP\$ GDP.....	58.2	35 ● ◆	
3.1.2	ICT use*.....	11.7	127	7.1.2	Global brand value, top 5,000, % GDP.....	0.0	80 ○ ◇	
3.1.3	Government's online service*.....	9.7	130 ○ ◇	7.1.3	Industrial designs by origin/bn PPP\$ GDP.....	0.2	97	
3.1.4	E-participation*.....	11.8	130 ○ ◇	7.1.4	ICTs & organizational model creation*.....	21.7	125 ○ ◇	
3.2	General infrastructure	2.4	130 ◇	7.2	Creative goods and services	0.0	[131]	
3.2.1	Electricity output, kWh/mn pop.....	188.2	115	7.2.1	Cultural & creative services exports, % total trade.....	n/a	n/a	
3.2.2	Logistics performance*.....	9.2	120	7.2.2	National feature films/mn pop. 15-69.....	n/a	n/a	
3.2.3	Gross capital formation, % GDP.....	7.9	125 ○ ◇	7.2.3	Entertainment & Media market/th pop. 15-69.....	0.0	63 ○ ◇	
3.3	Ecological sustainability	34.1	51 ● ◆	7.2.4	Printing and other media, % manufacturing.....	n/a	n/a	
3.3.1	GDP/unit of energy use.....	20.0	5 ● ◆	7.2.5	Creative goods exports, % total trade.....	0.0	130 ○ ◇	
3.3.2	Environmental performance*.....	n/a	n/a	7.3	Online creativity	4.1	114	
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....	0.1	121	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....	0.4	114	
				7.3.2	Country-code TLDs/th pop. 15-69.....	0.0	128	
				7.3.3	Wikipedia edits/mn pop. 15-69.....	20.2	107	
				7.3.4	Mobile app creation/bn PPP\$ GDP.....	0.2	80	
MARKET SOPHISTICATION 25.5 129 ◇								
4.1	Credit	0.2	131 ○ ◇					
4.1.1	Ease of getting credit*.....	0.0	131 ○ ◇					
4.1.2	Domestic credit to private sector, % GDP.....	5.6	128 ○ ◇					
4.1.3	Microfinance gross loans, % GDP.....	0.1	61					
4.2	Investment	26.0	[110]					
4.2.1	Ease of protecting minority investors*.....	26.0	125 ◇					
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, and market scale	50.1	115					
4.3.1	Applied tariff rate, weighted avg., %.....	5.0	94 ● ◆					
4.3.2	Intensity of local competition*.....	50.4	126 ◇					
4.3.3	Domestic market scale, bn PPP\$.....	72.2	93 ●					

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