

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2019 rank
104	101	Upper middle	SSF	2.5	27.7	9,835.4	101
			Score/Value Rank				Score/Value Rank
INSTITUTIONS 62.1 69				BUSINESS SOPHISTICATION 17.9 111			
1.1	Political environment	60.0	59 ●	5.1	Knowledge workers	17.5	104 ◇
1.1.1	Political and operational stability*.....	75.0	44 ●	5.1.1	Knowledge-intensive employment, %.....	18.1	84
1.1.2	Government effectiveness*.....	52.5	66	5.1.2	Firms offering formal training, %.....	25.4	61
1.2	Regulatory environment	71.7	42 ●	5.1.3	GERD performed by business, % GDP.....	0.0	75
1.2.1	Regulatory quality*.....	40.4	76	5.1.4	GERD financed by business, %.....	11.1	74
1.2.2	Rule of law*.....	53.1	52 ● ◆	5.1.5	Females employed w/advanced degrees, %.....	7.4	81
1.2.3	Cost of redundancy dismissal, salary weeks.....	9.7	28 ●	5.2	Innovation linkages	18.7	82
1.3	Business environment	54.6	120 ◇	5.2.1	University/industry research collaboration*.....	43.1	59 ●
1.3.1	Ease of starting a business*.....	72.2	119 ◇	5.2.2	State of cluster development*.....	45.4	76
1.3.2	Ease of resolving insolvency*.....	36.9	109 ◇	5.2.3	GERD financed by abroad, % GDP.....	0.1	48
				5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....	0.0	63
				5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....	0.0	75
HUMAN CAPITAL & RESEARCH 13.6 115				KNOWLEDGE & TECHNOLOGY OUTPUTS 7.3 127			
2.1	Education	24.1	[119]	6.1	Knowledge creation	7.8	83
2.1.1	Expenditure on education, % GDP.....	3.1	97	6.1.1	Patents by origin/bn PPP\$ GDP.....	0.8	71
2.1.2	Government funding/pupil, secondary, % GDP/cap.....	n/a	n/a	6.1.2	PCT patents by origin/bn PPP\$ GDP.....	0.1	59
2.1.3	School life expectancy, years.....	n/a	n/a	6.1.3	Utility models by origin/bn PPP\$ GDP.....	n/a	n/a
2.1.4	PISA scales in reading, maths, & science.....	n/a	n/a	6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	6.1	73
2.1.5	Pupil-teacher ratio, secondary.....	25.9	108 ◇	6.1.5	Citable documents H-index.....	4.8	106
2.2	Tertiary education	14.6	106 ◇	6.2	Knowledge impact	6.1	123 ◇
2.2.1	Tertiary enrolment, % gross.....	22.9	90 ◇	6.2.1	Growth rate of PPP\$ GDP/worker, %.....	-3.1	116 ◇
2.2.2	Graduates in science & engineering, %.....	12.1	100 ◇	6.2.2	New businesses/th pop. 15-64.....	1.2	79
2.2.3	Tertiary inbound mobility, %.....	6.1	39 ●	6.2.3	Computer software spending, % GDP.....	0.0	82
2.3	Research & development (R&D)	2.1	93	6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	1.2	98
2.3.1	Researchers, FTE/mn pop.....	149.5	84 ◇	6.2.5	High- and medium-high-tech manufacturing, %.....	4.7	99 ◇
2.3.2	Gross expenditure on R&D, % GDP.....	0.3	76	6.3	Knowledge diffusion	8.1	127 ◇
2.3.3	Global R&D companies, avg. exp. top 3, mn \$US.....	0.0	42 ◇	6.3.1	Intellectual property receipts, % total trade.....	0.0	87
2.3.4	QS university ranking, average score top 3*.....	0.0	77 ◇	6.3.2	High-tech net exports, % total trade.....	0.1	120 ◇
				6.3.3	ICT services exports, % total trade.....	0.3	111
				6.3.4	FDI net outflows, % GDP.....	0.0	112
INFRASTRUCTURE 26.4 112				CREATIVE OUTPUTS 18.3 79			
3.1	Information & communication technologies (ICTs)	43.2	103 ◇	7.1	Intangible assets	26.7	70
3.1.1	ICT access*.....	45.4	100 ◇	7.1.1	Trademarks by origin/bn PPP\$ GDP.....	75.5	26 ●
3.1.2	ICT use*.....	42.9	94 ◇	7.1.2	Global brand value, top 5,000, % GDP.....	0.0	80 ◇
3.1.3	Government's online service*.....	45.1	113 ◇	7.1.3	Industrial designs by origin/bn PPP\$ GDP.....	n/a	n/a
3.1.4	E-participation*.....	39.3	113 ◇	7.1.4	ICTs & organizational model creation*.....	46.7	95
3.2	General infrastructure	9.6	127 ◇	7.2	Creative goods and services	3.4	[110]
3.2.1	Electricity output, kWh/mn pop.....	655.9	104 ◇	7.2.1	Cultural & creative services exports, % total trade.....	0.1	85
3.2.2	Logistics performance*.....	n/a	n/a	7.2.2	National feature films/mn pop. 15-69.....	n/a	n/a
3.2.3	Gross capital formation, % GDP.....	17.1	115 ◇	7.2.3	Entertainment & Media market/th pop. 15-69.....	n/a	n/a
3.3	Ecological sustainability	26.3	76	7.2.4	Printing and other media, % manufacturing.....	n/a	n/a
3.3.1	GDP/unit of energy use.....	11.6	37 ●	7.2.5	Creative goods exports, % total trade.....	0.3	70
3.3.2	Environmental performance*.....	40.2	88 ◇	7.3	Online creativity	16.6	64
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....	0.4	86	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....	9.0	42 ● ◆
				7.3.2	Country-code TLDs/th pop. 15-69.....	0.9	90
				7.3.3	Wikipedia edits/mn pop. 15-69.....	43.1	76
				7.3.4	Mobile app creation/bn PPP\$ GDP.....	n/a	n/a
4.1	Credit	34.6	90				
4.1.1	Ease of getting credit*.....	60.0	74				
4.1.2	Domestic credit to private sector, % GDP.....	62.0	55 ●				
4.1.3	Microfinance gross loans, % GDP.....	0.0	65				
4.2	Investment	32.4	86				
4.2.1	Ease of protecting minority investors*.....	56.0	82				
4.2.2	Market capitalization, % GDP.....	19.7	59				
4.2.3	Venture capital deals/bn PPP\$ GDP.....	n/a	n/a				
4.3	Trade, competition, and market scale	56.0	94				
4.3.1	Applied tariff rate, weighted avg., %.....	1.0	11 ●				
4.3.2	Intensity of local competition*.....	62.0	97				
4.3.3	Domestic market scale, bn PPP\$.....	27.7	122 ◇				

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.