

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
117	80	Upper middle	SSF	2.3	41.8	17,965.4	91
				Score/Value	Rank		
INSTITUTIONS				65.7	58		
1.1	Political environment		66.0	43	◆		
1.1.1	Political and operational stability*.....		84.2	25	◆		
1.1.2	Government effectiveness*.....		56.8	46	◆		
1.2	Regulatory environment		69.0	56			
1.2.1	Regulatory quality*.....		54.4	47			
1.2.2	Rule of law*.....		60.0	41	◆		
1.2.3	Cost of redundancy dismissal, salary weeks.....		20.6	85			
1.3	Business environment		62.1	93			
1.3.1	Ease of starting a business*.....		76.2	116	○		
1.3.2	Ease of resolving insolvency*.....		48.0	73			
HUMAN CAPITAL & RESEARCH				28.2	73		
2.1	Education		67.5	[7]			
2.1.1	Expenditure on education, % GDP.....		9.6	1	◆		
2.1.2	Government funding/pupil, secondary, % GDP/cap.....		36.4	6	◆		
2.1.3	School life expectancy, years.....		12.2	89	◇		
2.1.4	PISA scales in reading, maths, & science.....		n/a	n/a			
2.1.5	Pupil-teacher ratio, secondary.....		n/a	n/a			
2.2	Tertiary education		13.8	102	◇		
2.2.1	Tertiary enrolment, % gross.....		23.0	89	◇		
2.2.2	Graduates in science & engineering, %.....		n/a	n/a			
2.2.3	Tertiary inbound mobility, %.....		2.7	69			
2.3	Research & development (R&D)		3.4	85			
2.3.1	Researchers, FTE/mn pop.....		179.5	80			
2.3.2	Gross expenditure on R&D, % GDP.....		0.5	57			
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$.....		0.0	43	○		
2.3.4	QS university ranking, average score top 3*.....		0.0	78	○		
INFRASTRUCTURE				35.2	101	◇	
3.1	Information & communication technologies (ICTs)		32.4	116	○		
3.1.1	ICT access*.....		52.5	84			
3.1.2	ICT use*.....		36.8	94	◇		
3.1.3	Government's online service*.....		20.8	126	○		
3.1.4	E-participation*.....		19.7	125	○		
3.2	General infrastructure		34.0	68			
3.2.1	Electricity output, kWh/mn pop.....		1,194.7	91	◇		
3.2.2	Logistics performance*.....		n/a	n/a			
3.2.3	Gross capital formation, % GDP.....		28.3	26	●		
3.3	Ecological sustainability		39.2	62			
3.3.1	GDP/unit of energy use.....		13.3	19	●		
3.3.2	Environmental performance*.....		51.7	92	◇		
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....		0.4	93			
MARKET SOPHISTICATION				49.0	63		
4.1	Credit		34.0	73			
4.1.1	Ease of getting credit*.....		55.0	77			
4.1.2	Domestic credit to private sector, % GDP.....		31.4	93			
4.1.3	Microfinance gross loans, % GDP.....		n/a	n/a			
4.2	Investment		56.7	[27]			
4.2.1	Ease of protecting minority investors*.....		56.7	79			
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		56.3	85			
4.3.1	Applied tariff rate, weighted avg., %.....		1.1	11	●		
4.3.2	Intensity of local competition*.....		61.7	100	◇		
4.3.3	Domestic market scale, bn PPP\$.....		41.8	104			
BUSINESS SOPHISTICATION				26.2	91		
5.1	Knowledge workers		34.4	73			
5.1.1	Knowledge-intensive employment, %.....		17.8	82			
5.1.2	Firms offering formal training, % firms.....		51.9	17	●		
5.1.3	GERD performed by business, % GDP.....		0.1	61			
5.1.4	GERD financed by business, %.....		17.7	71			
5.1.5	Females employed w/advanced degrees, %.....		9.1	71			
5.2	Innovation linkages		24.3	68			
5.2.1	University/industry research collaboration*.....		34.7	94			
5.2.2	State of cluster development*.....		34.5	108	◇		
5.2.3	GERD financed by abroad, %.....		21.7	17	◆		
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....		0.0	67			
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....		0.0	93	○		
5.3	Knowledge absorption		19.8	123	○		
5.3.1	Intellectual property payments, % total trade.....		0.1	94			
5.3.2	High-tech imports, % total trade.....		3.6	122	○		
5.3.3	ICT services imports, % total trade.....		1.0	70			
5.3.4	FDI net inflows, % GDP.....		2.6	66			
5.3.5	Research talent, % in business enterprise.....		1.0	76	◇		
KNOWLEDGE & TECHNOLOGY OUTPUTS				13.7	107		
6.1	Knowledge creation		4.1	105			
6.1.1	Patents by origin/bn PPP\$ GDP.....		0.1	117	○		
6.1.2	PCT patents by origin/bn PPP\$ GDP.....		0.0	99	○		
6.1.3	Utility models by origin/bn PPP\$ GDP.....		0.1	52			
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....		5.9	71			
6.1.5	Citable documents H-index.....		4.5	98			
6.2	Knowledge impact		25.9	[105]			
6.2.1	Growth rate of PPP\$ GDP/worker, %.....		n/a	n/a			
6.2.2	New businesses/th pop. 15-64.....		18.4	3	◆		
6.2.3	Computer software spending, % GDP.....		0.1	85			
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....		0.5	121	○		
6.2.5	High- & medium-high-tech manufactures, %.....		n/a	n/a			
6.3	Knowledge diffusion		11.0	98			
6.3.1	Intellectual property receipts, % total trade.....		0.0	93			
6.3.2	High-tech net exports, % total trade.....		0.8	71			
6.3.3	ICT services exports, % total trade.....		0.3	110			
6.3.4	FDI net outflows, % GDP.....		1.7	36	●		
CREATIVE OUTPUTS				14.3	118	○	◇
7.1	Intangible assets		27.4	114	◇		
7.1.1	Trademarks by origin/bn PPP\$ GDP.....		11.9	100			
7.1.2	Industrial designs by origin/bn PPP\$ GDP.....		0.3	93			
7.1.3	ICTs & business model creation*.....		49.4	107	◇		
7.1.4	ICTs & organizational model creation*.....		41.9	108	◇		
7.2	Creative goods & services		1.6	[118]			
7.2.1	Cultural & creative services exports, % total trade.....		0.0	106			
7.2.2	National feature films/mn pop. 15-69.....		n/a	n/a			
7.2.3	Entertainment & Media market/th pop. 15-69.....		n/a	n/a			
7.2.4	Printing & other media, % manufacturing.....		n/a	n/a			
7.2.5	Creative goods exports, % total trade.....		0.2	86			
7.3	Online creativity		0.8	101			
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....		1.1	93			
7.3.2	Country-code TLDs/th pop. 15-69.....		1.2	77			
7.3.3	Wikipedia edits/mn pop. 15-69.....		0.4	110			
7.3.4	Mobile app creation/bn PPP\$ GDP.....		n/a	n/a			

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.