

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
85	49	High	NAWA	33.6	1,856.9	55,943.9	61
INSTITUTIONS 51.3 104 ◊				BUSINESS SOPHISTICATION 34.3 [48]			
1.1 Political environment 53.2 70 ◊				5.1 Knowledge workers 37.3 [63]			
1.1.1	Political and operational stability*	54.4	111 ◊	5.1.1	Knowledge-intensive employment, %	27.3	51 ◊
1.1.2	Government effectiveness*	52.5	55 ◊	5.1.2	Firms offering formal training, % firms	n/a	n/a
1.2 Regulatory environment 60.7 80 ◊				5.2 Innovation linkages 30.3 45			
1.2.1	Regulatory quality*	41.9	71 ◊	5.2.1	University/industry research collaboration†	48.0	43
1.2.2	Rule of law*	49.0	56 ◊	5.2.2	State of cluster development†	62.1	21 ●
1.2.3	Cost of redundancy dismissal, salary weeks	23.7	99 ◊	5.2.3	GERD financed by abroad, %	n/a	n/a
1.3 Business environment 40.0 129 ◊				5.3 Knowledge absorption 35.4 [55]			
1.3.1	Ease of starting a business*	80.1	107 ◊	5.3.1	Intellectual property payments, % total trade	n/a	n/a
1.3.2	Ease of resolving insolvency*	0.0	129 ◊	5.3.2	High-tech imports, % total trade	7.6	62
HUMAN CAPITAL & RESEARCH 45.5 29 ●				KNOWLEDGE & TECHNOLOGY OUTPUTS 17.0 87 ◊			
2.1 Education 63.2 [14]				6.1 Knowledge creation 12.8 63			
2.1.1	Expenditure on education, % GDP	5.1	43	6.1.1	Patents by origin/bn PPP\$ GDP	0.7	73
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	6.1.2	PCT patents by origin/bn PPP\$ GDP	0.4	43
2.1.3	School life expectancy, years	16.9	18 ●	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	6.2	67 ◊
2.1.5	Pupil-teacher ratio, secondary	11.0	37	6.1.5	Citable documents H-index	18.7	39
2.2 Tertiary education 36.1 49				6.2 Knowledge impact 26.5 104 ◊			
2.2.1	Tertiary enrolment, % gross	68.9	29 ●	6.2.1	Growth rate of PPP\$ GDP/worker, %	-4.0	111 ◊
2.2.2	Graduates in science & engineering, %	21.9	51	6.2.2	New businesses/th pop. 15-64	0.4	88 ◊
2.2.3	Tertiary inbound mobility, %	4.9	42	6.2.3	Computer software spending, % GDP	0.4	28 ●
2.3 Research & development (R&D) 37.3 29 ●				6.3 Knowledge diffusion 11.8 93 ◊			
2.3.1	Researchers, FTE/mn pop	n/a	n/a	6.3.1	Intellectual property receipts, % total trade	n/a	n/a
2.3.2	Gross expenditure on R&D, % GDP	0.8	42	6.3.2	High-tech net exports, % total trade	0.6	75 ◊
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$	53.4	26 ●	6.3.3	ICT services exports, % total trade	0.2	118 ◊
2.3.4	QS university ranking, average score top 3*	40.9	31 ●	6.3.4	FDI net outflows, % GDP	1.0	54
INFRASTRUCTURE 48.9 55 ◊				CREATIVE OUTPUTS 21.9 86 ◊			
3.1 Information & communication technologies (ICTs) 71.7 53 ◊				7.1 Intangible assets 36.9 84 ◊			
3.1.1	ICT access*	74.8	44	7.1.1	Trademarks by origin/bn PPP\$ GDP	4.3	118 ◊
3.1.2	ICT use*	61.6	54 ◊	7.1.2	Industrial designs by origin/bn PPP\$ GDP	0.3	96
3.1.3	Government's online service*	79.2	48	7.1.3	ICTs & business model creation†	66.5	45
3.1.4	E-participation*	71.4	65 ◊	7.1.4	ICTs & organizational model creation†	61.5	40
3.2 General infrastructure 43.2 37				7.2 Creative goods & services 11.7 78 ◊			
3.2.1	Electricity output, kWh/mn pop	10,681.8	12 ●	7.2.1	Cultural & creative services exports, % total trade	0.0	115 ◊
3.2.2	Logistics performance*	44.3	54 ◊	7.2.2	National feature films/mn pop. 15-69	n/a	n/a
3.2.3	Gross capital formation, % GDP	26.6	35	7.2.3	Entertainment & Media market/th pop. 15-69	13.9	30 ◊
3.3 Ecological sustainability 31.9 86 ◊				7.3 Online creativity 2.0 84 ◊			
3.3.1	GDP/unit of energy use	7.6	83	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	2.8	67
3.3.2	Environmental performance*	57.5	75 ◊	7.3.2	Country-code TLDs/th pop. 15-69	0.6	90 ◊
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP	0.2	110 ◊	7.3.3	Wikipedia edits/mn pop. 15-69	6.0	74 ◊
MARKET SOPHISTICATION 51.9 47				7.4 Mobile app creation/bn PPP\$ GDP 0.3 77			
4.1 Credit 34.7 68 ◊				7.5 Creative goods exports, % total trade 0.4 66			
4.1.1	Ease of getting credit*	45.0	94				
4.1.2	Domestic credit to private sector, % GDP	54.1	60				
4.1.3	Microfinance gross loans, % GDP	n/a	n/a				
4.2 Investment 47.0 47							
4.2.1	Ease of protecting minority investors*	80.0	6 ●				
4.2.2	Market capitalization, % GDP	66.6	23				
4.2.3	Venture capital deals/bn PPP\$ GDP	0.0	74 ◊				
4.3 Trade, competition, & market scale 74.0 23 ●							
4.3.1	Applied tariff rate, weighted avg., %	4.9	84 ◊				
4.3.2	Intensity of local competition†	74.8	29 ●				
4.3.3	Domestic market scale, bn PPP\$	1,856.9	16 ●				

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.