

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
83	107	Low	CSA	9.1	30.5	3,415.8	101
INSTITUTIONS 46.0 122				BUSINESS SOPHISTICATION 22.2 114			
1.1 Political environment 31.6 125 ○ 1.1.1 Political and operational stability*..... 56.1 105 1.1.2 Government effectiveness*..... 19.4 124				5.1 Knowledge workers 24.4 98 5.1.1 Knowledge-intensive employment, %..... 16.1 87 ◆ 5.1.2 Firms offering formal training, % firms..... 33.1 44 ● 5.1.3 GERD performed by business, % GDP..... n/a n/a 5.1.4 GERD financed by business, %..... 1.6 89 5.1.5 Females employed w/advanced degrees, %..... 4.0 93 ◆			
1.2 Regulatory environment 45.6 116 ◇ 1.2.1 Regulatory quality*..... 13.5 125 ○ 1.2.2 Rule of law*..... 10.5 126 ○ ◇ 1.2.3 Cost of redundancy dismissal, salary weeks..... 21.7 92				5.2 Innovation linkages 18.2 104 5.2.1 University/industry research collaboration*..... 46.5 47 ● 5.2.2 State of cluster development*..... 40.2 93 5.2.3 GERD financed by abroad, %..... 0.2 98 ◇ 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 93 ○ ◇			
1.3 Business environment 60.8 102 1.3.1 Ease of starting a business*..... 90.7 51 ● 1.3.2 Ease of resolving insolvency*..... 30.9 116				5.3 Knowledge absorption 23.9 [107] 5.3.1 Intellectual property payments, % total trade..... 0.0 119 ○ 5.3.2 High-tech imports, % total trade..... n/a n/a 5.3.3 ICT services imports, % total trade..... 0.2 122 ◇ 5.3.4 FDI net inflows, % GDP..... 3.5 49 ● 5.3.5 Research talent, % in business enterprise..... n/a n/a			
HUMAN CAPITAL & RESEARCH 24.0 87 ◆				KNOWLEDGE & TECHNOLOGY OUTPUTS 21.4 68 ◆			
2.1 Education 46.3 [69] 2.1.1 Expenditure on education, % GDP..... 5.2 40 ● 2.1.2 Government funding/pupil, secondary, % GDP/cap... n/a n/a 2.1.3 School life expectancy, years..... 11.2 97 2.1.4 PISA scales in reading, maths, & science..... n/a n/a 2.1.5 Pupil-teacher ratio, secondary..... 15.4 70 ◆				6.1 Knowledge creation 20.0 45 ● ◆ 6.1.1 Patents by origin/bn PPP\$ GDP..... 0.1 113 6.1.2 PCT patents by origin/bn PPP\$ GDP..... n/a n/a 6.1.3 Utility models by origin/bn PPP\$ GDP..... 3.7 5 ● ◆ 6.1.4 Scientific & technical articles/bn PPP\$ GDP..... 1.6 119 ◇ 6.1.5 Citable documents H-index..... 0.0 128 ○ ◇			
2.2 Tertiary education 24.9 80 ◆ 2.2.1 Tertiary enrolment, % gross..... 30.9 83 ◆ 2.2.2 Graduates in science & engineering, %..... 22.0 49 2.2.3 Tertiary inbound mobility, %..... 0.8 91				6.2 Knowledge impact 31.2 89 6.2.1 Growth rate of PPP\$ GDP/worker, %..... 5.1 6 ● ◆ 6.2.2 New businesses/th pop. 15-64..... 0.2 94 6.2.3 Computer software spending, % GDP..... 0.1 93 6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP..... 0.1 128 ○ ◇ 6.2.5 High- & medium-high-tech manufactures, %..... 0.0 102 ○ ◇			
2.3 Research & development (R&D) 0.7 110 2.3.1 Researchers, FTE/mn pop..... n/a n/a 2.3.2 Gross expenditure on R&D, % GDP..... 0.1 103 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 ○ ◇				6.3 Knowledge diffusion 13.0 85 6.3.1 Intellectual property receipts, % total trade..... 0.0 83 6.3.2 High-tech net exports, % total trade..... n/a n/a 6.3.3 ICT services exports, % total trade..... 0.3 113 6.3.4 FDI net outflows, % GDP..... 1.7 37 ●			
INFRASTRUCTURE 29.8 115				CREATIVE OUTPUTS 18.1 103			
3.1 Information & communication technologies (ICTs) 36.4 [112] 3.1.1 ICT access*..... n/a n/a 3.1.2 ICT use*..... n/a n/a 3.1.3 Government's online service*..... 34.0 115 3.1.4 E-participation*..... 38.8 112				7.1 Intangible assets 27.6 112 7.1.1 Trademarks by origin/bn PPP\$ GDP..... 6.1 112 7.1.2 Industrial designs by origin/bn PPP\$ GDP..... 0.0 115 ○ 7.1.3 ICTs & business model creation*..... 50.7 102 7.1.4 ICTs & organizational model creation*..... 44.4 97			
3.2 General infrastructure 23.4 109 3.2.1 Electricity output, kWh/mn pop..... 1,971.6 77 ◆ 3.2.2 Logistics performance*..... 12.9 116 3.2.3 Gross capital formation, % GDP..... 22.8 67				7.2 Creative goods & services 16.5 [65] 7.2.1 Cultural & creative services exports, % total trade..... 0.0 102 7.2.2 National feature films/mn pop. 15-69..... 1.8 70 ◆ 7.2.3 Entertainment & Media market/th pop. 15-69..... n/a n/a 7.2.4 Printing & other media, % manufacturing..... 1.5 30 ● 7.2.5 Creative goods exports, % total trade..... n/a n/a			
3.3 Ecological sustainability 29.5 99 3.3.1 GDP/unit of energy use..... 8.2 73 3.3.2 Environmental performance*..... 47.9 102 3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP.. 0.5 85				7.3 Online creativity 0.7 105 7.3.1 Generic top-level domains (TLDs)/th pop. 15-69..... 0.1 125 ○ 7.3.2 Country-code TLDs/th pop. 15-69..... 0.3 103 7.3.3 Wikipedia edits/mn pop. 15-69..... 2.6 96 ◆ 7.3.4 Mobile app creation/bn PPP\$ GDP..... n/a n/a			
MARKET SOPHISTICATION 43.7 86							
4.1 Credit 15.4 121 4.1.1 Ease of getting credit*..... 40.0 104 4.1.2 Domestic credit to private sector, % GDP..... 13.7 121 4.1.3 Microfinance gross loans, % GDP..... 0.1 51							
4.2 Investment 66.7 [12] 4.2.1 Ease of protecting minority investors*..... 66.7 35 ● ◆ 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 48.9 111 4.3.1 Applied tariff rate, weighted avg., %..... 5.0 85 ◆ 4.3.2 Intensity of local competition*..... 61.2 103 4.3.3 Domestic market scale, bn PPP\$..... 30.5 114							

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.