

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2019 rank
81	77	Upper middle	NAWA	10.1	97.2	8,423.6	86
Score/Value Rank				Score/Value Rank			
<b>INSTITUTIONS..... 64.3 63</b>				<b>BUSINESS SOPHISTICATION..... 20.7 94</b>			
<b>1.1 Political environment..... 56.5 69</b>				<b>5.1 Knowledge workers..... 15.0 [110]</b>			
1.1.1 Political and operational stability*..... 64.3 83				5.1.1 Knowledge-intensive employment, %..... n/a n/a			
1.1.2 Government effectiveness*..... 52.7 64				5.1.2 Firms offering formal training, %..... 16.9 82 ○ ◇			
<b>1.2 Regulatory environment..... 74.2 39 ◆</b>				5.1.3 GERD performed by business, % GDP..... n/a n/a			
1.2.1 Regulatory quality*..... 44.0 66				5.1.4 GERD financed by business, %..... n/a n/a			
1.2.2 Rule of law*..... 52.8 53 ◆				5.1.5 Females employed w/advanced degrees, %..... n/a n/a			
1.2.3 Cost of redundancy dismissal, salary weeks..... 8.0 1 ● ◆				<b>5.2 Innovation linkages..... 27.5 38 ◆</b>			
<b>1.3 Business environment..... 62.1 97</b>				5.2.1 University/industry research collaboration*..... 44.5 55			
1.3.1 Ease of starting a business*..... 84.5 92				5.2.2 State of cluster development*..... 57.5 30 ● ◆			
1.3.2 Ease of resolving insolvency*..... 39.7 98				5.2.3 GERD financed by abroad, % GDP..... n/a n/a			
<b>HUMAN CAPITAL &amp; RESEARCH..... 27.2 78</b>				5.2.4 JV-strategic alliance deals/bn PPP\$ GDP..... 0.1 38 ◆			
<b>2.1 Education..... 31.8 99</b>				5.2.5 Patent families 2+ offices/bn PPP\$ GDP..... 0.0 83			
2.1.1 Expenditure on education, % GDP..... 3.6 88				<b>5.3 Knowledge absorption..... 19.5 104</b>			
2.1.2 Government funding/pupil, secondary, % GDP/cap..... 15.6 74				5.3.1 Intellectual property payments, % total trade..... 0.1 100 ○			
2.1.3 School life expectancy, years..... 10.4 105 ○ ◇				5.3.2 High-tech imports, % total trade..... 6.8 76			
2.1.4 PISA scales in reading, maths, & science..... 416.0 58				5.3.3 ICT services imports, % total trade..... 0.3 113 ○ ◇			
2.1.5 Pupil-teacher ratio, secondary..... 12.3 56				5.3.4 FDI net inflows, % GDP..... 3.7 41			
<b>2.2 Tertiary education..... 40.4 41</b>				5.3.5 Research talent, % in business enterprise..... n/a n/a			
2.2.1 Tertiary enrolment, % gross..... 34.4 78				<b>KNOWLEDGE &amp; TECHNOLOGY OUTPUTS..... 15.6 82</b>			
2.2.2 Graduates in science & engineering, %..... 26.4 30 ●				<b>6.1 Knowledge creation..... 16.8 60</b>			
2.2.3 Tertiary inbound mobility, %..... 14.0 11 ● ◆				6.1.1 Patents by origin/bn PPP\$ GDP..... 0.3 91			
<b>2.3 Research &amp; development (R&amp;D)..... 9.5 60</b>				6.1.2 PCT patents by origin/bn PPP\$ GDP..... 0.2 48			
2.3.1 Researchers, FTE/mn pop..... 596.0 63				6.1.3 Utility models by origin/bn PPP\$ GDP..... n/a n/a			
2.3.2 Gross expenditure on R&D, % GDP..... 0.7 51				6.1.4 Scientific & technical articles/bn PPP\$ GDP..... 17.0 33 ● ◆			
2.3.3 Global R&D companies, avg. exp. top 3, mn \$US..... 0.0 42 ○ ◇				6.1.5 Citable documents H-index..... 9.7 78			
2.3.4 QS university ranking, average score top 3*..... 16.8 54				<b>6.2 Knowledge impact..... 19.6 84</b>			
<b>INFRASTRUCTURE..... 32.8 95</b>				6.2.1 Growth rate of PPP\$ GDP/worker, %..... -1.0 106 ○			
<b>3.1 Information &amp; communication technologies (ICTs)..... 52.7 92</b>				6.2.2 New businesses/th pop. 15-64..... 0.5 95			
3.1.1 ICT access*..... 59.3 75				6.2.3 Computer software spending, % GDP..... 0.0 50			
3.1.2 ICT use*..... 53.7 66				6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP..... 5.5 50			
3.1.3 Government's online service*..... 49.3 106 ◇				6.2.5 High- and medium-high-tech manufacturing, %..... 21.6 52			
3.1.4 E-participation*..... 48.3 106				<b>6.3 Knowledge diffusion..... 10.5 120 ○ ◇</b>			
<b>3.2 General infrastructure..... 17.5 115 ○</b>				6.3.1 Intellectual property receipts, % total trade..... 0.1 45			
3.2.1 Electricity output, kWh/mn pop..... 2,140.2 75				6.3.2 High-tech net exports, % total trade..... 0.4 83			
3.2.2 Logistics performance*..... 29.0 83				6.3.3 ICT services exports, % total trade..... 0.1 125 ○			
3.2.3 Gross capital formation, % GDP..... 19.5 100				6.3.4 FDI net outflows, % GDP..... 0.0 117 ○			
<b>3.3 Ecological sustainability..... 28.3 68</b>				<b>CREATIVE OUTPUTS..... 17.5 84</b>			
3.3.1 GDP/unit of energy use..... 8.5 73				<b>7.1 Intangible assets..... 19.9 90</b>			
3.3.2 Environmental performance*..... 53.4 46				7.1.1 Trademarks by origin/bn PPP\$ GDP..... 31.9 76			
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP..... 1.0 62				7.1.2 Global brand value, top 5,000, % GDP..... 7.8 63			
<b>MARKET SOPHISTICATION..... 50.1 52</b>				7.1.3 Industrial designs by origin/bn PPP\$ GDP..... 0.3 96			
<b>4.1 Credit..... 53.2 24 ● ◆</b>				7.1.4 ICTs & organizational model creation*..... 52.6 68			
4.1.1 Ease of getting credit*..... 95.0 4 ● ◆				<b>7.2 Creative goods and services..... 14.3 68</b>			
4.1.2 Domestic credit to private sector, % GDP..... 80.4 35 ●				7.2.1 Cultural & creative services exports, % total trade..... 0.0 108 ○			
4.1.3 Microfinance gross loans, % GDP..... 0.4 40				7.2.2 National feature films/mn pop. 15-69..... n/a n/a			
<b>4.2 Investment..... 34.6 77</b>				7.2.3 Entertainment & Media market/th pop. 15-69..... 1.8 54 ○ ◇			
4.2.1 Ease of protecting minority investors*..... 50.0 92				7.2.4 Printing and other media, % manufacturing..... 2.4 9 ● ◆			
4.2.2 Market capitalization, % GDP..... 58.5 29				7.2.5 Creative goods exports, % total trade..... 0.9 46			
4.2.3 Venture capital deals/bn PPP\$ GDP..... 0.2 17 ●				<b>7.3 Online creativity..... 16.0 66</b>			
<b>4.3 Trade, competition, and market scale..... 62.4 67</b>				7.3.1 Generic top-level domains (TLDs)/th pop. 15-69..... 4.9 54			
4.3.1 Applied tariff rate, weighted avg., %..... 4.4 84				7.3.2 Country-code TLDs/th pop. 15-69..... 0.2 108			
4.3.2 Intensity of local competition*..... 76.0 19 ● ◆				7.3.3 Wikipedia edits/mn pop. 15-69..... 48.6 63			
4.3.3 Domestic market scale, bn PPP\$..... 97.2 83				7.3.4 Mobile app creation/bn PPP\$ GDP..... 13.1 36			

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.