

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
118	100	Upper middle	NAWA	42.0	660.8	15,439.9	110
				Score/Value	Rank		
<b>INSTITUTIONS</b> .....				51.1	106	◇	
<b>1.1</b>	<b>Political environment</b> .....	38.3	111	◇			
1.1.1	Political and operational stability*.....	50.9	121	◇			
1.1.2	Government effectiveness*.....	32.1	103	◇			
<b>1.2</b>	<b>Regulatory environment</b> .....	51.2	109	◇			
1.2.1	Regulatory quality*.....	9.8	126	○◇			
1.2.2	Rule of law*.....	23.5	116	◇			
1.2.3	Cost of redundancy dismissal, salary weeks.....	17.3	71				
<b>1.3</b>	<b>Business environment</b> .....	63.7	88				
1.3.1	Ease of starting a business*.....	78.1	112				
1.3.2	Ease of resolving insolvency*.....	49.2	68				
<b>HUMAN CAPITAL &amp; RESEARCH</b> .....				27.9	74		
<b>2.1</b>	<b>Education</b> .....	37.7	[90]				
2.1.1	Expenditure on education, % GDP.....	4.3	69				
2.1.2	Government funding/pupil, secondary, % GDP/cap... n/a	n/a	n/a				
2.1.3	School life expectancy, years.....	14.3	65				
2.1.4	PISA scales in reading, maths, & science.....	361.7	69	○			
2.1.5	Pupil-teacher ratio, secondary.....	n/a	n/a				
<b>2.2</b>	<b>Tertiary education</b> .....	40.6	36	●			
2.2.1	Tertiary enrolment, % gross.....	47.7	62	●			
2.2.2	Graduates in science & engineering, %.....	31.1	9	●◆			
2.2.3	Tertiary inbound mobility, %.....	0.6	94				
<b>2.3</b>	<b>Research &amp; development (R&amp;D)</b> .....	5.3	78				
2.3.1	Researchers, FTE/mn pop.....	820.8	54	●			
2.3.2	Gross expenditure on R&D, % GDP.....	0.5	58	●			
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	○◇			
<b>INFRASTRUCTURE</b> .....				42.1	81		
<b>3.1</b>	<b>Information &amp; communication technologies (ICTs)</b> .....	35.3	115	◇			
3.1.1	ICT access*.....	53.1	83				
3.1.2	ICT use*.....	46.3	75				
3.1.3	Government's online service*.....	21.5	125	○◇			
3.1.4	E-participation*.....	20.2	123	◇			
<b>3.2</b>	<b>General infrastructure</b> .....	54.8	10	●◆			
3.2.1	Electricity output, kWh/mn pop.....	1,748.3	82				
3.2.2	Logistics performance*.....	18.0	107	◇			
3.2.3	Gross capital formation, % GDP.....	50.6	2	●◆			
<b>3.3</b>	<b>Ecological sustainability</b> .....	36.1	74				
3.3.1	GDP/unit of energy use.....	10.3	47	●			
3.3.2	Environmental performance*.....	57.2	77				
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..	0.1	123				
<b>MARKET SOPHISTICATION</b> .....				34.1	122	◇	
<b>4.1</b>	<b>Credit</b> .....	9.8	125	◇			
4.1.1	Ease of getting credit*.....	10.0	126	○◇			
4.1.2	Domestic credit to private sector, % GDP.....	24.8	107				
4.1.3	Microfinance gross loans, % GDP.....	n/a	n/a				
<b>4.2</b>	<b>Investment</b> .....	35.0	[99]				
4.2.1	Ease of protecting minority investors*.....	35.0	123	◇			
4.2.2	Market capitalization, % GDP.....	n/a	n/a				
4.2.3	Venture capital deals/bn PPP\$ GDP.....	n/a	n/a				
<b>4.3</b>	<b>Trade, competition, &amp; market scale</b> .....	57.6	78				
4.3.1	Applied tariff rate, weighted avg., %.....	9.4	110	◇			
4.3.2	Intensity of local competition*.....	55.0	121	◇			
4.3.3	Domestic market scale, bn PPP\$.....	660.8	34	●			
<b>BUSINESS SOPHISTICATION</b> .....				18.1	126	○◇	
<b>5.1</b>	<b>Knowledge workers</b> .....	19.0	110	◇			
5.1.1	Knowledge-intensive employment, %.....	17.9	81				
5.1.2	Firms offering formal training, % firms.....	n/a	n/a				
5.1.3	GERD performed by business, % GDP.....	0.0	75				
5.1.4	GERD financed by business, %.....	6.7	77	◇			
5.1.5	Females employed w/advanced degrees, %.....	8.1	79				
<b>5.2</b>	<b>Innovation linkages</b> .....	13.8	122	◇			
5.2.1	University/industry research collaboration*.....	26.9	117	◇			
5.2.2	State of cluster development*.....	40.6	91				
5.2.3	GERD financed by abroad, %.....	0.0	102	○◇			
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....	0.0	94				
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....	0.0	89				
<b>5.3</b>	<b>Knowledge absorption</b> .....	21.4	117	◇			
5.3.1	Intellectual property payments, % total trade.....	0.4	73				
5.3.2	High-tech imports, % total trade.....	8.3	53	●			
5.3.3	ICT services imports, % total trade.....	0.0	91				
5.3.4	FDI net inflows, % GDP.....	0.5	120	◇			
5.3.5	Research talent, % in business enterprise.....	0.5	82	◇			
<b>KNOWLEDGE &amp; TECHNOLOGY OUTPUTS</b> .....				12.3	113		
<b>6.1</b>	<b>Knowledge creation</b> .....	6.0	90				
6.1.1	Patents by origin/bn PPP\$ GDP.....	0.2	91				
6.1.2	PCT patents by origin/bn PPP\$ GDP.....	0.0	87				
6.1.3	Utility models by origin/bn PPP\$ GDP.....	n/a	n/a				
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	4.6	83				
6.1.5	Citable documents H-index.....	8.0	79				
<b>6.2</b>	<b>Knowledge impact</b> .....	24.5	107				
6.2.1	Growth rate of PPP\$ GDP/worker, %.....	1.5	50	●			
6.2.2	New businesses/th pop. 15-64.....	0.6	82				
6.2.3	Computer software spending, % GDP.....	0.0	125	○◇			
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	0.7	115				
6.2.5	High- & medium-high-tech manufactures, %.....	0.0	94	◇			
<b>6.3</b>	<b>Knowledge diffusion</b> .....	6.4	126	○◇			
6.3.1	Intellectual property receipts, % total trade.....	0.0	100	◇			
6.3.2	High-tech net exports, % total trade.....	0.0	126	○			
6.3.3	ICT services exports, % total trade.....	0.3	109				
6.3.4	FDI net outflows, % GDP.....	0.0	107				
<b>CREATIVE OUTPUTS</b> .....				14.3	117	◇	
<b>7.1</b>	<b>Intangible assets</b> .....	27.8	111	◇			
7.1.1	Trademarks by origin/bn PPP\$ GDP.....	12.9	99				
7.1.2	Industrial designs by origin/bn PPP\$ GDP.....	1.9	53	●			
7.1.3	ICTs & business model creation*.....	46.7	114	◇			
7.1.4	ICTs & organizational model creation*.....	41.3	110	◇			
<b>7.2</b>	<b>Creative goods &amp; services</b> .....	1.0	125	◇			
7.2.1	Cultural & creative services exports, % total trade.....	0.0	108				
7.2.2	National feature films/mn pop. 15-69.....	0.4	97				
7.2.3	Entertainment & Media market/th pop. 15-69.....	1.3	55	◇			
7.2.4	Printing & other media, % manufacturing.....	0.3	99	○◇			
7.2.5	Creative goods exports, % total trade.....	0.0	124				
<b>7.3</b>	<b>Online creativity</b> .....	0.8	102				
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....	0.5	108				
7.3.2	Country-code TLDs/th pop. 15-69.....	0.1	116				
7.3.3	Wikipedia edits/mn pop. 15-69.....	3.7	90				
7.3.4	Mobile app creation/bn PPP\$ GDP.....	0.0	94				

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.