

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
82	92	Upper middle	NAWA	6.1	91.2	14,684.1	90
				Score/Value	Rank		
<b>INSTITUTIONS</b> .....				51.8	102		
1.1	<b>Political environment</b> .....		37.3	115			
1.1.1	Political and operational stability*.....		43.9	127			
1.1.2	Government effectiveness*.....		34.1	99			
1.2	<b>Regulatory environment</b> .....		64.1	71			
1.2.1	Regulatory quality*.....		33.7	93			
1.2.2	Rule of law*.....		24.6	113			
1.2.3	Cost of redundancy dismissal, salary weeks.....		8.7	21			
1.3	<b>Business environment</b> .....		54.1	120			
1.3.1	Ease of starting a business*.....		78.6	110			
1.3.2	Ease of resolving insolvency*.....		29.6	121			
<b>HUMAN CAPITAL &amp; RESEARCH</b> .....				25.3	82		
2.1	<b>Education</b> .....		26.5	113			
2.1.1	Expenditure on education, % GDP.....		2.5	114			
2.1.2	Government funding/pupil, secondary, % GDP/cap.....		5.8	103			
2.1.3	School life expectancy, years.....		11.3	96			
2.1.4	PISA scales in reading, maths, & science.....		376.4	66			
2.1.5	Pupil-teacher ratio, secondary.....		7.9	8			
2.2	<b>Tertiary education</b> .....		35.7	51			
2.2.1	Tertiary enrolment, % gross.....		38.1	73			
2.2.2	Graduates in science & engineering, %.....		23.4	40			
2.2.3	Tertiary inbound mobility, %.....		8.9	21			
2.3	<b>Research &amp; development (R&amp;D)</b> .....		13.8	[48]			
2.3.1	Researchers, FTE/mn pop.....		n/a	n/a			
2.3.2	Gross expenditure on R&D, % GDP.....		n/a	n/a			
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*.....		27.6	40			
<b>INFRASTRUCTURE</b> .....				37.1	93		
3.1	<b>Information &amp; communication technologies (ICTs)</b> .....		53.0	91			
3.1.1	ICT access*.....		65.3	68			
3.1.2	ICT use*.....		55.0	64			
3.1.3	Government's online service*.....		47.2	108			
3.1.4	E-participation*.....		44.4	107			
3.2	<b>General infrastructure</b> .....		20.8	119			
3.2.1	Electricity output, kWh/mn pop.....		3,109.8	62			
3.2.2	Logistics performance*.....		30.6	78			
3.2.3	Gross capital formation, % GDP.....		n/a	n/a			
3.3	<b>Ecological sustainability</b> .....		37.6	68			
3.3.1	GDP/unit of energy use.....		10.0	52			
3.3.2	Environmental performance*.....		61.1	60			
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....		0.4	87			
<b>MARKET SOPHISTICATION</b> .....				41.8	95		
4.1	<b>Credit</b> .....		30.9	90			
4.1.1	Ease of getting credit*.....		40.0	104			
4.1.2	Domestic credit to private sector, % GDP.....		105.5	23			
4.1.3	Microfinance gross loans, % GDP.....		0.1	50			
4.2	<b>Investment</b> .....		33.3	106			
4.2.1	Ease of protecting minority investors*.....		41.7	108			
4.2.2	Market capitalization, % GDP.....		22.6	57			
4.2.3	Venture capital deals/bn PPP\$ GDP.....		0.2	9			
4.3	<b>Trade, competition, &amp; market scale</b> .....		61.3	62			
4.3.1	Applied tariff rate, weighted avg., %.....		3.8	72			
4.3.2	Intensity of local competition*.....		79.0	12			
4.3.3	Domestic market scale, bn PPP\$.....		91.2	82			
<b>BUSINESS SOPHISTICATION</b> .....				29.3	75		
5.1	<b>Knowledge workers</b> .....		30.6	[82]			
5.1.1	Knowledge-intensive employment, %.....		n/a	n/a			
5.1.2	Firms offering formal training, % firms.....		26.6	58			
5.1.3	GERD performed by business, % GDP.....		n/a	n/a			
5.1.4	GERD financed by business, %.....		n/a	n/a			
5.1.5	Females employed w/advanced degrees, %.....		n/a	n/a			
5.2	<b>Innovation linkages</b> .....		25.6	63			
5.2.1	University/industry research collaboration*.....		41.1	65			
5.2.2	State of cluster development*.....		47.4	56			
5.2.3	GERD financed by abroad, %.....		n/a	n/a			
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....		0.0	44			
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....		0.1	61			
5.3	<b>Knowledge absorption</b> .....		31.6	75			
5.3.1	Intellectual property payments, % total trade.....		0.1	96			
5.3.2	High-tech imports, % total trade.....		3.8	118			
5.3.3	ICT services imports, % total trade.....		1.8	31			
5.3.4	FDI net inflows, % GDP.....		4.7	33			
5.3.5	Research talent, % in business enterprise.....		n/a	n/a			
<b>KNOWLEDGE &amp; TECHNOLOGY OUTPUTS</b> .....				13.5	[109]		
6.1	<b>Knowledge creation</b> .....		14.3	[58]			
6.1.1	Patents by origin/bn PPP\$ GDP.....		1.3	55			
6.1.2	PCT patents by origin/bn PPP\$ GDP.....		n/a	n/a			
6.1.3	Utility models by origin/bn PPP\$ GDP.....		n/a	n/a			
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....		10.3	46			
6.1.5	Citable documents H-index.....		10.6	61			
6.2	<b>Knowledge impact</b> .....		9.2	[116]			
6.2.1	Growth rate of PPP\$ GDP/worker, %.....		n/a	n/a			
6.2.2	New businesses/th pop. 15-64.....		n/a	n/a			
6.2.3	Computer software spending, % GDP.....		0.1	102			
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....		6.1	50			
6.2.5	High- & medium-high-tech manufactures, %.....		n/a	n/a			
6.3	<b>Knowledge diffusion</b> .....		17.2	68			
6.3.1	Intellectual property receipts, % total trade.....		0.1	63			
6.3.2	High-tech net exports, % total trade.....		1.0	68			
6.3.3	ICT services exports, % total trade.....		2.5	40			
6.3.4	FDI net outflows, % GDP.....		1.8	34			
<b>CREATIVE OUTPUTS</b> .....				26.5	68		
7.1	<b>Intangible assets</b> .....		30.3	106			
7.1.1	Trademarks by origin/bn PPP\$ GDP.....		15.1	96			
7.1.2	Industrial designs by origin/bn PPP\$ GDP.....		n/a	n/a			
7.1.3	ICTs & business model creation*.....		43.2	117			
7.1.4	ICTs & organizational model creation*.....		42.4	105			
7.2	<b>Creative goods &amp; services</b> .....		34.6	17			
7.2.1	Cultural & creative services exports, % total trade.....		1.7	9			
7.2.2	National feature films/mn pop. 15-69.....		3.6	51			
7.2.3	Entertainment & Media market/th pop. 15-69.....		3.3	49			
7.2.4	Printing & other media, % manufacturing.....		4.1	4			
7.2.5	Creative goods exports, % total trade.....		0.5	57			
7.3	<b>Online creativity</b> .....		10.7	51			
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....		6.5	49			
7.3.2	Country-code TLDs/th pop. 15-69.....		0.3	105			
7.3.3	Wikipedia edits/mn pop. 15-69.....		7.5	68			
7.3.4	Mobile app creation/bn PPP\$ GDP.....		31.1	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.