

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
102	105	Upper middle	LCN	17.2	145.2	8,436.4	102
				Score/Value	Rank		
<b>INSTITUTIONS</b> .....				48.1	117	◇	
1.1	<b>Political environment</b> .....		38.2	113	◇		
1.1.1	Political and operational stability*.....		52.6	118	◇		
1.1.2	Government effectiveness*.....		31.0	108	◇		
1.2	<b>Regulatory environment</b> .....		48.9	112	◇		
1.2.1	Regulatory quality*.....		35.1	91	◇		
1.2.2	Rule of law*.....		18.3	123	◇		
1.2.3	Cost of redundancy dismissal, salary weeks.....		27.0	104	◇		
1.3	<b>Business environment</b> .....		57.2	112	◇		
1.3.1	Ease of starting a business*.....		86.7	71	◇		
1.3.2	Ease of resolving insolvency*.....		27.6	124	◇		
<b>HUMAN CAPITAL &amp; RESEARCH</b> .....				11.1	121	◇	
2.1	<b>Education</b> .....		26.2	115	◇		
2.1.1	Expenditure on education, % GDP.....		2.8	108	◇		
2.1.2	Government funding/pupil, secondary, % GDP/cap... ..		5.1	105	◇		
2.1.3	School life expectancy, years.....		10.8	100	◇		
2.1.4	PISA scales in reading, maths, & science.....		n/a	n/a	◇		
2.1.5	Pupil-teacher ratio, secondary.....		10.5	36	●		
2.2	<b>Tertiary education</b> .....		6.9	117	◇		
2.2.1	Tertiary enrolment, % gross.....		21.8	90	◇		
2.2.2	Graduates in science & engineering, %.....		9.8	100	◇		
2.2.3	Tertiary inbound mobility, %.....		n/a	n/a	◇		
2.3	<b>Research &amp; development (R&amp;D)</b> .....		0.1	117	◇		
2.3.1	Researchers, FTE/mn pop.....		22.2	103	◇		
2.3.2	Gross expenditure on R&D, % GDP.....		0.0	112	◇		
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> .....				30.6	112	◇	
3.1	<b>Information &amp; communication technologies (ICTs)</b> .....		49.0	98	◇		
3.1.1	ICT access*.....		48.7	91	◇		
3.1.2	ICT use*.....		20.8	107	◇		
3.1.3	Government's online service*.....		64.6	83	◇		
3.1.4	E-participation*.....		61.8	88	◇		
3.2	<b>General infrastructure</b> .....		11.6	127	◇		
3.2.1	Electricity output, kWh/mn pop.....		750.9	99	◇		
3.2.2	Logistics performance*.....		16.4	112	◇		
3.2.3	Gross capital formation, % GDP.....		12.1	122	◇		
3.3	<b>Ecological sustainability</b> .....		31.2	89	◇		
3.3.1	GDP/unit of energy use.....		8.5	69	◇		
3.3.2	Environmental performance*.....		52.3	90	◇		
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..		0.1	121	◇		
<b>MARKET SOPHISTICATION</b> .....				43.2	93	◇	
4.1	<b>Credit</b> .....		32.3	82	◇		
4.1.1	Ease of getting credit*.....		80.0	20	●		
4.1.2	Domestic credit to private sector, % GDP.....		33.3	90	◇		
4.1.3	Microfinance gross loans, % GDP.....		0.2	45	◇		
4.2	<b>Investment</b> .....		31.7	[113]	◇		
4.2.1	Ease of protecting minority investors*.....		31.7	126	◇		
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	<b>Trade, competition, &amp; market scale</b> .....		65.5	50	●		
4.3.1	Applied tariff rate, weighted avg., %.....		1.4	14	●		
4.3.2	Intensity of local competition*.....		72.8	41	●		
4.3.3	Domestic market scale, bn PPP\$.....		145.2	71	◇		
<b>BUSINESS SOPHISTICATION</b> .....				33.7	50	●	
5.1	<b>Knowledge workers</b> .....		27.2	88	◇		
5.1.1	Knowledge-intensive employment, %.....		9.1	101	◇		
5.1.2	Firms offering formal training, % firms.....		51.9	17	●		
5.1.3	GERD performed by business, % GDP.....		0.0	93	◇		
5.1.4	GERD financed by business, %.....		n/a	n/a	◇		
5.1.5	Females employed w/advanced degrees, %.....		2.2	99	◇		
5.2	<b>Innovation linkages</b> .....		39.4	29	●		
5.2.1	University/industry research collaboration*.....		41.6	62	◇		
5.2.2	State of cluster development*.....		42.9	82	◇		
5.2.3	GERD financed by abroad, %.....		49.0	4	●		
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....		0.0	101	◇		
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....		0.0	93	◇		
5.3	<b>Knowledge absorption</b> .....		34.4	59	●		
5.3.1	Intellectual property payments, % total trade.....		1.2	27	●		
5.3.2	High-tech imports, % total trade.....		9.9	31	●		
5.3.3	ICT services imports, % total trade.....		0.9	75	◇		
5.3.4	FDI net inflows, % GDP.....		1.6	91	◇		
5.3.5	Research talent, % in business enterprise.....		n/a	n/a	◇		
<b>KNOWLEDGE &amp; TECHNOLOGY OUTPUTS</b> .....				12.5	111	◇	
6.1	<b>Knowledge creation</b> .....		1.3	126	◇		
6.1.1	Patents by origin/bn PPP\$ GDP.....		0.0	125	◇		
6.1.2	PCT patents by origin/bn PPP\$ GDP.....		0.0	96	◇		
6.1.3	Utility models by origin/bn PPP\$ GDP.....		0.1	60	◇		
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....		0.5	127	◇		
6.1.5	Citable documents H-index.....		3.6	108	◇		
6.2	<b>Knowledge impact</b> .....		24.7	106	◇		
6.2.1	Growth rate of PPP\$ GDP/worker, %.....		-0.5	99	◇		
6.2.2	New businesses/th pop. 15-64.....		0.5	83	◇		
6.2.3	Computer software spending, % GDP.....		0.0	122	◇		
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....		1.5	96	◇		
6.2.5	High- & medium-high-tech manufactures, %.....		n/a	n/a	◇		
6.3	<b>Knowledge diffusion</b> .....		11.6	95	◇		
6.3.1	Intellectual property receipts, % total trade.....		0.0	70	◇		
6.3.2	High-tech net exports, % total trade.....		1.4	62	◇		
6.3.3	ICT services exports, % total trade.....		1.5	70	◇		
6.3.4	FDI net outflows, % GDP.....		0.1	100	◇		
<b>CREATIVE OUTPUTS</b> .....				21.1	90	◇	
7.1	<b>Intangible assets</b> .....		39.8	69	●		
7.1.1	Trademarks by origin/bn PPP\$ GDP.....		45.0	56	●		
7.1.2	Industrial designs by origin/bn PPP\$ GDP.....		0.1	112	◇		
7.1.3	ICTs & business model creation*.....		64.4	52	●		
7.1.4	ICTs & organizational model creation*.....		57.0	56	●		
7.2	<b>Creative goods &amp; services</b> .....		2.9	[110]	◇		
7.2.1	Cultural & creative services exports, % total trade.....		0.0	94	◇		
7.2.2	National feature films/mn pop. 15-69.....		1.2	77	◇		
7.2.3	Entertainment & Media market/th pop. 15-69.....		n/a	n/a	◇		
7.2.4	Printing & other media, % manufacturing.....		n/a	n/a	◇		
7.2.5	Creative goods exports, % total trade.....		0.3	74	◇		
7.3	<b>Online creativity</b> .....		1.8	87	◇		
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....		4.1	59	◇		
7.3.2	Country-code TLDs/th pop. 15-69.....		0.5	93	◇		
7.3.3	Wikipedia edits/mn pop. 15-69.....		3.9	88	◇		
7.3.4	Mobile app creation/bn PPP\$ GDP.....		0.0	97	◇		

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.