

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
76	58	Upper middle	LCN	49.5	748.6	14,943.5	63
				Score/Value	Rank		
INSTITUTIONS				64.0	61		
1.1	Political environment		50.4	82			
1.1.1	Political and operational stability*		61.4	91	○		
1.1.2	Government effectiveness*		44.9	74			
1.2	Regulatory environment		65.4	66			
1.2.1	Regulatory quality*		51.1	55			
1.2.2	Rule of law*		36.9	83			
1.2.3	Cost of redundancy dismissal, salary weeks		16.7	69			
1.3	Business environment		76.4	41			
1.3.1	Ease of starting a business*		85.3	77			
1.3.2	Ease of resolving insolvency*		67.4	37			
HUMAN CAPITAL & RESEARCH				27.0	78		
2.1	Education		38.8	87			
2.1.1	Expenditure on education, % GDP		4.4	64			
2.1.2	Government funding/pupil, secondary, % GDP/cap		17.5	67			
2.1.3	School life expectancy, years		14.6	59			
2.1.4	PISA scales in reading, maths, & science		410.1	59	○		
2.1.5	Pupil-teacher ratio, secondary		26.0	98	○	◇	
2.2	Tertiary education		32.5	60			
2.2.1	Tertiary enrolment, % gross		60.4	44			
2.2.2	Graduates in science & engineering, %		23.7	37			
2.2.3	Tertiary inbound mobility, %		0.2	106	○	◇	
2.3	Research & development (R&D)		9.8	58			
2.3.1	Researchers, FTE/mn pop.		88.5	88	○		
2.3.2	Gross expenditure on R&D, % GDP		0.2	85			
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*		33.2	34			
INFRASTRUCTURE				51.3	47	◇	
3.1	Information & communication technologies (ICTs)		71.4	55			
3.1.1	ICT access*		61.3	74			
3.1.2	ICT use*		44.2	79			
3.1.3	Government's online service*		88.2	30	◆		
3.1.4	E-participation*		92.1	23	◆	◆	
3.2	General infrastructure		28.7	88			
3.2.1	Electricity output, kWh/mn pop.		1,580.8	87			
3.2.2	Logistics performance*		41.1	57			
3.2.3	Gross capital formation, % GDP		21.5	79			
3.3	Ecological sustainability		53.8	13	◆	◆	
3.3.1	GDP/unit of energy use		15.6	10	◆	◆	
3.3.2	Environmental performance*		65.2	38	◆		
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP		4.2	27	●		
MARKET SOPHISTICATION				50.4	53		
4.1	Credit		39.7	55			
4.1.1	Ease of getting credit*		95.0	3	◆	◆	
4.1.2	Domestic credit to private sector, % GDP		49.4	70			
4.1.3	Microfinance gross loans, % GDP		0.1	53			
4.2	Investment		41.2	70			
4.2.1	Ease of protecting minority investors*		75.0	14	◆	◆	
4.2.2	Market capitalization, % GDP		34.9	42			
4.2.3	Venture capital deals/bn PPP\$ GDP		0.0	66	○		
4.3	Trade, competition, & market scale		70.2	32			
4.3.1	Applied tariff rate, weighted avg., %		4.4	78			
4.3.2	Intensity of local competition*		75.0	28	◆	◆	
4.3.3	Domestic market scale, bn PPP\$		748.6	31			
BUSINESS SOPHISTICATION				32.6	58		
5.1	Knowledge workers		46.8	41			
5.1.1	Knowledge-intensive employment, %		16.7	86			
5.1.2	Firms offering formal training, % firms		65.1	4	◆	◆	
5.1.3	GERD performed by business, % GDP		0.1	60			
5.1.4	GERD financed by business, %		49.3	29			
5.1.5	Females employed w/advanced degrees, %		13.7	49			
5.2	Innovation linkages		17.7	109	○		
5.2.1	University/industry research collaboration†		41.9	60			
5.2.2	State of cluster development†		45.1	75			
5.2.3	GERD financed by abroad, %		0.5	96	○		
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP		0.0	75			
5.2.5	Patent families 2+ offices/bn PPP\$ GDP		0.1	59			
5.3	Knowledge absorption		33.1	64			
5.3.1	Intellectual property payments, % total trade		0.9	44			
5.3.2	High-tech imports, % total trade		13.2	16	●		
5.3.3	ICT services imports, % total trade		1.4	51			
5.3.4	FDI net inflows, % GDP		4.4	37			
5.3.5	Research talent, % in business enterprise		2.4	75	○	◇	
KNOWLEDGE & TECHNOLOGY OUTPUTS				19.5	76		
6.1	Knowledge creation		8.6	75			
6.1.1	Patents by origin/bn PPP\$ GDP		0.8	66			
6.1.2	PCT patents by origin/bn PPP\$ GDP		0.2	48			
6.1.3	Utility models by origin/bn PPP\$ GDP		0.3	39			
6.1.4	Scientific & technical articles/bn PPP\$ GDP		4.5	85			
6.1.5	Citable documents H-index		15.8	46			
6.2	Knowledge impact		37.5	60			
6.2.1	Growth rate of PPP\$ GDP/worker, %		1.5	51			
6.2.2	New businesses/th pop. 15-64		2.3	45			
6.2.3	Computer software spending, % GDP		0.2	73			
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP		16.1	21	●		
6.2.5	High- & medium-high-tech manufactures, %		0.2	53			
6.3	Knowledge diffusion		12.5	90			
6.3.1	Intellectual property receipts, % total trade		0.1	55			
6.3.2	High-tech net exports, % total trade		1.3	64			
6.3.3	ICT services exports, % total trade		0.7	92			
6.3.4	FDI net outflows, % GDP		1.4	44			
CREATIVE OUTPUTS				22.3	85		
7.1	Intangible assets		36.8	86			
7.1.1	Trademarks by origin/bn PPP\$ GDP		33.4	73			
7.1.2	Industrial designs by origin/bn PPP\$ GDP		0.4	92	○		
7.1.3	ICTs & business model creation†		60.3	65			
7.1.4	ICTs & organizational model creation†		54.5	62			
7.2	Creative goods & services		9.9	87			
7.2.1	Cultural & creative services exports, % total trade		0.3	68			
7.2.2	National feature films/mn pop. 15-69		1.4	73			
7.2.3	Entertainment & Media market/th pop. 15-69		5.5	47			
7.2.4	Printing & other media, % manufacturing		1.3	43			
7.2.5	Creative goods exports, % total trade		0.2	79			
7.3	Online creativity		6.0	62			
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69		2.8	66			
7.3.2	Country-code TLDs/th pop. 15-69		17.4	29	●		
7.3.3	Wikipedia edits/mn pop. 15-69		4.7	84			
7.3.4	Mobile app creation/bn PPP\$ GDP		0.4	72			

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.