

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
46	55	Upper middle	EUR	0.6	11.8	19,043.3	52
				Score/Value	Rank		
INSTITUTIONS				68.9	46		
1.1	Political environment		58.7	56			
1.1.1	Political and operational stability*.....		75.4	46			
1.1.2	Government effectiveness*.....		50.3	62			
1.2	Regulatory environment		71.7	47			
1.2.1	Regulatory quality*.....		50.0	56			
1.2.2	Rule of law*.....		46.7	63			
1.2.3	Cost of redundancy dismissal, salary weeks.....		11.2	35			
1.3	Business environment		76.3	42			
1.3.1	Ease of starting a business*.....		86.7	72			
1.3.2	Ease of resolving insolvency*.....		66.0	40			
HUMAN CAPITAL & RESEARCH				33.0	[56]		
2.1	Education		49.3	[62]			
2.1.1	Expenditure on education, % GDP.....		n/a	n/a			
2.1.2	Government funding/pupil, secondary, % GDP/cap... ..		n/a	n/a			
2.1.3	School life expectancy, years.....		15.0	51			
2.1.4	PISA scales in reading, maths, & science.....		418.7	52			
2.1.5	Pupil-teacher ratio, secondary.....		n/a	n/a			
2.2	Tertiary education		45.7	[22]			
2.2.1	Tertiary enrolment, % gross.....		58.2	48			
2.2.2	Graduates in science & engineering, %.....		n/a	n/a			
2.2.3	Tertiary inbound mobility, %.....		n/a	n/a			
2.3	Research & development (R&D)		3.8	83			
2.3.1	Researchers, FTE/mn pop.Ⓞ.....		714.3	57			
2.3.2	Gross expenditure on R&D, % GDP.Ⓞ.....		0.3	76			
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	○	◇	
INFRASTRUCTURE				48.8	56		
3.1	Information & communication technologies (ICTs)		68.3	61			
3.1.1	ICT access*.....		74.4	47	◆		
3.1.2	ICT use*.....		58.1	59			
3.1.3	Government's online service*.....		66.7	75			
3.1.4	E-participation*.....		74.2	62			
3.2	General infrastructure		39.0	47			
3.2.1	Electricity output, kWh/mn pop.....		5,066.1	42			
3.2.2	Logistics performance*.....		31.9	76			
3.2.3	Gross capital formation, % GDP.....		30.2	22	●		
3.3	Ecological sustainability		39.0	63			
3.3.1	GDP/unit of energy use.....		9.8	56			
3.3.2	Environmental performance*.....		61.3	58			
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..		1.5	56			
MARKET SOPHISTICATION				44.4	83		
4.1	Credit		36.5	64			
4.1.1	Ease of getting credit*.....		85.0	11	● ◆		
4.1.2	Domestic credit to private sector, % GDP.Ⓞ.....		48.9	71			
4.1.3	Microfinance gross loans, % GDP.....		0.1	48			
4.2	Investment		52.8	33			
4.2.1	Ease of protecting minority investors*.....		61.7	54			
4.2.2	Market capitalization, % GDP.Ⓞ.....		82.6	19			
4.2.3	Venture capital deals/bn PPP\$ GDP.....		n/a	n/a			
4.3	Trade, competition, & market scale		43.9	121	○	◇	
4.3.1	Applied tariff rate, weighted avg., %.....		3.1	64			
4.3.2	Intensity of local competition*.....		62.9	92			
4.3.3	Domestic market scale, bn PPP\$.....		11.8	128	○	◇	
BUSINESS SOPHISTICATION				32.2	62		
5.1	Knowledge workers		39.9	57			
5.1.1	Knowledge-intensive employment, %.....		37.6	32	◆		
5.1.2	Firms offering formal training, % firms.....		23.7	67			
5.1.3	GERD performed by business, % GDP.Ⓞ.....		0.1	71	○		
5.1.4	GERD financed by business, %Ⓞ.....		29.8	61			
5.1.5	Females employed w/advanced degrees, %.....		17.5	34			
5.2	Innovation linkages		21.1	80			
5.2.1	University/industry research collaboration*.....		41.6	61			
5.2.2	State of cluster development*.....		41.8	86			
5.2.3	GERD financed by abroad, %Ⓞ.....		5.9	60			
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....		n/a	n/a			
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....		0.0	93	○	◇	
5.3	Knowledge absorption		35.5	53			
5.3.1	Intellectual property payments, % total trade.....		0.2	85			
5.3.2	High-tech imports, % total trade.....		5.5	98	○		
5.3.3	ICT services imports, % total trade.....		2.6	13	● ◆		
5.3.4	FDI net inflows, % GDP.....		11.3	12	◆ ◆		
5.3.5	Research talent, % in business enterprise...Ⓞ.....		12.2	62			
KNOWLEDGE & TECHNOLOGY OUTPUTS				18.5	79		
6.1	Knowledge creation		12.9	62			
6.1.1	Patents by origin/bn PPP\$ GDP.Ⓞ.....		1.0	62			
6.1.2	PCT patents by origin/bn PPP\$ GDP.....		0.7	33	◆		
6.1.3	Utility models by origin/bn PPP\$ GDP.....		n/a	n/a			
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....		16.8	31	◆		
6.1.5	Citable documents H-index.....		0.6	127	○ ◇		
6.2	Knowledge impact		33.3	80			
6.2.1	Growth rate of PPP\$ GDP/worker, %.....		0.0	86	○		
6.2.2	New businesses/th pop. 15-64.....		6.7	22	●		
6.2.3	Computer software spending, % GDP.....		0.4	23	● ◆		
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....		4.6	59			
6.2.5	High- & medium-high-tech manufactures, %...Ⓞ.....		0.1	88	○ ◇		
6.3	Knowledge diffusion		9.3	107	○		
6.3.1	Intellectual property receipts, % total trade.....		0.0	77			
6.3.2	High-tech net exports, % total trade.....		0.2	96			
6.3.3	ICT services exports, % total trade.....		2.4	43			
6.3.4	FDI net outflows, % GDP.....		-1.2	123	○ ◇		
CREATIVE OUTPUTS				41.4	26	◆ ◆	
7.1	Intangible assets		45.3	49			
7.1.1	Trademarks by origin/bn PPP\$ GDP.....		n/a	n/a			
7.1.2	Industrial designs by origin/bn PPP\$ GDP.Ⓞ.....		0.8	79			
7.1.3	ICTs & business model creation*.....		58.6	71			
7.1.4	ICTs & organizational model creation*.....		52.6	70			
7.2	Creative goods & services		35.8	14	● ◆		
7.2.1	Cultural & creative services exports, % total trade.Ⓞ.....		1.5	14	● ◆		
7.2.2	National feature films/mn pop. 15-69.Ⓞ.....		13.2	10	● ◆		
7.2.3	Entertainment & Media market/th pop. 15-69.....		n/a	n/a			
7.2.4	Printing & other media, % manufacturing.Ⓞ.....		3.0	6	● ◆		
7.2.5	Creative goods exports, % total trade.....		0.1	94			
7.3	Online creativity		39.3	18	● ◆		
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....		1.5	89			
7.3.2	Country-code TLDs/th pop. 15-69.....		100.0	1	● ◆		
7.3.3	Wikipedia edits/mn pop. 15-69.Ⓞ.....		24.3	44			
7.3.4	Mobile app creation/bn PPP\$ GDP.....		n/a	n/a			

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.