

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
59	41	Upper middle	EUR	144.0	4,179.6	29,266.9	46
				Score/Value	Rank		
INSTITUTIONS				60.9	74		
1.1	Political environment		50.2	83			
1.1.1	Political and operational stability*.....		61.4	91	○		
1.1.2	Government effectiveness*.....		44.7	76			
1.2	Regulatory environment		56.5	95	○		
1.2.1	Regulatory quality*.....		29.2	103	○		
1.2.2	Rule of law*.....		25.4	111	○	◇	
1.2.3	Cost of redundancy dismissal, salary weeks.....		17.3	73			
1.3	Business environment		75.8	43			
1.3.1	Ease of starting a business*.....		93.0	29			
1.3.2	Ease of resolving insolvency*.....		58.6	50			
HUMAN CAPITAL & RESEARCH				48.3	23	◇	
2.1	Education		57.6	35			
2.1.1	Expenditure on education, % GDP.....		3.8	86			
2.1.2	Government funding/pupil, secondary, % GDP/cap... n/a		n/a	n/a			
2.1.3	School life expectancy, years.....		15.5	37			
2.1.4	PISA scales in reading, maths, & science.....		491.8	26	◆		
2.1.5	Pupil-teacher ratio, secondary.....		8.8	15	●	◆	
2.2	Tertiary education		50.3	14	●	◆	
2.2.1	Tertiary enrolment, % gross.....		81.8	17	●	◆	
2.2.2	Graduates in science & engineering, %.....		30.9	10	●	◆	
2.2.3	Tertiary inbound mobility, %.....		3.9	54			
2.3	Research & development (R&D)		36.9	30	◆		
2.3.1	Researchers, FTE/mn pop.....		2,851.7	33	◆		
2.3.2	Gross expenditure on R&D, % GDP.....		1.1	33	◆		
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$.....		42.3	40	◆		
2.3.4	QS university ranking, average score top 3*.....		46.7	24	◆		
INFRASTRUCTURE				47.1	62		
3.1	Information & communication technologies (ICTs)		80.7	29	◆		
3.1.1	ICT access*.....		74.0	51	◆		
3.1.2	ICT use*.....		64.9	45	◆		
3.1.3	Government's online service*.....		91.7	25	◆		
3.1.4	E-participation*.....		92.1	23	◆		
3.2	General infrastructure		31.5	81			
3.2.1	Electricity output, kWh/mn pop.....		7,544.3	28	◆		
3.2.2	Logistics performance*.....		32.4	74			
3.2.3	Gross capital formation, % GDP.....		21.2	86			
3.3	Ecological sustainability		29.2	101	○	◇	
3.3.1	GDP/unit of energy use.....		4.3	113	○	◇	
3.3.2	Environmental performance*.....		63.8	47			
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..		0.2	112	○		
MARKET SOPHISTICATION				49.4	61		
4.1	Credit		34.6	69			
4.1.1	Ease of getting credit*.....		80.0	20			
4.1.2	Domestic credit to private sector, % GDP.....		52.7	62			
4.1.3	Microfinance gross loans, % GDP.....		0.0	73	○		
4.2	Investment		34.7	102	○		
4.2.1	Ease of protecting minority investors*.....		61.7	54			
4.2.2	Market capitalization, % GDP.....		38.9	39			
4.2.3	Venture capital deals/bn PPP\$ GDP.....		0.0	77	○		
4.3	Trade, competition, & market scale		78.8	11	●	◆	
4.3.1	Applied tariff rate, weighted avg., %.....		3.6	71			
4.3.2	Intensity of local competition*.....		70.9	51			
4.3.3	Domestic market scale, bn PPP\$.....		4,179.6	6	●	◆	
BUSINESS SOPHISTICATION				40.0	35	◇	
5.1	Knowledge workers		58.0	25	◆		
5.1.1	Knowledge-intensive employment, %.....		44.3	18	●	◆	
5.1.2	Firms offering formal training, % firms.....		46.2	27			
5.1.3	GERD performed by business, % GDP.....		0.7	31	◆		
5.1.4	GERD financed by business, %.....		30.2	58			
5.1.5	Females employed w/advanced degrees, %.....		26.3	7	●	◆	
5.2	Innovation linkages		19.1	93			
5.2.1	University/industry research collaboration*.....		49.6	40			
5.2.2	State of cluster development*.....		41.4	89			
5.2.3	GERD financed by abroad, %.....		2.6	73			
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....		0.0	69			
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....		0.1	52			
5.3	Knowledge absorption		42.7	32	◆		
5.3.1	Intellectual property payments, % total trade.....		1.7	18	●	◆	
5.3.2	High-tech imports, % total trade.....		9.3	39			
5.3.3	ICT services imports, % total trade.....		1.5	45			
5.3.4	FDI net inflows, % GDP.....		1.6	92			
5.3.5	Research talent, % in business enterprise.....		47.1	27	◆		
KNOWLEDGE & TECHNOLOGY OUTPUTS				27.1	47		
6.1	Knowledge creation		29.9	30	◆		
6.1.1	Patents by origin/bn PPP\$ GDP.....		5.8	20	●	◆	
6.1.2	PCT patents by origin/bn PPP\$ GDP.....		0.2	47			
6.1.3	Utility models by origin/bn PPP\$ GDP.....		2.5	8	●	◆	
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....		6.9	63			
6.1.5	Citable documents H-index.....		37.4	22	●	◆	
6.2	Knowledge impact		33.9	77			
6.2.1	Growth rate of PPP\$ GDP/worker, %.....		1.0	63			
6.2.2	New businesses/th pop. 15-64.....		4.3	29			
6.2.3	Computer software spending, % GDP.....		0.2	63			
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....		0.9	111	○		
6.2.5	High- & medium-high-tech manufactures, %.....		0.3	43			
6.3	Knowledge diffusion		17.6	63	◆		
6.3.1	Intellectual property receipts, % total trade.....		0.2	39	◆		
6.3.2	High-tech net exports, % total trade.....		2.6	49			
6.3.3	ICT services exports, % total trade.....		1.3	71			
6.3.4	FDI net outflows, % GDP.....		1.9	30			
CREATIVE OUTPUTS				25.1	72		
7.1	Intangible assets		39.4	71			
7.1.1	Trademarks by origin/bn PPP\$ GDP.....		58.1	38			
7.1.2	Industrial designs by origin/bn PPP\$ GDP.....		0.9	69			
7.1.3	ICTs & business model creation*.....		53.3	91	○		
7.1.4	ICTs & organizational model creation*.....		58.4	49			
7.2	Creative goods & services		9.8	88			
7.2.1	Cultural & creative services exports, % total trade.....		1.0	27			
7.2.2	National feature films/mn pop. 15-69.....		1.2	76			
7.2.3	Entertainment & Media market/th pop. 15-69.....		6.5	43			
7.2.4	Printing & other media, % manufacturing.....		0.8	78	○		
7.2.5	Creative goods exports, % total trade.....		0.3	68			
7.3	Online creativity		12.1	47			
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....		3.5	61			
7.3.2	Country-code TLDs/th pop. 15-69.....		13.3	34			
7.3.3	Wikipedia edits/mn pop. 15-69.....		19.7	49			
7.3.4	Mobile app creation/bn PPP\$ GDP.....		18.1	26			

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.