

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
53	54	Upper middle	EUR	19.6	514.2	26,446.7	49
				Score/Value	Rank		
INSTITUTIONS				67.1	52		
1.1	Political environment		51.6	75			
1.1.1	Political and operational stability*.....		70.2	61			
1.1.2	Government effectiveness*.....		42.3	84			
1.2	Regulatory environment		77.9	35	◆		
1.2.1	Regulatory quality*.....		55.0	46			
1.2.2	Rule of law*.....		56.6	47	◆		
1.2.3	Cost of redundancy dismissal, salary weeks.....		8.0	1	●		
1.3	Business environment		71.9	57			
1.3.1	Ease of starting a business*.....		83.9	86			
1.3.2	Ease of resolving insolvency*.....		59.9	47			
HUMAN CAPITAL & RESEARCH				29.1	69		
2.1	Education		40.5	82			
2.1.1	Expenditure on education, % GDP.....		3.1	99	○		
2.1.2	Government funding/pupil, secondary, % GDP/cap... ..		16.2	76			
2.1.3	School life expectancy, years.....		14.3	67			
2.1.4	PISA scales in reading, maths, & science.....		437.5	47			
2.1.5	Pupil-teacher ratio, secondary.....		12.1	49			
2.2	Tertiary education		41.4	31			
2.2.1	Tertiary enrolment, % gross.....		48.0	60			
2.2.2	Graduates in science & engineering, %.....		28.8	17	●		
2.2.3	Tertiary inbound mobility, %.....		4.8	43			
2.3	Research & development (R&D)		5.3	77			
2.3.1	Researchers, FTE/mn pop.....		890.2	52			
2.3.2	Gross expenditure on R&D, % GDP.....		0.5	64			
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				54.5	35	◆	
3.1	Information & communication technologies (ICTs)		67.6	63			
3.1.1	ICT access*.....		71.4	61			
3.1.2	ICT use*.....		62.4	51	◆		
3.1.3	Government's online service*.....		66.0	79			
3.1.4	E-participation*.....		70.8	67			
3.2	General infrastructure		35.4	64			
3.2.1	Electricity output, kWh/mn pop.....		3,277.3	60			
3.2.2	Logistics performance*.....		49.3	47			
3.2.3	Gross capital formation, % GDP.....		24.3	49			
3.3	Ecological sustainability		60.6	6	● ◆		
3.3.1	GDP/unit of energy use.....		13.0	25	●		
3.3.2	Environmental performance*.....		64.8	41	◆		
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..		11.7	4	● ◆		
MARKET SOPHISTICATION				43.2	92		
4.1	Credit		30.2	92			
4.1.1	Ease of getting credit*.....		80.0	20			
4.1.2	Domestic credit to private sector, % GDP.....		26.4	103	○		
4.1.3	Microfinance gross loans, % GDP.....		0.0	72	○		
4.2	Investment		30.4	120	○ ◇		
4.2.1	Ease of protecting minority investors*.....		60.0	61			
4.2.2	Market capitalization, % GDP.....		7.9	72	○		
4.2.3	Venture capital deals/bn PPP\$ GDP.....		0.0	76	○		
4.3	Trade, competition, & market scale		68.9	38			
4.3.1	Applied tariff rate, weighted avg., %.....		1.8	23			
4.3.2	Intensity of local competition*.....		62.9	93	○		
4.3.3	Domestic market scale, bn PPP\$.....		514.2	39			
BUSINESS SOPHISTICATION				33.6	51		
5.1	Knowledge workers		40.4	56			
5.1.1	Knowledge-intensive employment, %.....		23.3	63			
5.1.2	Firms offering formal training, % firms.....		40.7	33			
5.1.3	GERD performed by business, % GDP.....		0.3	48			
5.1.4	GERD financed by business, %.....		49.4	27			
5.1.5	Females employed w/advanced degrees, %.....		11.0	60			
5.2	Innovation linkages		19.2	92			
5.2.1	University/industry research collaboration*.....		38.7	74			
5.2.2	State of cluster development*.....		34.5	109	○ ◇		
5.2.3	GERD financed by abroad, %.....		9.9	43			
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....		0.0	70			
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....		0.1	64			
5.3	Knowledge absorption		41.1	38	◆		
5.3.1	Intellectual property payments, % total trade.....		1.0	34			
5.3.2	High-tech imports, % total trade.....		9.8	34			
5.3.3	ICT services imports, % total trade.....		2.3	16	● ◆		
5.3.4	FDI net inflows, % GDP.....		2.9	59			
5.3.5	Research talent, % in business enterprise.....		25.5	48			
KNOWLEDGE & TECHNOLOGY OUTPUTS				30.3	41		
6.1	Knowledge creation		10.5	69			
6.1.1	Patents by origin/bn PPP\$ GDP.....		2.4	37			
6.1.2	PCT patents by origin/bn PPP\$ GDP.....		0.1	73			
6.1.3	Utility models by origin/bn PPP\$ GDP.....		0.1	55	○		
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....		10.6	43			
6.1.5	Citable documents H-index.....		13.9	53			
6.2	Knowledge impact		55.2	8	● ◆		
6.2.1	Growth rate of PPP\$ GDP/worker, %.....		4.7	11	● ◆		
6.2.2	New businesses/th pop. 15-64.....		5.6	25			
6.2.3	Computer software spending, % GDP.....		0.3	45			
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....		25.2	9	● ◆		
6.2.5	High- & medium-high-tech manufactures, %.....		0.4	22	● ◆		
6.3	Knowledge diffusion		25.1	38			
6.3.1	Intellectual property receipts, % total trade.....		0.1	57			
6.3.2	High-tech net exports, % total trade.....		4.2	35			
6.3.3	ICT services exports, % total trade.....		4.9	10	● ◆		
6.3.4	FDI net outflows, % GDP.....		0.5	66			
CREATIVE OUTPUTS				25.8	71		
7.1	Intangible assets		38.6	78			
7.1.1	Trademarks by origin/bn PPP\$ GDP.....		43.1	60			
7.1.2	Industrial designs by origin/bn PPP\$ GDP.....		2.6	45			
7.1.3	ICTs & business model creation*.....		60.8	61			
7.1.4	ICTs & organizational model creation*.....		50.0	81			
7.2	Creative goods & services		14.7	68			
7.2.1	Cultural & creative services exports, % total trade.....		1.5	15	● ◆		
7.2.2	National feature films/mn pop. 15-69.....		2.0	63			
7.2.3	Entertainment & Media market/th pop. 15-69.....		5.9	45			
7.2.4	Printing & other media, % manufacturing.....		1.0	65			
7.2.5	Creative goods exports, % total trade.....		0.7	52			
7.3	Online creativity		11.2	50			
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....		4.6	56			
7.3.2	Country-code TLDs/th pop. 15-69.....		15.8	32			
7.3.3	Wikipedia edits/mn pop. 15-69.....		12.5	60			
7.3.4	Mobile app creation/bn PPP\$ GDP.....		16.1	29			

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.