

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
95	50	Upper middle	EUR	9.5	190.8	20,003.0	86
				Score/Value	Rank		
INSTITUTIONS				57.7	83		
1.1	Political environment		48.8	87			
1.1.1	Political and operational stability*.....		70.2	61			
1.1.2	Government effectiveness*.....		38.1	91			
1.2	Regulatory environment		51.3	107	○ ◇		
1.2.1	Regulatory quality*.....		22.2	113	○ ◇		
1.2.2	Rule of law*.....		24.7	112	○ ◇		
1.2.3	Cost of redundancy dismissal, salary weeks.....		21.7	92			
1.3	Business environment		73.0	54			
1.3.1	Ease of starting a business*.....		93.4	26			
1.3.2	Ease of resolving insolvency*.....		52.6	66			
HUMAN CAPITAL & RESEARCH				41.6	39	◆	
2.1	Education		60.8	20	◆		
2.1.1	Expenditure on education, % GDP.....		4.8	53			
2.1.2	Government funding/pupil, secondary, % GDP/cap... ..		35.9	8	● ◆		
2.1.3	School life expectancy, years.....		15.4	43			
2.1.4	PISA scales in reading, maths, & science.....		n/a	n/a			
2.1.5	Pupil-teacher ratio, secondary.....		8.2	11	● ◆		
2.2	Tertiary education		54.8	9	● ◆		
2.2.1	Tertiary enrolment, % gross.....		86.7	11	● ◆		
2.2.2	Graduates in science & engineering, %.....		33.2	6	● ◆		
2.2.3	Tertiary inbound mobility, %.....		4.2	51			
2.3	Research & development (R&D)		9.1	61			
2.3.1	Researchers, FTE/mn pop.....		n/a	n/a			
2.3.2	Gross expenditure on R&D, % GDP.....		0.6	54			
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*.....		14.8	57			
INFRASTRUCTURE				48.2	60		
3.1	Information & communication technologies (ICTs)		77.9	37	◆		
3.1.1	ICT access*.....		80.8	23	◆		
3.1.2	ICT use*.....		68.8	37	◆		
3.1.3	Government's online service*.....		73.6	57			
3.1.4	E-participation*.....		88.2	33			
3.2	General infrastructure		31.7	79			
3.2.1	Electricity output, kWh/mn pop.....		3,529.5	57			
3.2.2	Logistics performance*.....		23.9	97	◇		
3.2.3	Gross capital formation, % GDP.....		26.6	36			
3.3	Ecological sustainability		35.2	78			
3.3.1	GDP/unit of energy use.....		6.2	99	○ ◇		
3.3.2	Environmental performance*.....		65.0	40	◆		
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..		1.9	51			
MARKET SOPHISTICATION				50.0	56		
4.1	Credit		21.8	115	○ ◇		
4.1.1	Ease of getting credit*.....		55.0	77			
4.1.2	Domestic credit to private sector, % GDP.....		26.4	104	○		
4.1.3	Microfinance gross loans, % GDP.....		0.0	81	○ ◇		
4.2	Investment		63.3	[17]			
4.2.1	Ease of protecting minority investors*.....		63.3	48			
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	Trade, competition, & market scale		64.8	54			
4.3.1	Applied tariff rate, weighted avg., %.....		1.5	15	●		
4.3.2	Intensity of local competition*.....		n/a	n/a			
4.3.3	Domestic market scale, bn PPP\$.....		190.8	64			
BUSINESS SOPHISTICATION				32.6	56		
5.1	Knowledge workers		61.3	23	◆		
5.1.1	Knowledge-intensive employment, %.....		39.2	27	◆		
5.1.2	Firms offering formal training, % firms.....		51.1	19			
5.1.3	GERD performed by business, % GDP.....		0.4	41			
5.1.4	GERD financed by business, %.....		43.0	41			
5.1.5	Females employed w/advanced degrees, %.....		32.6	1	● ◆		
5.2	Innovation linkages		11.4	[126]			
5.2.1	University/industry research collaboration*.....		n/a	n/a			
5.2.2	State of cluster development*.....		n/a	n/a			
5.2.3	GERD financed by abroad, %.....		14.1	29			
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....		0.0	100	○		
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....		0.1	60			
5.3	Knowledge absorption		25.1	101			
5.3.1	Intellectual property payments, % total trade.....		0.4	70			
5.3.2	High-tech imports, % total trade.....		5.1	104			
5.3.3	ICT services imports, % total trade.....		0.7	93			
5.3.4	FDI net inflows, % GDP.....		2.6	63			
5.3.5	Research talent, % in business enterprise.....		n/a	n/a			
KNOWLEDGE & TECHNOLOGY OUTPUTS				25.5	51		
6.1	Knowledge creation		17.5	52			
6.1.1	Patents by origin/bn PPP\$ GDP.....		3.1	30			
6.1.2	PCT patents by origin/bn PPP\$ GDP.....		0.1	61			
6.1.3	Utility models by origin/bn PPP\$ GDP.....		2.2	10	●		
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....		5.3	78			
6.1.5	Citable documents H-index.....		9.7	70			
6.2	Knowledge impact		40.1	48			
6.2.1	Growth rate of PPP\$ GDP/worker, %.....		2.5	35			
6.2.2	New businesses/th pop. 15-64.....		1.1	69			
6.2.3	Computer software spending, % GDP.....		0.0	107	○ ◇		
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....		22.2	14	● ◆		
6.2.5	High- & medium-high-tech manufactures, %.....		0.3	45			
6.3	Knowledge diffusion		18.7	55			
6.3.1	Intellectual property receipts, % total trade.....		0.1	59			
6.3.2	High-tech net exports, % total trade.....		1.8	57			
6.3.3	ICT services exports, % total trade.....		4.0	19	● ◆		
6.3.4	FDI net outflows, % GDP.....		0.2	89			
CREATIVE OUTPUTS				10.8	126	○ ◇	
7.1	Intangible assets		8.0	[127]			
7.1.1	Trademarks by origin/bn PPP\$ GDP.....		24.8	81			
7.1.2	Industrial designs by origin/bn PPP\$ GDP.....		1.0	68			
7.1.3	ICTs & business model creation*.....		n/a	n/a			
7.1.4	ICTs & organizational model creation*.....		n/a	n/a			
7.2	Creative goods & services		5.0	101	◇		
7.2.1	Cultural & creative services exports, % total trade.....		0.2	69			
7.2.2	National feature films/mn pop. 15-69.....		0.1	105	○ ◇		
7.2.3	Entertainment & Media market/th pop. 15-69.....		n/a	n/a			
7.2.4	Printing & other media, % manufacturing.....		0.5	90	○		
7.2.5	Creative goods exports, % total trade.....		0.4	63			
7.3	Online creativity		22.1	31	◆		
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....		1.7	83			
7.3.2	Country-code TLDs/th pop. 15-69.....		5.2	47			
7.3.3	Wikipedia edits/mn pop. 15-69.....		22.2	47			
7.3.4	Mobile app creation/bn PPP\$ GDP.....		66.5	6	● ◆		

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.