

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
26	39	High	EUR	9.7	308.2	31,902.7	33
INSTITUTIONS 71.6 41				BUSINESS SOPHISTICATION 40.8 33			
1.1	Political environment	67.4	41	5.1	Knowledge workers	42.1	51
1.1.1	Political and operational stability*	84.2	25	5.1.1	Knowledge-intensive employment, %	34.3	38
1.1.2	Government effectiveness*	59.0	43	5.1.2	Firms offering formal training, % firms	15.8	84
1.2	Regulatory environment	75.8	36	5.1.3	GERD performed by business, % GDP	1.0	22
1.2.1	Regulatory quality*	59.4	42	5.1.4	GERD financed by business, %	56.4	17
1.2.2	Rule of law*	60.4	40	5.1.5	Females employed w/advanced degrees, %	14.4	43
1.2.3	Cost of redundancy dismissal, salary weeks	13.4	50	5.2	Innovation linkages	27.3	57
1.3	Business environment	71.5	59	5.2.1	University/industry research collaboration†	44.4	53
1.3.1	Ease of starting a business*	87.9	66	5.2.2	State of cluster development†	46.8	62
1.3.2	Ease of resolving insolvency*	55.0	60	5.2.3	GERD financed by abroad, %	16.6	21
				5.2.4	JV-strategic alliance deals/bn PPP\$ GDP	0.0	73
				5.2.5	Patent families 2+ offices/bn PPP\$ GDP	0.4	35
HUMAN CAPITAL & RESEARCH 41.0 41				KNOWLEDGE & TECHNOLOGY OUTPUTS ...42.8 17			
2.1	Education	51.8	52	5.3	Knowledge absorption	53.0	16
2.1.1	Expenditure on education, % GDP	4.6	59	5.3.1	Intellectual property payments, % total trade	1.5	22
2.1.2	Government funding/pupil, secondary, % GDP/cap	21.2	45	5.3.2	High-tech imports, % total trade	13.2	17
2.1.3	School life expectancy, years	15.1	49	5.3.3	ICT services imports, % total trade	1.3	58
2.1.4	PISA scales in reading, maths, & science	474.4	36	5.3.4	FDI net inflows, % GDP	13.6	9
2.1.5	Pupil-teacher ratio, secondary	10.0	30	5.3.5	Research talent, % in business enterprise	61.7	11
2.2	Tertiary education	36.8	47	6.1	Knowledge creation	20.3	43
2.2.1	Tertiary enrolment, % gross	48.0	59	6.1.1	Patents by origin/bn PPP\$ GDP	2.0	42
2.2.2	Graduates in science & engineering, %	22.8	45	6.1.2	PCT patents by origin/bn PPP\$ GDP	0.5	36
2.2.3	Tertiary inbound mobility, %	8.9	22	6.1.3	Utility models by origin/bn PPP\$ GDP	0.7	31
2.3	Research & development (R&D)	34.4	34	6.1.4	Scientific & technical articles/bn PPP\$ GDP	15.8	34
2.3.1	Researchers, FTE/mn pop	2,924.0	31	6.1.5	Citable documents H-index	28.3	33
2.3.2	Gross expenditure on R&D, % GDP	1.4	25	6.2	Knowledge impact	49.6	15
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$	52.5	27	6.2.1	Growth rate of PPP\$ GDP/worker, %	1.4	54
2.3.4	QS university ranking, average score top 3*	20.5	50	6.2.2	New businesses/th pop. 15-64	3.4	37
				6.2.3	Computer software spending, % GDP	0.3	36
				6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP	20.5	16
				6.2.5	High- & medium-high-tech manufactures, %	0.6	8
INFRASTRUCTURE 52.7 40				CREATIVE OUTPUTS34.6 38			
3.1	Information & communication technologies (ICTs)	71.5	54	6.3	Knowledge diffusion	58.4	8
3.1.1	ICT access*	77.9	34	6.3.1	Intellectual property receipts, % total trade	1.6	16
3.1.2	ICT use*	63.6	48	6.3.2	High-tech net exports, % total trade	12.5	11
3.1.3	Government's online service*	73.6	57	6.3.3	ICT services exports, % total trade	1.9	58
3.1.4	E-participation*	70.8	67	6.3.4	FDI net outflows, % GDP	11.6	1
3.2	General infrastructure	37.8	52	7.1	Intangible assets	43.0	56
3.2.1	Electricity output, kWh/mn pop	3,354.0	58	7.1.1	Trademarks by origin/bn PPP\$ GDP	40.5	64
3.2.2	Logistics performance*	63.4	30	7.1.2	Industrial designs by origin/bn PPP\$ GDP	3.2	40
3.2.3	Gross capital formation, % GDP	23.3	62	7.1.3	ICTs & business model creation†	65.5	50
3.3	Ecological sustainability	48.9	35	7.1.4	ICTs & organizational model creation†	60.3	42
3.3.1	GDP/unit of energy use	9.4	61	7.2	Creative goods & services	31.6	24
3.3.2	Environmental performance*	65.0	39	7.2.1	Cultural & creative services exports, % total trade	0.8	36
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP	7.6	11	7.2.2	National feature films/mn pop. 15-69	5.2	42
				7.2.3	Entertainment & Media market/th pop. 15-69	14.1	29
				7.2.4	Printing & other media, % manufacturing	0.8	75
				7.2.5	Creative goods exports, % total trade	6.1	9
MARKET SOPHISTICATION 45.7 76				Online creativity 20.6 32			
4.1	Credit	44.5	46	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	10.4	39
4.1.1	Ease of getting credit*	75.0	29	7.3.2	Country-code TLDs/th pop. 15-69	29.1	20
4.1.2	Domestic credit to private sector, % GDP	33.4	89	7.3.3	Wikipedia edits/mn pop. 15-69	53.7	21
4.1.3	Microfinance gross loans, % GDP	n/a	n/a	7.3.4	Mobile app creation/bn PPP\$ GDP	6.7	46
4.2	Investment	27.1	124				
4.2.1	Ease of protecting minority investors*	50.0	93				
4.2.2	Market capitalization, % GDP	18.3	62				
4.2.3	Venture capital deals/bn PPP\$ GDP	0.0	56				
4.3	Trade, competition, & market scale	65.5	51				
4.3.1	Applied tariff rate, weighted avg., %	1.8	23				
4.3.2	Intensity of local competition†	59.3	110				
4.3.3	Domestic market scale, bn PPP\$	308.2	54				

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.