

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
35	31	High	EUR	10.3	328.8	32,006.4	32
INSTITUTIONS 81.8 22				BUSINESS SOPHISTICATION 37.3 42			
1.1	Political environment	81.2	19	●	5.1	Knowledge workers	50.0 37
1.1.1	Political and operational stability*	86.0	21		5.1.1	Knowledge-intensive employment, %	36.1 35
1.1.2	Government effectiveness*	78.8	22		5.1.2	Firms offering formal training, % firms	n/a n/a
1.2	Regulatory environment	78.8	32		5.1.3	GERD performed by business, % GDP	0.7 29
1.2.1	Regulatory quality*	66.3	35		5.1.4	GERD financed by business, %	44.4 37
1.2.2	Rule of law*	76.3	25		5.1.5	Females employed w/advanced degrees, %	16.1 40
1.2.3	Cost of redundancy dismissal, salary weeks	17.0	70	○	5.2	Innovation linkages	27.7 53
1.3	Business environment	85.5	19	●	5.2.1	University/industry research collaboration†	54.5 31
1.3.1	Ease of starting a business*	90.9	49		5.2.2	State of cluster development†	54.4 37
1.3.2	Ease of resolving insolvency*	80.0	15	●	5.2.3	GERD financed by abroad, %	8.0 48
HUMAN CAPITAL & RESEARCH 47.7 24				KNOWLEDGE & TECHNOLOGY OUTPUTS 29.8 43			
2.1	Education	59.4	27		5.3	Knowledge absorption	34.3 61
2.1.1	Expenditure on education, % GDP	4.9	52		5.3.1	Intellectual property payments, % total trade	0.9 42
2.1.2	Government funding/pupil, secondary, % GDP/cap	27.7	16	●	5.3.2	High-tech imports, % total trade	6.9 72 ○
2.1.3	School life expectancy, years	16.3	27		5.3.3	ICT services imports, % total trade	1.1 64
2.1.4	PISA scales in reading, maths, & science	497.0	22		5.3.4	FDI net inflows, % GDP	3.5 48
2.1.5	Pupil-teacher ratio, secondary	9.6	24		5.3.5	Research talent, % in business enterprise	34.3 38
2.2	Tertiary education	44.9	24		6.1	Knowledge creation	25.3 34
2.2.1	Tertiary enrolment, % gross	62.9	41		6.1.1	Patents by origin/bn PPP\$ GDP	2.5 35
2.2.2	Graduates in science & engineering, %	29.0	16	●	6.1.2	PCT patents by origin/bn PPP\$ GDP	0.8 30
2.2.3	Tertiary inbound mobility, %	5.0	41		6.1.3	Utility models by origin/bn PPP\$ GDP	0.2 40 ○
2.3	Research & development (R&D)	38.8	26		6.1.4	Scientific & technical articles/bn PPP\$ GDP	29.3 8 ● ◆
2.3.1	Researchers, FTE/mn pop	4,350.5	20		6.1.5	Citable documents H-index	30.4 30
2.3.2	Gross expenditure on R&D, % GDP	1.3	26		6.2	Knowledge impact	47.0 22
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$	43.1	38		6.2.1	Growth rate of PPP\$ GDP/worker, %	-0.1 92 ○
2.3.4	QS university ranking, average score top 3*	30.3	38		6.2.2	New businesses/th pop. 15-64	5.0 26
INFRASTRUCTURE 56.8 31				CREATIVE OUTPUTS 39.4 32			
3.1	Information & communication technologies (ICTs)	82.5	25		6.3	Knowledge diffusion	17.1 69
3.1.1	ICT access*	80.3	28		6.3.1	Intellectual property receipts, % total trade	0.1 47
3.1.2	ICT use*	66.8	40		6.3.2	High-tech net exports, % total trade	2.7 48
3.1.3	Government's online service*	93.1	17		6.3.3	ICT services exports, % total trade	1.7 61
3.1.4	E-participation*	89.9	30		6.3.4	FDI net outflows, % GDP	1.3 49
3.2	General infrastructure	35.9	60		7.1	Intangible assets	58.2 13 ● ◆
3.2.1	Electricity output, kWh/mn pop	5,592.2	37		7.1.1	Trademarks by origin/bn PPP\$ GDP	98.4 14 ● ◆
3.2.2	Logistics performance*	73.9	23		7.1.2	Industrial designs by origin/bn PPP\$ GDP	7.2 18 ●
3.2.3	Gross capital formation, % GDP	17.3	107	○ ◇	7.1.3	ICTs & business model creation†	78.6 11 ●
3.3	Ecological sustainability	52.0	23		7.1.4	ICTs & organizational model creation†	64.8 30
3.3.1	GDP/unit of energy use	12.3	27		7.2	Creative goods & services	21.4 52
3.3.2	Environmental performance*	71.9	25		7.2.1	Cultural & creative services exports, % total trade	0.6 42
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP	4.7	24		7.2.2	National feature films/mn pop. 15-69	5.2 41
MARKET SOPHISTICATION 49.8 58				7.3 Online creativity 19.8 35			
4.1	Credit	47.4	38		7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	18.8 29
4.1.1	Ease of getting credit*	45.0	94	○	7.3.2	Country-code TLDs/th pop. 15-69	41.7 16 ●
4.1.2	Domestic credit to private sector, % GDP	104.1	24		7.3.3	Wikipedia edits/mn pop. 15-69	23.4 46
4.1.3	Microfinance gross loans, % GDP	n/a	n/a		7.3.4	Mobile app creation/bn PPP\$ GDP	2.8 59 ○
4.2	Investment	33.5	105	○ ◇	4.3	Trade, competition, & market scale	68.5 40
4.2.1	Ease of protecting minority investors*	60.0	61		4.3.1	Applied tariff rate, weighted avg., %	1.8 23
4.2.2	Market capitalization, % GDP	30.9	47	○	4.3.2	Intensity of local competition†	70.3 55
4.2.3	Venture capital deals/bn PPP\$ GDP	0.0	58	○	4.3.3	Domestic market scale, bn PPP\$	328.8 51

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.