

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
29	30	High	EUR	59.3	2,398.2	39,637.0	31
				Score/Value	Rank		
<b>INSTITUTIONS</b>				75.3	34		
<b>1.1</b>	<b>Political environment</b>	63.7	46	◇			
1.1.1	Political and operational stability*	73.7	50	◇			
1.1.2	Government effectiveness*	58.7	44	◇			
<b>1.2</b>	<b>Regulatory environment</b>	79.0	31				
1.2.1	Regulatory quality*	60.8	39				
1.2.2	Rule of law*	55.0	50	◇			
1.2.3	Cost of redundancy dismissal, salary weeks	8.0	1	● ◆			
<b>1.3</b>	<b>Business environment</b>	83.4	23				
1.3.1	Ease of starting a business*	89.5	57				
1.3.2	Ease of resolving insolvency*	77.3	21				
<b>HUMAN CAPITAL &amp; RESEARCH</b>				45.4	31		
<b>2.1</b>	<b>Education</b>	53.6	49				
2.1.1	Expenditure on education, % GDP	4.1	75	○			
2.1.2	Government funding/pupil, secondary, % GDP/cap	22.9	37				
2.1.3	School life expectancy, years	16.2	30				
2.1.4	PISA scales in reading, maths, & science	485.0	31				
2.1.5	Pupil-teacher ratio, secondary	10.0	31				
<b>2.2</b>	<b>Tertiary education</b>	37.0	46				
2.2.1	Tertiary enrolment, % gross	63.0	40				
2.2.2	Graduates in science & engineering, %	23.3	42				
2.2.3	Tertiary inbound mobility, %	5.1	39				
<b>2.3</b>	<b>Research &amp; development (R&amp;D)</b>	45.5	22				
2.3.1	Researchers, FTE/mn pop	2,294.5	37				
2.3.2	Gross expenditure on R&D, % GDP	1.4	24				
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$	77.2	13	●			
2.3.4	QS university ranking, average score top 3*	47.6	20				
<b>INFRASTRUCTURE</b>				59.4	22		
<b>3.1</b>	<b>Information &amp; communication technologies (ICTs)</b>	82.6	24				
3.1.1	ICT access*	74.3	48	◇			
3.1.2	ICT use*	65.3	44				
3.1.3	Government's online service*	95.1	9	●			
3.1.4	E-participation*	95.5	15	●			
<b>3.2</b>	<b>General infrastructure</b>	37.2	55				
3.2.1	Electricity output, kWh/mn pop	4,845.3	46				
3.2.2	Logistics performance*	78.4	19				
3.2.3	Gross capital formation, % GDP	18.1	103	○ ◇			
<b>3.3</b>	<b>Ecological sustainability</b>	58.3	9	●			
3.3.1	GDP/unit of energy use	13.5	18				
3.3.2	Environmental performance*	77.0	16	●			
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP	6.3	17				
<b>MARKET SOPHISTICATION</b>				51.4	50		
<b>4.1</b>	<b>Credit</b>	41.7	50				
4.1.1	Ease of getting credit*	45.0	94	○			
4.1.2	Domestic credit to private sector, % GDP	81.7	35				
4.1.3	Microfinance gross loans, % GDP	n/a	n/a				
<b>4.2</b>	<b>Investment</b>	34.0	104	○ ◇			
4.2.1	Ease of protecting minority investors*	58.3	68	○			
4.2.2	Market capitalization, % GDP	26.5	51	○			
4.2.3	Venture capital deals/bn PPP\$ GDP	0.0	33				
<b>4.3</b>	<b>Trade, competition, &amp; market scale</b>	78.7	12	● ◆			
4.3.1	Applied tariff rate, weighted avg., %	1.8	23				
4.3.2	Intensity of local competition*	71.4	47				
4.3.3	Domestic market scale, bn PPP\$	2,398.2	12	● ◆			
<b>BUSINESS SOPHISTICATION</b>				42.2	29		
<b>5.1</b>	<b>Knowledge workers</b>	50.7	36				
5.1.1	Knowledge-intensive employment, %	36.1	36				
5.1.2	Firms offering formal training, % firms	n/a	n/a				
5.1.3	GERD performed by business, % GDP	0.8	23				
5.1.4	GERD financed by business, %	52.1	23				
5.1.5	Females employed w/advanced degrees, %	12.6	54				
<b>5.2</b>	<b>Innovation linkages</b>	37.6	34				
5.2.1	University/industry research collaboration†	49.5	41				
5.2.2	State of cluster development†	74.5	4	● ◆			
5.2.3	GERD financed by abroad, %	9.8	44				
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP	0.0	61	○			
5.2.5	Patent families 2+ offices/bn PPP\$ GDP	2.0	21				
<b>5.3</b>	<b>Knowledge absorption</b>	38.2	43				
5.3.1	Intellectual property payments, % total trade	0.9	45				
5.3.2	High-tech imports, % total trade	6.7	77	○			
5.3.3	ICT services imports, % total trade	1.7	32				
5.3.4	FDI net inflows, % GDP	0.8	114	○			
5.3.5	Research talent, % in business enterprise	42.6	31				
<b>KNOWLEDGE &amp; TECHNOLOGY OUTPUTS</b>				38.9	22		
<b>6.1</b>	<b>Knowledge creation</b>	38.0	23				
6.1.1	Patents by origin/bn PPP\$ GDP	5.6	21				
6.1.2	PCT patents by origin/bn PPP\$ GDP	1.4	25				
6.1.3	Utility models by origin/bn PPP\$ GDP	0.8	30				
6.1.4	Scientific & technical articles/bn PPP\$ GDP	16.9	30				
6.1.5	Citable documents H-index	69.2	7	● ◆			
<b>6.2</b>	<b>Knowledge impact</b>	55.7	6	● ◆			
6.2.1	Growth rate of PPP\$ GDP/worker, %	0.1	85	○			
6.2.2	New businesses/th pop. 15-64	2.7	41				
6.2.3	Computer software spending, % GDP	0.6	13	●			
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP	42.2	1	● ◆			
6.2.5	High- & medium-high-tech manufactures, %	0.4	26				
<b>6.3</b>	<b>Knowledge diffusion</b>	23.1	42				
6.3.1	Intellectual property receipts, % total trade	0.7	22				
6.3.2	High-tech net exports, % total trade	5.3	29				
6.3.3	ICT services exports, % total trade	1.6	67				
6.3.4	FDI net outflows, % GDP	0.8	56				
<b>CREATIVE OUTPUTS</b>				36.8	37		
<b>7.1</b>	<b>Intangible assets</b>	53.0	28				
7.1.1	Trademarks by origin/bn PPP\$ GDP	47.3	52				
7.1.2	Industrial designs by origin/bn PPP\$ GDP	16.6	5	● ◆			
7.1.3	ICTs & business model creation†	66.0	47				
7.1.4	ICTs & organizational model creation†	54.6	61	◇			
<b>7.2</b>	<b>Creative goods &amp; services</b>	21.7	51				
7.2.1	Cultural & creative services exports, % total trade	0.4	60				
7.2.2	National feature films/mn pop. 15-69	4.2	46				
7.2.3	Entertainment & Media market/th pop. 15-69	29.4	23				
7.2.4	Printing & other media, % manufacturing	1.3	44				
7.2.5	Creative goods exports, % total trade	2.2	24				
<b>7.3</b>	<b>Online creativity</b>	19.4	36				
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	23.2	24				
7.3.2	Country-code TLDs/th pop. 15-69	21.5	27				
7.3.3	Wikipedia edits/mn pop. 15-69	44.1	32				
7.3.4	Mobile app creation/bn PPP\$ GDP	3.4	58	○			

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.