

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
<b>38</b>	<b>45</b>	<b>Upper middle</b>	<b>EUR</b>	<b>7.0</b>	<b>162.7</b>	<b>23,155.6</b>	<b>37</b>
				Score/Value	Rank		
<b>INSTITUTIONS.....</b>				<b>68.3</b>	<b>48</b>		
<b>1.1</b>	<b>Political environment.....</b>		<b>58.1</b>	<b>59</b>			
1.1.1	Political and operational stability*.....		68.4	71			
1.1.2	Government effectiveness*.....		52.9	52			
<b>1.2</b>	<b>Regulatory environment.....</b>		<b>75.5</b>	<b>37</b>			
1.2.1	Regulatory quality*.....		58.7	43			
1.2.2	Rule of law*.....		45.3	66			
1.2.3	Cost of redundancy dismissal, salary weeks.....		8.6	17			
<b>1.3</b>	<b>Business environment.....</b>		<b>71.5</b>	<b>60</b>			
1.3.1	Ease of starting a business*.....		85.4	76			
1.3.2	Ease of resolving insolvency*.....		57.5	51			
<b>HUMAN CAPITAL &amp; RESEARCH.....</b>				<b>30.6</b>	<b>62</b>		
<b>2.1</b>	<b>Education.....</b>		<b>47.0</b>	<b>68</b>			
2.1.1	Expenditure on education, % GDP.....		4.1	77	○		
2.1.2	Government funding/pupil, secondary, % GDP/cap.....		21.7	43			
2.1.3	School life expectancy, years.....		14.8	56			
2.1.4	PISA scales in reading, maths, & science.....		439.6	45	○		
2.1.5	Pupil-teacher ratio, secondary.....		12.6	52			
<b>2.2</b>	<b>Tertiary education.....</b>		<b>33.1</b>	<b>58</b>			
2.2.1	Tertiary enrolment, % gross.....		71.2	26	◆		
2.2.2	Graduates in science & engineering, %.....		19.7	67	○		
2.2.3	Tertiary inbound mobility, %.....		4.6	44			
<b>2.3</b>	<b>Research &amp; development (R&amp;D).....</b>		<b>11.7</b>	<b>51</b>			
2.3.1	Researchers, FTE/mn pop.....		2,130.5	38	◆		
2.3.2	Gross expenditure on R&D, % GDP.....		0.8	47			
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*.....		4.7	68			
<b>INFRASTRUCTURE.....</b>				<b>53.7</b>	<b>39</b>		
<b>3.1</b>	<b>Information &amp; communication technologies (ICTs).....</b>		<b>74.9</b>	<b>45</b>			
3.1.1	ICT access*.....		70.3	62			
3.1.2	ICT use*.....		65.8	42	◆		
3.1.3	Government's online service*.....		76.4	54			
3.1.4	E-participation*.....		87.1	35			
<b>3.2</b>	<b>General infrastructure.....</b>		<b>33.9</b>	<b>69</b>			
3.2.1	Electricity output, kWh/mn pop.....		6,262.4	33	◆		
3.2.2	Logistics performance*.....		45.4	51			
3.2.3	Gross capital formation, % GDP.....		21.5	82	○		
<b>3.3</b>	<b>Ecological sustainability.....</b>		<b>52.2</b>	<b>21</b>	◆		
3.3.1	GDP/unit of energy use.....		6.8	88	○		
3.3.2	Environmental performance*.....		67.9	29	◆		
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....		11.9	2	◆		
<b>MARKET SOPHISTICATION.....</b>				<b>47.5</b>	<b>66</b>		
<b>4.1</b>	<b>Credit.....</b>		<b>31.8</b>	<b>84</b>	○		
4.1.1	Ease of getting credit*.....		65.0	54			
4.1.2	Domestic credit to private sector, % GDP.....		50.6	67			
4.1.3	Microfinance gross loans, % GDP.....		0.4	32			
<b>4.2</b>	<b>Investment.....</b>		<b>47.1</b>	<b>46</b>			
4.2.1	Ease of protecting minority investors*.....		68.3	30			
4.2.2	Market capitalization, % GDP.....		15.2	64	○		
4.2.3	Venture capital deals/bn PPP\$ GDP.....		n/a	n/a			
<b>4.3</b>	<b>Trade, competition, &amp; market scale.....</b>		<b>63.7</b>	<b>56</b>			
4.3.1	Applied tariff rate, weighted avg., %.....		1.8	23			
4.3.2	Intensity of local competition*.....		65.1	81	○		
4.3.3	Domestic market scale, bn PPP\$.....		162.7	69			
<b>BUSINESS SOPHISTICATION.....</b>				<b>40.3</b>	<b>34</b>	◆	
<b>5.1</b>	<b>Knowledge workers.....</b>		<b>48.9</b>	<b>39</b>			
5.1.1	Knowledge-intensive employment, %.....		31.4	42	◆		
5.1.2	Firms offering formal training, % firms.....		42.7	29			
5.1.3	GERD performed by business, % GDP.....		0.5	38			
5.1.4	GERD financed by business, %.....		43.6	39			
5.1.5	Females employed w/advanced degrees, %.....		19.2	26	◆		
<b>5.2</b>	<b>Innovation linkages.....</b>		<b>36.3</b>	<b>37</b>	◆		
5.2.1	University/industry research collaboration*.....		40.2	69			
5.2.2	State of cluster development*.....		46.8	61			
5.2.3	GERD financed by abroad, %.....		34.2	10	◆		
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....		0.0	35	◆		
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....		0.2	44			
<b>5.3</b>	<b>Knowledge absorption.....</b>		<b>35.7</b>	<b>52</b>			
5.3.1	Intellectual property payments, % total trade.....		0.5	60			
5.3.2	High-tech imports, % total trade.....		6.7	78	○		
5.3.3	ICT services imports, % total trade.....		1.1	65			
5.3.4	FDI net inflows, % GDP.....		4.0	42			
5.3.5	Research talent, % in business enterprise.....		43.4	29	◆		
<b>KNOWLEDGE &amp; TECHNOLOGY OUTPUTS.....</b>				<b>31.4</b>	<b>37</b>	◆	
<b>6.1</b>	<b>Knowledge creation.....</b>		<b>17.8</b>	<b>51</b>			
6.1.1	Patents by origin/bn PPP\$ GDP.....		1.5	54			
6.1.2	PCT patents by origin/bn PPP\$ GDP.....		0.4	41			
6.1.3	Utility models by origin/bn PPP\$ GDP.....		1.7	14	●		
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....		10.0	49			
6.1.5	Citable documents H-index.....		14.4	50			
<b>6.2</b>	<b>Knowledge impact.....</b>		<b>54.9</b>	<b>9</b>	◆		
6.2.1	Growth rate of PPP\$ GDP/worker, %.....		2.9	26			
6.2.2	New businesses/th pop. 15-64.....		10.9	11	◆		
6.2.3	Computer software spending, % GDP.....		0.3	54			
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....		35.3	2	◆		
6.2.5	High- & medium-high-tech manufactures, %.....		0.2	48			
<b>6.3</b>	<b>Knowledge diffusion.....</b>		<b>21.7</b>	<b>44</b>			
6.3.1	Intellectual property receipts, % total trade.....		0.1	44	◆		
6.3.2	High-tech net exports, % total trade.....		3.8	38			
6.3.3	ICT services exports, % total trade.....		3.0	31			
6.3.4	FDI net outflows, % GDP.....		1.1	51			
<b>CREATIVE OUTPUTS.....</b>				<b>33.8</b>	<b>41</b>	◆	
<b>7.1</b>	<b>Intangible assets.....</b>		<b>49.9</b>	<b>37</b>			
7.1.1	Trademarks by origin/bn PPP\$ GDP.....		98.6	12	●		
7.1.2	Industrial designs by origin/bn PPP\$ GDP.....		8.1	15	◆		
7.1.3	ICTs & business model creation*.....		58.0	75	○		
7.1.4	ICTs & organizational model creation*.....		53.7	64			
<b>7.2</b>	<b>Creative goods &amp; services.....</b>		<b>19.3</b>	<b>57</b>			
7.2.1	Cultural & creative services exports, % total trade.....		1.4	19	●		
7.2.2	National feature films/mn pop. 15-69.....		4.8	44			
7.2.3	Entertainment & Media market/th pop. 15-69.....		n/a	n/a			
7.2.4	Printing & other media, % manufacturing.....		1.2	48			
7.2.5	Creative goods exports, % total trade.....		0.8	49			
<b>7.3</b>	<b>Online creativity.....</b>		<b>16.0</b>	<b>40</b>	◆		
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....		22.9	25	◆		
7.3.2	Country-code TLDs/th pop. 15-69.....		3.3	59			
7.3.3	Wikipedia edits/mn pop. 15-69.....		46.2	30	◆		
7.3.4	Mobile app creation/bn PPP\$ GDP.....		7.0	45			

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.