

| Output rank                                     | Input rank   | Income | Region | Population (mn) | GDP, PPP\$ | GDP per capita, PPP\$ | GII 2018 rank |
|---|--|--------|--------|-----------------|------------|-----------------------|---------------|
| 110   | 123  | Low    | SSF    | 16.9            | 36.3       | 2,787.6               | 113           |
|   |  |        |        | Score/Value     | Rank       |                       |               |
| <b>INSTITUTIONS</b> .....                       |  |        |        | 37.6            | 127        | ◇                     |               |
| 1.1   | <b>Political environment</b> .....                               |        | 27.6   | 127             | ○          |                       |               |
| 1.1.1   | Political and operational stability*.....                        |        | 47.4   | 123             |            |                       |               |
| 1.1.2   | Government effectiveness*.....                                   |        | 17.7   | 127             | ○          |                       |               |
| 1.2   | <b>Regulatory environment</b> .....                              |        | 39.3   | 122             | ◇          |                       |               |
| 1.2.1   | Regulatory quality*.....   |        | 0.0    | 129             | ○ ◇        |                       |               |
| 1.2.2   | Rule of law*.....  |        | 9.9    | 127             | ○ ◇        |                       |               |
| 1.2.3   | Cost of redundancy dismissal, salary weeks.....                  |        | 25.3   | 102             | ◇          |                       |               |
| 1.3   | <b>Business environment</b> .....                                |        | 45.9   | 128             | ○ ◇        |                       |               |
| 1.3.1   | Ease of starting a business*.....                                |        | 66.5   | 126             | ◇          |                       |               |
| 1.3.2   | Ease of resolving insolvency*.....                               |        | 25.3   | 127             | ○ ◇        |                       |               |
| <b>HUMAN CAPITAL &amp; RESEARCH</b> .....       |  |        |        | 27.8            | 76         | ◆                     |               |
| 2.1   | <b>Education</b> .....   |        | 51.4   | 56              | ● ◆        |                       |               |
| 2.1.1   | Expenditure on education, % GDP.....                             |        | 7.5    | 6               | ● ◆        |                       |               |
| 2.1.2   | Government funding/pupil, secondary, % GDP/cap.....              |        | 31.0   | 12              | ● ◆        |                       |               |
| 2.1.3   | School life expectancy, years.....                               |        | 10.2   | 106             |            |                       |               |
| 2.1.4   | PISA scales in reading, maths, & science.....                    |        | n/a    | n/a             |            |                       |               |
| 2.1.5   | Pupil-teacher ratio, secondary.....                              |        | 22.5   | 93              |            |                       |               |
| 2.2   | <b>Tertiary education</b> .....                                  |        | 31.6   | 62              | ● ◆        |                       |               |
| 2.2.1   | Tertiary enrolment, % gross.....                                 |        | 8.5    | 111             |            |                       |               |
| 2.2.2   | Graduates in science & engineering, %.....                       |        | 30.2   | 13              | ● ◆        |                       |               |
| 2.2.3   | Tertiary inbound mobility, %.....                                |        | 0.5    | 95              |            |                       |               |
| 2.3   | <b>Research &amp; development (R&amp;D)</b> .....                |        | 0.3    | 115             |            |                       |               |
| 2.3.1   | Researchers, FTE/mn pop.....                                     |        | 88.7   | 87              |            |                       |               |
| 2.3.2   | Gross expenditure on R&D, % GDP.....                             |        | n/a    | n/a             |            |                       |               |
| 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*.....                 |        | 0.0    | 78              | ○ ◇        |                       |               |
| <b>INFRASTRUCTURE</b> .....                     |  |        |        | 21.7            | 127        | ○ ◇                   |               |
| 3.1   | <b>Information &amp; communication technologies (ICTs)</b> ..... |        | 29.9   | 120             |            |                       |               |
| 3.1.1   | ICT access*.....   |        | 36.0   | 108             | ◆          |                       |               |
| 3.1.2   | ICT use*.....  |        | 23.4   | 102             | ◆          |                       |               |
| 3.1.3   | Government's online service*.....                                |        | 32.6   | 116             |            |                       |               |
| 3.1.4   | E-participation*.....  |        | 27.5   | 120             |            |                       |               |
| 3.2   | <b>General infrastructure</b> .....                              |        | 15.0   | 124             |            |                       |               |
| 3.2.1   | Electricity output, kWh/mn pop.....                              |        | 436.8  | 107             |            |                       |               |
| 3.2.2   | Logistics performance*.....                                      |        | 2.6    | 120             | ○ ◇        |                       |               |
| 3.2.3   | Gross capital formation, % GDP.....                              |        | 18.7   | 100             |            |                       |               |
| 3.3   | <b>Ecological sustainability</b> .....                           |        | 20.2   | 123             |            |                       |               |
| 3.3.1   | GDP/unit of energy use.....                                      |        | 2.7    | 119             | ○          |                       |               |
| 3.3.2   | Environmental performance*.....                                  |        | 43.4   | 114             |            |                       |               |
| 3.3.3   | ISO 14001 environmental certificates/bn PPP\$ GDP.....           |        | 1.5    | 58              | ● ◆        |                       |               |
| <b>MARKET SOPHISTICATION</b> .....              |  |        |        | 38.4            | 109        |                       |               |
| 4.1   | <b>Credit</b> .....  |        | 27.6   | 99              |            |                       |               |
| 4.1.1   | Ease of getting credit*.....                                     |        | 55.0   | 77              |            |                       |               |
| 4.1.2   | Domestic credit to private sector, % GDP.....                    |        | n/a    | n/a             |            |                       |               |
| 4.1.3   | Microfinance gross loans, % GDP.....                             |        | 0.0    | 70              |            |                       |               |
| 4.2   | <b>Investment</b> .....  |        | n/a    | [n/a]           |            |                       |               |
| 4.2.1   | Ease of protecting minority investors*.....                      |        | n/a    | n/a             |            |                       |               |
| 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   | <b>Trade, competition, &amp; market scale</b> .....              |        | 49.2   | 109             |            |                       |               |
| 4.3.1   | Applied tariff rate, weighted avg., %.....                       |        | 5.0    | 86              | ◆          |                       |               |
| 4.3.2   | Intensity of local competition*.....                             |        | 58.4   | 111             |            |                       |               |
| 4.3.3   | Domestic market scale, bn PPP\$.....                             |        | 36.3   | 108             |            |                       |               |
| <b>BUSINESS SOPHISTICATION</b> .....            |  |        |        | 20.6            | 117        |                       |               |
| 5.1   | <b>Knowledge workers</b> .....                                   |        | 15.5   | [117]           |            |                       |               |
| 5.1.1   | Knowledge-intensive employment, %.....                           |        | 1.1    | 118             | ○ ◇        |                       |               |
| 5.1.2   | Firms offering formal training, % firms.....                     |        | 26.4   | 59              |            |                       |               |
| 5.1.3   | GERD performed by business, % GDP.....                           |        | n/a    | n/a             |            |                       |               |
| 5.1.4   | GERD financed by business, %.....                                |        | n/a    | n/a             |            |                       |               |
| 5.1.5   | Females employed w/advanced degrees, %.....                      |        | 5.7    | 87              | ◆          |                       |               |
| 5.2   | <b>Innovation linkages</b> .....                                 |        | 19.3   | 91              |            |                       |               |
| 5.2.1   | University/industry research collaboration*.....                 |        | 26.7   | 118             | ◇          |                       |               |
| 5.2.2   | State of cluster development*.....                               |        | 26.6   | 125             | ○ ◇        |                       |               |
| 5.2.3   | GERD financed by abroad, %.....                                  |        | n/a    | n/a             |            |                       |               |
| 5.2.4   | JV-strategic alliance deals/bn PPP\$ GDP.....                    |        | 0.1    | 21              | ● ◆        |                       |               |
| 5.2.5   | Patent families 2+ offices/bn PPP\$ GDP.....                     |        | 0.0    | 74              |            |                       |               |
| 5.3   | <b>Knowledge absorption</b> .....                                |        | 27.1   | 93              |            |                       |               |
| 5.3.1   | Intellectual property payments, % total trade.....               |        | 0.2    | 86              |            |                       |               |
| 5.3.2   | High-tech imports, % total trade.....                            |        | 6.8    | 75              |            |                       |               |
| 5.3.3   | ICT services imports, % total trade.....                         |        | 0.9    | 80              |            |                       |               |
| 5.3.4   | FDI net inflows, % GDP.....                                      |        | 1.6    | 93              |            |                       |               |
| 5.3.5   | Research talent, % in business enterprise.....                   |        | n/a    | n/a             |            |                       |               |
| <b>KNOWLEDGE &amp; TECHNOLOGY OUTPUTS</b> ..... |  |        |        | 17.5            | 83         |                       |               |
| 6.1   | <b>Knowledge creation</b> .....                                  |        | 6.8    | 84              |            |                       |               |
| 6.1.1   | Patents by origin/bn PPP\$ GDP.....                              |        | 0.2    | 90              |            |                       |               |
| 6.1.2   | PCT patents by origin/bn PPP\$ GDP.....                          |        | 0.0    | 85              |            |                       |               |
| 6.1.3   | Utility models by origin/bn PPP\$ GDP.....                       |        | n/a    | n/a             |            |                       |               |
| 6.1.4   | Scientific & technical articles/bn PPP\$ GDP.....                |        | 7.0    | 62              | ● ◆        |                       |               |
| 6.1.5   | Citable documents H-index.....                                   |        | 6.5    | 86              |            |                       |               |
| 6.2   | <b>Knowledge impact</b> .....                                    |        | 38.7   | 54              | ● ◆        |                       |               |
| 6.2.1   | Growth rate of PPP\$ GDP/worker, %.....                          |        | -0.3   | 95              |            |                       |               |
| 6.2.2   | New businesses/th pop. 15-64.....                                |        | n/a    | n/a             |            |                       |               |
| 6.2.3   | Computer software spending, % GDP.....                           |        | 0.4    | 22              | ● ◆        |                       |               |
| 6.2.4   | ISO 9001 quality certificates/bn PPP\$ GDP.....                  |        | 4.3    | 62              | ● ◆        |                       |               |
| 6.2.5   | High- & medium-high-tech manufactures, %.....                    |        | 0.2    | 49              | ● ◆        |                       |               |
| 6.3   | <b>Knowledge diffusion</b> .....                                 |        | 7.0    | 123             |            |                       |               |
| 6.3.1   | Intellectual property receipts, % total trade.....               |        | 0.0    | 68              |            |                       |               |
| 6.3.2   | High-tech net exports, % total trade.....                        |        | 0.2    | 98              |            |                       |               |
| 6.3.3   | ICT services exports, % total trade.....                         |        | 0.2    | 114             |            |                       |               |
| 6.3.4   | FDI net outflows, % GDP.....                                     |        | 0.1    | 94              |            |                       |               |
| <b>CREATIVE OUTPUTS</b> .....                   |  |        |        | 13.3            | 123        |                       |               |
| 7.1   | <b>Intangible assets</b> .....                                   |        | 24.4   | 122             |            |                       |               |
| 7.1.1   | Trademarks by origin/bn PPP\$ GDP.....                           |        | 4.8    | 117             |            |                       |               |
| 7.1.2   | Industrial designs by origin/bn PPP\$ GDP.....                   |        | n/a    | n/a             |            |                       |               |
| 7.1.3   | ICTs & business model creation*.....                             |        | 42.7   | 118             |            |                       |               |
| 7.1.4   | ICTs & organizational model creation*.....                       |        | 29.7   | 123             | ○ ◇        |                       |               |
| 7.2   | <b>Creative goods &amp; services</b> .....                       |        | 4.0    | [108]           |            |                       |               |
| 7.2.1   | Cultural & creative services exports, % total trade.....         |        | 0.2    | 71              |            |                       |               |
| 7.2.2   | National feature films/mn pop. 15-69.....                        |        | n/a    | n/a             |            |                       |               |
| 7.2.3   | Entertainment & Media market/th pop. 15-69.....                  |        | n/a    | n/a             |            |                       |               |
| 7.2.4   | Printing & other media, % manufacturing.....                     |        | n/a    | n/a             |            |                       |               |
| 7.2.5   | Creative goods exports, % total trade.....                       |        | 0.3    | 73              | ● ◆        |                       |               |
| 7.3   | <b>Online creativity</b> .....                                   |        | 0.4    | 112             |            |                       |               |
| 7.3.1   | Generic top-level domains (TLDs)/th pop. 15-69.....              |        | 0.4    | 111             |            |                       |               |
| 7.3.2   | Country-code TLDs/th pop. 15-69.....                             |        | 0.7    | 88              |            |                       |               |
| 7.3.3   | Wikipedia edits/mn pop. 15-69.....                               |        | 0.3    | 113             |            |                       |               |
| 7.3.4   | Mobile app creation/bn PPP\$ GDP.....                            |        | n/a    | n/a             |            |                       |               |

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.