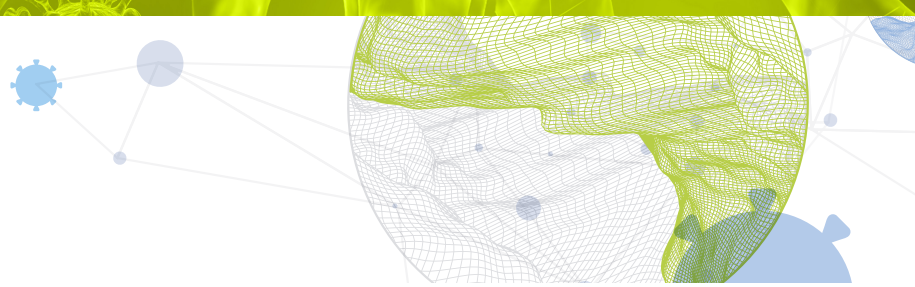




# Global Innovation Index 2021



## KYRGYZSTAN

**98th**

Kyrgyzstan ranks 98th among the 132 economies featured in the GII 2021.

The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.

The following table shows the rankings of Kyrgyzstan over the past three years, noting that data availability and changes to the GII model framework influence year-on-year comparisons of the GII rankings. The statistical confidence interval for the ranking of Kyrgyzstan in the GII 2021 is between ranks 96 and 109.

### Rankings for Kyrgyzstan (2019–2021)

|      | GII | Innovation inputs | Innovation outputs |
|------|-----|-------------------|--------------------|
| 2021 | 98  | 81                | 119                |
| 2020 | 94  | 88                | 107                |
| 2019 | 90  | 78                | 111                |

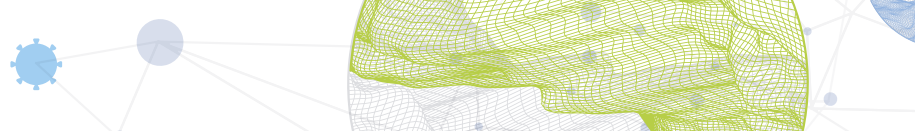
- Kyrgyzstan performs better in innovation inputs than innovation outputs in 2021.
- This year Kyrgyzstan ranks 81st in innovation inputs, higher than last year but lower than 2019.
- As for innovation outputs, Kyrgyzstan ranks 119th. This position is lower than both 2020 and 2019.

**16th**

Kyrgyzstan ranks 16th among the 34 lower middle-income group economies.

**6th**

Kyrgyzstan ranks 6th among the 10 economies in Central and Southern Asia.

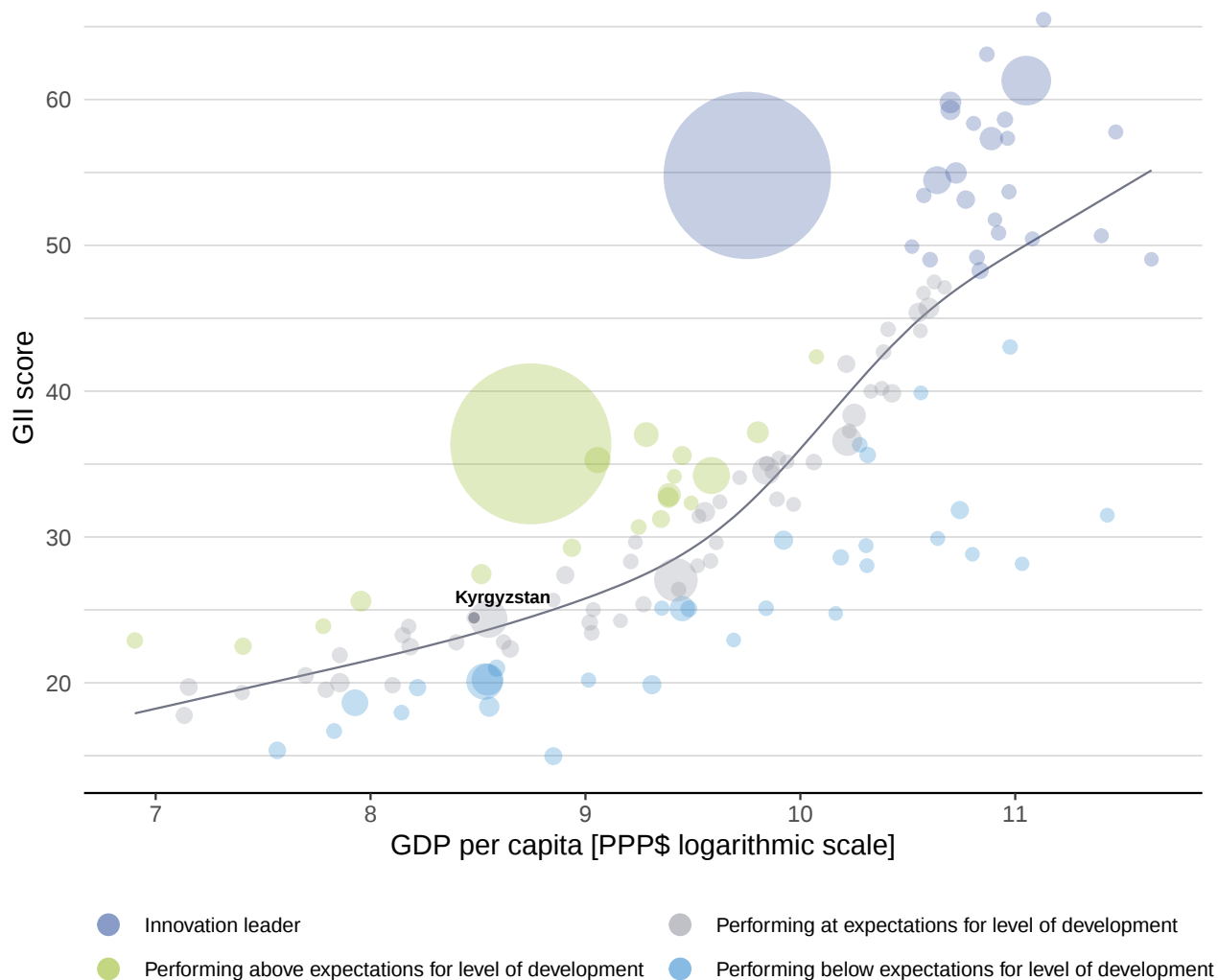


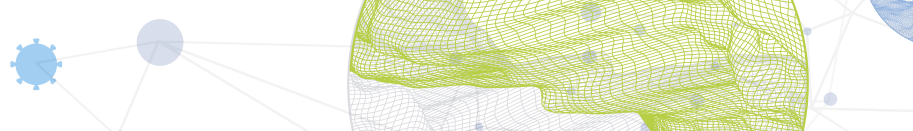
## EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected and those below are performing below expectations.

Relative to GDP, Kyrgyzstan's performance is at expectations for its level of development.

### The positive relationship between innovation and development



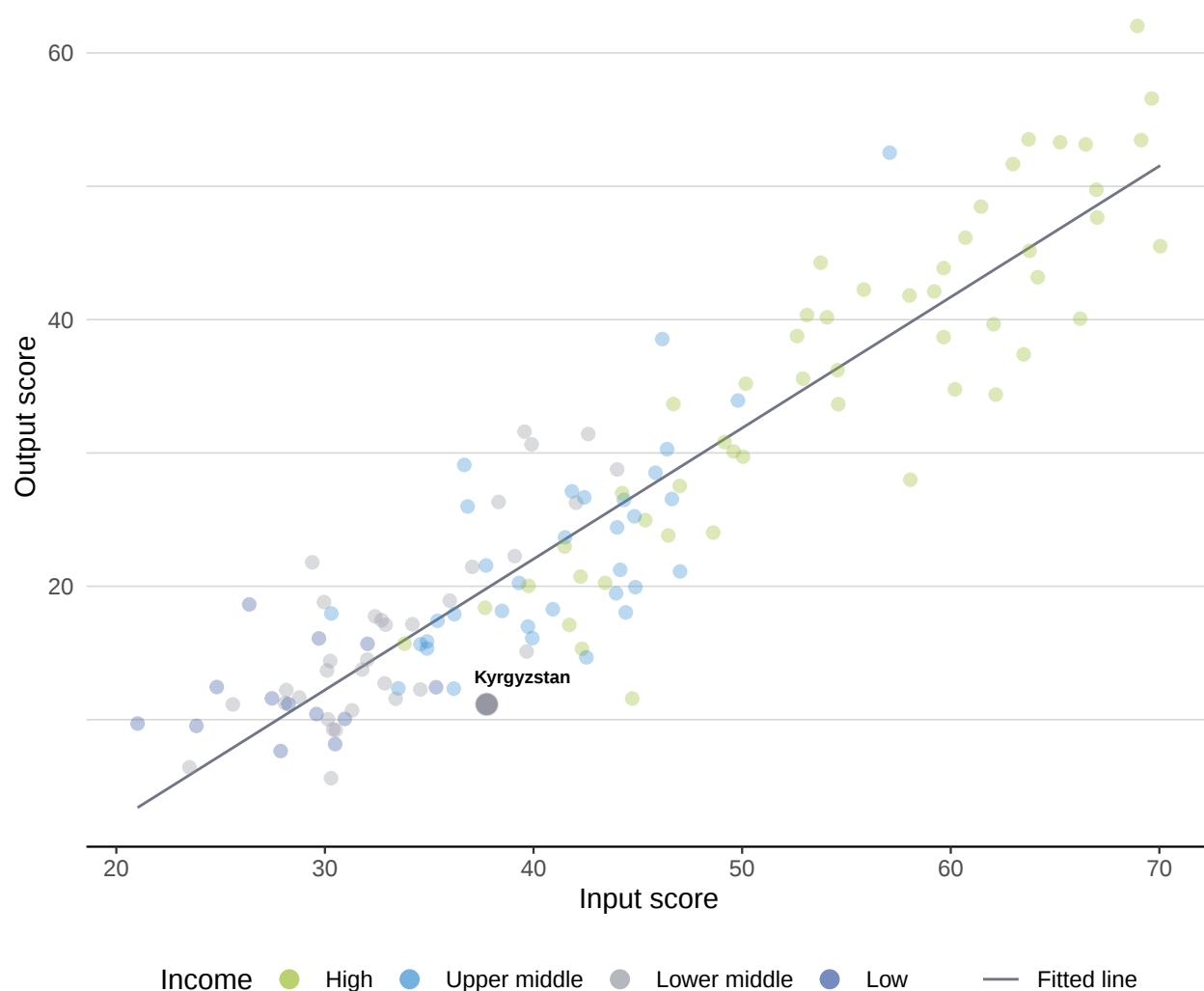


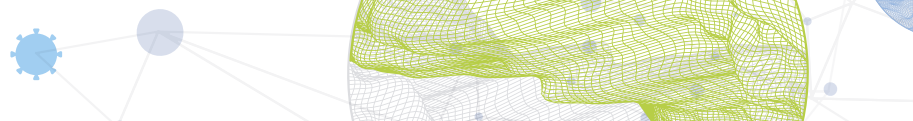
## EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

Kyrgyzstan produces less innovation outputs relative to its level of innovation investments.

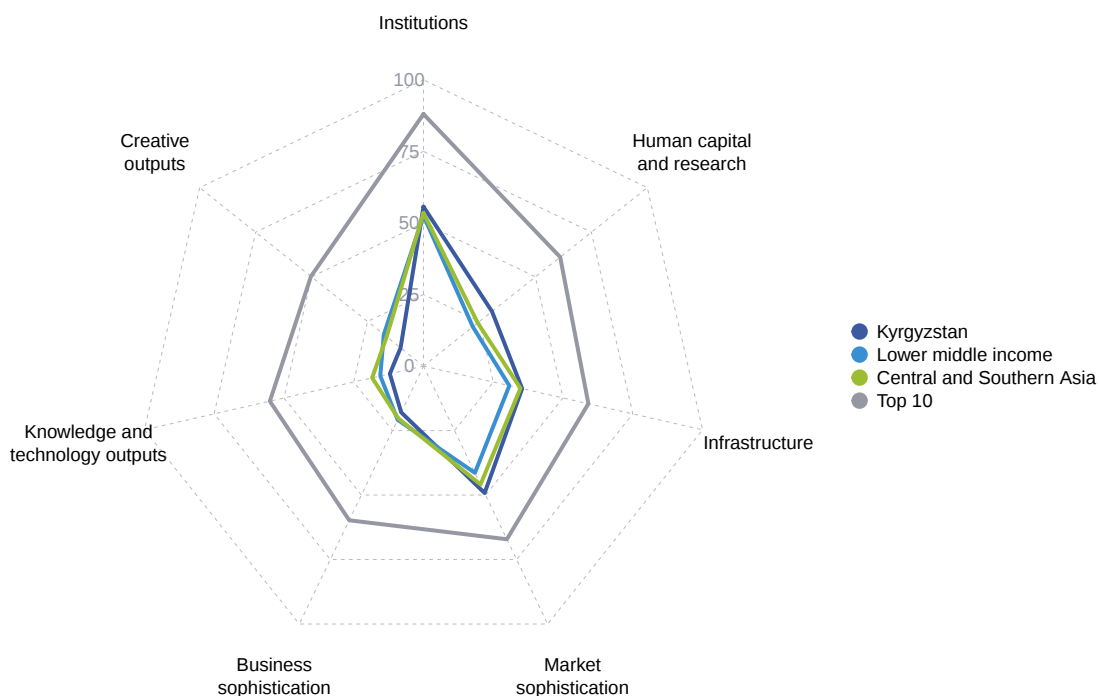
### Innovation input to output performance





## BENCHMARKING AGAINST OTHER LOWER MIDDLE-INCOME GROUP ECONOMIES AND CENTRAL AND SOUTHERN ASIA

### The seven GII pillar scores for Kyrgyzstan

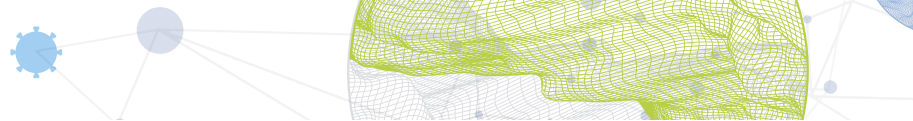


### Lower middle-income group economies

Kyrgyzstan performs above the lower middle-income group average in four pillars, namely: Institutions; Human capital and research; Infrastructure; and, Market sophistication.

### Central and Southern Asia

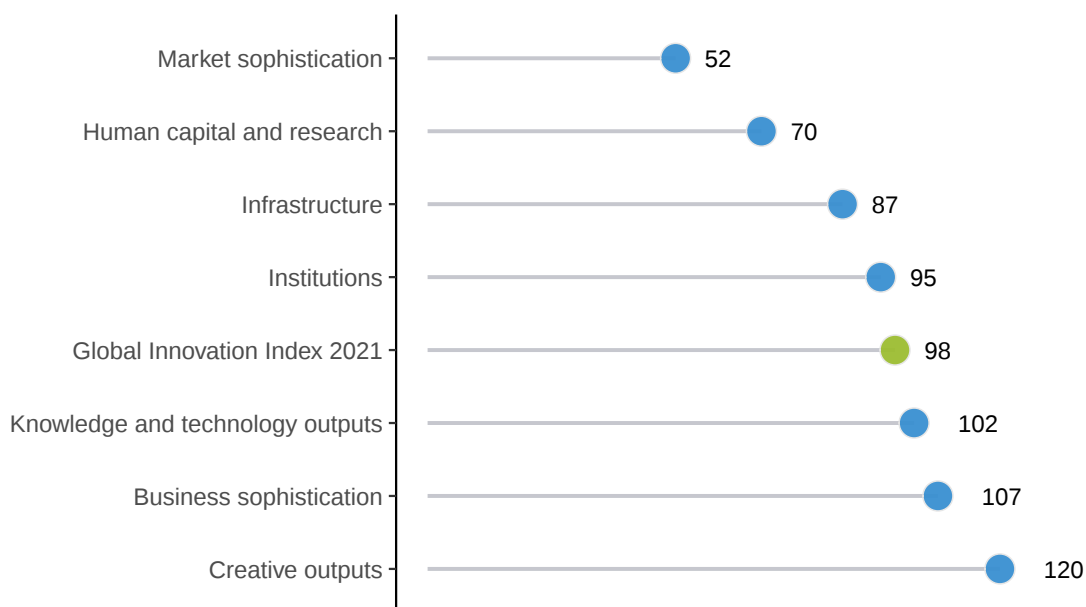
Kyrgyzstan performs above the regional average in four pillars, namely: Institutions; Human capital and research; Infrastructure; and, Market sophistication.



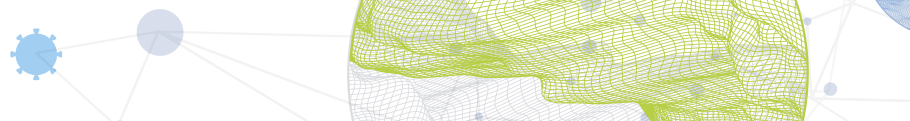
## OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Kyrgyzstan performs best in Market sophistication and its weakest performance is in Creative outputs.

### The seven GII pillar ranks for Kyrgyzstan



Note: The highest possible ranking in each pillar is one.



## INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Kyrgyzstan in the GII 2021.

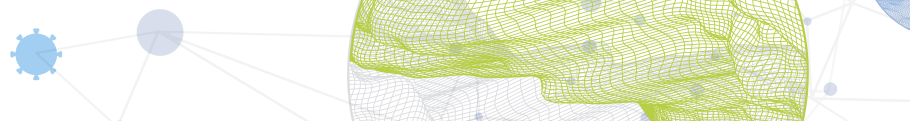
### Strengths and weaknesses for Kyrgyzstan

| Strengths |                                   |      | Weaknesses |                                                   |      |
|-----------|-----------------------------------|------|------------|---------------------------------------------------|------|
| Code      | Indicator name                    | Rank | Code       | Indicator name                                    | Rank |
| 1.3.1     | Ease of starting a business       | 40   | 1.1.1      | Political and operational stability               | 123  |
| 2.1.1     | Expenditure on education, % GDP   | 16   | 2.3.3      | Global corporate R&D investors, top 3, mn US\$    | 41   |
| 2.1.5     | Pupil-teacher ratio, secondary    | 46   | 2.3.4      | QS university ranking, top 3                      | 74   |
| 2.2.3     | Tertiary inbound mobility, %      | 27   | 3.3.3      | ISO 14001 environmental certificates/bn PPP\$ GDP | 122  |
| 3.2.3     | Gross capital formation, % GDP    | 21   | 5.2        | Innovation linkages                               | 125  |
| 4.1       | Credit                            | 23   | 5.2.5      | Patent families/bn PPP\$ GDP                      | 100  |
| 4.1.1     | Ease of getting credit            | 14   | 6.2.4      | ISO 9001 quality certificates/bn PPP\$ GDP        | 122  |
| 4.1.3     | Microfinance gross loans, % GDP   | 9    | 6.2.5      | High-tech manufacturing, %                        | 109  |
| 5.1.2     | Firms offering formal training, % | 26   | 7.1        | Intangible assets                                 | 123  |
| 5.3.2     | High-tech imports, % total trade  | 42   | 7.1.2      | Global brand value, top 5,000, % GDP              | 80   |
| 6.1.1     | Patents by origin/bn PPP\$ GDP    | 27   | 7.1.4      | ICTs and organizational model creation            | 121  |
|           |                                   |      | 7.2.2      | National feature films/mn pop. 15–69              | 104  |

| Output rank | Input rank | Income       | Region | Population (mn) | GDP, PPP\$ (bn) | GDP per capita, PPP\$ | GII 2020 rank |
|-------------|------------|--------------|--------|-----------------|-----------------|-----------------------|---------------|
| 119         | 81         | Lower middle | CSA    | 6.5             | 31.4            | 4,824                 | 94            |

|                                                                                                                     | Score/Value | Rank    |                                                                                                                           | Score/Value | Rank    |
|---------------------------------------------------------------------------------------------------------------------|-------------|---------|---------------------------------------------------------------------------------------------------------------------------|-------------|---------|
|  <b>Institutions</b>               | 55.7        | 95      |  <b>Business sophistication</b>          | 17.9        | 107     |
| <b>1.1 Political environment</b>                                                                                    | 40.3        | 117     | <b>5.1 Knowledge workers</b>                                                                                              | 22.4        | 94      |
| 1.1.1 Political and operational stability*                                                                          | 50.0        | 123 ○ ◇ | 5.1.1 Knowledge-intensive employment, %                                                                                   | 18.8        | 82      |
| 1.1.2 Government effectiveness*                                                                                     | 35.5        | 111     | 5.1.2 Firms offering formal training, %                                                                                   | 41.4        | 26 ●    |
| <b>1.2 Regulatory environment</b>                                                                                   | 55.2        | 93      | 5.1.3 GERD performed by business, % GDP                                                                                   | 0.0         | 80      |
| 1.2.1 Regulatory quality*                                                                                           | 34.4        | 95      | 5.1.4 GERD financed by business, %                                                                                        | 6.9         | 81      |
| 1.2.2 Rule of law*                                                                                                  | 23.4        | 116     | 5.1.5 Females employed w/advanced degrees, %                                                                              | 10.8        | 66      |
| 1.2.3 Cost of redundancy dismissal                                                                                  | 17.3        | 69      | <b>5.2 Innovation linkages</b>                                                                                            | 11.7        | 125 ○   |
| <b>1.3 Business environment</b>                                                                                     | 71.5        | 66      | 5.2.1 University-industry R&D collaboration†                                                                              | 28.3        | 117     |
| 1.3.1 Ease of starting a business*                                                                                  | 93.0        | 40 ●    | 5.2.2 State of cluster development and depth†                                                                             | 35.5        | 112     |
| 1.3.2 Ease of resolving insolvency*                                                                                 | 50.0        | 70      | 5.2.3 GERD financed by abroad, % GDP                                                                                      | 0.0         | 84      |
|                                                                                                                     |             |         | 5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP                                                                 | 0.0         | 108     |
|                                                                                                                     |             |         | 5.2.5 Patent families/bn PPP\$ GDP                                                                                        | 0.0         | 100 ○ ◇ |
|  <b>Human capital and research</b> | 30.6        | 70 ◆    | <b>5.3 Knowledge absorption</b>                                                                                           | 19.7        | 95      |
| <b>2.1 Education</b>                                                                                                | 62.7        | [17]    | 5.3.1 Intellectual property payments, % total trade                                                                       | 0.1         | 101     |
| 2.1.1 Expenditure on education, % GDP                                                                               | 6.0         | 16 ● ◆  | 5.3.2 High-tech imports, % total trade                                                                                    | 9.2         | 42 ●    |
| 2.1.2 Government funding/pupil, secondary, % GDP/cap                                                                | n/a         | n/a     | 5.3.3 ICT services imports, % total trade                                                                                 | 0.5         | 106     |
| 2.1.3 School life expectancy, years                                                                                 | 13.0        | 82      | 5.3.4 FDI net inflows, % GDP                                                                                              | 1.7         | 86      |
| 2.1.4 PISA scales in reading, maths and science                                                                     | n/a         | n/a     | 5.3.5 Research talent, % in businesses                                                                                    | n/a         | n/a     |
| 2.1.5 Pupil-teacher ratio, secondary                                                                                | 11.7        | 46 ● ◆  |  <b>Knowledge and technology outputs</b> | 12.1        | 102     |
| <b>2.2 Tertiary education</b>                                                                                       | 28.5        | 78      | <b>6.1 Knowledge creation</b>                                                                                             | 11.0        | 76      |
| 2.2.1 Tertiary enrolment, % gross                                                                                   | 42.3        | 70 ◆    | 6.1.1 Patents by origin/bn PPP\$ GDP                                                                                      | 2.8         | 27 ● ◆  |
| 2.2.2 Graduates in science and engineering, %                                                                       | 19.7        | 73      | 6.1.2 PCT patents by origin/bn PPP\$ GDP                                                                                  | 0.1         | 61 ◆    |
| 2.2.3 Tertiary inbound mobility, %                                                                                  | 9.0         | 27 ● ◆  | 6.1.3 Utility models by origin/bn PPP\$ GDP                                                                               | 0.5         | 36      |
| <b>2.3 Research and development (R&amp;D)</b>                                                                       | 0.6         | 111     | 6.1.4 Scientific and technical articles/bn PPP\$ GDP                                                                      | 7.4         | 99      |
| 2.3.1 Researchers, FTE/mn pop.                                                                                      | n/a         | n/a     | 6.1.5 Citable documents H-index                                                                                           | 3.4         | 120     |
| 2.3.2 Gross expenditure on R&D, % GDP                                                                               | 0.1         | 106 ○ ◇ | <b>6.2 Knowledge impact</b>                                                                                               | 16.0        | 115     |
| 2.3.3 Global corporate R&D investors, top 3, mn US\$                                                                | 0.0         | 41 ○ ◇  | 6.2.1 Labor productivity growth, %                                                                                        | 0.5         | 59      |
| 2.3.4 QS university ranking, top 3*                                                                                 | 0.0         | 74 ○ ◇  | 6.2.2 New businesses/th pop. 15–64                                                                                        | 1.3         | 77      |
|  <b>Infrastructure</b>           | 35.3        | 87      | 6.2.3 Software spending, % GDP                                                                                            | 0.1         | 91      |
| <b>3.1 Information and communication technologies (ICTs)</b>                                                        | 60.3        | 82 ◆    | 6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP                                                                          | 0.5         | 122 ○   |
| 3.1.1 ICT access*                                                                                                   | 56.8        | 82      | 6.2.5 High-tech manufacturing, %                                                                                          | 2.4         | 109 ○ ◇ |
| 3.1.2 ICT use*                                                                                                      | 48.4        | 83      | <b>6.3 Knowledge diffusion</b>                                                                                            | 9.2         | 97      |
| 3.1.3 Government's online service*                                                                                  | 64.7        | 79      | 6.3.1 Intellectual property receipts, % total trade                                                                       | 0.0         | 87      |
| 3.1.4 E-participation*                                                                                              | 71.4        | 66      | 6.3.2 Production and export complexity                                                                                    | 44.7        | 59      |
| <b>3.2 General infrastructure</b>                                                                                   | 29.3        | 63      | 6.3.3 High-tech exports, % total trade                                                                                    | 0.7         | 84      |
| 3.2.1 Electricity output, GWh/mn pop.                                                                               | 2,458.0     | 76 ◆    | 6.3.4 ICT services exports, % total trade                                                                                 | 0.3         | 114     |
| 3.2.2 Logistics performance*                                                                                        | 23.2        | 102     |  <b>Creative outputs</b>               | 10.2        | 120     |
| 3.2.3 Gross capital formation, % GDP                                                                                | 31.7        | 21 ●    | <b>7.1 Intangible assets</b>                                                                                              | 13.1        | 123 ○ ◇ |
| <b>3.3 Ecological sustainability</b>                                                                                | 16.4        | 119     | 7.1.1 Trademarks by origin/bn PPP\$ GDP                                                                                   | 14.0        | 103     |
| 3.3.1 GDP/unit of energy use                                                                                        | 5.1         | 114 ○ ◇ | 7.1.2 Global brand value, top 5,000, % GDP                                                                                | 0.0         | 80 ○ ◇  |
| 3.3.2 Environmental performance*                                                                                    | 39.8        | 89      | 7.1.3 Industrial designs by origin/bn PPP\$ GDP                                                                           | 0.4         | 95      |
| 3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP                                                             | 0.1         | 122 ○   | 7.1.4 ICTs and organizational model creation†                                                                             | 34.8        | 121 ○ ◇ |
|  <b>Market sophistication</b>    | 49.2        | 52      | <b>7.2 Creative goods and services</b>                                                                                    | 5.5         | 102     |
| <b>4.1 Credit</b>                                                                                                   | 52.7        | 23 ● ◆  | 7.2.1 Cultural and creative services exports, % total trade                                                               | 0.6         | 43      |
| 4.1.1 Ease of getting credit*                                                                                       | 85.0        | 14 ● ◆  | 7.2.2 National feature films/mn pop. 15–69                                                                                | 0.2         | 104 ○   |
| 4.1.2 Domestic credit to private sector, % GDP                                                                      | 25.8        | 103     | 7.2.3 Entertainment and media market/th pop. 15–69                                                                        | n/a         | n/a     |
| 4.1.3 Microfinance gross loans, % GDP                                                                               | 4.3         | 9 ● ◆   | 7.2.4 Printing and other media, % manufacturing                                                                           | 0.5         | 85      |
| <b>4.2 Investment</b>                                                                                               | 40.0        | [35]    | 7.2.5 Creative goods exports, % total trade                                                                               | 0.1         | 98      |
| 4.2.1 Ease of protecting minority investors*                                                                        | 40.0        | 110     | <b>7.3 Online creativity</b>                                                                                              | 9.3         | 97      |
| 4.2.2 Market capitalization, % GDP                                                                                  | n/a         | n/a     | 7.3.1 Generic top-level domains (TLDs)/th pop. 15–69                                                                      | 0.2         | 117     |
| 4.2.3 Venture capital investors, deals/bn PPP\$ GDP                                                                 | n/a         | n/a     | 7.3.2 Country-code TLDs/th pop. 15–69                                                                                     | 0.8         | 93      |
| 4.2.4 Venture capital recipients, deals/bn PPP\$ GDP                                                                | n/a         | n/a     | 7.3.3 Wikipedia edits/mn pop. 15–69                                                                                       | 38.1        | 88      |
| <b>4.3 Trade, diversification, and market scale</b>                                                                 | 55.0        | 108     | 7.3.4 Mobile app creation/bn PPP\$ GDP                                                                                    | 0.0         | 92      |
| 4.3.1 Applied tariff rate, weighted avg., %                                                                         | 3.1         | 62 ◆    |                                                                                                                           |             |         |
| 4.3.2 Domestic industry diversification                                                                             | 62.9        | 101     |                                                                                                                           |             |         |
| 4.3.3 Domestic market scale, bn PPP\$                                                                               | 31.4        | 120 ○ ◇ |                                                                                                                           |             |         |

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 IV 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.



## DATA AVAILABILITY

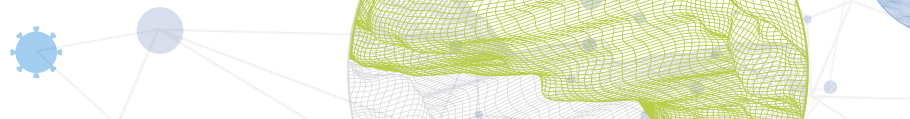
The following tables list data that are either missing or outdated for Kyrgyzstan.

### Missing data for Kyrgyzstan

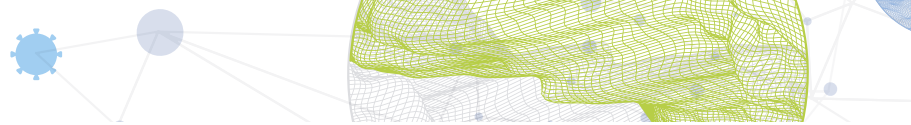
| Code  | Indicator name                                 | Economy year | Model year | Source                                                                                   |
|-------|------------------------------------------------|--------------|------------|------------------------------------------------------------------------------------------|
| 2.1.2 | Government funding/pupil, secondary, % GDP/cap | n/a          | 2017       | UNESCO Institute for Statistics                                                          |
| 2.1.4 | PISA scales in reading, maths and science      | n/a          | 2018       | OECD Programme for International Student Assessment (PISA)                               |
| 2.3.1 | Researchers, FTE/mn pop.                       | n/a          | 2019       | UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators |
| 4.2.2 | Market capitalization, % GDP                   | n/a          | 2019       | World Federation of Exchanges                                                            |
| 4.2.3 | Venture capital investors, deals/bn PPP\$ GDP  | n/a          | 2020       | Refinitiv Eikon                                                                          |
| 4.2.4 | Venture capital recipients, deals/bn PPP\$ GDP | n/a          | 2020       | Refinitiv Eikon                                                                          |
| 5.3.5 | Research talent, % in businesses               | n/a          | 2019       | UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators |
| 7.2.3 | Entertainment and media market/th pop. 15–69   | n/a          | 2020       | PwC                                                                                      |

### Outdated data for Kyrgyzstan

| Code  | Indicator name                         | Economy year | Model year | Source                                                                                   |
|-------|----------------------------------------|--------------|------------|------------------------------------------------------------------------------------------|
| 2.3.2 | Gross expenditure on R&D, % GDP        | 2018         | 2019       | UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators |
| 5.1.1 | Knowledge-intensive employment, %      | 2018         | 2019       | International Labour Organization                                                        |
| 5.1.3 | GERD performed by business, % GDP      | 2018         | 2019       | UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators |
| 5.1.5 | Females employed w/advanced degrees, % | 2013         | 2019       | International Labour Organization                                                        |
| 6.2.2 | New businesses/th pop. 15–64           | 2016         | 2018       | World Bank                                                                               |



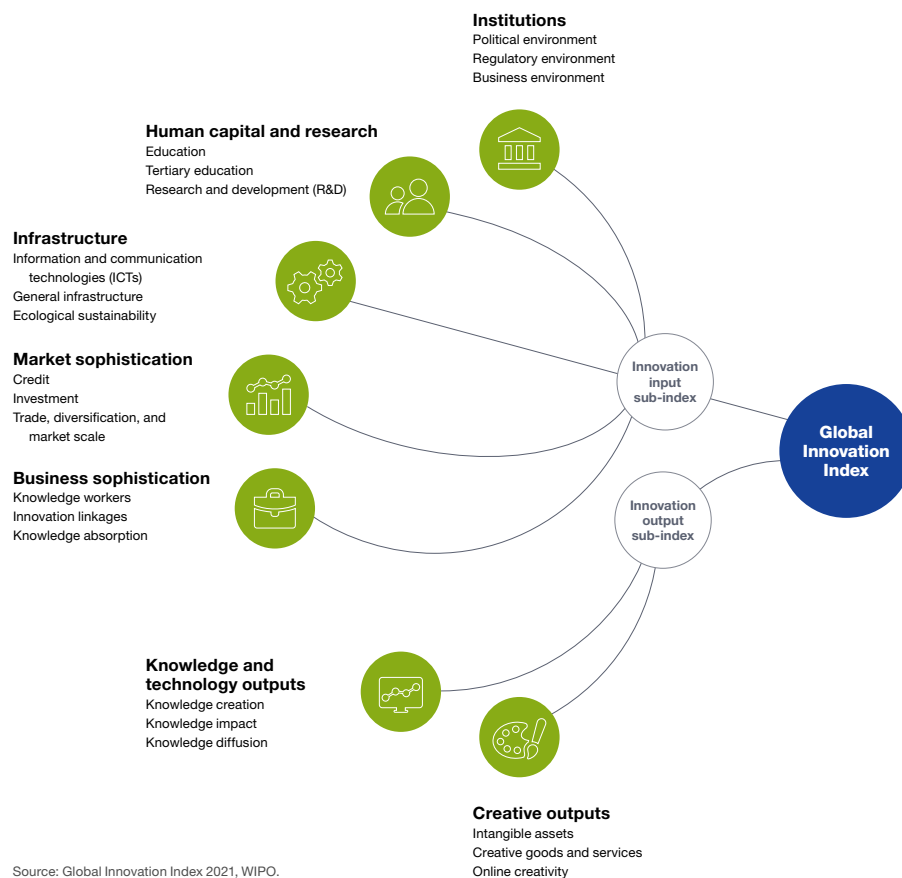
| Code  | Indicator name                            | Economy year | Model year | Source                                   |
|-------|-------------------------------------------|--------------|------------|------------------------------------------|
| 7.1.3 | Industrial designs by origin/bn PPP\$ GDP | 2017         | 2019       | World Intellectual Property Organization |



## ABOUT THE GLOBAL INNOVATION INDEX

The Global Innovation Index (GII) is published by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.

Recognizing that innovation is a key driver of economic development, the GII aims to provide an innovation ranking and rich analysis referencing around 130 economies. Over the last decade, the GII has established itself as both a leading reference on innovation and a “tool for action” for economies that incorporate the GII into their innovation agendas.



The Index is a ranking of the innovation capabilities and results of world economies. It measures innovation based on criteria that include institutions, human capital and research, infrastructure, credit, investment, linkages; the creation, absorption and diffusion of knowledge; and creative outputs.

The GII has two sub-indices: the Innovation Input Sub-Index and the Innovation Output Sub-Index, and seven pillars, each consisting of three sub-pillars.