

Global Innovation Index 2023

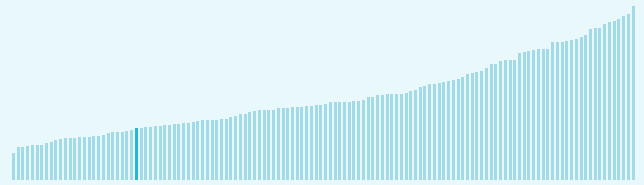


The Global Innovation Index (GII) **ranks world economies according to their innovation capabilities.**

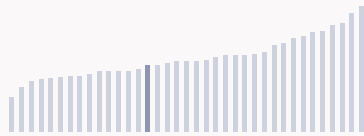
Consisting of **roughly 80 indicators**, grouped into innovation inputs and outputs, the GII **aims to capture the multi-dimensional facets of innovation.**

Kyrgyzstan ranking in the Global Innovation Index 2023

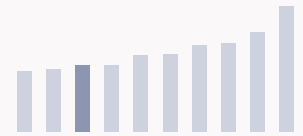
> Kyrgyzstan ranks **106th** among the 132 economies featured in the GII 2023.



> Kyrgyzstan ranks **23rd** among the 37 lower-middle-income group economies.



> Kyrgyzstan ranks **8th** among the 10 economies in Central and Southern Asia.



> Kyrgyzstan GII Ranking (2020-2023)

The table shows the rankings of Kyrgyzstan over the past four years. 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 2023 is between ranks 100 and 108.

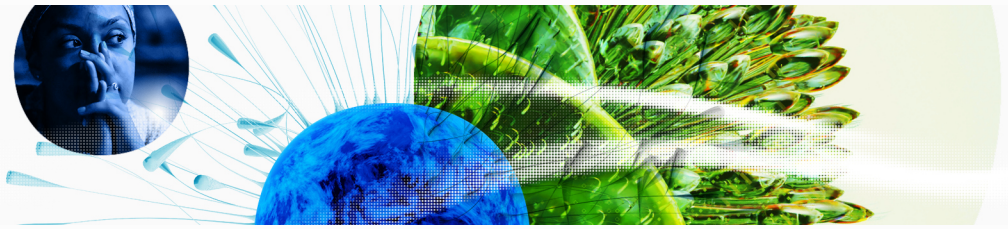
	GII Position	Innovation Inputs	Innovation Outputs
2020	94th	88th	107th
2021	98th	81st	119th
2022	94th	85th	108th
2023	106th	94th	112nd

Kyrgyzstan performs worse in innovation outputs than innovation inputs in 2023.

This year Kyrgyzstan ranks **94th** in innovation inputs. This position is lower than last year.

Kyrgyzstan ranks **112nd** in innovation outputs. This position is lower than last year.

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→ Expected vs. observed innovation performance

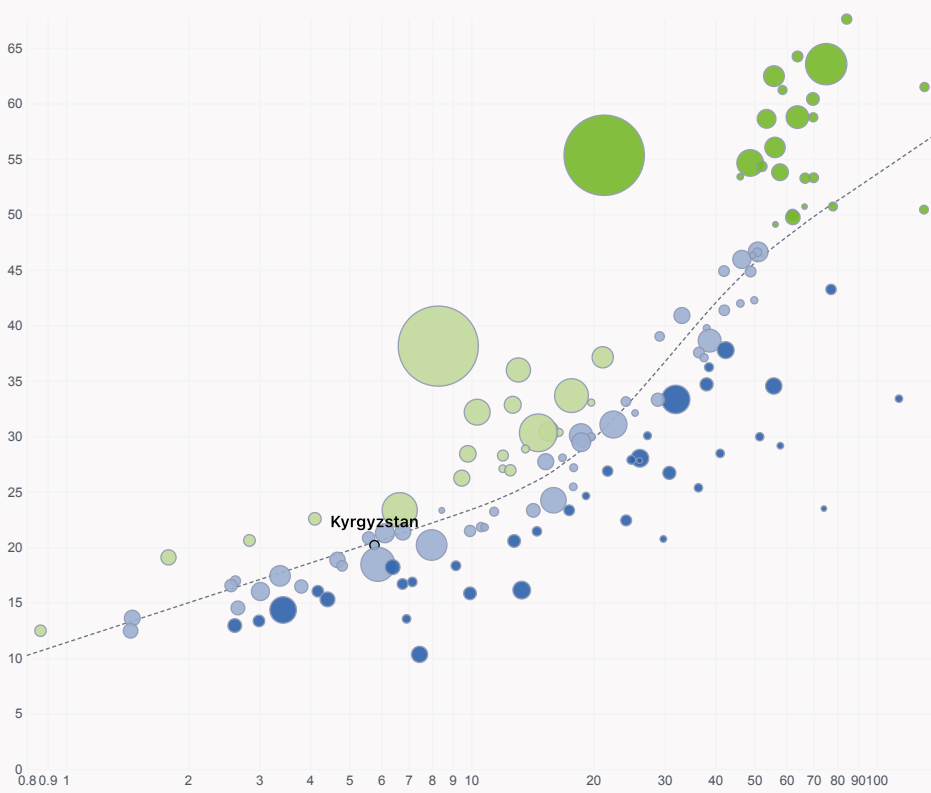
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected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



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

> Innovation overperformers relative to their economic development

↑ **GII Score**



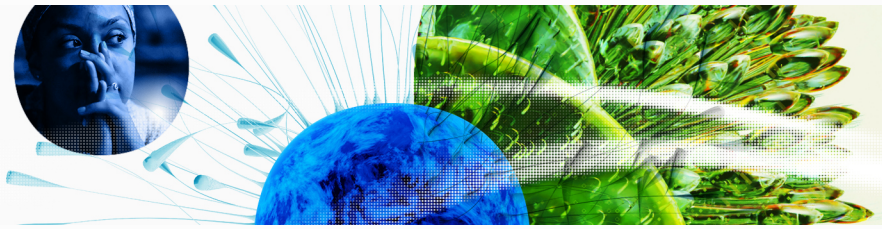
- Innovation leader
- Performing above expectations for level of development
- Performing at expectations for level of development
- Performing below expectations for level of development

Size legend (Population)



→ GDP per capita, PPP logarithmic scale (thousands of \$)

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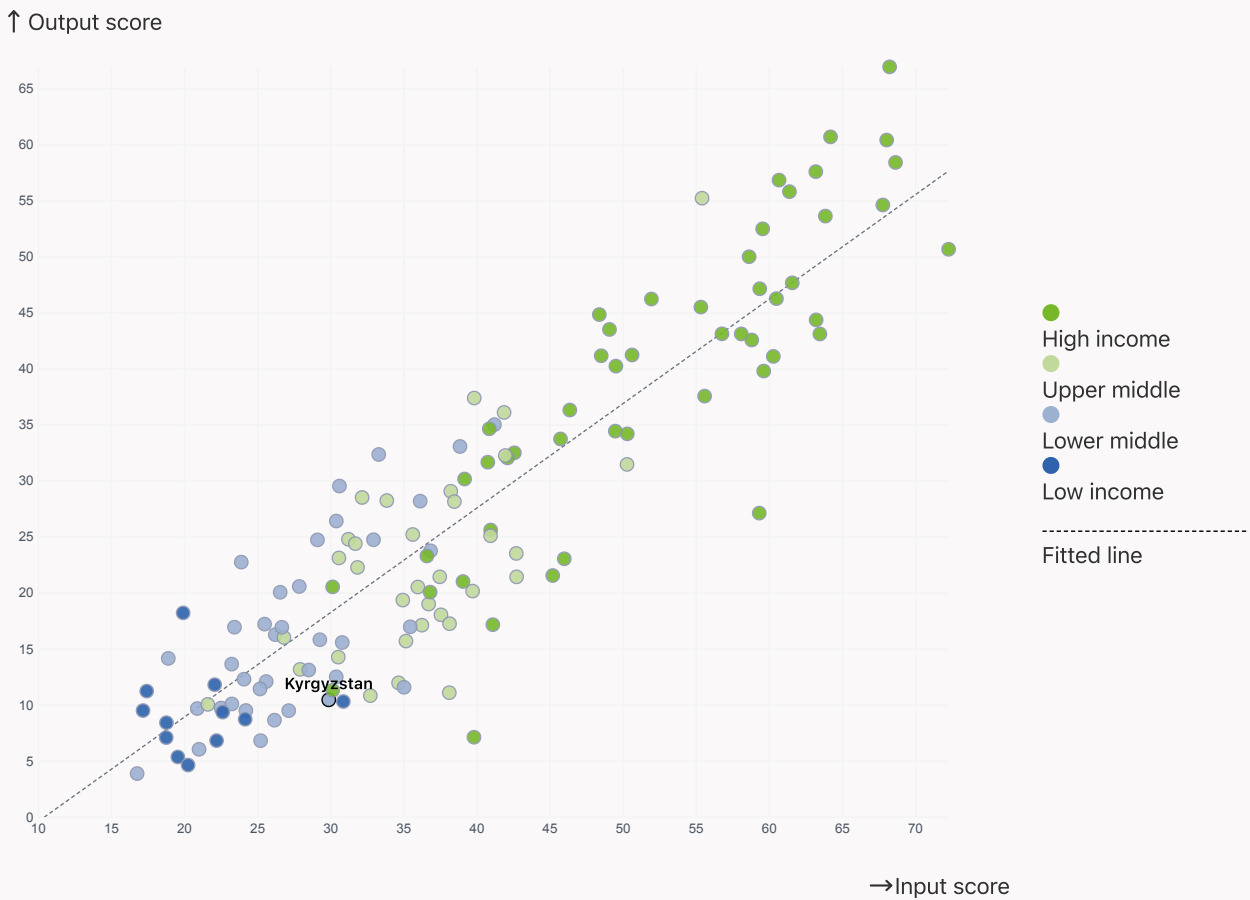
→ Effectively translating innovation investments into innovation outputs

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.

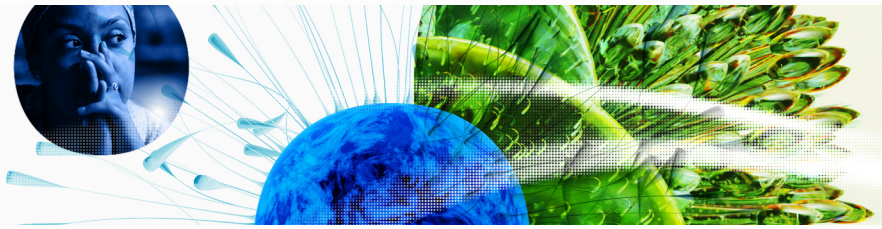


> Kyrgyzstan produces less innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

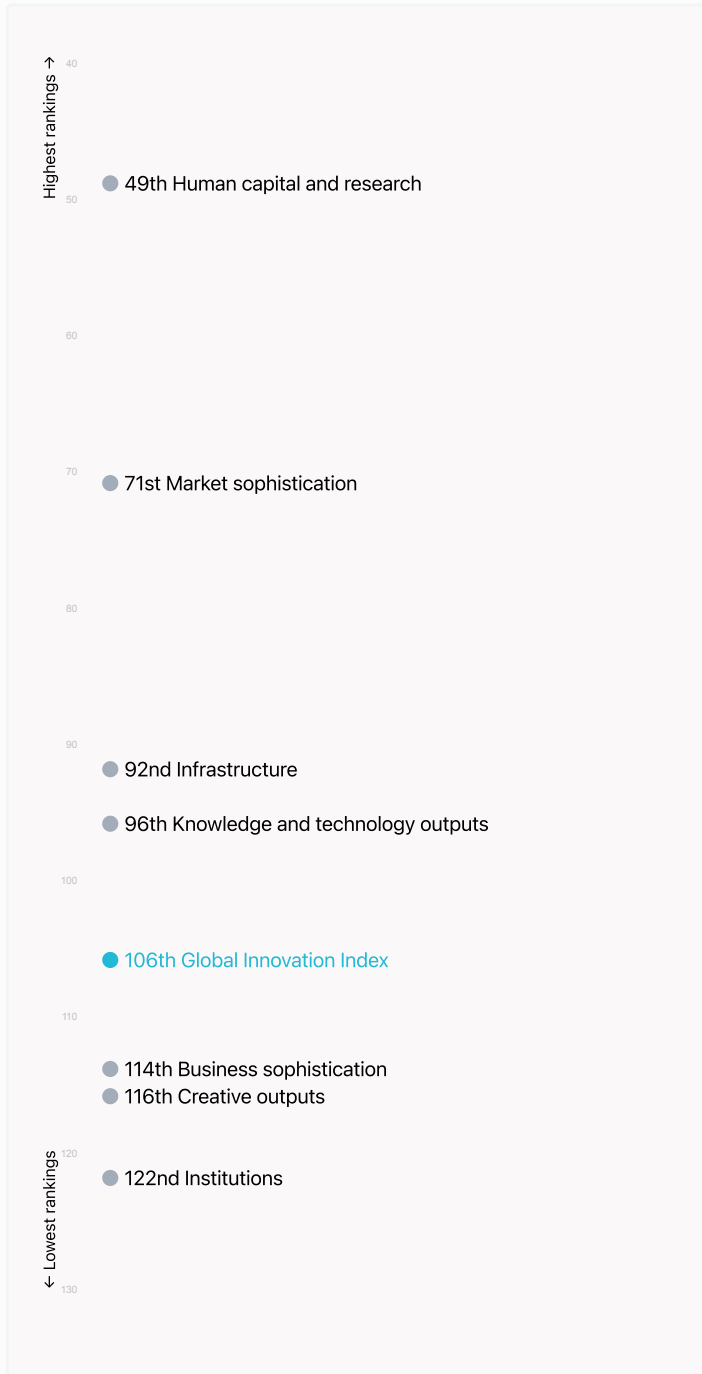


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→ Overview of Kyrgyzstan's rankings in the seven areas of the GII in 2023

The chart shows the ranking for each of the seven areas that the GII comprises. The strongest areas for Kyrgyzstan are those that rank above the GII (shown in blue) and the weakest are those that rank below.



> Highest rankings



Kyrgyzstan ranks highest in Human capital and research (49th), Market sophistication (71st), Infrastructure (92nd) and Knowledge and technology outputs (96th).

> Lowest rankings



Kyrgyzstan ranks lowest in Institutions (122nd), Creative outputs (116th) and Business sophistication (114th).

The full WIPO Intellectual Property Statistics profile for Kyrgyzstan can be found on [this link](#).

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→ Benchmark of Kyrgyzstan against other country groupings for each of the seven areas of the GII Index

The charts show the relative position of Kyrgyzstan (blue bar) against other country groupings (grey bars), for each of the seven areas of the GII Index.

> Lower-Middle-Income economies

Kyrgyzstan performs below the lower-middle-income group average in Knowledge and technology outputs, Creative outputs, Business sophistication, Institutions.

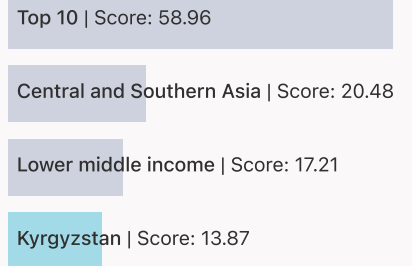


> Central And Southern Asia

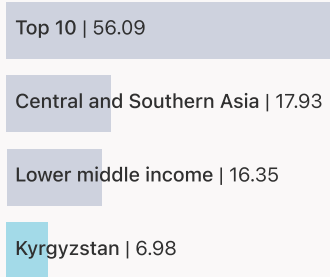
Kyrgyzstan performs below the regional average in Knowledge and technology outputs, Creative outputs, Business sophistication, Institutions.



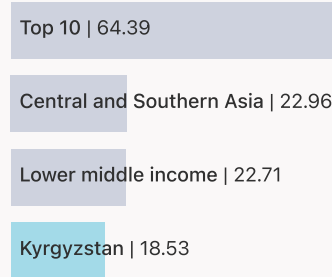
Knowledge and technology outputs



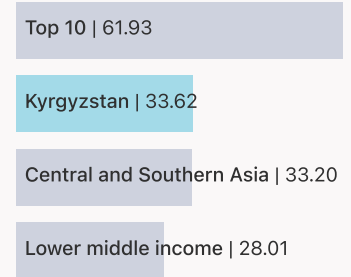
Creative outputs



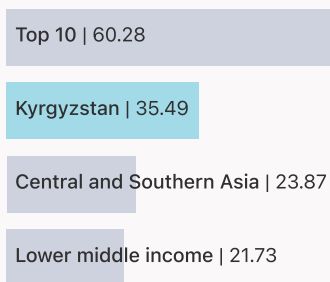
Business sophistication



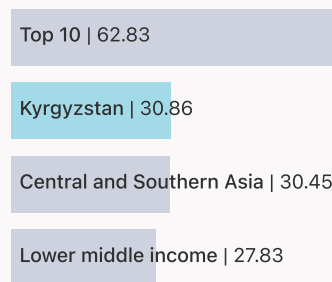
Market sophistication



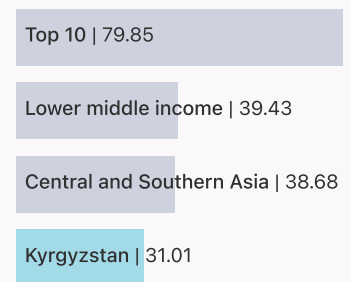
Human capital and research

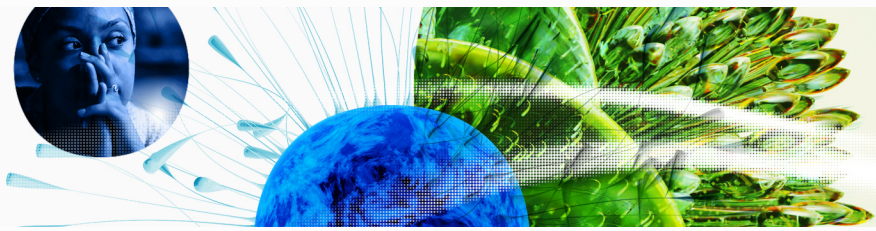


Infrastructure



Institutions





→ Innovation strengths and weaknesses in Kyrgyzstan

The table below gives an overview of the indicator strengths and weaknesses of Kyrgyzstan in the GII 2023.



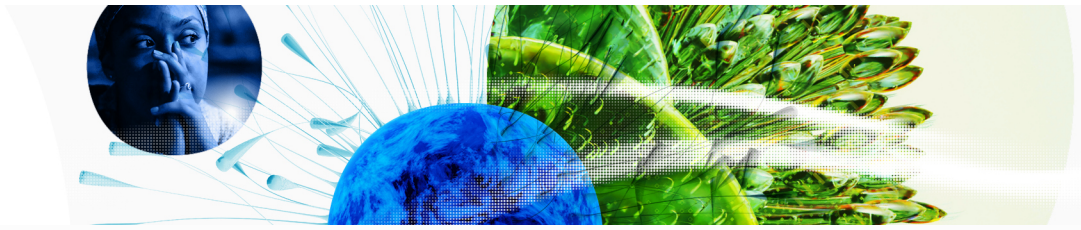
> Kyrgyzstan's main innovation strengths are **Tertiary inbound mobility, %** (rank 6), **Loans from microfinance institutions, % GDP** (rank 9) and **Expenditure on education, % GDP** (rank 10).

Strengths

Weaknesses

Rank	Code	Indicator name	Rank	Code	Indicator name
6	2.2.3	Tertiary inbound mobility, %	127	5.2.1	University-industry R&D collaboration
9	4.1.3	Loans from microfinance institutions, % GDP	126	3.3.3	ISO 14001 environment/bn PPP\$ GDP
10	2.1.1	Expenditure on education, % GDP	126	6.3.5	ISO 9001 quality/bn PPP\$ GDP
30	5.1.2	Firms offering formal training, %	110	6.2.4	High-tech manufacturing, %
30	6.1.1	Patents by origin/bn PPP\$ GDP	109	4.3.2	Domestic industry diversification
36	6.1.3	Utility models by origin/bn PPP\$ GDP	106	3.2.2	Logistics performance
50	5.2.5	Patent families/bn PPP\$ GDP	101	6.1.2	PCT patents by origin/bn PPP\$ GDP
54	6.3.2	Production and export complexity	74	7.1.3	Global brand value, top 5,000
55	2.1.5	Pupil-teacher ratio, secondary	71	2.3.4	QS university ranking, top 3
61	6.3.3	High-tech exports, % total trade	48	6.2.2	Unicorn valuation, % GDP
			40	2.3.3	Global corporate R&D investors, top 3, mn US\$

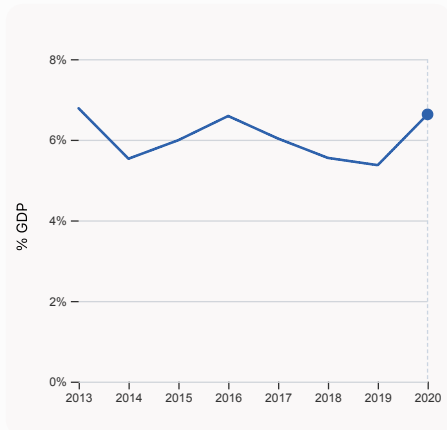
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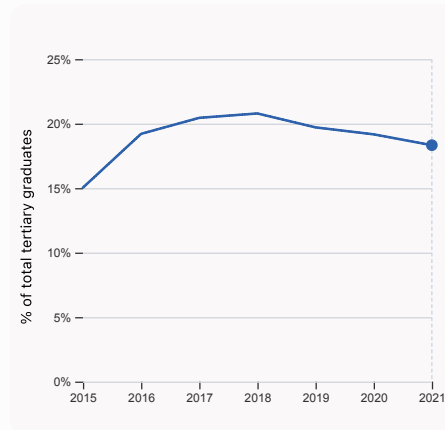
→ Kyrgyzstan's innovation system

As far as practicable, the plots below present unscaled indicator data.

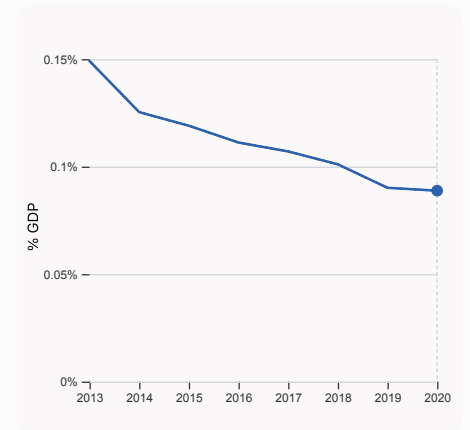
> Innovation inputs in Kyrgyzstan



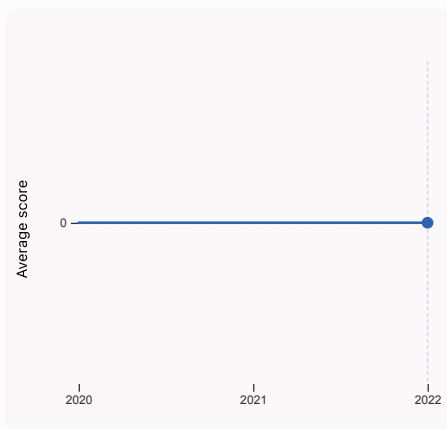
2.1.1 Expenditure on education, % GDP was equal to 6.63% GDP in 2020, up by 1.26 percentage points from the year prior – and equivalent to an indicator rank of 10.



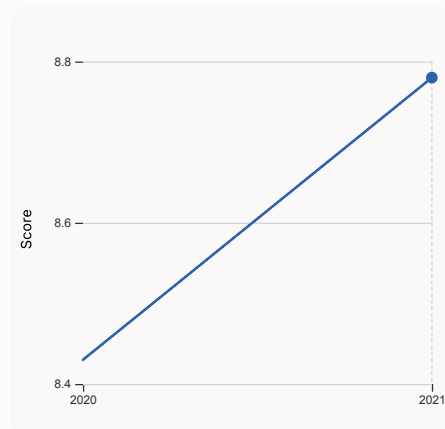
2.2.2 Graduates in science and engineering, % was equal to 18.33% of total tertiary graduates in 2021, down by 0.84 percentage points from the year prior – and equivalent to an indicator rank of 86.



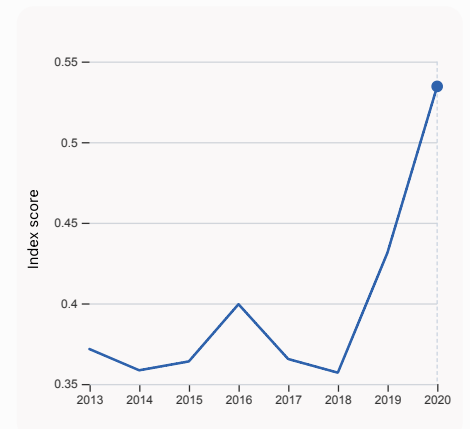
2.3.2 Gross expenditure on R&D, % GDP was equal to 0.089% GDP in 2020, down by 0.0014 percentage points from the year prior – and equivalent to an indicator rank of 106.



2.3.4 QS university ranking, top 3 was equal to an average score of 0 for the top 3 universities in 2022, equivalent to an indicator rank of 71.

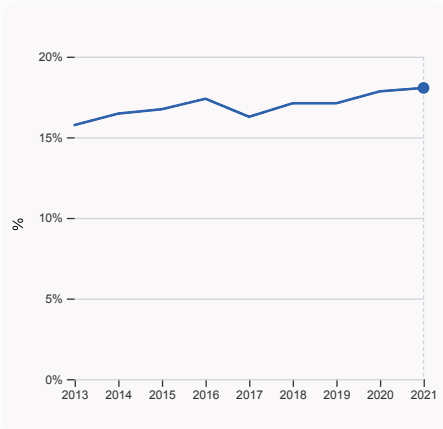
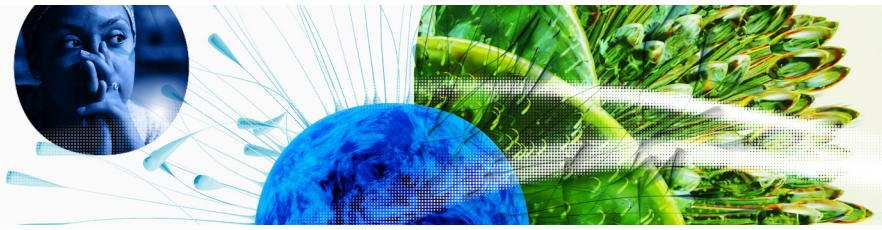


3.1.1 ICT access was equal to a score of 8.78 in 2021, up by 4.15% from the year prior – and equivalent to an indicator rank of 70.



4.3.2 Domestic industry diversification was equal to an index score of 0.535 in 2020, up by 23.88% from the year prior – and equivalent to an indicator rank of 109.

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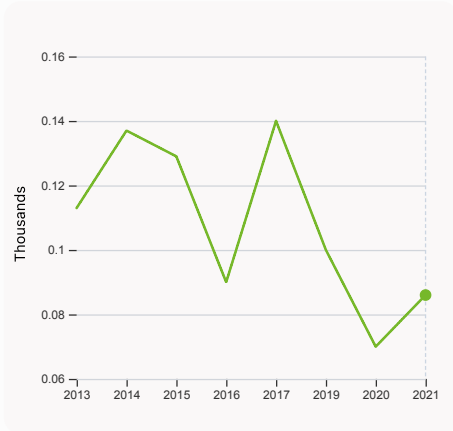
5.1.1 Knowledge-intensive employment, %

was equal to 18.06% in 2021, up by 0.21 percentage points from the year prior – and equivalent to an indicator rank of 80.

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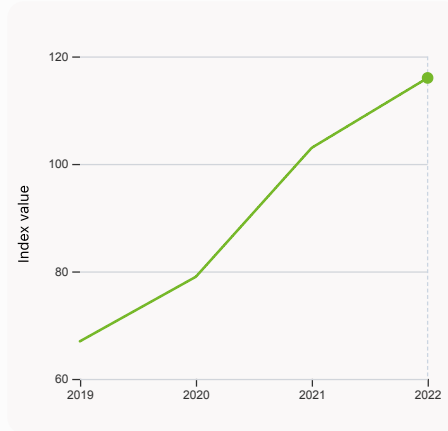


> Innovation outputs in Kyrgyzstan



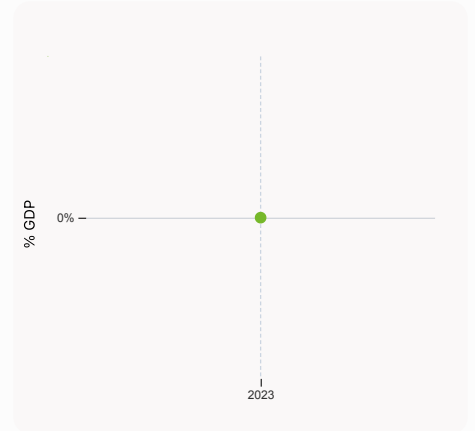
6.1.1 Patents by origin

was equal to 0.086 Thousands in 2021, up by 22.86% from the year prior – and equivalent to an indicator rank of 30.



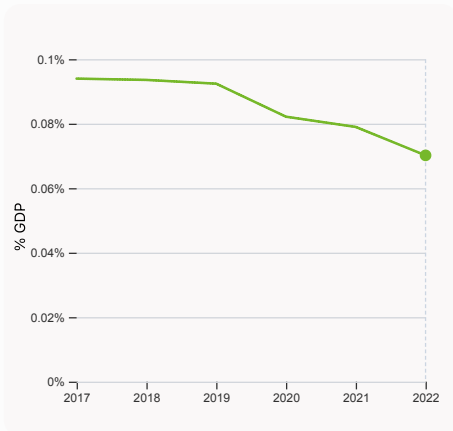
6.1.5 Citable documents H-index

was equal to an index value of 116 in 2022, up by 12.62% from the year prior – and equivalent to an indicator rank of 116.



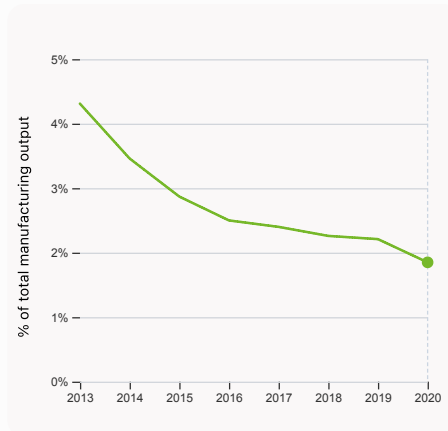
6.2.2 Unicorn valuation, % GDP

was equal to 0 % GDP in 2023 – and equivalent to an indicator rank of 48.



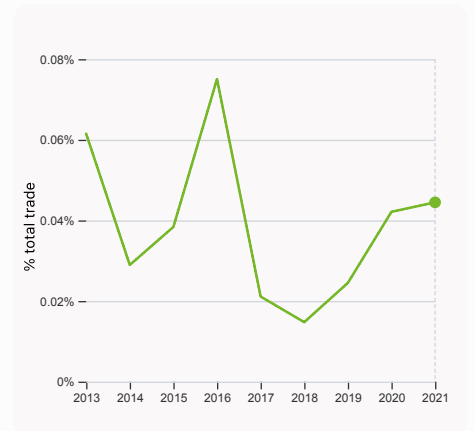
6.2.3 Software spending, % GDP

was equal to 0.07% GDP in 2022, down by 0.0088 percentage points from the year prior – and equivalent to an indicator rank of 96.



6.2.4 High-tech manufacturing, %

was equal to 1.85% of total manufacturing output in 2020, down by 0.36 percentage points from the year prior – and equivalent to an indicator rank of 110.



6.3.1 Intellectual property receipts, % total trade

was equal to 0.044% total trade in 2021, up by 0.0023 percentage points from the year prior – and equivalent to an indicator rank of 75.

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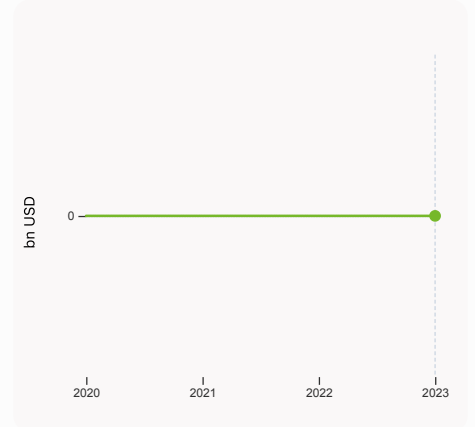
6.3.2 Production and export complexity

was equal to a score of 0.155 in 2020, up by 342.4% from the year prior – and equivalent to an indicator rank of 54.



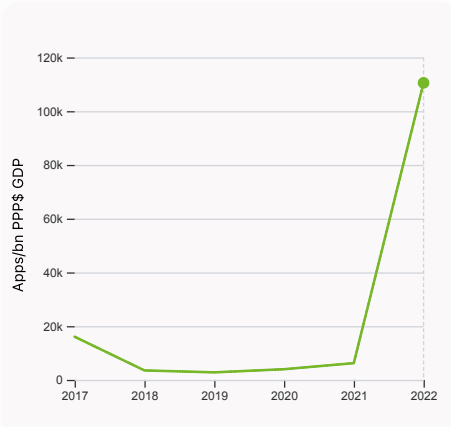
6.3.3 High-tech exports

was equal to 87,115,117 USD in 2021, up by 215.21% from the year prior – and equivalent to an indicator rank of 61.



7.1.3 Global brand value, top 5,000

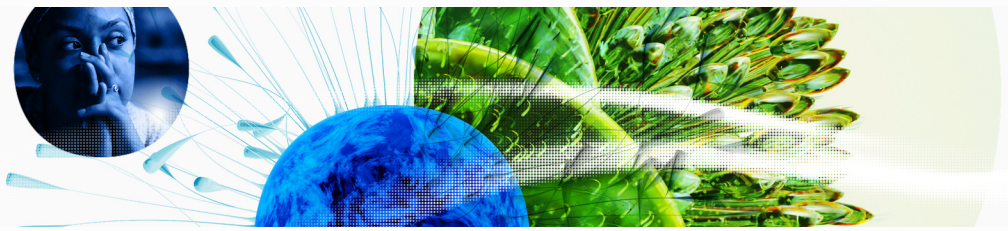
was equal to 0 bn USD in 2023 – and equivalent to an indicator rank of 74.



7.3.4 Mobile app creation/bn PPP\$ GDP

was equal to 110,542.43 Apps/bn PPP\$ GDP in 2022, up by 1672.81% from the year prior – and equivalent to an indicator rank of 81.

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GII 2023 rank

106

Kyrgyzstan

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
112	94	Lower middle	CSA	6.6	39.2	5,771.1

Score / Value Rank

Score / Value Rank

Institutions		31.0	122	Business sophistication		18.5	114
1.1 Institutional environment		18.1	124	5.1 Knowledge workers		24.6	80
1.1.1	Operational stability for businesses*	19.4	123	5.1.1	Knowledge-intensive employment, %	18.1	80
1.1.2	Government effectiveness*	16.7	112	5.1.2	Firms offering formal training, %	41.4	30
1.2 Regulatory environment		49.6	99	5.1.3	GERD performed by business, % GDP	0.0	78
1.2.1	Regulatory quality*	27.1	103	5.1.4	GERD financed by business, %	6.9	79
1.2.2	Rule of law*	8.3	123	5.1.5	Females employed w/advanced degrees, %	11.7	66
1.2.3	Cost of redundancy dismissal	17.3	71	5.2 Innovation linkages		6.8	126
1.3 Business environment		25.4	[110]	5.2.1	University-industry R&D collaboration+	6.0	127
1.3.1	Policies for doing business*	25.4	115	5.2.2	State of cluster development*	21.3	110
1.3.2	Entrepreneurship policies and culture*	n/a	n/a	5.2.3	GERD financed by abroad, % GDP	0.0	80
Human capital and research		35.5	49	5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	0.0	98
2.1 Education		65.3	[14]	5.2.5	Patent families/bn PPP\$ GDP	0.1	50
2.1.1	Expenditure on education, % GDP	6.6	10	5.3 Knowledge absorption		24.2	110
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	5.3.1	Intellectual property payments, % total trade	0.1	96
2.1.3	School life expectancy, years	13.6	76	5.3.2	High-tech imports, % total trade	8.3	62
2.1.4	PISA scales in reading, maths and science	n/a	n/a	5.3.3	ICT services imports, % total trade	0.5	110
2.1.5	Pupil-teacher ratio, secondary	12.4	55	5.3.4	FDI net inflows, % GDP	0.8	104
2.2 Tertiary education		40.6	33	5.3.5	Research talent, % in businesses	n/a	n/a
2.2.1	Tertiary enrolment, % gross	53.5	65	Knowledge and technology outputs		13.9	96
2.2.2	Graduates in science and engineering, %	18.3	86	6.1 Knowledge creation		11.5	75
2.2.3	Tertiary inbound mobility, %	23.0	6	6.1.1	Patents by origin/bn PPP\$ GDP	2.4	30
2.3 Research and development (R&D)		0.5	111	6.1.2	PCT patents by origin/bn PPP\$ GDP	0.0	101
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	6.1.3	Utility models by origin/bn PPP\$ GDP	0.4	36
2.3.2	Gross expenditure on R&D, % GDP	0.1	106	6.1.4	Scientific and technical articles/bn PPP\$ GDP	n/a	n/a
2.3.3	Global corporate R&D investors, top 3, mn US\$	0.0	40	6.1.5	Citable documents H-index	4.1	116
2.3.4	QS university ranking, top 3*	0.0	71	6.2 Knowledge impact		12.7	125
Infrastructure		30.9	92	6.2.1	Labor productivity growth, %	-0.0	96
3.1 Information and communication technologies (ICTs)		64.4	78	6.2.2	Unicorn valuation, % GDP	0.0	48
3.1.1	ICT access*	81.8	70	6.2.3	Software spending, % GDP	0.1	96
3.1.2	ICT use*	69.2	75	6.2.4	High-tech manufacturing, %	1.8	110
3.1.3	Government's online service*	57.7	80	6.3 Knowledge diffusion		17.4	86
3.1.4	E-participation*	48.8	78	6.3.1	Intellectual property receipts, % total trade	0.0	75
3.2 General infrastructure		13.7	109	6.3.2	Production and export complexity	55.8	54
3.2.1	Electricity output, GWh/mn pop.	2,340.4	77	6.3.3	High-tech exports, % total trade	1.9	61
3.2.2	Logistics performance*	9.1	106	6.3.4	ICT services exports, % total trade	0.3	112
3.2.3	Gross capital formation, % GDP	24.2	65	6.3.5	ISO 9001 quality/bn PPP\$ GDP	0.3	126
3.3 Ecological sustainability		14.5	105	Creative outputs		7.0	116
3.3.1	GDP/unit of energy use	7.2	95	7.1 Intangible assets		4.5	120
3.3.2	Environmental performance*	28.5	90	7.1.1	Intangible asset intensity, top 15, %	n/a	n/a
3.3.3	ISO 14001 environment/bn PPP\$ GDP	0.1	126	7.1.2	Trademarks by origin/bn PPP\$ GDP	14.0	102
Market sophistication		33.6	71	7.1.3	Global brand value, top 5,000	0.0	74
4.1 Credit		26.4	75	7.1.4	Industrial designs by origin/bn PPP\$ GDP	0.2	107
4.1.1	Finance for startups and scaleups*	n/a	n/a	7.2 Creative goods and services		1.7	[107]
4.1.2	Domestic credit to private sector, % GDP	28.3	100	7.2.1	Cultural and creative services exports, % total trade	n/a	n/a
4.1.3	Loans from microfinance institutions, % GDP	3.7	9	7.2.2	National feature films/mn pop. 15-69	n/a	n/a
4.2 Investment		n/a	[n/a]	7.2.3	Entertainment and media market/th pop. 15-69	n/a	n/a
4.2.1	Market capitalization, % GDP	n/a	n/a	7.2.4	Creative goods exports, % total trade	0.2	89
4.2.2	Venture capital (VC) investors, deals/bn PPP\$ GDP	n/a	n/a	7.3 Online creativity		17.1	85
4.2.3	VC recipients, deals/bn PPP\$ GDP	n/a	n/a	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	0.2	116
4.2.4	VC received, value, % GDP	n/a	n/a	7.3.2	Country-code TLDs/th pop. 15-69	0.8	95
4.3 Trade, diversification, and market scale		40.8	102	7.3.3	GitHub commits/mn pop. 15-69	7.0	62
4.3.1	Applied tariff rate, weighted avg., %	2.3	64	7.3.4	Mobile app creation/bn PPP\$ GDP	60.4	81
4.3.2	Domestic industry diversification	36.7	109				
4.3.3	Domestic market scale, bn PPP\$	39.2	119				

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 appendices for details, including the year of the data, at <https://www.wipo.int/gii-ranking>. 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 indicators that are either missing or outdated for Kyrgyzstan.



> Kyrgyzstan has missing data for fourteen indicators and outdated data for eight indicators.

> Missing data for Kyrgyzstan

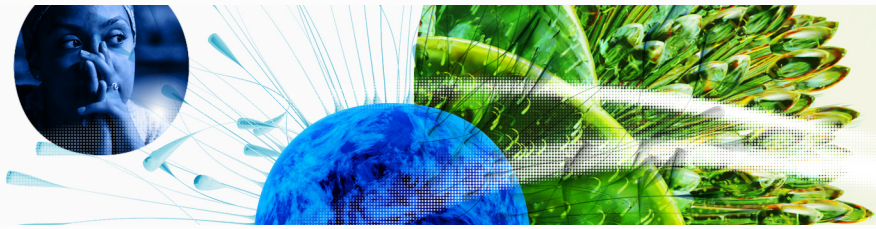
Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2022	Global Entrepreneurship Monitor
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2019	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
2.3.1	Researchers, FTE/mn pop.	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
4.1.1	Finance for startups and scaleups	n/a	2022	Global Entrepreneurship Monitor
4.2.1	Market capitalization, % GDP	n/a	2020	World Federation of Exchanges; World Bank
4.2.2	Venture capital (VC) investors, deals/bn PPP\$ GDP	n/a	2022	Refinitiv; International Monetary Fund
4.2.3	VC recipients, deals/bn PPP\$ GDP	n/a	2022	Refinitiv; International Monetary Fund
4.2.4	VC received, value, % GDP	n/a	2022	Refinitiv; International Monetary Fund
5.3.5	Research talent, % in businesses	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
7.1.1	Intangible asset intensity, top 15, %	n/a	2022	Brand Finance
7.2.1	Cultural and creative services exports, % total trade	n/a	2021	World Trade Organization and United Nations Conference on Trade and Development
7.2.2	National feature films/mn pop. 15-69	n/a	2021	OMDIA; United Nations, World Population Prospects
7.2.3	Entertainment and media market/th pop. 15-69	n/a	2022	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund



> Outdated data for Kyrgyzstan

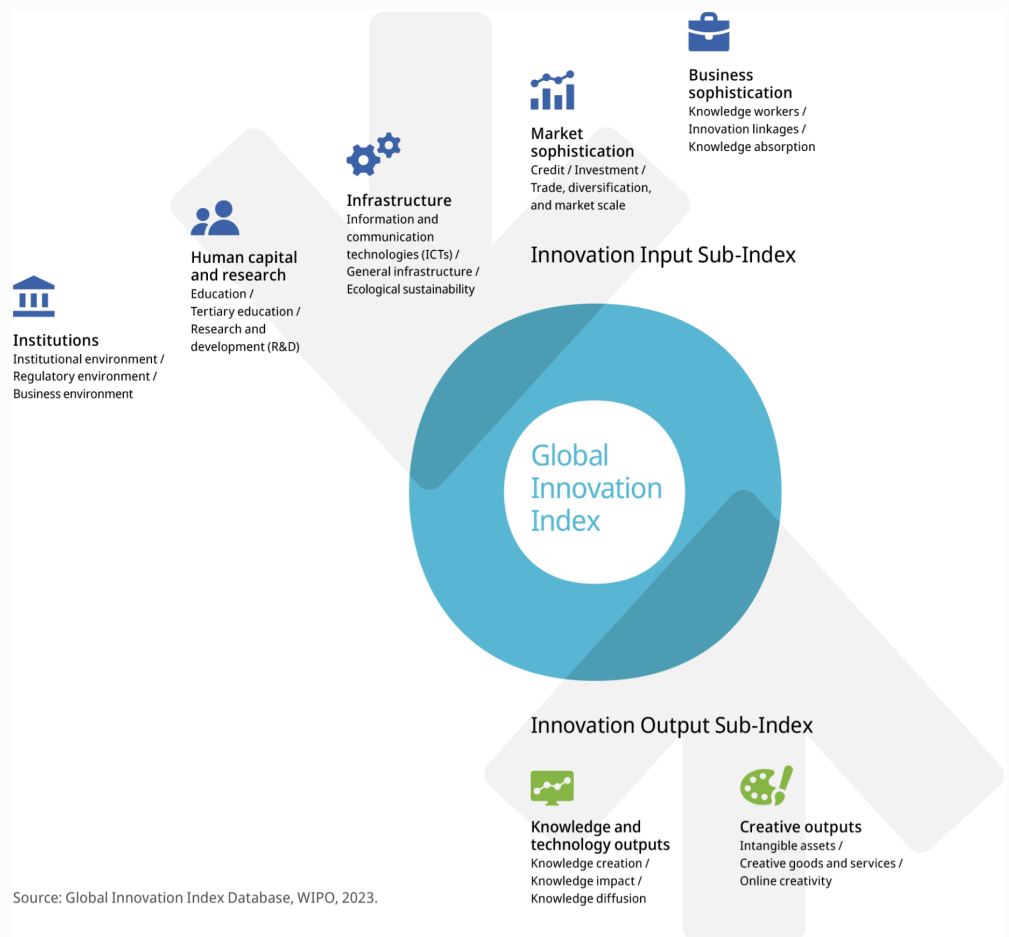
Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2020	2021	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	2020	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.1	Electricity output, GWh/mn pop.	2020	2021	International Energy Agency
5.1.1	Knowledge-intensive employment, %	2021	2022	International Labour Organization
5.1.3	GERD performed by business, % GDP	2018	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	2018	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	Females employed w/advanced degrees, %	2018	2022	International Labour Organization
5.2.3	GERD financed by abroad, % GDP	2018	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT

Global Innovation Index 2023



→ 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.