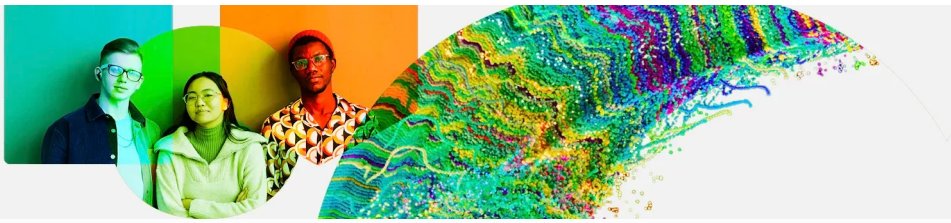
Global Innovation Index 2024



Tajikistan ranking in the Global Innovation Index 2024

Tajikistan ranks 107th among the 133 economies featured in the GII 2024.

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.

Tajikistan ranks 23rd among the 38 lower-middle-income group economies.

Tajikistan ranks 9th among the 10 economies in Central and Southern Asia.

Tajikistan GII Ranking (2020-2024)

The table shows the rankings of Tajikistan 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 Tajikistan in the GII 2024 is between ranks 95 and 110.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	109th	108th	99th
2021	103rd	104th	96th
2022	104th	104th	101st
2023	111st	109th	107th
2024	107th	106th	104th

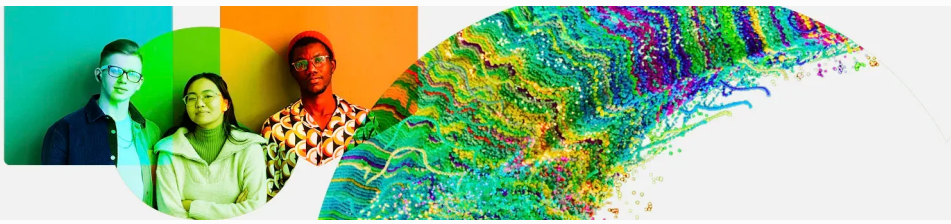
Tajikistan performs better in innovation outputs than innovation inputs in 2024.

This year **Tajikistan ranks 106th in innovation inputs.** This position is higher than last year.

Tajikistan ranks 104th in innovation outputs. This position is higher than last year.

Tajikistan has no clusters in the top 100 S&T clusters of the Global Innovation Index.

Global Innovation Index 2024



> Global Innovation Tracker

The Global Innovation Tracker 2024 shows what is the current state of innovation in Tajikistan, how rapidly is technology being embraced and what are the resulting societal impacts.

For Tajikistan, 2 indicators have improved in the short-term and 5 indicators have worsened.

Science and innovation investment

Scientific publications	R&D investments	Venture capital		International patent filings
		Deal numbers	Deal values	
▲ 14.2% 2022 - 2023	0% 2019 - 2020	▼ -50% 2022 - 2023	▼ -87.8% 2022 - 2023	n/a
▲ 6.2% 2013 - 2023	▲ 6.9% 2010 - 2020	n/a	n/a	n/a

Technology adoption

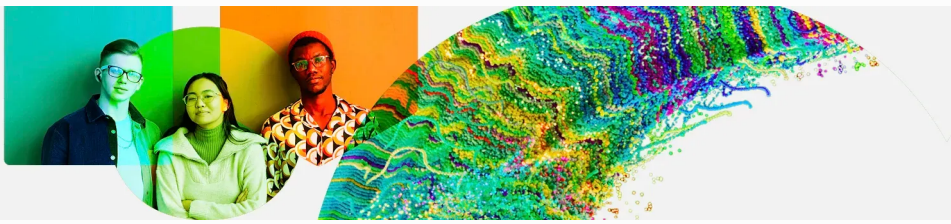
Safe sanitation	Connectivity		Robots	Electric vehicles
	Fixed broadband	5G		
n/a	▼ -2.1% 2020 - 2021	n/a	n/a	n/a
n/a	▼ -0.5% 2011 - 2021		n/a	n/a
n/a	0.06 per 100 inhabitants in 2021	n/a		n/a

Socioeconomic impact

Labor productivity	Life expectancy	Temperature change
▲ 3.9% 2022 - 2023	▼ -0.4% 2021 - 2022	▲ 1.7°C 2023
▲ 5.4% 2013 - 2023	▲ 0.4% 2012 - 2022	n/a
19,658 USD in 2023	71.3 years in 2022	

Notes: Not all indicators of the Global Innovation Tracker are used to calculate the Global Innovation Index. Long-term annual growth refers to the compound annual growth rate (CAGR) over the indicated period. For each variable, a one-year growth rate is set for the short run, and ten-year CAGR is set for the long run; time windows might differ when gaps exist in data availability. The end period corresponds to the most recent available observation, which may differ among countries. Temperature change is an exception: it indicates the change in degrees Celsius with respect to the average temperature in the country from 1951–1980. Figures are rounded.

Global Innovation Index 2024



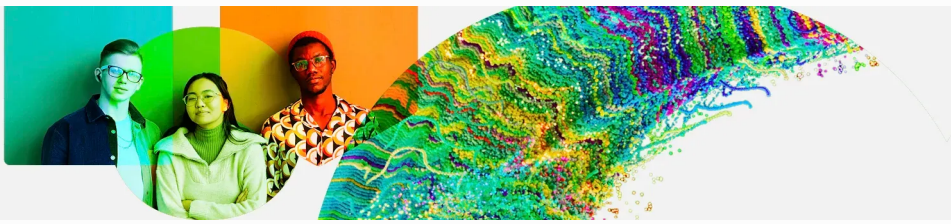
Expected vs. observed innovation performance

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, Tajikistan's performance is at expectations for its level of development.

> Innovation overperformers relative to their economic development

Global Innovation Index 2024

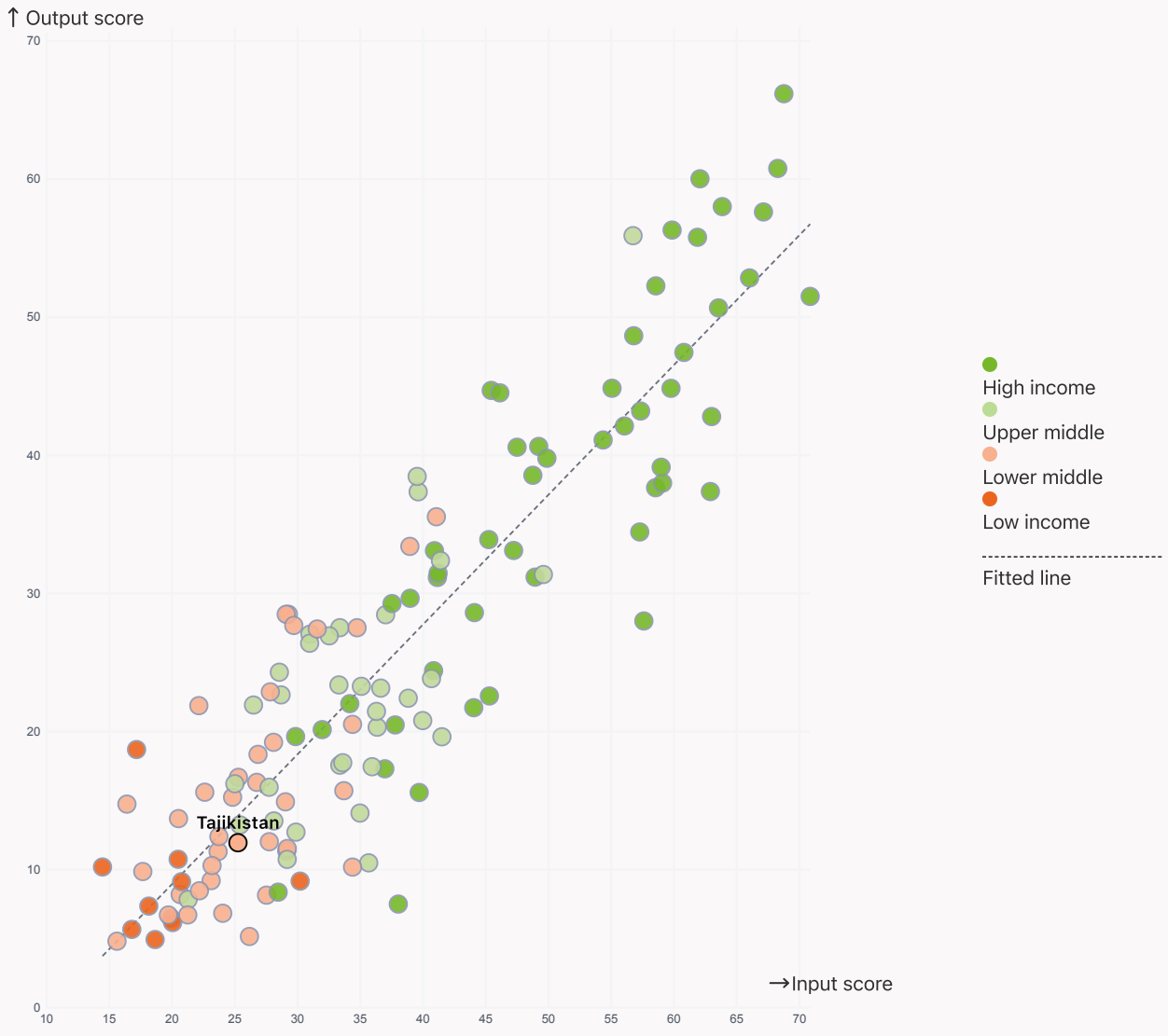


Effectively translating innovation investments into innovation outputs

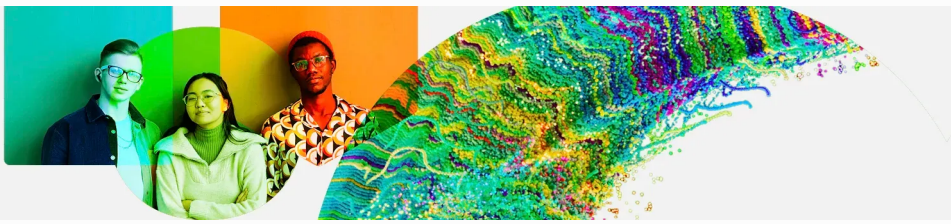
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

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

> Relationship between innovation inputs and outputs

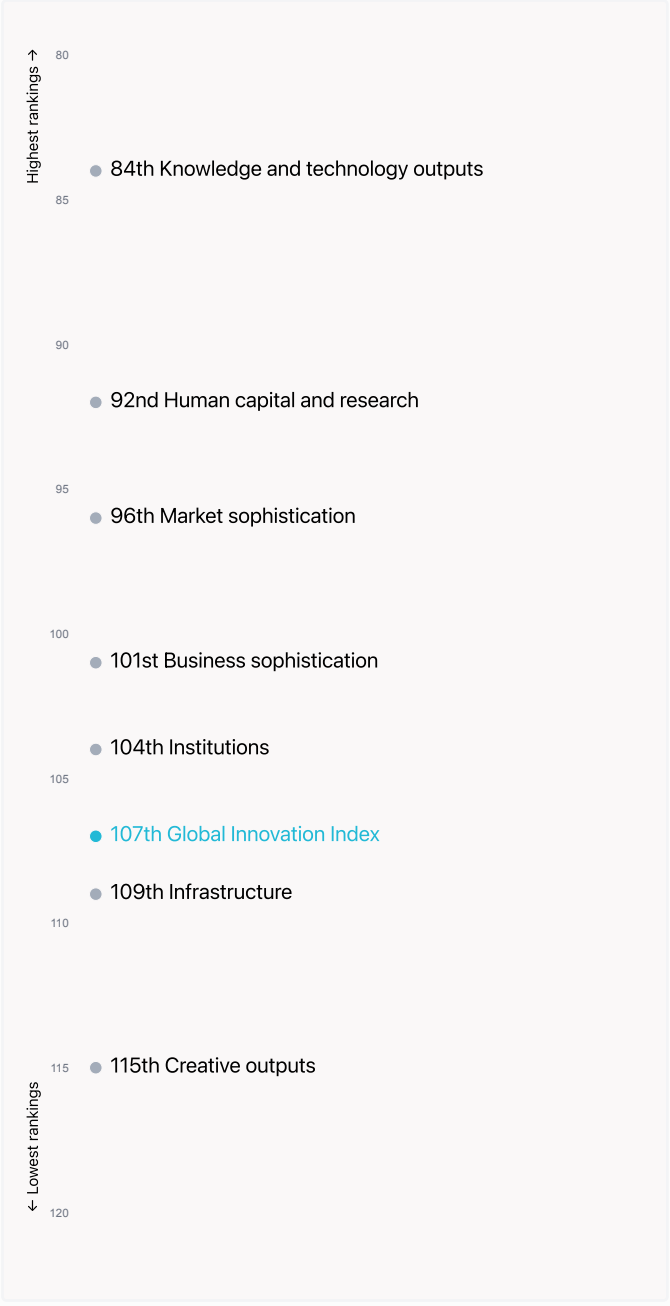


Global Innovation Index 2024



Overview of Tajikistan's rankings in the seven areas of the GII in 2024

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



Highest rankings

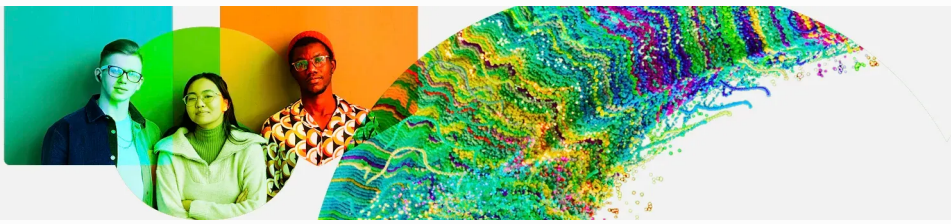
Tajikistan ranks highest in Knowledge and technology outputs (84th), Human capital and research (92nd), Market sophistication (96th) and Business sophistication (101st).

Lowest rankings

Tajikistan ranks lowest in Creative outputs (115th), Infrastructure (109th) and Institutions (104th).

The full WIPO Intellectual Property Statistics profile for Tajikistan can be found on this link.

Global Innovation Index 2024



Benchmark of Tajikistan against other economy groupings for each of the seven areas of the GII Index

The charts shows the relative position of Tajikistan (blue bar) against other economy groupings (grey bars), for each of the seven areas of the GII Index.

Lower-Middle-Income economies

Tajikistan performs above the lower-middle-income group average in Human capital and research, Knowledge and technology outputs.

Central And Southern Asia

Tajikistan performs above the regional average in Human capital and research.

Institutions

- Top 10 | Score: 80.81
- Lower middle income | Score: 34.0
- Central and Southern Asia | Score:
- Tajikistan | Score: 31.68

Human capital and research

- Top 10 | Score: 61.30
- Tajikistan | Score: 25.12
- Central and Southern Asia | Score:
- Lower middle income | Score: 22.1

Infrastructure

- Top 10 | Score: 58.57
- Central and Southern Asia | Score:
- Lower middle income | Score: 29.8
- Tajikistan | Score: 26.26

Market sophistication

- Top 10 | Score: 62.12
- Central and Southern Asia | Score:
- Lower middle income | Score: 25.9
- Tajikistan | Score: 23.17

Business sophistication

- Top 10 | Score: 63.64
- Central and Southern Asia | Score:
- Lower middle income | Score: 20.8
- Tajikistan | Score: 20.37

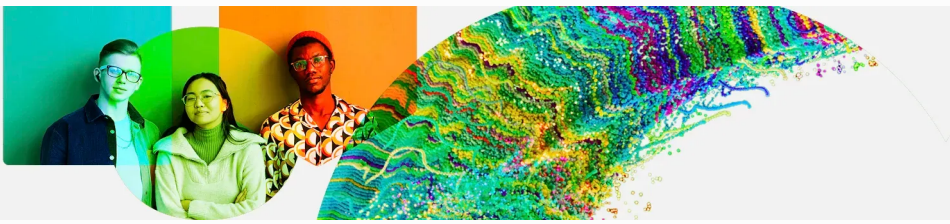
Knowledge and technology outputs

- Top 10 | Score: 57.29
- Central and Southern Asia | Score:
- Tajikistan | Score: 16.62
- Lower middle income | Score: 15.6

Creative outputs

- Top 10 | Score: 56.54
- Central and Southern Asia | Score:
- Lower middle income | Score: 15.7
- Tajikistan | Score: 7.15

Global Innovation Index 2024



Innovation strengths and weaknesses in Tajikistan

The table below gives an overview of the indicator strengths and weaknesses of Tajikistan in the GII 2024.

Tajikistan's main innovation strengths are **Utility models by origin/bn PPP$ GDP** (rank 1), **Labor productivity growth, %** (rank 4) and **Low-carbon energy use, %** (rank 6).

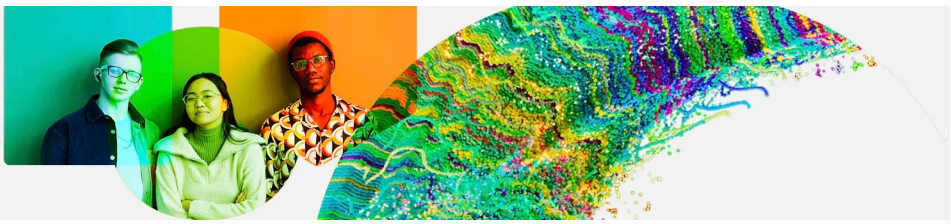
Strengths

Rank	Code	Indicator name
1	6.1.3	Utility models by origin/bn PPP$ GDP
4	6.2.1	Labor productivity growth, %
6	3.3.2	Low-carbon energy use, %
16	4.1.3	Loans from microfinance institutions, % GDP
29	2.1.1	Expenditure on education, % GDP
49	1.3.1	Policy stability for doing business†
49	5.2.1	Public Research-Industry co-publications, %
51	5.3.2	High-tech imports, % total trade
63	5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP
65	7.3.3	Mobile app creation/bn PPP$ GDP

Weaknesses

Rank	Code	Indicator name
132	3.3.3	ISO 14001 environment/bn PPP$ GDP
132	6.3.5	ISO 9001 quality/bn PPP$ GDP
128	4.1.2	Domestic credit to private sector, % GDP
102	5.2.5	Patent families/bn PPP$ GDP
99	6.1.2	PCT patents by origin/bn PPP$ GDP
75	7.1.3	Global brand value, top 5,000, % GDP
75	2.3.4	QS university ranking, top 3*
49	6.2.2	Unicorn valuation, % GDP
41	2.3.3	Global corporate R&D investors, top 3, mn USD

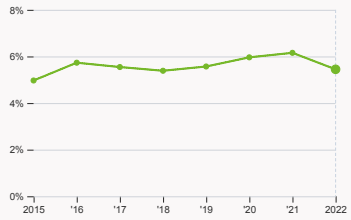
Global Innovation Index 2024



Tajikistan's innovation system

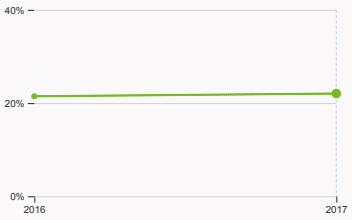
As far as practicable, the plots below present unscaled indicator data.

Innovation inputs in Tajikistan



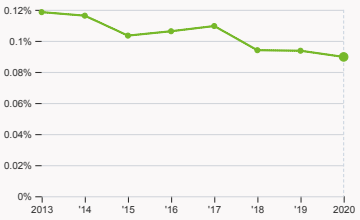
2.1.1 **Expenditure on education**

was equal to 5.45 % GDP in 2022, down by 0.71 percentage points from the year prior – and equivalent to an indicator rank of 29.



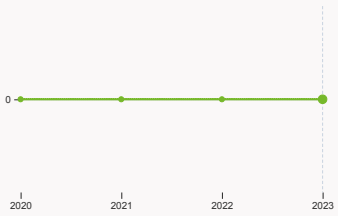
2.2.2 **Graduates in science and engineering**

was equal to 22.04 % of total graduates in 2017, up by 0.59 percentage points from the year prior – and equivalent to an indicator rank of 65.



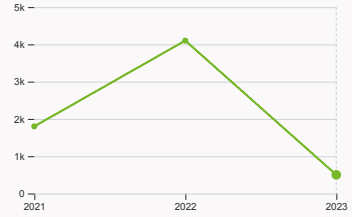
2.3.2 **Gross expenditure on R&D**

was equal to 0.09 % GDP in 2020, down by 0.004 percentage points from the year prior – and equivalent to an indicator rank of 103.



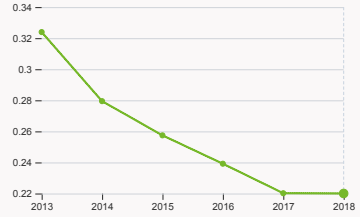
2.3.4 **QS university ranking**

was equal to an average score of 0 for the top three universities in 2023 with no change from the year prior – and equivalent to an indicator rank of 75.



4.2.4 **VC received, value**

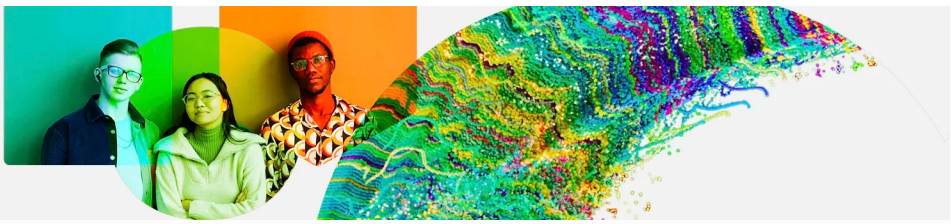
was equal to 500 USD in 2023, down by 87.8% from the year prior – and equivalent to an indicator rank of 75.



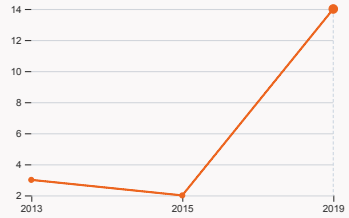
4.3.2 **Domestic industry diversification**

was equal to an index score of 0.22 in 2018, down by 0.07% from the year prior – and equivalent to an indicator rank of 82.

Global Innovation Index 2024

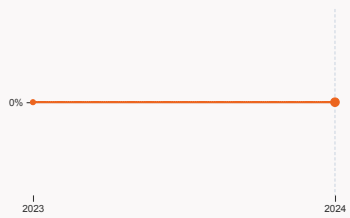


Innovation outputs in Tajikistan



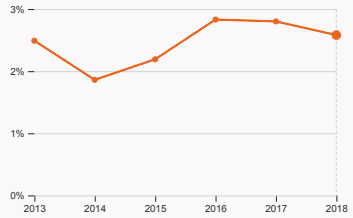
6.1.1 Patents by origin

was equal to 14 patents in 2019, up by 600% from the year prior – and equivalent to an indicator rank of 80.



6.2.2 Unicorn valuation

was equal to 0 % GDP in 2024 with no change from the year prior – and equivalent to an indicator rank of 49.



6.2.4 High-tech manufacturing

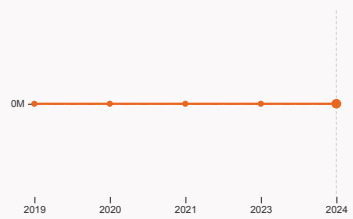
was equal to 2.58 % of total manufacturing output in 2018, down by 0.22 percentage points from the year prior – and equivalent to an indicator rank of 106.

6.3.2 Production and export complexity

was equal to a score of -0.72 in 2021, down by 24.14% from the year prior – and equivalent to an indicator rank of 96.

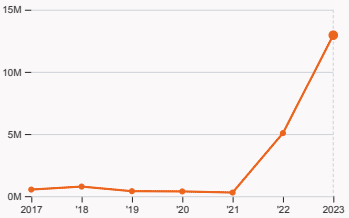
6.3.3 High-tech exports

was equal to 3.06 million USD in 2022, up by 282.5% from the year prior – and equivalent to an indicator rank of 123.



7.1.3 Global brand value

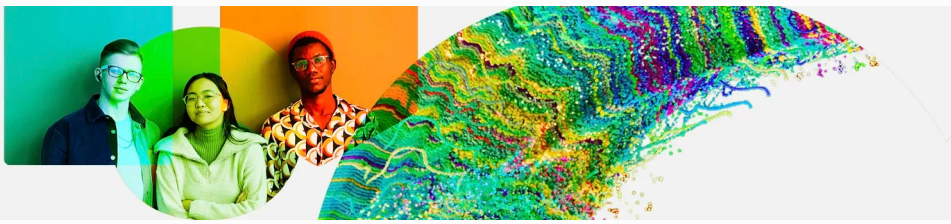
was equal to 0 million USD for the brands in the top 5,000 in 2024 with no change from the year prior – and equivalent to an indicator rank of 75.



7.3.3 Mobile app creation

was equal to 12.95 million global downloads of mobile apps in 2023, up by 155.42% from the year prior – and equivalent to an indicator rank of 65.

Global Innovation Index 2024



Tajikistan

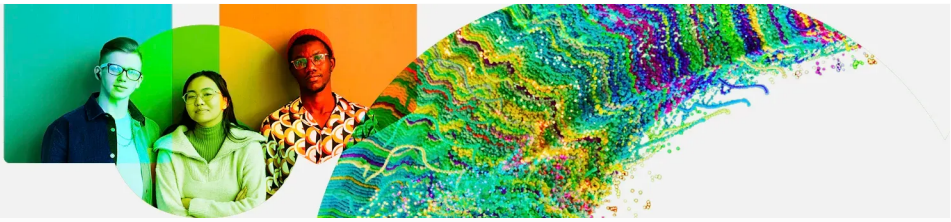
GII 2024 rank **107**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
104	106	Lower middle	CSA	10.4	53.7	5,360.9

	Score / Value	Rank	
Institutions	**31.7**	**104**	
1.1 Institutional environment	**30.5**	**116**	
1.1.1 Operational stability for businesses*	36.7	116	
1.1.2 Government effectiveness*	24.2	114	
1.2 Regulatory environment	**9.1**	**128**	◇
1.2.1 Regulatory quality*	10.4	128	◇
1.2.2 Rule of law*	7.8	129	◇
1.3 Business environment	**55.5**	**[44]**	
1.3.1 Policy stability for doing business†	55.5	49	● ◆
1.3.2 Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research	**25.1**	**92**	
2.1 Education	**54.1**	**[60]**	
2.1.1 Expenditure on education, % GDP	5.4	29	● ◆
2.1.2 Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3 School life expectancy, years	n/a	n/a	
2.1.4 PISA scales in reading, maths and science	n/a	n/a	
2.1.5 Pupil–teacher ratio, secondary	n/a	n/a	
2.2 Tertiary education	**20.8**	**92**	
2.2.1 Tertiary enrolment, % gross	31.1	90	
2.2.2 Graduates in science and engineering, %	22	65	
2.2.3 Tertiary inbound mobility, %	0.8	92	
2.3 Research and development (R&D)	**0.4**	**110**	
2.3.1 Researchers, FTE/mn pop.	n/a	n/a	
2.3.2 Gross expenditure on R&D, % GDP	0.09	103	
2.3.3 Global corporate R&D investors, top 3, mn USD	0	41	○ ◇
2.3.4 QS university ranking, top 3*	0	75	○ ◇
Infrastructure	**26.3**	**109**	
3.1 Information and communication technologies (ICTs)	**33.1**	**118**	◇
3.1.1 ICT access*	42.7	115	
3.1.2 ICT use*	n/a	n/a	
3.1.3 Government's online service*	33.3	117	
3.1.4 E-participation*	23.3	116	
3.2 General infrastructure	**13.3**	**118**	
3.2.1 Electricity output, GWh/mn pop.	2,125.1	76	
3.2.2 Logistics performance*	18.2	89	
3.2.3 Gross capital formation, % GDP	18.4	109	
3.3 Ecological sustainability	**32.4**	**34**	● ◆
3.3.1 GDP/unit of energy use	10.4	67	
3.3.2 Low-carbon energy use, %	63.7	6	● ◆
3.3.3 ISO 14001 environment/bn PPP$ GDP	0.06	132	○
Market sophistication	**23.2**	**96**	
4.1 Credit	**14.7**	**98**	
4.1.1 Finance for startups and scaleups†	n/a	n/a	
4.1.2 Domestic credit to private sector, % GDP	10.6	128	○
4.1.3 Loans from microfinance institutions, % GDP	2.6	16	● ◆
4.2 Investment	**4.9**	**[80]**	
4.2.1 Market capitalization, % GDP	n/a	n/a	
4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP	n/a	n/a	
4.2.3 VC recipients, deals/bn PPP$ GDP	0.03	79	
4.2.4 VC received, value, % GDP	0.0002	75	
4.3 Trade, diversification and market scale	**49.9**	**82**	
4.3.1 Applied tariff rate, weighted avg., %	2.4	70	
4.3.2 Domestic industry diversification	67.8	82	
4.3.3 Domestic market scale, bn PPP$	53.7	110	

	Score / Value	Rank	
Business sophistication	**20.4**	**101**	
5.1 Knowledge workers	**29.2**	**[75]**	
5.1.1 Knowledge-intensive employment, %	n/a	n/a	
5.1.2 Firms offering formal training, %	24.3	70	
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, %	n/a	n/a	
5.2 Innovation linkages	**14.9**	**108**	
5.2.1 Public Research-Industry co-publications, %	1.8	49	● ◆
5.2.2 University-industry R&D collaboration†	29.9	99	
5.2.3 State of cluster development†	18.9	122	◇
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	0.02	63	● ◆
5.2.5 Patent families/bn PPP$ GDP	0	102	○ ◇
5.3 Knowledge absorption	**16.9**	**113**	
5.3.1 Intellectual property payments, % total trade	0.001	120	◇
5.3.2 High-tech imports, % total trade	9.3	51	● ◆
5.3.3 ICT services imports, % total trade	0.3	124	
5.3.4 FDI net inflows, % GDP	1.3	95	
5.3.5 Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs	**16.6**	**84**	
6.1 Knowledge creation	**22.6**	**47**	● ◆
6.1.1 Patents by origin/bn PPP$ GDP	0.4	80	
6.1.2 PCT patents by origin/bn PPP$ GDP	0	99	○ ◇
6.1.3 Utility models by origin/bn PPP$ GDP	3.3	1	● ◆
6.1.4 Scientific and technical articles/bn PPP$ GDP	2.4	120	
6.1.5 Citable documents H-index	1.3	128	◇
6.2 Knowledge impact	**22.1**	**83**	
6.2.1 Labor productivity growth, %	4.7	4	● ◆
6.2.2 Unicorn valuation, % GDP	0	49	○ ◇
6.2.3 Software spending, % GDP	0.06	105	
6.2.4 High-tech manufacturing, %	2.6	106	◇
6.3 Knowledge diffusion	**5.1**	**120**	
6.3.1 Intellectual property receipts, % total trade	0.0004	112	
6.3.2 Production and export complexity	24.8	96	
6.3.3 High-tech exports, % total trade	0.09	123	
6.3.4 ICT services exports, % total trade	0.1	130	
6.3.5 ISO 9001 quality/bn PPP$ GDP	0.1	132	○ ◇
Creative outputs	**7.1**	**115**	
7.1 Intangible assets	**3**	**119**	
7.1.1 Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2 Trademarks by origin/bn PPP$ GDP	13.2	103	
7.1.3 Global brand value, top 5,000, % GDP	0	75	○ ◇
7.1.4 Industrial designs by origin/bn PPP$ GDP	0	126	
7.2 Creative goods and services	**0.3**	**[130]**	
7.2.1 Cultural and creative services exports, % total trade	0.005	108	
7.2.2 National feature films/mn pop. 15–69	n/a	n/a	
7.2.3 Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4 Creative goods exports, % total trade	0.04	110	
7.3 Online creativity	**22.2**	**88**	
7.3.1 Top-level domains (TLDs)/th pop. 15–69	0.2	119	
7.3.2 GitHub commits/mn pop. 15–69	0.6	121	
7.3.3 Mobile app creation/bn PPP$ GDP	65.8	65	● ◆

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question, 🕒 that the economy's data is outdated. Square brackets [ ] indicate the the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash - indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.



Data availability

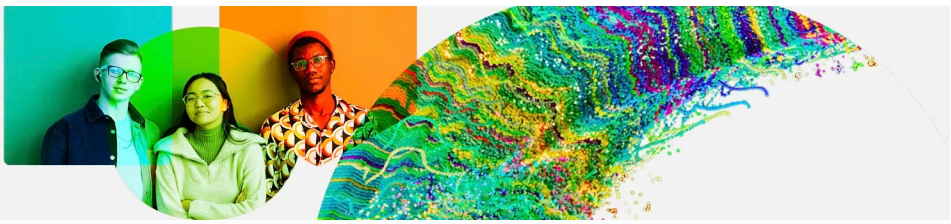
The following tables list indicators that are either missing or outdated for Tajikistan.

Tajikistan has missing data for eighteen indicators and outdated data for seventeen indicators.

Missing data for Tajikistan

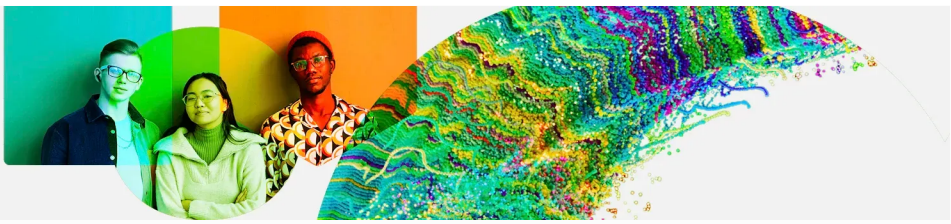
Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture†	n/a	2023	Global Entrepreneurship Monitor
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2020	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	n/a	2022	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	n/a	2022	OECD, PISA
2.1.5	Pupil–teacher ratio, secondary	n/a	2022	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.1.2	ICT use*	n/a	2022	World Intellectual Property Organization; International Telecommunication Union ITU DataHub (accessed May 1st, 2024)
4.1.1	Finance for startups and scaleups†	n/a	2023	Global Entrepreneurship Monitor
4.2.1	Market capitalization, % GDP	n/a	2022	World Federation of Exchanges; World Bank
4.2.2	Venture capital (VC) investors, deals/bn PPP$ GDP	n/a	2023	LSEG Data & Analytics; International Monetary Fund
5.1.1	Knowledge-intensive employment, %	n/a	2022	International Labour Organization
5.1.3	GERD performed by business, % GDP	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	Females employed w/advanced degrees, %	n/a	2023	International Labour Organization
5.3.5	Research talent, % in businesses	n/a	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
7.1.1	Intangible asset intensity, top 15, %	n/a	2023	Brand Finance
7.2.2	National feature films/mn pop. 15–69	n/a	2022	OMDIA; United Nations, World Population Prospects

Global Innovation Index 2024



Code	Indicator name	Economy Year	Model Year	Source
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2023	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund

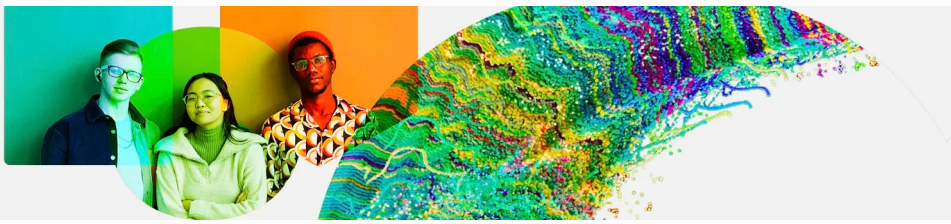
Global Innovation Index 2024



Outdated data for Tajikistan

Code	Indicator name	Economy Year	Model Year	Source
1.3.1	Policy stability for doing business†	2021	2023	World Economic Forum, Executive Opinion Survey (EOS)
2.2.1	Tertiary enrolment, % gross	2017	2022	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2017	2021	UNESCO Institute for Statistics; Eurostat; OECD
2.2.3	Tertiary inbound mobility, %	2017	2022	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	2020	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.1.1	ICT access*	2021	2022	World Intellectual Property Organization; International Telecommunication Union ITU DataHub (accessed May 1st, 2024)
3.2.1	Electricity output, GWh/mn pop.	2021	2022	International Energy Agency
4.3.2	Domestic industry diversification	2018	2021	United Nations Industrial Development Organization (UNIDO), Industrial Statistics Database (INDSTAT) Rev.3 and 4
5.1.2	Firms offering formal training, %	2019	2023	World Bank Enterprise Surveys
5.2.2	University-industry R&D collaboration†	2021	2023	World Economic Forum, Executive Opinion Survey (EOS)
5.2.3	State of cluster development†	2021	2023	World Economic Forum, Executive Opinion Survey (EOS)
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	2021	2023	LSEG Data & Analytics; International Monetary Fund
6.1.1	Patents by origin/bn PPP$ GDP	2019	2022	World Intellectual Property Organization; International Monetary Fund
6.2.4	High-tech manufacturing, %	2018	2021	United Nations Industrial Development Organization
7.1.2	Trademarks by origin/bn PPP$ GDP	2020	2022	World Intellectual Property Organization; International Monetary Fund
7.1.4	Industrial designs by origin/bn PPP$ GDP	2015	2022	World Intellectual Property Organization; International Monetary Fund
7.3.1	Top-level domains (TLDs)/th pop. 15–69	2022	2023	ZookNIC Inc.; United Nations Department of Economic and Social Affairs, Population Division, World Population Prospects 2024

Global Innovation Index 2024



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.

Source: Global Innovation Index Database, WIPO, 2024.

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.