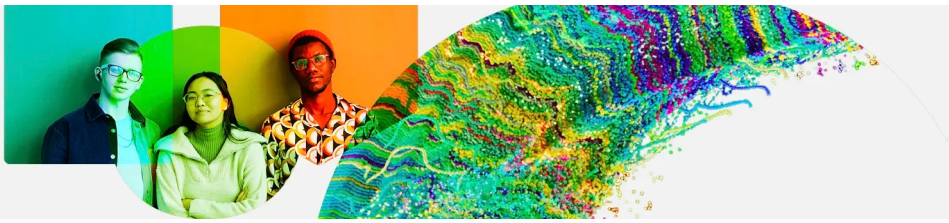
Global Innovation Index 2024



Bolivia (Plurinational State of) ranking in the Global Innovation Index 2024

Bolivia (Plurinational State of) ranks 100th 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.

Bolivia (Plurinational State of) ranks 19th among the 38 lower-middle-income group economies.

Bolivia (Plurinational State of) ranks 15th among the 20 economies in Latin America and the Caribbean.

Bolivia (Plurinational State of) GII Ranking (2020-2024)

The table shows the rankings of Bolivia (Plurinational State of) 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 Bolivia (Plurinational State of) in the GII 2024 is between ranks 94 and 113.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	105th	97th	117th
2021	104th	95th	111st
2022	n/a	n/a	n/a
2023	97th	91st	101st
2024	100th	88th	106th

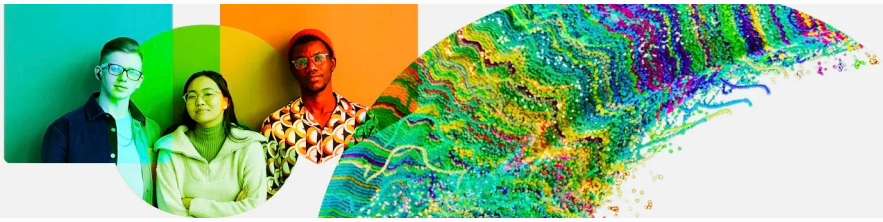
Bolivia (Plurinational State of) performs worse in innovation outputs than innovation inputs in 2024.

This year **Bolivia (Plurinational State of) ranks 88th in innovation inputs.** This position is higher than last year.

Bolivia (Plurinational State of) ranks 106th in innovation outputs. This position is lower than last year.

Bolivia (Plurinational State of) 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 Bolivia (Plurinational State of), how rapidly is technology being embraced and what are the resulting societal impacts.

For Bolivia (Plurinational State of), 2 indicators have improved in the short-term and 4 indicators have worsened.

Science and innovation investment

Scientific publications	R&D investments	Venture capital		International patent filings
		Deal numbers	Deal values	
▼ -16.6% 2022 - 2023	n/a	n/a	n/a	▼ -100% 2022 - 2023
▲ 1.5% 2013 - 2023	n/a	n/a	n/a	▼ -100% 2013 - 2023

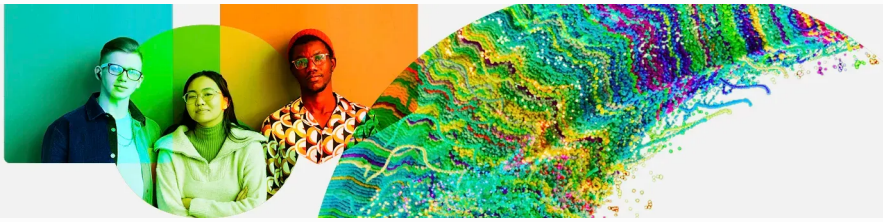
Technology adoption

Safe sanitation	Connectivity		Robots	Electric vehicles
	Fixed broadband	5G		
n/a	▲ 19.6% 2020 - 2021	n/a	n/a	n/a
n/a	▲ 29.4% 2011 - 2021		n/a	n/a
n/a	9.3 per 100 inhabitants in 2021	n/a		n/a

Socioeconomic impact

Labor productivity	Life expectancy	Temperature change
▼ -0.9% 2022 - 2023	▲ 2% 2021 - 2022	▲ 2.2°C 2023
▲ 2% 2013 - 2023	▼ -0.3% 2012 - 2022	n/a
21,598 USD in 2023	64.9 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.

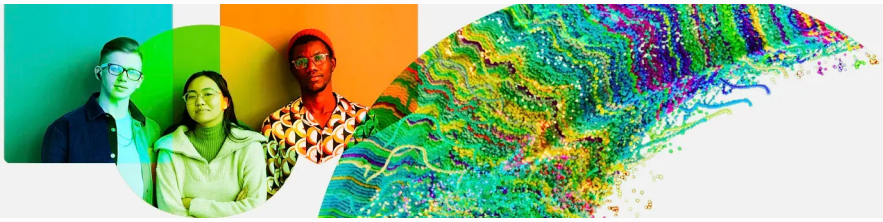


Expected vs. observed innovation performance

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, Bolivia (Plurinational State of)'s performance is at expectations for its level of development.

> Innovation overperformers relative to their economic development

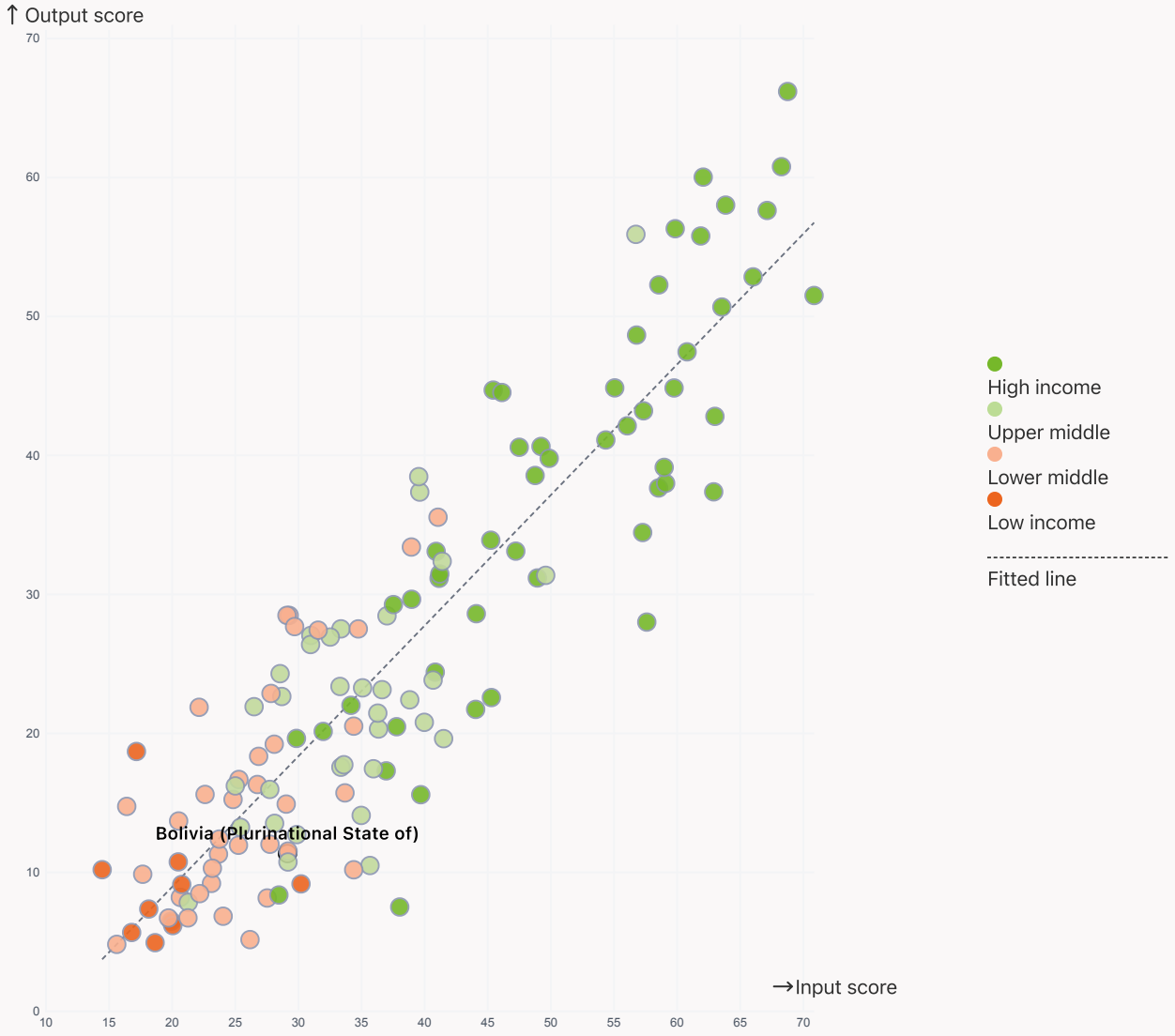


Effectively translating innovation investments into innovation outputs

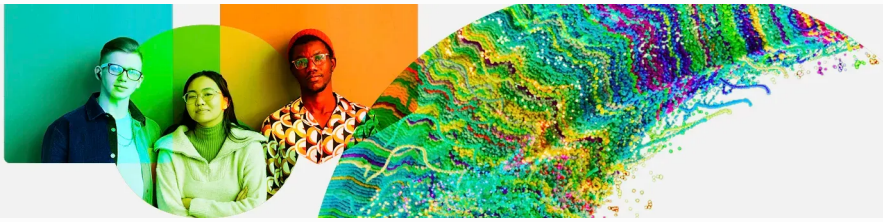
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

Bolivia (Plurinational State of) produces less innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

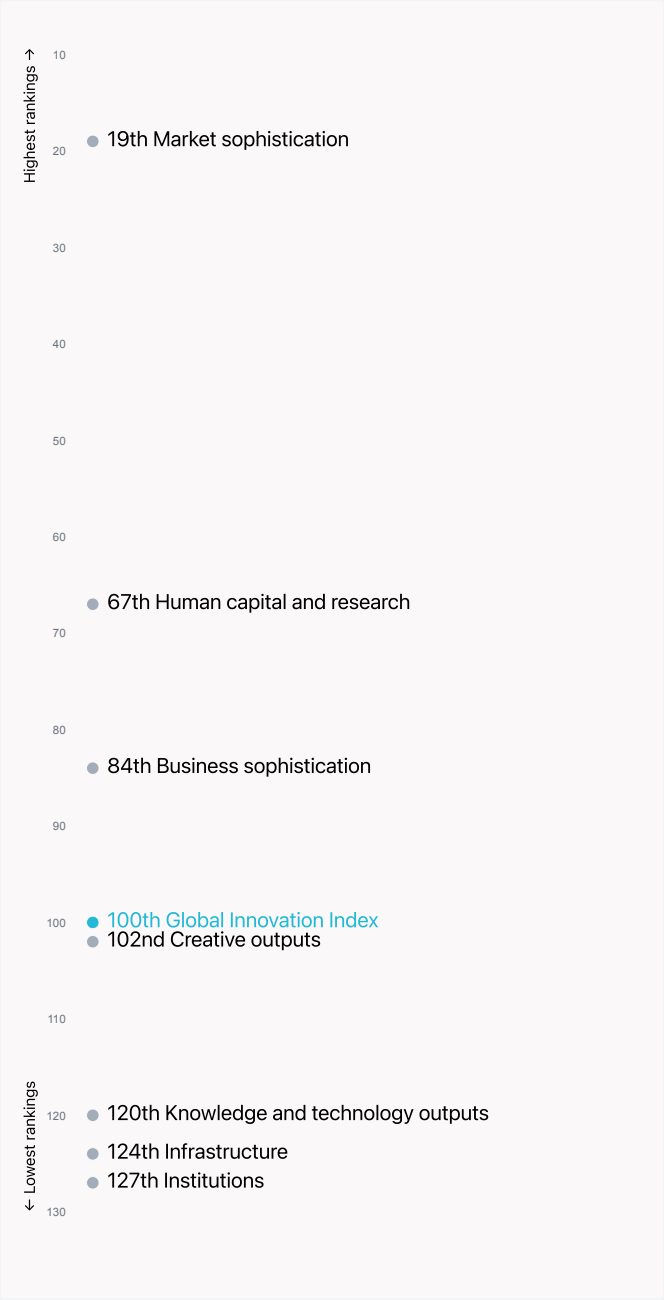


Global Innovation Index 2024



Overview of Bolivia (Plurinational State of)'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 Bolivia (Plurinational State of) are those that rank above the GII (shown in blue) and the weakest are those that rank below.



Highest rankings

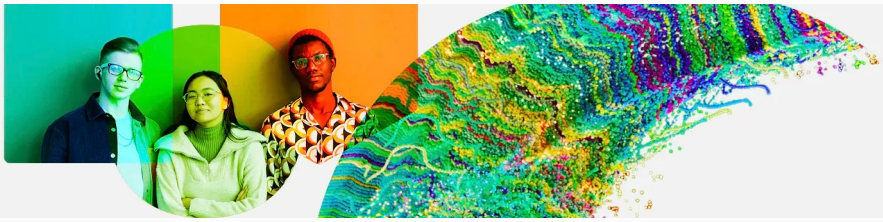
Bolivia (Plurinational State of) ranks highest in Market sophistication (19th), Human capital and research (67th) and Business sophistication (84th).

Lowest rankings

Bolivia (Plurinational State of) ranks lowest in Institutions (127th), Infrastructure (124th) and Knowledge and technology outputs (120th).

The full WIPO Intellectual Property Statistics profile for Bolivia (Plurinational State of) can be found on this link.

Global Innovation Index 2024



Benchmark of Bolivia (Plurinational State of) against other economy groupings for each of the seven areas of the GII Index

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

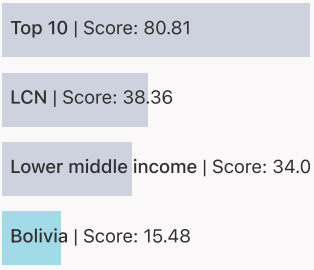
Lower-Middle-Income economies

Bolivia (Plurinational State of) performs above the lower-middle-income group average in Human capital and research, Market sophistication, Business sophistication.

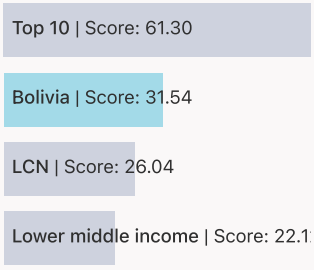
Latin America And The Caribbean

Bolivia (Plurinational State of) performs above the regional average in Human capital and research, Market sophistication.

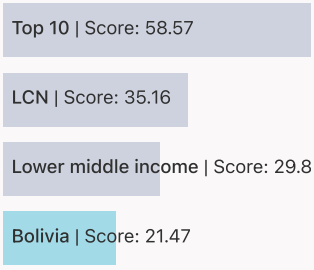
Institutions



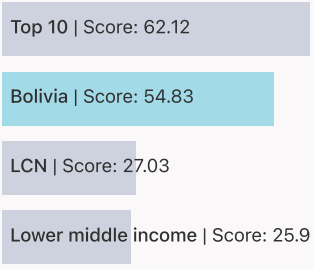
Human capital and research



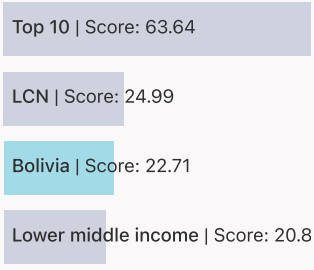
Infrastructure



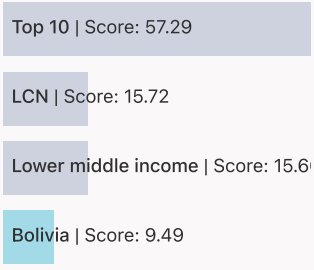
Market sophistication



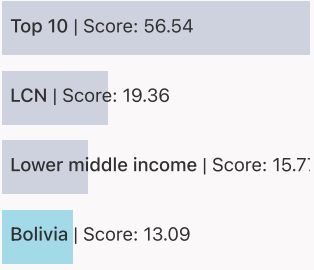
Business sophistication



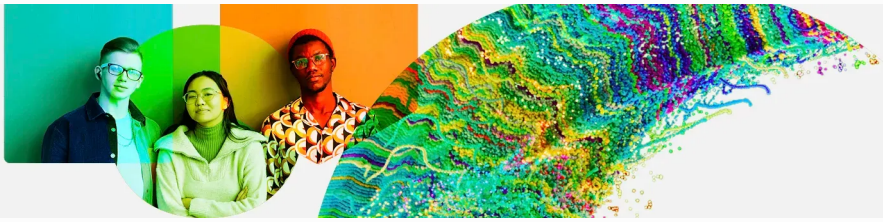
Knowledge and technology outputs



Creative outputs



Global Innovation Index 2024



Innovation strengths and weaknesses in Bolivia (Plurinational State of)

The table below gives an overview of the indicator strengths and weaknesses of Bolivia (Plurinational State of) in the GII 2024.

Bolivia (Plurinational State of)'s main innovation strengths are **Loans from microfinance institutions, % GDP** (rank 1), **Expenditure on education, % GDP** (rank 4) and **Government funding/pupil, secondary, % GDP/cap** (rank 34).

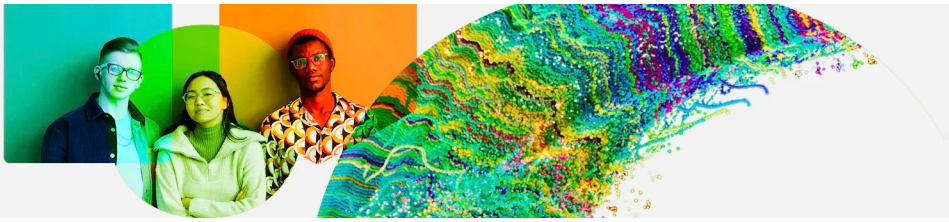
Strengths

Rank	Code	Indicator name
1	4.1.3	Loans from microfinance institutions, % GDP
4	2.1.1	Expenditure on education, % GDP
34	2.1.2	Government funding/pupil, secondary, % GDP/cap
45	4.1.2	Domestic credit to private sector, % GDP
48	6.2.3	Software spending, % GDP
48	7.1.2	Trademarks by origin/bn PPP$ GDP
58	7.2.4	Creative goods exports, % total trade
59	5.1.5	Females employed w/advanced degrees, %
75	5.2.1	Public Research-Industry co-publications, %

Weaknesses

Rank	Code	Indicator name
131	1.2.2	Rule of law*
129	1.2.1	Regulatory quality*
128	1.3.1	Policy stability for doing business†
124	5.2.2	University-industry R&D collaboration†
122	3.2.3	Gross capital formation, % GDP
107	7.2.1	Cultural and creative services exports, % total trade
102	5.2.5	Patent families/bn PPP$ 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



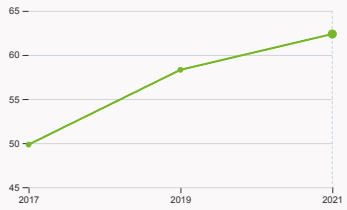
Bolivia (Plurinational State of)'s innovation system

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

Innovation inputs in Bolivia (Plurinational State of)

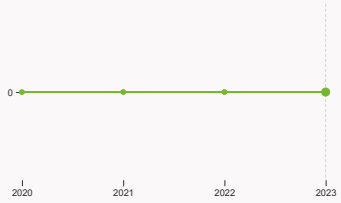
2.1.1 Expenditure on education

was equal to 7.74 % GDP in 2022, down by 0.22 percentage points from the year prior – and equivalent to an indicator rank of 4.



2.3.1 Researchers

was equal to 62.37 FTE per million population in 2021, up by 6.96% from the year prior – and equivalent to an indicator rank of 97.



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.

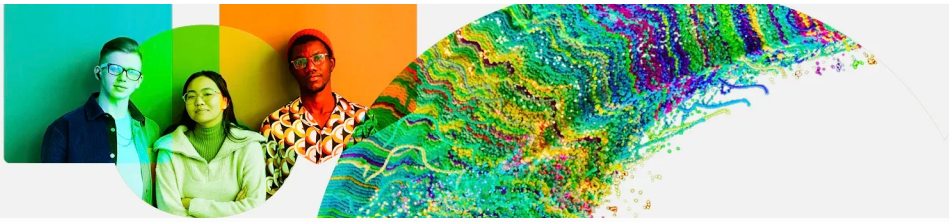
4.3.2 Domestic industry diversification

was equal to an index score of 0.17 in 2017 – and equivalent to an indicator rank of 69.

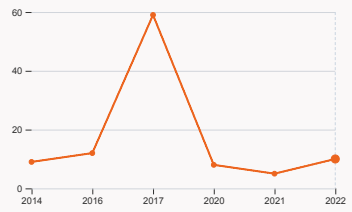
5.1.1 Knowledge-intensive employment

was equal to 14.42 % in 2022, up by 0.49 percentage points from the year prior – and equivalent to an indicator rank of 93.

Global Innovation Index 2024

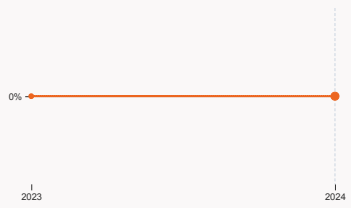


Innovation outputs in Bolivia (Plurinational State of)



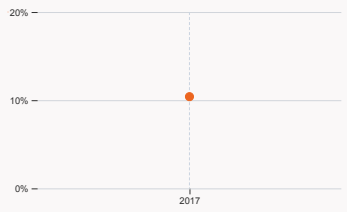
6.1.1 Patents by origin

was equal to 10 patents in 2022, up by 100% from the year prior – and equivalent to an indicator rank of 110.



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.

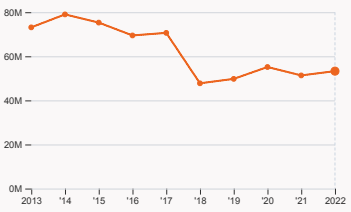


6.2.4 High-tech manufacturing

was equal to 10.4 % of total manufacturing output in 2017 – and equivalent to an indicator rank of 84.

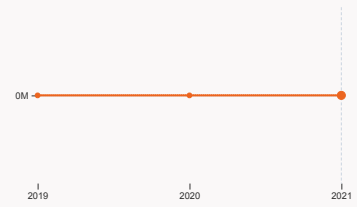
6.3.2 Production and export complexity

was equal to a score of -0.98 in 2021, down by 13.95% from the year prior – and equivalent to an indicator rank of 108.



6.3.3 High-tech exports

was equal to 53.27 million USD in 2022, up by 3.78% from the year prior – and equivalent to an indicator rank of 97.

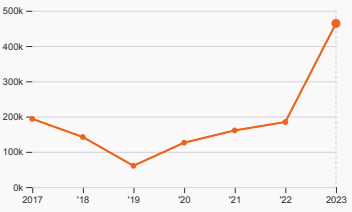


7.1.3 Global brand value

was equal to 0 million USD for the brands in the top 5,000 in 2021 with no change from the year prior – and equivalent to an indicator rank of NA.

7.2.2 National feature films

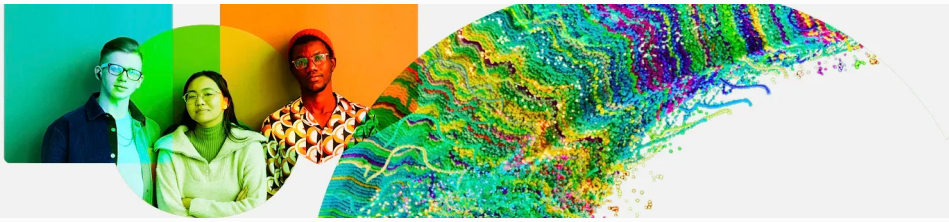
was equal to 7 films in 2022, up by 16.67% from the year prior – and equivalent to an indicator rank of 68.



7.3.3 Mobile app creation

was equal to 464.24 thousand global downloads of mobile apps in 2023, up by 151.58% from the year prior – and equivalent to an indicator rank of 115.

Global Innovation Index 2024



Bolivia (Plurinational State of)

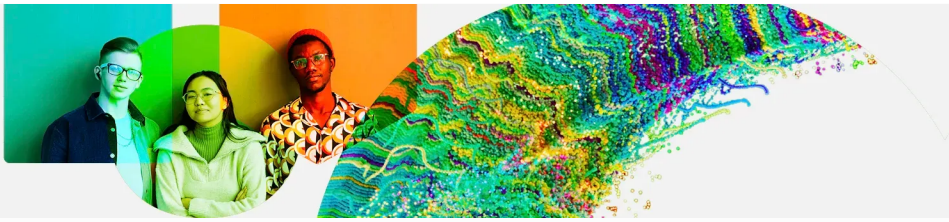
GII 2024 rank
100

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
106	88	Lower middle	LCN	12.2	125.4	10,340.3

	Score / Value	Rank	
Institutions	**15.5**	**127**	○ ◇
1.1 Institutional environment	**34**	**107**	
1.1.1 Operational stability for businesses*	38.7	112	
1.1.2 Government effectiveness*	29.3	101	
1.2 Regulatory environment	**8.3**	**129**	○ ◇
1.2.1 Regulatory quality*	10	129	○ ◇
1.2.2 Rule of law*	6.5	131	○ ◇
1.3 Business environment	**4.2**	**[130]**	
1.3.1 Policy stability for doing business†	4.2	128	○ ◇
1.3.2 Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research	**31.5**	**[67]**	
2.1 Education	**62.9**	**[23]**	
2.1.1 Expenditure on education, % GDP	7.7	4	● ◆
2.1.2 Government funding/pupil, secondary, % GDP/cap	22.9	34	● ◆
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	18.3	94	
2.2 Tertiary education	**n/a**	**[n/a]**	
2.2.1 Tertiary enrolment, % gross	n/a	n/a	
2.2.2 Graduates in science and engineering, %	n/a	n/a	
2.2.3 Tertiary inbound mobility, %	n/a	n/a	
2.3 Research and development (R&D)	**0.2**	**116**	
2.3.1 Researchers, FTE/mn pop.	🕒 62.4	97	
2.3.2 Gross expenditure on R&D, % GDP	n/a	n/a	
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	**21.5**	**124**	◇
3.1 Information and communication technologies (ICTs)	**45**	**108**	
3.1.1 ICT access*	🕒 57.8	104	
3.1.2 ICT use*	n/a	n/a	
3.1.3 Government's online service*	46.9	98	
3.1.4 E-participation*	30.2	105	
3.2 General infrastructure	**7.5**	**129**	○
3.2.1 Electricity output, GWh/mn pop.	941.6	99	
3.2.2 Logistics performance*	13.6	102	
3.2.3 Gross capital formation, % GDP	15.7	122	○ ◇
3.3 Ecological sustainability	**11.9**	**105**	
3.3.1 GDP/unit of energy use	9.6	75	
3.3.2 Low-carbon energy use, %	11.4	82	
3.3.3 ISO 14001 environment/bn PPP$ GDP	0.4	96	
Market sophistication	**54.8**	**19**	● ◆
4.1 Credit	**62.3**	**10**	● ◆
4.1.1 Finance for startups and scaleups†	n/a	n/a	
4.1.2 Domestic credit to private sector, % GDP	🕒 71.2	45	● ◆
4.1.3 Loans from microfinance institutions, % GDP	17.2	1	● ◆
4.2 Investment	**n/a**	**[n/a]**	
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	n/a	n/a	
4.2.4 VC received, value, % GDP	n/a	n/a	
4.3 Trade, diversification and market scale	**47.4**	**85**	
4.3.1 Applied tariff rate, weighted avg., %	4.8	94	
4.3.2 Domestic industry diversification	🕒 77.6	69	
4.3.3 Domestic market scale, bn PPP$	125.4	86	

	Score / Value	Rank	
Business sophistication	**22.7**	**84**	
5.1 Knowledge workers	**42.7**	**[42]**	
5.1.1 Knowledge-intensive employment, %	14.4	93	
5.1.2 Firms offering formal training, %	🕒 49.9	18	
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, %	🕒 13.3	59	● ◆
5.2 Innovation linkages	**9.7**	**125**	◇
5.2.1 Public Research-Industry co-publications, %	1.3	75	● ◆
5.2.2 University-industry R&D collaboration†	14	124	○ ◇
5.2.3 State of cluster development†	19.8	120	◇
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	🕒 0.005	108	
5.2.5 Patent families/bn PPP$ GDP	0	102	○ ◇
5.3 Knowledge absorption	**15.7**	**123**	
5.3.1 Intellectual property payments, % total trade	0.3	86	
5.3.2 High-tech imports, % total trade	7.2	83	
5.3.3 ICT services imports, % total trade	0.8	98	
5.3.4 FDI net inflows, % GDP	-0.6	124	
5.3.5 Research talent, % in businesses	🕒 4	75	
Knowledge and technology outputs	**9.5**	**120**	
6.1 Knowledge creation	**3.3**	**117**	
6.1.1 Patents by origin/bn PPP$ GDP	0.08	110	
6.1.2 PCT patents by origin/bn PPP$ GDP	n/a	n/a	
6.1.3 Utility models by origin/bn PPP$ GDP	0.06	59	
6.1.4 Scientific and technical articles/bn PPP$ GDP	2	123	
6.1.5 Citable documents H-index	6.4	91	
6.2 Knowledge impact	**19.5**	**105**	
6.2.1 Labor productivity growth, %	-0.5	109	
6.2.2 Unicorn valuation, % GDP	0	49	○ ◇
6.2.3 Software spending, % GDP	0.3	48	● ◆
6.2.4 High-tech manufacturing, %	🕒 10.4	84	
6.3 Knowledge diffusion	**5.7**	**115**	
6.3.1 Intellectual property receipts, % total trade	0.03	81	
6.3.2 Production and export complexity	18.3	108	
6.3.3 High-tech exports, % total trade	0.4	97	
6.3.4 ICT services exports, % total trade	0.4	111	
6.3.5 ISO 9001 quality/bn PPP$ GDP	1.9	93	
Creative outputs	**13.1**	**102**	
7.1 Intangible assets	**15.9**	**[90]**	
7.1.1 Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2 Trademarks by origin/bn PPP$ GDP	40.1	48	● ◆
7.1.3 Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4 Industrial designs by origin/bn PPP$ GDP	0.3	95	
7.2 Creative goods and services	**4.5**	**101**	
7.2.1 Cultural and creative services exports, % total trade	0.01	107	○
7.2.2 National feature films/mn pop. 15–69	0.9	68	
7.2.3 Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4 Creative goods exports, % total trade	0.6	58	● ◆
7.3 Online creativity	**16**	**111**	
7.3.1 Top-level domains (TLDs)/th pop. 15–69	0.9	98	
7.3.2 GitHub commits/mn pop. 15–69	4.2	86	
7.3.3 Mobile app creation/bn PPP$ GDP	43	115	◇

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.



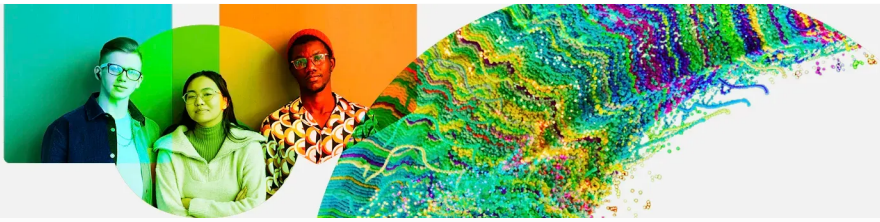
Data availability

The following tables list indicators that are either missing or outdated for Bolivia (Plurinational State of).

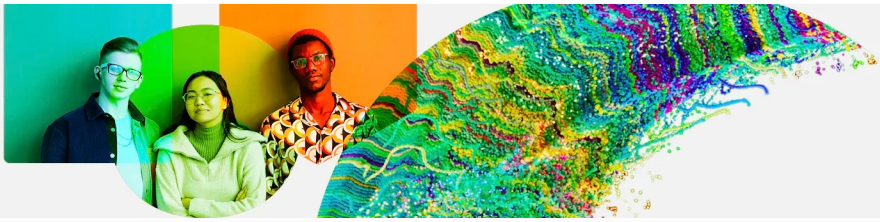
Bolivia (Plurinational State of) has missing data for nineteen indicators and outdated data for nine indicators.

Missing data for Bolivia (Plurinational State of)

Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture†	n/a	2023	Global Entrepreneurship Monitor
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
2.2.1	Tertiary enrolment, % gross	n/a	2022	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD
2.2.3	Tertiary inbound mobility, %	n/a	2022	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	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
4.2.3	VC recipients, deals/bn PPP$ GDP	n/a	2023	LSEG Data & Analytics; International Monetary Fund
4.2.4	VC received, value, % GDP	n/a	2023	LSEG Data & Analytics; International Monetary Fund
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
6.1.2	PCT patents by origin/bn PPP$ GDP	n/a	2023	World Intellectual Property Organization; International Monetary Fund
7.1.1	Intangible asset intensity, top 15, %	n/a	2023	Brand Finance
7.1.3	Global brand value, top 5,000, % GDP	n/a	2024	Brand Finance; International Monetary Fund

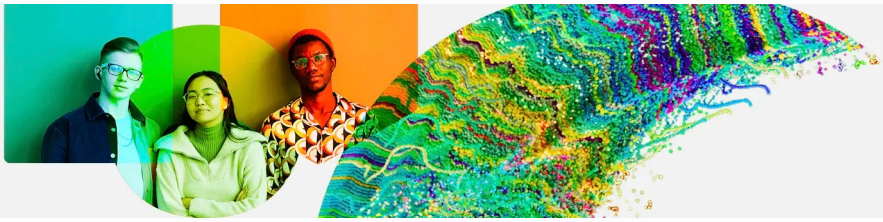


Code	Indicator name	Economy Year	Model Year	Source
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2023	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund



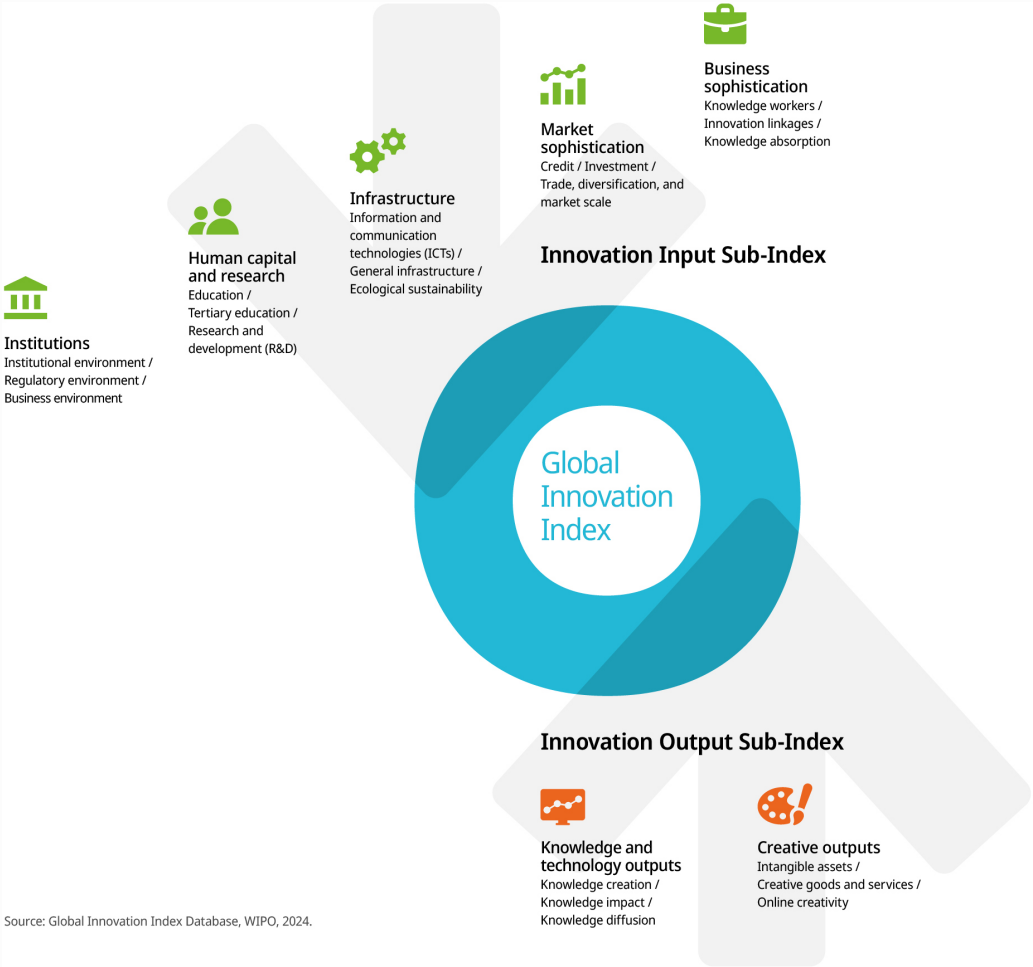
Outdated data for Bolivia (Plurinational State of)

Code	Indicator name	Economy Year	Model Year	Source
2.3.1	Researchers, FTE/mn pop.	2021	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)
4.1.2	Domestic credit to private sector, % GDP	2019	2022	International Monetary Fund; World Bank and OECD GDP estimates.
4.3.2	Domestic industry diversification	2017	2021	United Nations Industrial Development Organization (UNIDO), Industrial Statistics Database (INDSTAT) Rev.3 and 4
5.1.2	Firms offering formal training, %	2017	2023	World Bank Enterprise Surveys
5.1.5	Females employed w/advanced degrees, %	2022	2023	International Labour Organization
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	2022	2023	LSEG Data & Analytics; International Monetary Fund
5.3.5	Research talent, % in businesses	2021	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.2.4	High-tech manufacturing, %	2017	2021	United Nations Industrial Development 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.



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.