

BOLIVIA (PLURINATIONAL STATE OF)

105th Bolivia (Plurinational State of) ranks 105th among the 131 economies featured in the GII 2020.

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 Bolivia (Plurinational State of) 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 Bolivia (Plurinational State of) in the GII 2020 is between ranks 104 and 114.

Rankings of Bolivia (Plurinational State of) (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	105	97	117
2019	110	102	113
2018	117	109	117

- Bolivia (Plurinational State of) performs better in innovation inputs than innovation outputs in 2020.
- This year Bolivia (Plurinational State of) ranks 97th in innovation inputs, higher than last year and higher compared to 2018.
- As for innovation outputs, Bolivia (Plurinational State of) ranks 117th. This position is lower than last year and the same compared to 2018.

18th Bolivia (Plurinational State of) ranks 18th among the 29 lower middle-income group economies.

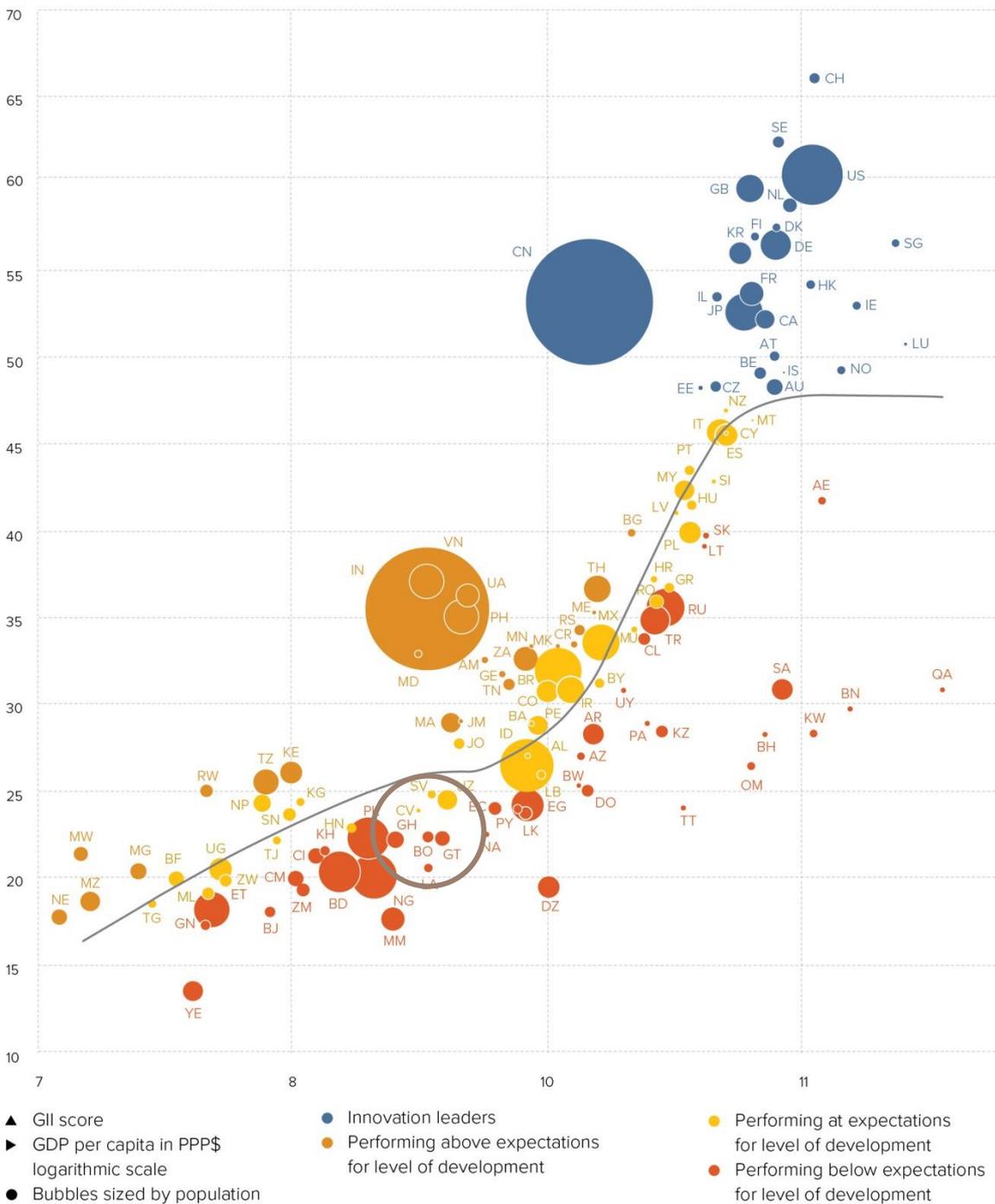
17th Bolivia (Plurinational State of) ranks 17th among the 18 economies in Latin America and the Caribbean.

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) is performing below expectations for its level of development.

The positive relationship between innovation and development

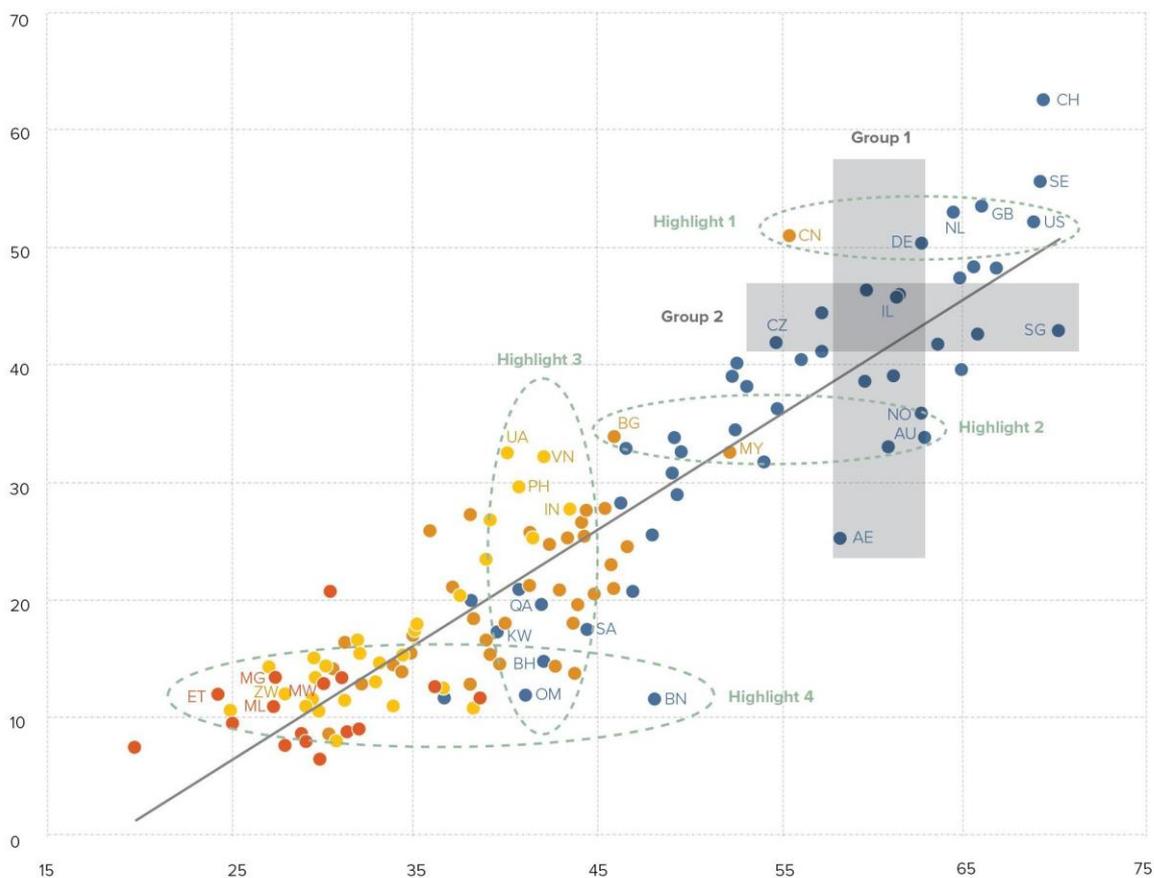


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

Innovation input to output performance, 2020

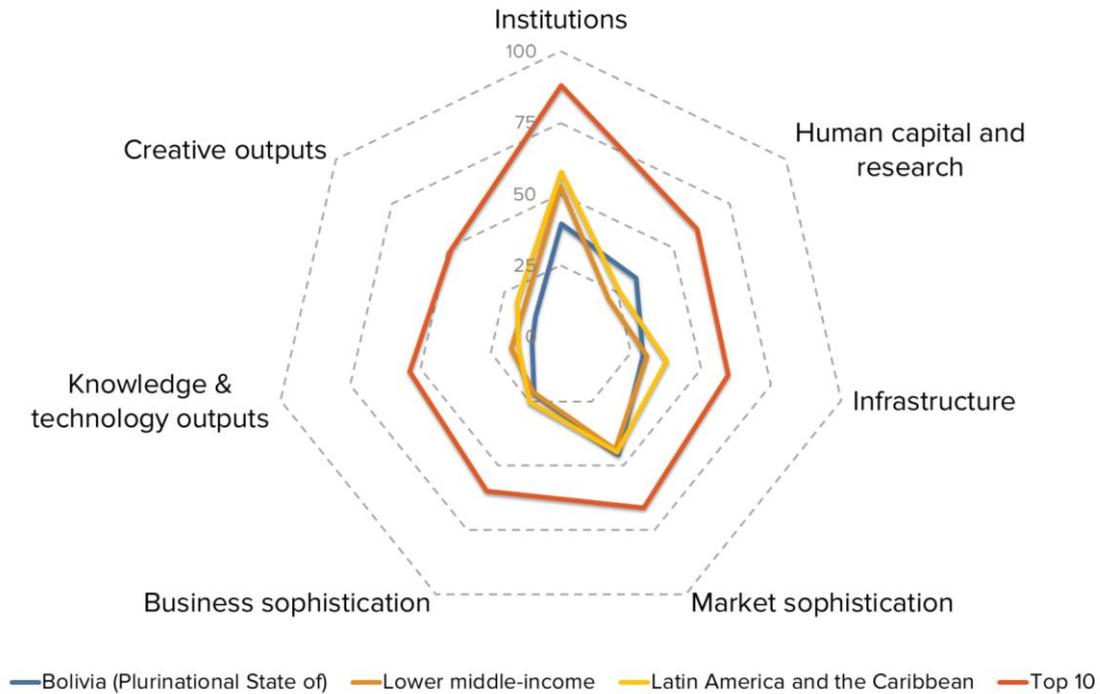


▲ Output score ● High income group ● Lower middle-income group — Fitted values
 ► Input score ● Upper middle-income group ● Low income group

AU	Australia	IN	India	NL	Netherlands	CH	Switzerland
BH	Bahrain	IL	Israel	NO	Norway	UA	Ukraine
BN	Brunei Darussalam	KW	Kuwait	OM	Oman	AE	United Arab Emirates
BG	Bulgaria	MG	Madagascar	PH	Philippines	GB	United Kingdom
CN	China	MW	Malawi	QA	Qatar	US	United States of America
CZ	Czech Republic	ML	Mali	SA	Saudi Arabia	VN	Viet Nam
ET	Ethiopia	MY	Malaysia	SG	Singapore	ZW	Zimbabwe
DE	Germany			SE	Sweden		

BENCHMARKING BOLIVIA (PLURINATIONAL STATE OF) AGAINST OTHER LOWER MIDDLE-INCOME GROUP ECONOMIES AND LATIN AMERICA AND THE CARIBBEAN

Bolivia (Plurinational State of)'s scores in the seven GII pillars



Lower middle-income group economies

Bolivia (Plurinational State of) has high scores in three out of the seven GII pillars: Human capital & research, Market sophistication and Business sophistication, which are above average for the lower middle-income group.

Conversely, Bolivia (Plurinational State of) scores below the income group average in four pillars: Institutions, Infrastructure, Knowledge & technology outputs and Creative outputs.

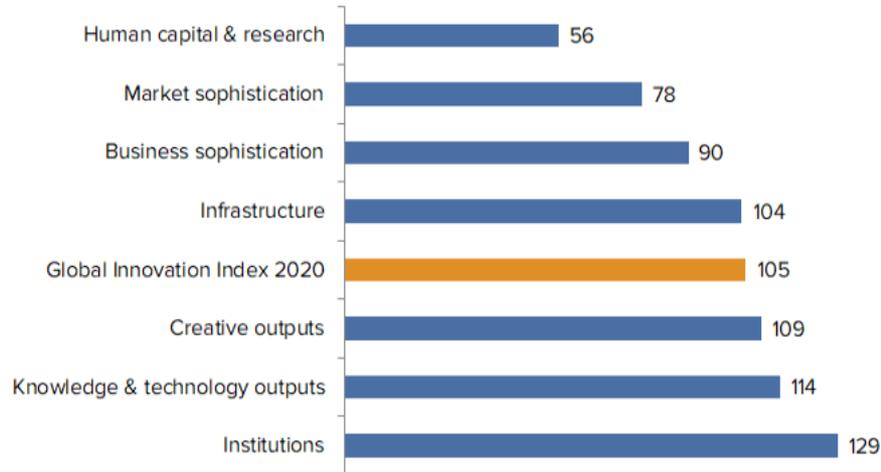
Latin America and the Caribbean

Compared to other economies in Latin America and the Caribbean, Bolivia (Plurinational State of) performs:

- above average in two out of the seven GII pillars: Human capital & research and Market sophistication; and
- below average in five out of the seven GII pillars: Institutions, Infrastructure, Business sophistication, Knowledge & technology outputs and Creative outputs.

OVERVIEW OF BOLIVIA (PLURINATIONAL STATE OF) RANKINGS IN THE SEVEN GII AREAS

Bolivia (Plurinational State of) performs best in Human capital & research and its weakest performance is in Institutions.



*The highest possible ranking in each pillar is 1.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Bolivia (Plurinational State of) in the GII 2020.

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
4.1	Credit	64	1	Institutions	129
4.1.2	Domestic credit to private sector, % GDP	51	1.1.1	Political & operational stability*	123
4.1.3	Microfinance gross loans, % GDP	2	1.2	Regulatory environment	131
5.1	Knowledge workers	69	1.2.2	Rule of law*	127
5.1.2	Firms offering formal training, %	17	1.3.1	Ease of starting a business*	125
5.1.5	Females employed w/advanced degrees, %	65	2.3.3	Global R&D companies, top 3, mn US\$	42
5.3.1	Intellectual property payments, % total trade	41	2.3.4	QS university ranking, average score top 3*	77
5.3.2	High-tech imports, % total trade	24	5.2.1	University/industry research collaboration†	123
6.2.3	Computer software spending, % GDP	52	5.2.2	State of cluster development†	121
6.3.1	Intellectual property receipts, % total trade	34	5.2.5	Patent families 2+ offices/bn PPP\$ GDP	101
7.1.1	Trademarks by origin/bn PPP\$ GDP	64	5.3.5	Research talent, % in business enterprise	84
7.2.5	Creative goods exports, % total trade	43	7.1.2	Global brand value, top 5000, % GDP	80
			7.1.4	ICTs & organizational model creation†	122

STRENGTHS

GII strengths for Bolivia (Plurinational State of) are found in four of the seven GII pillars.

- Market sophistication (78): has strengths in the sub-pillar Credit (64) and in the indicators Domestic credit to private sector (51) and Microfinance gross loans (2).
- Business sophistication (90): displays strengths in the sub-pillar Knowledge workers (69) and in the indicators Firms offering formal training (17), Females employed w/advanced degrees (65), Intellectual property payments (41) and High-tech imports (24).
- Knowledge & technology outputs (114): reveals strengths in the indicators Computer software spending (52) and Intellectual property receipts (34).
- Creative outputs (109): demonstrates strengths in the indicators Trademarks by origin (64) and Creative goods exports (43).

WEAKNESSES

GII weaknesses for Bolivia (Plurinational State of) are found in four of the seven GII pillars.

- Institutions (129): exhibits weaknesses in the sub-pillar Regulatory environment (131) and in the indicators Political & operational stability (123), Rule of law (127) and Ease of starting a business (125).
- Human capital & research (56): shows weaknesses in the indicators Global R&D companies (42) and QS university ranking (77).
- Business sophistication (90): demonstrates weaknesses in several indicators, namely University/industry research collaboration (123), State of cluster development (121), Patent families (101) and Research talent (84).
- Creative outputs (109): has weaknesses in the indicators Global brand value (80) and ICTs & organizational model creation (122).

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2019 rank
117	97	Lower middle	LCN	11.5	94.4	7,134.6	110
			Score/Value Rank				Score/Value Rank
INSTITUTIONS 39.7 129 ○ ◇				BUSINESS SOPHISTICATION 21.8 90			
1.1	Political environment	45.9	100	5.1	Knowledge workers	29.0	69 ●
1.1.1	Political and operational stability*.....	51.8	123 ○ ◇	5.1.1	Knowledge-intensive employment, %.....	14.4	93
1.1.2	Government effectiveness*.....	42.9	90	5.1.2	Firms offering formal training, %.....	49.9	17 ● ◆
1.2	Regulatory environment	17.4	131 ○ ◇	5.1.3	GERD performed by business, % GDP.....	n/a	n/a
1.2.1	Regulatory quality*.....	18.2	124 ◇	5.1.4	GERD financed by business, %.....	5.2	84
1.2.2	Rule of law*.....	16.7	127 ○ ◇	5.1.5	Females employed w/advanced degrees, %.....	10.4	65 ●
1.2.3	Cost of redundancy dismissal, salary weeks.....	n/a	n/a	5.2	Innovation linkages	13.3	121
1.3	Business environment	55.8	116	5.2.1	University/industry research collaboration*.....	25.2	123 ○ ◇
1.3.1	Ease of starting a business*.....	69.4	125 ○ ◇	5.2.2	State of cluster development.....	30.7	121 ○ ◇
1.3.2	Ease of resolving insolvency*.....	42.3	92	5.2.3	GERD financed by abroad, % GDP.....	n/a	n/a
				5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....	0.0	98
				5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....	0.0	101 ○ ◇
HUMAN CAPITAL & RESEARCH 33.1 [56]				5.3 Knowledge absorption 23.1 88			
2.1	Education	65.0	[10]	5.3.1	Intellectual property payments, % total trade.....	0.9	41 ●
2.1.1	Expenditure on education, % GDP.....	n/a	n/a	5.3.2	High-tech imports, % total trade.....	10.7	24 ●
2.1.2	Government funding/pupil, secondary, % GDP/cap.....	n/a	n/a	5.3.3	ICT services imports, % total trade.....	0.8	87
2.1.3	School life expectancy, years.....	n/a	n/a	5.3.4	FDI net inflows, % GDP.....	1.2	106
2.1.4	PISA scales in reading, maths, & science.....	n/a	n/a	5.3.5	Research talent, % in business enterprise.....	0.4	84 ○
2.1.5	Pupil-teacher ratio, secondary.....	18.5	91				
2.2	Tertiary education	n/a	[n/a]				
2.2.1	Tertiary enrolment, % gross.....	n/a	n/a				
2.2.2	Graduates in science & engineering, %.....	n/a	n/a				
2.2.3	Tertiary inbound mobility, %.....	n/a	n/a				
2.3	Research & development (R&D)	1.2	106				
2.3.1	Researchers, FTE/mn pop.....	163.8	83				
2.3.2	Gross expenditure on R&D, % GDP.....	0.2	96				
2.3.3	Global R&D companies, avg. exp. top 3, mn \$US.....	0.0	42 ○ ◇				
2.3.4	QS university ranking, average score top 3*.....	0.0	77 ○ ◇				
INFRASTRUCTURE 29.1 104				KNOWLEDGE & TECHNOLOGY OUTPUTS 10.4 114			
3.1	Information & communication technologies (ICTs)	50.1	97	6.1	Knowledge creation	4.4	111
3.1.1	ICT access*.....	42.2	103	6.1.1	Patents by origin/bn PPP\$ GDP.....	0.7	74
3.1.2	ICT use*.....	43.9	86	6.1.2	PCT patents by origin/bn PPP\$ GDP.....	n/a	n/a
3.1.3	Government's online service*.....	56.3	96	6.1.3	Utility models by origin/bn PPP\$ GDP.....	0.1	54
3.1.4	E-participation*.....	57.9	94	6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	1.7	120
3.2	General infrastructure	13.4	123 ◇	6.1.5	Citable documents H-index.....	6.9	91
3.2.1	Electricity output, kWh/mn pop.....	901.8	97	6.2	Knowledge impact	15.0	100
3.2.2	Logistics performance*.....	13.5	117 ◇	6.2.1	Growth rate of PPP\$ GDP/worker, %.....	0.0	92 ◇
3.2.3	Gross capital formation, % GDP.....	20.7	90	6.2.2	New businesses/th pop. 15-64.....	0.5	98
3.3	Ecological sustainability	23.8	84	6.2.3	Computer software spending, % GDP.....	0.0	52 ●
3.3.1	GDP/unit of energy use.....	8.3	75	6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	2.4	82
3.3.2	Environmental performance*.....	44.3	77 ◆	6.2.5	High- and medium-high-tech manufacturing, %.....	7.2	93
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....	0.5	80	6.3	Knowledge diffusion	11.8	110
MARKET SOPHISTICATION 45.7 78				6.3.1	Intellectual property receipts, % total trade.....	0.2	34 ●
4.1	Credit	42.1	64 ●	6.3.2	High-tech net exports, % total trade.....	0.2	101
4.1.1	Ease of getting credit*.....	35.0	118 ◇	6.3.3	ICT services exports, % total trade.....	0.8	87
4.1.2	Domestic credit to private sector, % GDP.....	65.9	51 ●	6.3.4	FDI net outflows, % GDP.....	0.1	105
4.1.3	Microfinance gross loans, % GDP.....	28.0	2 ● ◆				
4.2	Investment	38.0	[64]				
4.2.1	Ease of protecting minority investors*.....	38.0	115	7.1	Intangible assets	14.3	112
4.2.2	Market capitalization, % GDP.....	n/a	n/a	7.1.1	Trademarks by origin/bn PPP\$ GDP.....	41.8	64 ●
4.2.3	Venture capital deals/bn PPP\$ GDP.....	n/a	n/a	7.1.2	Global brand value, top 5,000, % GDP.....	0.0	80 ○ ◇
4.3	Trade, competition, and market scale	57.0	89	7.1.3	Industrial designs by origin/bn PPP\$ GDP.....	0.2	100
4.3.1	Applied tariff rate, weighted avg., %.....	4.7	85	7.1.4	ICTs & organizational model creation*.....	31.7	122 ○ ◇
4.3.2	Intensity of local competition*.....	63.8	85	7.2	Creative goods and services	9.3	80
4.3.3	Domestic market scale, bn PPP\$.....	94.4	85	7.2.1	Cultural & creative services exports, % total trade.....	0.1	91
				7.2.2	National feature films/mn pop. 15-69.....	0.8	90
				7.2.3	Entertainment & Media market/th pop. 15-69.....	n/a	n/a
				7.2.4	Printing and other media, % manufacturing.....	1.0	55
				7.2.5	Creative goods exports, % total trade.....	1.0	43 ●
				7.3	Online creativity	8.0	96
				7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....	1.7	81
				7.3.2	Country-code TLDs/th pop. 15-69.....	0.5	98
				7.3.3	Wikipedia edits/mn pop. 15-69.....	33.3	91
				7.3.4	Mobile app creation/bn PPP\$ GDP.....	0.0	93

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; + a survey question. ⊕ indicates that the economy's data are older than the base year; see Appendix II for details, including the year of the data, at <http://globalinnovationindex.org>. Square brackets [] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.

DATA AVAILABILITY

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

Missing data

Code	Indicator name	Country year	Model year	Source
1.2.3	Cost of redundancy dismissal, salary weeks	n/a	2019	World Bank
2.1.1	Expenditure on education, % GDP	n/a	2018	UNESCO Institute for Statistics
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2016	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	n/a	2017	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths & science	n/a	2018	OECD Programme for International Student Assessment (PISA)
2.2	Tertiary education	n/a		
2.2.1	Tertiary enrolment, % gross	n/a	2017	UNESCO Institute for Statistics
2.2.2	Graduates in science & engineering, %	n/a	2017	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	n/a	2017	UNESCO Institute for Statistics
4.2.2	Market capitalization, % GDP	n/a	2018	World Federation of Exchanges
4.2.3	Venture capital deals/bn PPP\$ GDP	n/a	2019	Thomson Reuters
5.1.3	GERD performed by business, % GDP	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.2.3	GERD financed by abroad, % GDP	n/a	2017	UNESCO Institute for Statistics
6.1.2	PCT patents by origin/bn PPP\$ GDP	n/a	2019	World Intellectual Property Organization
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2018	PwC

Outdated data

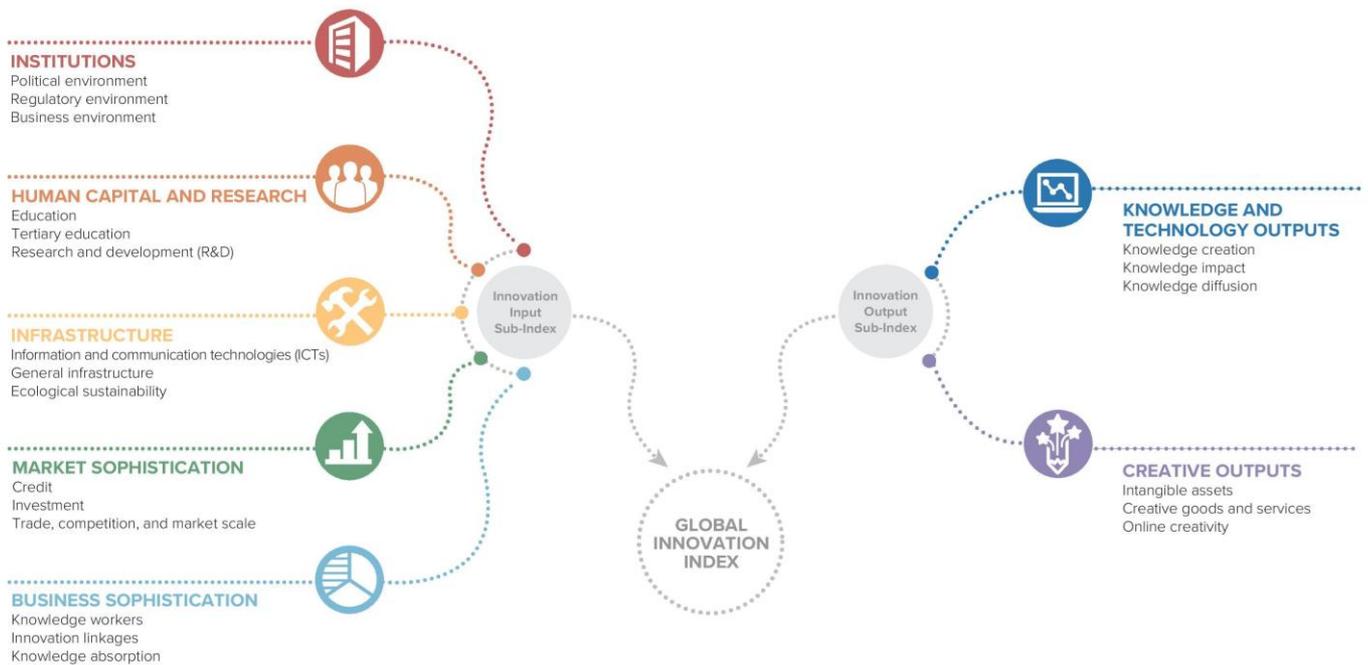
Code	Indicator name	Country year	Model year	Source
2.3.1	Researchers, FTE/mn pop.	2010	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2009	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.1.2	Firms offering formal training, %	2016	2018	World Bank
5.1.4	GERD financed by business, %	2009	2017	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.3.5	Research talent, % in business enterprise	2010	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
6.1.1	Patents by origin/bn PPP\$ GDP	2017	2018	World Intellectual Property Organization
6.1.3	Utility models by origin/bn PPP\$ GDP	2017	2018	World Intellectual Property Organization
6.2.5	High- & medium-high-tech manufacturing, %	2012	2017	United Nations Industrial Development Organization
7.1.1	Trademarks by origin/bn PPP\$ GDP	2017	2018	World Intellectual Property Organization
7.1.3	Industrial designs by origin/bn PPP\$ GDP	2017	2018	World Intellectual Property Organization
7.2.4	Printing & other media, % manufacturing	2012	2017	United Nations Industrial Development Organization

ABOUT THE GLOBAL INNOVATION INDEX

The Global Innovation Index (GII) is co-published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations. In 2020, the GII presents its 13th edition devoted to the theme *Who Will Finance Innovation?*

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.

Framework of the Global Innovation Index 2020



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.

