Global Innovation Index 2021

PERU

70th Peru ranks 70th among the 132 economies featured in the GII 2021.

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

The following table shows the rankings of Peru 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 Peru in the GII 2021 is between ranks 68 and 73.

Rankings for Peru (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	70	52	82
2020	76	55	98
2019	69	48	86

- Peru performs better in innovation inputs than innovation outputs in 2021.
- This year Peru ranks 52nd in innovation inputs, higher than last year but lower than 2019.
- As for innovation outputs, Peru ranks 82nd. This position is higher than both 2020 and 2019.

19th Peru ranks 19th among the 34 upper middle-income group economies.

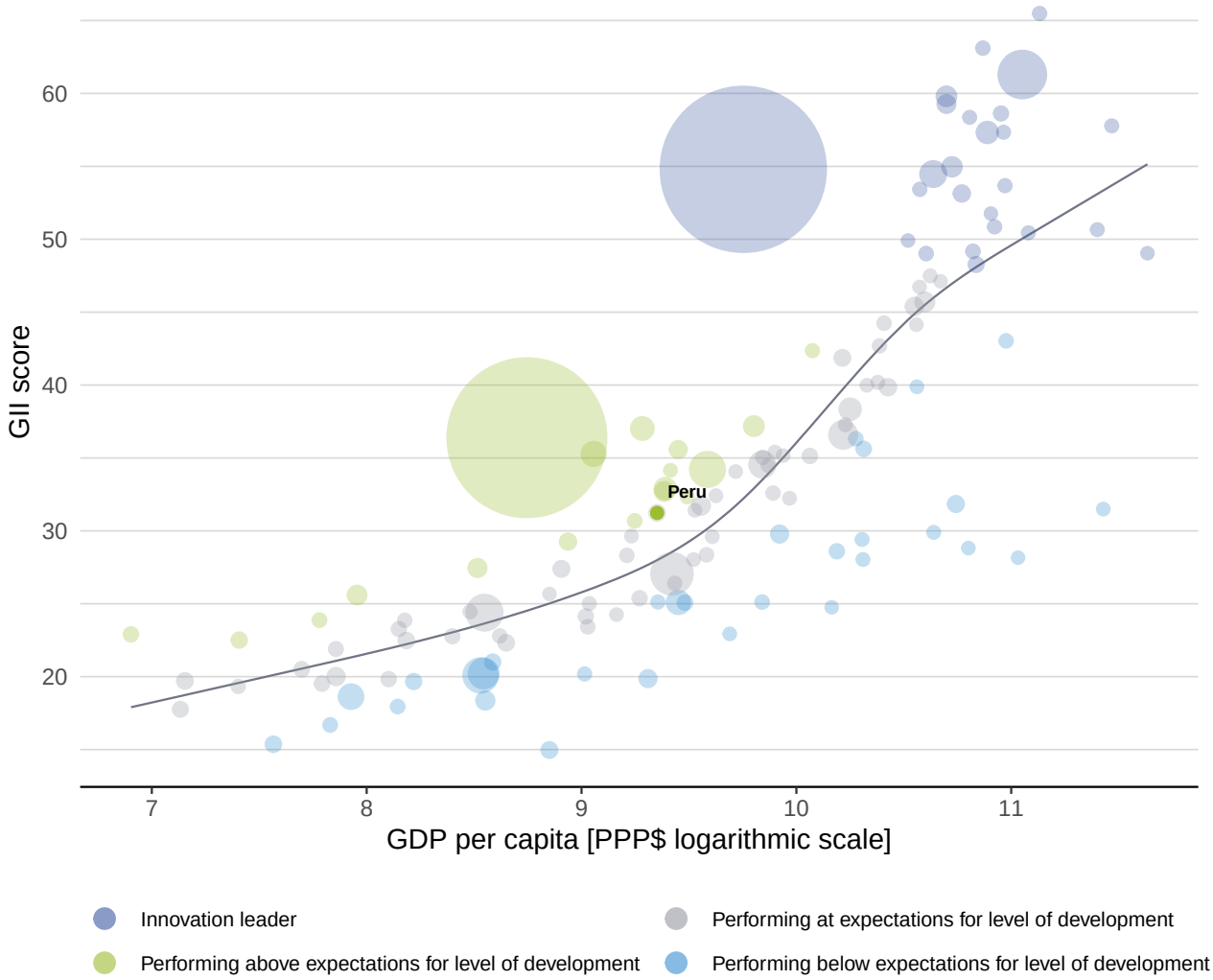
7th Peru ranks 7th among the 18 economies in Latin America and the Caribbean.

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, Peru's performance is above expectations for its level of development.

The positive relationship between innovation and development

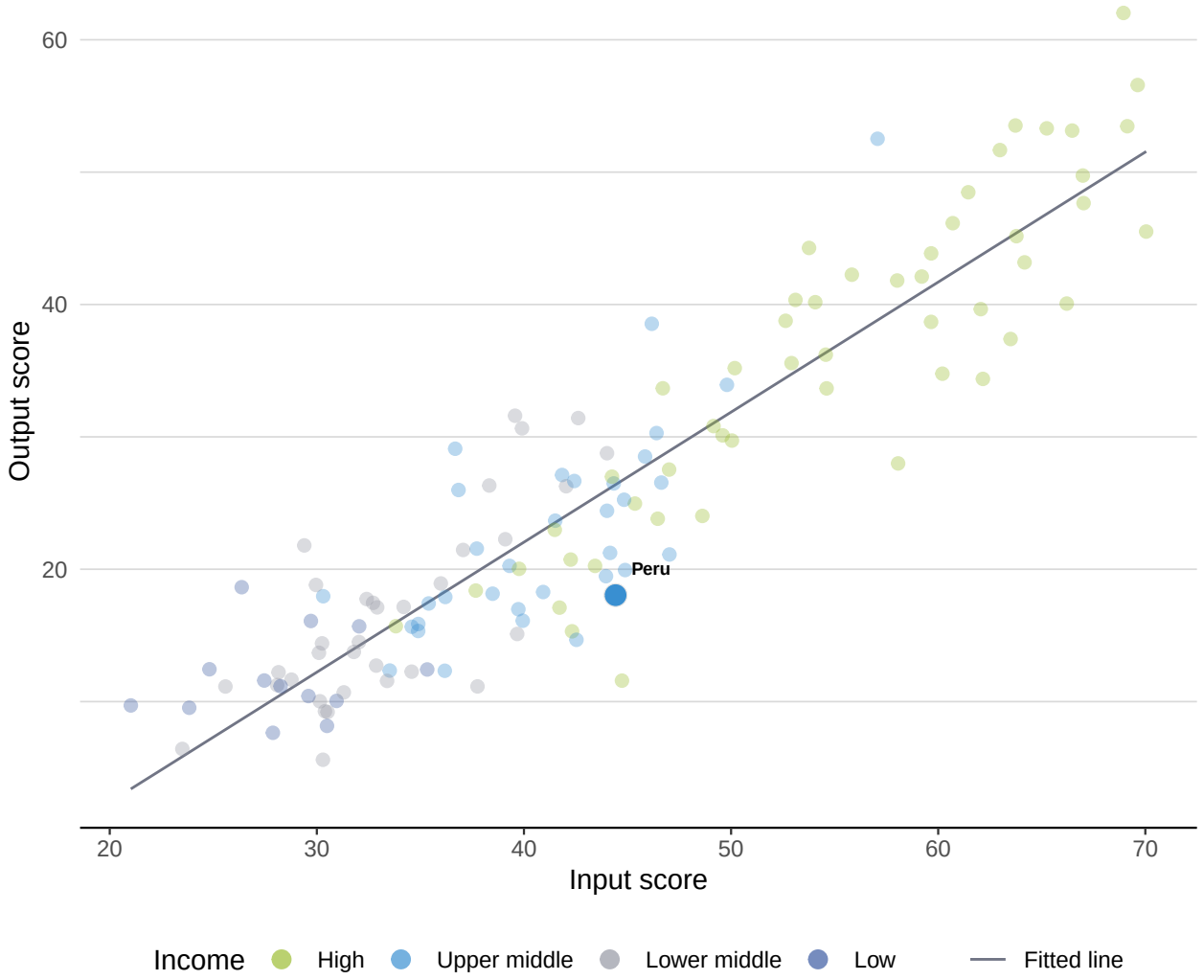


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

Innovation input to output performance



BENCHMARKING AGAINST OTHER UPPER MIDDLE-INCOME GROUP ECONOMIES AND LATIN AMERICA AND THE CARIBBEAN

The seven GII pillar scores for Peru

Upper middle-income group economies

Peru performs above the upper middle-income group average in four pillars, namely: Institutions; Human capital and research; Market sophistication; and, Business sophistication.

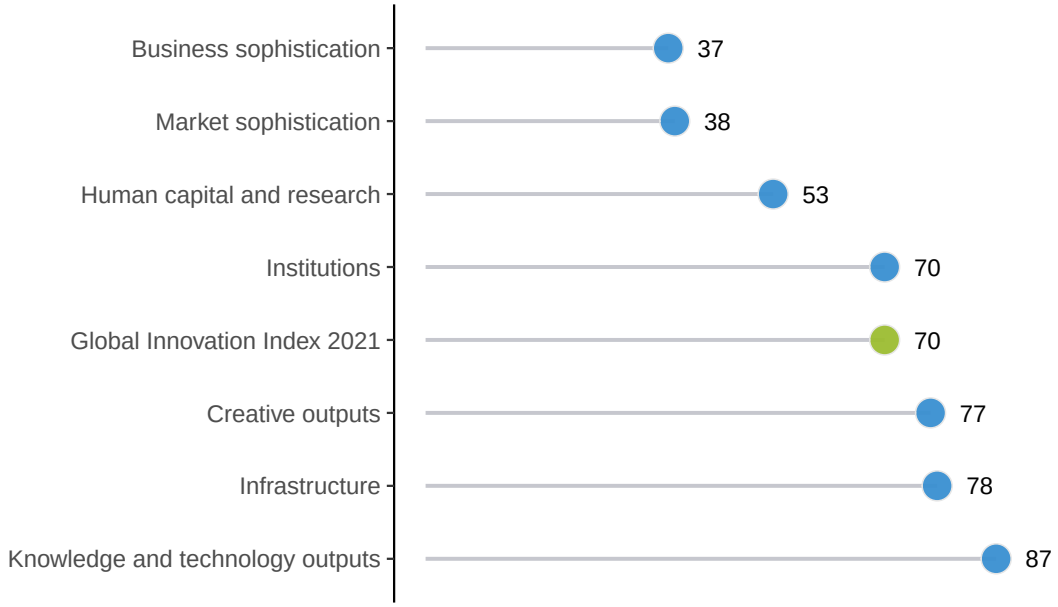
Latin America and the Caribbean

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

OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Peru performs best in Business sophistication and its weakest performance is in Knowledge and technology outputs.

The seven GII pillar ranks for Peru



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

INNOVATION STRENGTHS AND WEAKNESSES

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

Strengths and weaknesses for Peru

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
1.2.3	Cost of redudancy dismissal	36	2.1.4	PISA scales in reading, maths and science	66
2.2	Tertiary education	8	2.3.2	Gross expenditure on R&D, % GDP	101
2.2.1	Tertiary enrolment, % gross	30	2.3.3	Global corporate R&D investors, top 3, mn US$	41
2.2.2	Graduates in science and engineering, %	17	3.2	General infrastructure	112
3.3.1	GDP/unit of energy use	13	4.2.3	Venture capital investors, deals/bn PPP$ GDP	83
4.1	Credit	19	4.2.4	Venture capital recipients, deals/bn PPP$ GDP	90
4.1.3	Microfinance gross loans, % GDP	1	5.2.1	University-industry R&D collaboration	107
4.3	Trade, diversification, and market scale	31	5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	120
4.3.1	Applied tariff rate, weighted avg., %	6	6.1.4	Scientific and technical articles/bn PPP$ GDP	107
5.1.2	Firms offering formal training, %	6	6.3	Knowledge diffusion	116
6.2.1	Labor productivity growth, %	14	6.3.2	Production and export complexity	103
7.1.1	Trademarks by origin/bn PPP$ GDP	30	6.3.4	ICT services exports, % total trade	107
7.2.4	Printing and other media, % manufacturing	14			

Peru

GII 2021 rank **70**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$	GII 2020 rank
82	52	Upper middle	LCN	33.0	385.7	11,516	76

		Score/ Value	Rank	
Institutions		**62.5**	**70**	
1.1	**Political environment**	**53.6**	**83**	
1.1.1	Political and operational stability*	62.5	89	
1.1.2	Government effectiveness*	49.1	78	
1.2	**Regulatory environment**	**69.6**	**50**	
1.2.1	Regulatory quality*	58.2	45	◆
1.2.2	Rule of law*	33.9	95	
1.2.3	Cost of redundancy dismissal	11.4	36	●
1.3	**Business environment**	**64.3**	**87**	
1.3.1	Ease of starting a business*	82.1	102	
1.3.2	Ease of resolving insolvency*	46.6	82	
Human capital and research		**34.3**	**53**	
2.1	**Education**	**42.7**	**85**	
2.1.1	Expenditure on education, % GDP	3.8	73	
2.1.2	Government funding/pupil, secondary, % GDP/cap	14.8	77	
2.1.3	School life expectancy, years ◴	15.0	52	
2.1.4	PISA scales in reading, maths and science	401.5	66	○
2.1.5	Pupil-teacher ratio, secondary	13.5	60	
2.2	**Tertiary education**	**53.5**	**8**	● ◆
2.2.1	Tertiary enrolment, % gross ◴	70.7	30	●
2.2.2	Graduates in science and engineering, % ◴	29.6	17	●
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	**6.8**	**69**	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP ◴	0.1	101	○
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	41	○ ◇
2.3.4	QS university ranking, top 3*	18.1	55	
Infrastructure		**38.8**	**78**	
3.1	**Information and communication technologies (ICTs)**	**62.5**	**77**	
3.1.1	ICT access*	52.1	88	
3.1.2	ICT use*	46.3	87	
3.1.3	Government's online service*	75.3	52	
3.1.4	E-participation*	76.2	55	
3.2	**General infrastructure**	**19.8**	**112**	○
3.2.1	Electricity output, GWh/mn pop.	1,717.9	88	
3.2.2	Logistics performance*	30.0	82	
3.2.3	Gross capital formation, % GDP	19.2	93	
3.3	**Ecological sustainability**	**34.2**	**49**	
3.3.1	GDP/unit of energy use	17.2	13	● ◆
3.3.2	Environmental performance*	44.0	79	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	1.5	58	
Market sophistication		**52.2**	**38**	
4.1	**Credit**	**56.8**	**19**	● ◆
4.1.1	Ease of getting credit*	75.0	34	
4.1.2	Domestic credit to private sector, % GDP	45.0	77	
4.1.3	Microfinance gross loans, % GDP	5.8	1	● ◆
4.2	**Investment**	**21.1**	**106**	
4.2.1	Ease of protecting minority investors*	68.0	44	
4.2.2	Market capitalization, % GDP	44.2	37	
4.2.3	Venture capital investors, deals/bn PPP$ GDP ◴	0.0	83	○
4.2.4	Venture capital recipients, deals/bn PPP$ GDP	0.0	90	○
4.3	**Trade, diversification, and market scale**	**78.6**	**31**	●
4.3.1	Applied tariff rate, weighted avg., %	0.7	6	●
4.3.2	Domestic industry diversification	89.6	52	
4.3.3	Domestic market scale, bn PPP$	385.7	47	

		Score/ Value	Rank	
Business sophistication		**34.3**	**37**	◆
5.1	**Knowledge workers**	**58.0**	**[20]**	
5.1.1	Knowledge-intensive employment, %	24.4	62	
5.1.2	Firms offering formal training, % ◴	65.9	6	● ◆
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, %	17.4	40	
5.2	**Innovation linkages**	**16.5**	**99**	
5.2.1	University-industry R&D collaboration†	31.4	107	○ ◇
5.2.2	State of cluster development and depth†	39.8	101	
5.2.3	GERD financed by abroad, % GDP	n/a	n/a	
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	120	○
5.2.5	Patent families/bn PPP$ GDP	0.0	65	
5.3	**Knowledge absorption**	**28.3**	**60**	
5.3.1	Intellectual property payments, % total trade	0.7	61	
5.3.2	High-tech imports, % total trade	8.6	52	
5.3.3	ICT services imports, % total trade	1.8	39	◆
5.3.4	FDI net inflows, % GDP	3.4	41	
5.3.5	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**14.9**	**87**	
6.1	**Knowledge creation**	**9.4**	**82**	
6.1.1	Patents by origin/bn PPP$ GDP	0.3	87	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.1	65	
6.1.3	Utility models by origin/bn PPP$ GDP	0.6	33	
6.1.4	Scientific and technical articles/bn PPP$ GDP	5.4	107	○
6.1.5	Citable documents H-index	14.3	57	
6.2	**Knowledge impact**	**29.5**	**66**	
6.2.1	Labor productivity growth, %	3.3	14	● ◆
6.2.2	New businesses/th pop. 15–64	3.8	37	
6.2.3	Software spending, % GDP	0.3	50	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	4.0	64	
6.2.5	High-tech manufacturing, %	13.6	80	
6.3	**Knowledge diffusion**	**5.9**	**116**	○
6.3.1	Intellectual property receipts, % total trade	0.1	70	
6.3.2	Production and export complexity	25.2	103	○ ◇
6.3.3	High-tech exports, % total trade	0.3	98	
6.3.4	ICT services exports, % total trade	0.3	107	○
Creative outputs		**21.2**	**77**	
7.1	**Intangible assets**	**30.3**	**67**	
7.1.1	Trademarks by origin/bn PPP$ GDP	66.1	30	●
7.1.2	Global brand value, top 5,000, % GDP	6.5	67	
7.1.3	Industrial designs by origin/bn PPP$ GDP	0.3	98	
7.1.4	ICTs and organizational model creation†	48.6	86	
7.2	**Creative goods and services**	**9.9**	**79**	
7.2.1	Cultural and creative services exports, % total trade	0.1	85	
7.2.2	National feature films/mn pop. 15–69	1.1	83	
7.2.3	Entertainment and media market/th pop. 15–69	7.6	41	
7.2.4	Printing and other media, % manufacturing	2.1	14	● ◆
7.2.5	Creative goods exports, % total trade	0.3	71	
7.3	**Online creativity**	**14.1**	**76**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	5.1	53	
7.3.2	Country-code TLDs/th pop. 15–69	1.7	72	
7.3.3	Wikipedia edits/mn pop. 15–69	49.3	67	
7.3.4	Mobile app creation/bn PPP$ GDP	0.5	79	

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

DATA AVAILABILITY

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

Missing data for Peru

Code	Indicator name	Economy year	Model year	Source
2.2.3	Tertiary inbound mobility, %	n/a	2018	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.3	GERD performed by business, % GDP	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.4	GERD financed by business, %	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.2.3	GERD financed by abroad, % GDP	n/a	2018	UNESCO Institute for Statistics
5.3.5	Research talent, % in businesses	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators

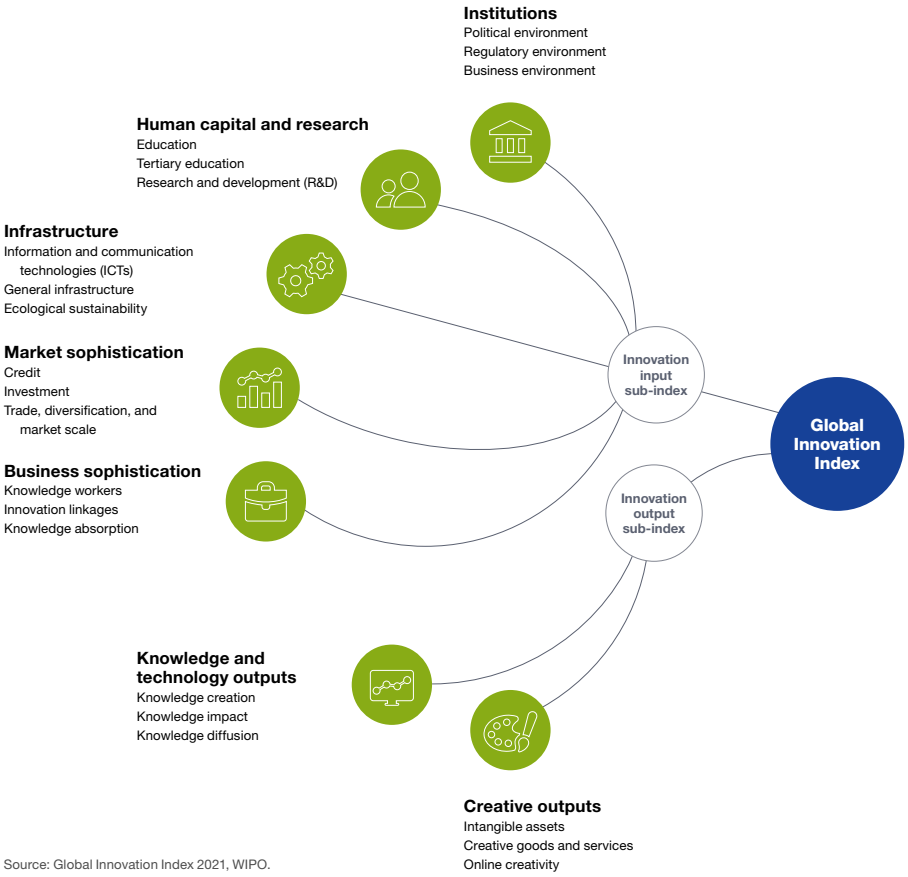
Outdated data for Peru

Code	Indicator name	Economy year	Model year	Source
2.1.3	School life expectancy, years	2017	2018	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2017	2018	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
4.2.3	Venture capital investors, deals/bn PPP$ GDP	2019	2020	Refinitiv Eikon
5.1.2	Firms offering formal training, %	2017	2019	World Bank

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 2021, WIPO.

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.