



# GLOBAL INNOVATION INDEX 2019

## ARGENTINA

**73rd**

Argentina ranks 73rd among the 129 economies featured in the GII 2019.

The Global Innovation Index (GII) is a ranking of world economies based on 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 Argentina over the past three years, noting that data availability and the GII model influence year-on-year comparisons of the GII ranks. The confidence interval for Argentina's ranking in the GII 2019 is between 67 and 75.

### Argentina's Rankings, 2017 - 2019

	GII	Innovation Inputs	Innovation Outputs
<b>2019</b>	73	72	75
<b>2018</b>	80	72	81
<b>2017</b>	76	72	81

- Argentina performs better in Innovation Inputs than Outputs.
- This year Argentina ranks 72nd in Innovation Inputs, the same as last year and compared to 2017.
- As for Innovation Outputs, Argentina ranks 75th. This position is better than last year and compared to 2017.

**46th**

Argentina ranks 46th among the 50 high-income economies.

**8th**

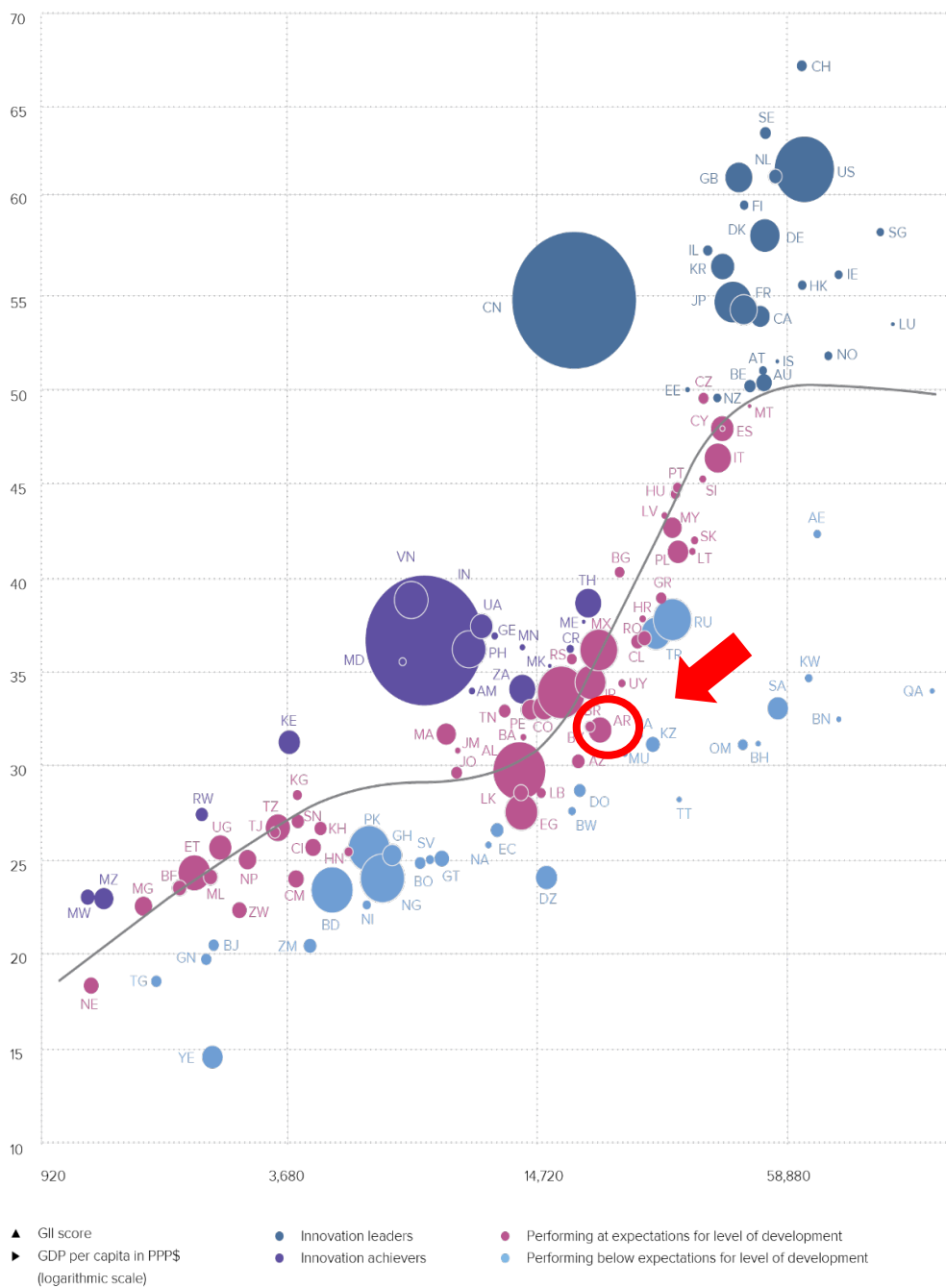
Argentina ranks 8th among the 19 economies in Latin America and the Caribbean.

# 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 considered Innovation under-performers relative to GDP.

Relative to GDP, Argentina performs at its expected level of development.

## GII scores and GDP per capita in PPP US\$ (bubbles sized by population)

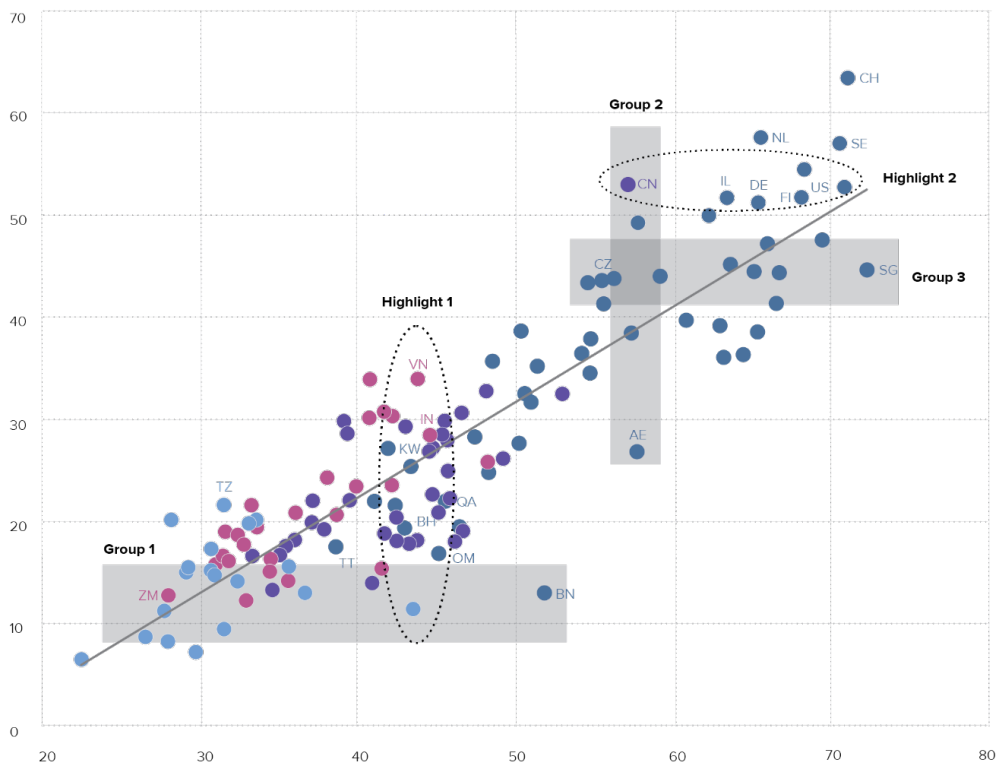


# EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

The chart below shows the relationship between innovation inputs and innovation outputs, indicating which economies best translate innovation inputs into innovation outputs. Economies appearing above the line are effectively translating their costly innovation investments into more and higher-quality outputs. In contrast, those below the line are not effectively translating innovation inputs into outputs.

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

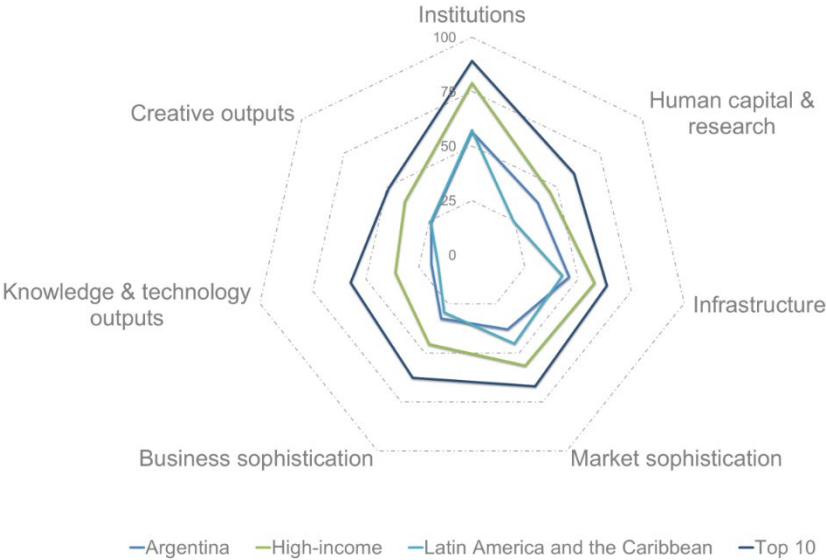
**Innovation input/output performance by income group, 2019**



- ▲ Output score
  - ▶ Input score
  - High income
  - Upper-middle income
  - Lower-middle income
  - Low income
  - Fitted values
- |                         |                   |                        |                                |
|-------------------------|-------------------|------------------------|--------------------------------|
| AE United Arab Emirates | CZ Czech Republic | NL Netherlands         | TZ United Republic of Tanzania |
| BH Bahrain              | DE Germany        | OM Oman                | US United States of America    |
| BN Brunei Darussalam    | FI Finland        | QA Qatar               | VN Viet Nam                    |
| CH Switzerland          | IL Israel         | SE Sweden              | ZM Zambia                      |
| CN China                | IN India          | SG Singapore           |                                |
|                         | KW Kuwait         | TT Trinidad and Tobago |                                |

# BENCHMARKING ARGENTINA TO OTHER HIGH-INCOME ECONOMIES AND THE LATIN AMERICA AND THE CARIBBEAN REGION

**Argentina’s scores in the seven GII pillars**



## High-income economies

Argentina scores below the high-income group average in all seven GII pillars.

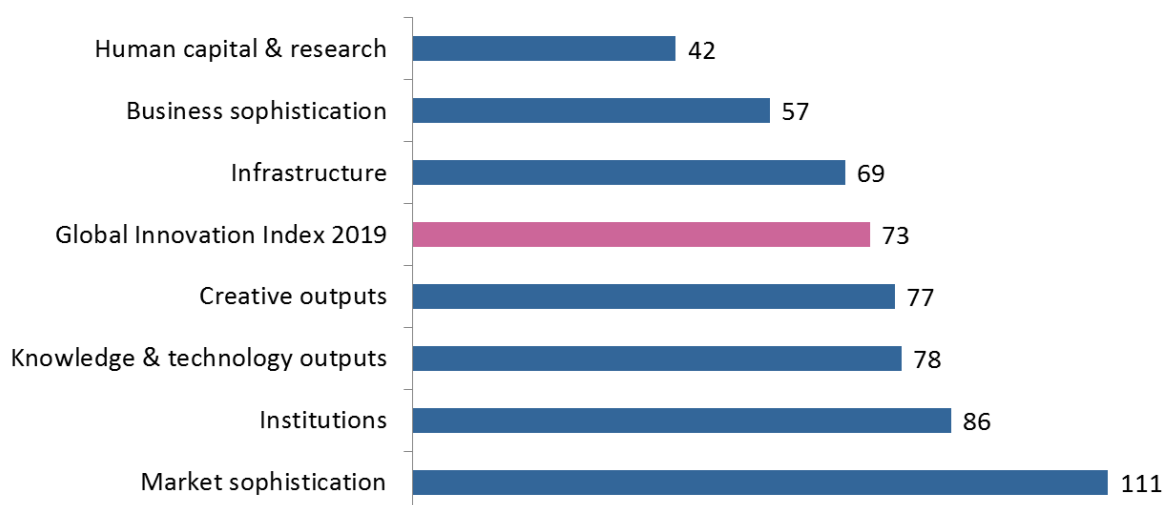
## Latin America and the Caribbean Region

Compared to other economies in Latin America and the Caribbean, Argentina performs above average in four out of seven GII pillars: Human capital & research, Infrastructure, Business sophistication, and Knowledge & technology outputs.

Top ranks are found in sub-pillars Education, Research and development (R&D), and Knowledge absorption where the country ranks in the top 50 worldwide.

## OVERVIEW OF ARGENTINA'S RANKINGS IN THE 7 GII AREAS

Argentina performs the best in Human capital & research and its weakest performance is in Market sophistication.



\*The highest possible ranking in each pillar is 1.

## ARGENTINA'S INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of Argentina's strengths and weaknesses in the GII 2019.

Strengths		
Code	Indicator name	Rank
2.1.1	Expenditure on education, % GDP	25
2.1.3	School life expectancy, years	15
2.2.1	Tertiary enrolment, % gross	7
2.3.4	QS university ranking, average score top 3*	29
4.3.3	Domestic market scale, bn PPP\$	28
5.1.2	Firms offering formal training, % firms	5
5.3.1	Intellectual property payments, % total trade	7
5.3.2	High-tech imports, % total trade	18
7.2.1	Cultural & creative services exports, % total trade	24
7.2.2	National feature films/mn pop. 15–69	24

Weaknesses		
Code	Indicator name	Rank
1.2	Regulatory environment	106
1.2.3	Cost of redundancy dismissal, salary weeks	116
2.2.2	Graduates in science & engineering, %	81
4	Market sophistication	111
4.1	Credit	117
4.1.2	Domestic credit to private sector, % GDP	113
4.1.3	Microfinance gross loans, % GDP	75
4.2	Investment	111
4.2.2	Market capitalization, % GDP	68
4.3.1	Applied tariff rate, weighted mean, %	103
4.3.2	Intensity of local competition <sup>†</sup>	120
5.2	Innovation linkages	106
5.2.4	JV–strategic alliance deals/bn PPP\$ GDP	96
6.2.1	Growth rate of PPP\$ GDP/worker, %, 3-year average	102
6.2.2	New businesses/th pop. 15–64	89

## **STRENGTHS**

- GII strengths for Argentina are found in four of the seven GII pillars, and mostly on the innovation input side of the GII.
- Several of these strengths are in Human capital & research (42), the best ranked GII pillar for Argentina. Here indicators Expenditure on education (25), School life expectancy (15), Tertiary enrolment (7), and Quality of universities (29) are GII strengths for the country.
- Three GII strengths are in Business sophistication (57), and in particular in indicators Firms offering formal training (5), Intellectual property payments (7), and High-tech imports (18).
- In Market sophistication (111), indicator Domestic market scale (28) is a GII strength of the country.
- In Creative outputs (77), Argentina's strengths are indicators Cultural & creative services exports (24) and National feature films (24).

## **WEAKNESSES**

- Argentina's weaknesses in the GII are found in five of the seven GII pillars.
- Pillar Market sophistication (111) is a notable weakness of Argentina. Most of the country's weaknesses are in this area.
- In Market sophistication (111), GII weaknesses are sub-pillars Credit (117) and Investment (111). At the indicator level, relative weaknesses are found in five indicators: Domestic credit to private sector (113), Microfinance gross loans (75), Market capitalization (68), Applied tariff rate (103), and Intensity of local competition (120).
- In Institutions (86), Argentina's weaknesses are sub-pillar Regulatory environment (106) and its indicator Cost of redundancy dismissal (116).
- In Human capital & research (42), Argentina has only one relative weakness: indicator Graduates in science & engineering (81).
- In Business sophistication (57), relative weaknesses are shown in sub-pillar Innovation linkages (106) and in indicator Joint Venture - strategic alliance deals (96).
- In Knowledge & technology outputs (78), two indicators – Labor productivity growth (102) and New businesses (89) – are GII weaknesses for this country.

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
75	72	High	LCN	44.7	918.6	20,537.1	80
				Score/Value			Rank
<b>INSTITUTIONS</b>				56.7			86
<b>1.1</b>	<b>Political environment</b>			<b>57.0</b>	<b>62</b>	◇	
1.1.1	Political and operational stability*			70.2	61	◇	
1.1.2	Government effectiveness*			50.4	61	◇	
<b>1.2</b>	<b>Regulatory environment</b>			<b>51.5</b>	<b>106</b>	○ ◇	
1.2.1	Regulatory quality*			34.1	92	◇	
1.2.2	Rule of law*			39.9	75	◇	
1.2.3	Cost of redundancy dismissal, salary weeks			30.3	116	○ ◇	
<b>1.3</b>	<b>Business environment</b>			<b>61.6</b>	<b>95</b>	◇	
1.3.1	Ease of starting a business*			82.0	99	◇	
1.3.2	Ease of resolving insolvency*			41.2	92	◇	
<b>HUMAN CAPITAL &amp; RESEARCH</b>				38.7			42
<b>2.1</b>	<b>Education</b>			<b>57.9</b>	<b>31</b>		
2.1.1	Expenditure on education, % GDP			5.6	25	●	
2.1.2	Government funding/pupil, secondary, % GDP/cap...			21.8	42		
2.1.3	School life expectancy, years			17.6	15	●	
2.1.4	PISA scales in reading, maths, & science			468.9	39		
2.1.5	Pupil-teacher ratio, secondary			12.2	50		
<b>2.2</b>	<b>Tertiary education</b>			<b>29.7</b>	<b>70</b>	◇	
2.2.1	Tertiary enrolment, % gross			89.1	7	●	
2.2.2	Graduates in science & engineering, %			16.1	81	○ ◇	
2.2.3	Tertiary inbound mobility, %			2.5	70		
<b>2.3</b>	<b>Research &amp; development (R&amp;D)</b>			<b>28.6</b>	<b>38</b>		
2.3.1	Researchers, FTE/mn pop.			1,232.6	47	◇	
2.3.2	Gross expenditure on R&D, % GDP			0.5	59		
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$			46.3	34		
2.3.4	QS university ranking, average score top 3*			41.9	29	●	
<b>INFRASTRUCTURE</b>				45.8			69
<b>3.1</b>	<b>Information &amp; communication technologies (ICTs)</b>			<b>68.1</b>	<b>62</b>	◇	
3.1.1	ICT access*			73.1	55	◇	
3.1.2	ICT use*			61.8	53	◇	
3.1.3	Government's online service*			75.0	56		
3.1.4	E-participation*			62.4	84	◇	
<b>3.2</b>	<b>General infrastructure</b>			<b>32.1</b>	<b>75</b>	◇	
3.2.1	Electricity output, kWh/mn pop.			3,346.1	59		
3.2.2	Logistics performance*			38.5	60	◇	
3.2.3	Gross capital formation, % GDP			23.7	57		
<b>3.3</b>	<b>Ecological sustainability</b>			<b>37.3</b>	<b>69</b>	◇	
3.3.1	GDP/unit of energy use			9.2	62		
3.3.2	Environmental performance*			59.3	65	◇	
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..			1.6	54		
<b>MARKET SOPHISTICATION</b>				37.9			111
<b>4.1</b>	<b>Credit</b>			<b>20.1</b>	<b>117</b>	○ ◇	
4.1.1	Ease of getting credit*			55.0	77		
4.1.2	Domestic credit to private sector, % GDP			16.1	113	○ ◇	
4.1.3	Microfinance gross loans, % GDP			0.0	75	○	
<b>4.2</b>	<b>Investment</b>			<b>32.2</b>	<b>111</b>	○ ◇	
4.2.1	Ease of protecting minority investors*			61.7	54		
4.2.2	Market capitalization, % GDP			12.7	68	○	
4.2.3	Venture capital deals/bn PPP\$ GDP			0.0	59		
<b>4.3</b>	<b>Trade, competition, &amp; market scale</b>			<b>61.3</b>	<b>61</b>		
4.3.1	Applied tariff rate, weighted avg., %			7.9	103	○ ◇	
4.3.2	Intensity of local competition*			55.4	120	○ ◇	
4.3.3	Domestic market scale, bn PPP\$			918.6	28	●	
<b>BUSINESS SOPHISTICATION</b>				32.6			57
<b>5.1</b>	<b>Knowledge workers</b>			<b>41.2</b>	<b>53</b>		
5.1.1	Knowledge-intensive employment, %			17.6	84	◇	
5.1.2	Firms offering formal training, % firms			63.6	5	● ◆	
5.1.3	GERD performed by business, % GDP			0.1	58	◇	
5.1.4	GERD financed by business, %			18.2	69	◇	
5.1.5	Females employed w/advanced degrees, %			14.2	44		
<b>5.2</b>	<b>Innovation linkages</b>			<b>18.0</b>	<b>106</b>	○ ◇	
5.2.1	University/industry research collaboration†			37.6	83	◇	
5.2.2	State of cluster development†			39.1	95	◇	
5.2.3	GERD financed by abroad, %			6.3	57		
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP			0.0	96	○ ◇	
5.2.5	Patent families 2+ offices/bn PPP\$ GDP			0.1	62		
<b>5.3</b>	<b>Knowledge absorption</b>			<b>38.4</b>	<b>42</b>		
5.3.1	Intellectual property payments, % total trade			2.9	7	● ◆	
5.3.2	High-tech imports, % total trade			12.1	18	●	
5.3.3	ICT services imports, % total trade			1.5	39		
5.3.4	FDI net inflows, % GDP			1.5	97		
5.3.5	Research talent, % in business enterprise			8.1	65	◇	
<b>KNOWLEDGE &amp; TECHNOLOGY OUTPUTS</b>				19.2			78
<b>6.1</b>	<b>Knowledge creation</b>			<b>13.2</b>	<b>60</b>		
6.1.1	Patents by origin/bn PPP\$ GDP			0.4	78		
6.1.2	PCT patents by origin/bn PPP\$ GDP			n/a	n/a		
6.1.3	Utility models by origin/bn PPP\$ GDP			0.2	43		
6.1.4	Scientific & technical articles/bn PPP\$ GDP			6.8	65	◇	
6.1.5	Citable documents H-index			26.2	36		
<b>6.2</b>	<b>Knowledge impact</b>			<b>28.0</b>	<b>101</b>	◇	
6.2.1	Growth rate of PPP\$ GDP/worker, %			-1.2	102	○ ◇	
6.2.2	New businesses/th pop. 15-64			0.4	89	○	
6.2.3	Computer software spending, % GDP			0.2	78	◇	
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP			7.0	47		
6.2.5	High- & medium-high-tech manufactures, %			n/a	n/a		
<b>6.3</b>	<b>Knowledge diffusion</b>			<b>16.3</b>	<b>73</b>		
6.3.1	Intellectual property receipts, % total trade			0.2	33		
6.3.2	High-tech net exports, % total trade			1.8	56		
6.3.3	ICT services exports, % total trade			2.5	41		
6.3.4	FDI net outflows, % GDP			0.2	87		
<b>CREATIVE OUTPUTS</b>				24.0			77
<b>7.1</b>	<b>Intangible assets</b>			<b>37.9</b>	<b>80</b>	◇	
7.1.1	Trademarks by origin/bn PPP\$ GDP			64.7	32		
7.1.2	Industrial designs by origin/bn PPP\$ GDP			1.1	65		
7.1.3	ICTs & business model creation†			53.0	93	◇	
7.1.4	ICTs & organizational model creation†			50.6	79	◇	
<b>7.2</b>	<b>Creative goods &amp; services</b>			<b>14.6</b>	<b>69</b>	◇	
7.2.1	Cultural & creative services exports, % total trade			1.1	24	●	
7.2.2	National feature films/mn pop. 15-69			7.4	24	●	
7.2.3	Entertainment & Media market/th pop. 15-69			10.2	35	◇	
7.2.4	Printing & other media, % manufacturing			1.0	67		
7.2.5	Creative goods exports, % total trade			0.1	98		
<b>7.3</b>	<b>Online creativity</b>			<b>5.4</b>	<b>63</b>	◇	
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69			3.0	62	◇	
7.3.2	Country-code TLDs/th pop. 15-69			4.5	55		
7.3.3	Wikipedia edits/mn pop. 15-69			12.1	61	◇	
7.3.4	Mobile app creation/bn PPP\$ GDP			5.8	48		

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 missing or are outdated for Argentina.

### Missing data

Code	Indicator name	Country year	Model year	Source
6.1.2	PCT patents by origin/bn PPP\$ GDP	n/a	2018	World Intellectual Property Organization
6.2.5	High- & medium-high-tech manufactures, %	n/a	2016	United Nations Industrial Development Organization

### Outdated data

Code	Indicator name	Country year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	2008	2017	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2016	2017	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2016	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2016	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.2	Firms offering formal training, % firms	2010	2013	World Bank
5.1.3	GERD performed by business, % GDP	2016	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.3.5	Research talent, % in business enterprise	2016	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
6.2.2	New businesses/th pop. 15–64	2014	2016	World Bank
7.2.4	Printing & other media, % manufacturing	2002	2016	United Nations Industrial Development Organization

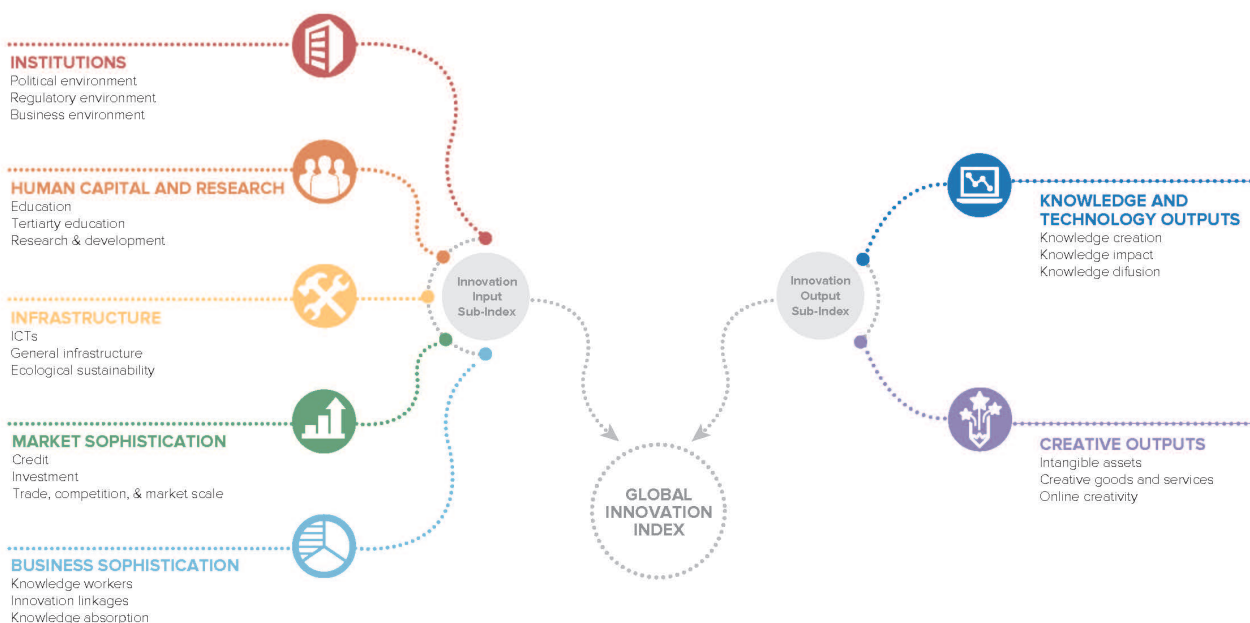


# ABOUT THE GLOBAL INNOVATION INDEX

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 2019, the GII presents its 12<sup>th</sup> edition devoted to the theme **Creating Healthy Lives—The Future of Medical Innovation**.

Recognizing that innovation is a key driver of economic development, the GII aims to provide a rich innovation ranking and 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 countries that incorporate the GII into their innovation agendas.

## Framework of the Global Innovation Index 2019



The Index is a ranking of the innovation capabilities and results of world economies. It measures innovation based on criteria that includes 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 containing three sub-pillars.

