

GLOBAL INNOVATION INDEX 2019

URUGUAY

62nd Uruguay ranks 62nd 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 Uruguay 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 Uruguay's ranking in the GII 2019 is between 60 and 66.

Uruguay's Rankings, 2017 - 2019

	GII	Innovation Inputs	Innovation Outputs
2019	62	66	61
2018	62	67	59
2017	67	61	64

- Uruguay performs better in Innovation Outputs than Inputs in 2019.
- This year Uruguay ranks 66th in Innovation Inputs, higher than last year and lower compared to 2017.
- As for Innovation Outputs, Uruguay ranks 61st. This position is lower than last year and higher compared to 2017.

42nd Uruguay ranks 42nd among the 50 high-income economies.

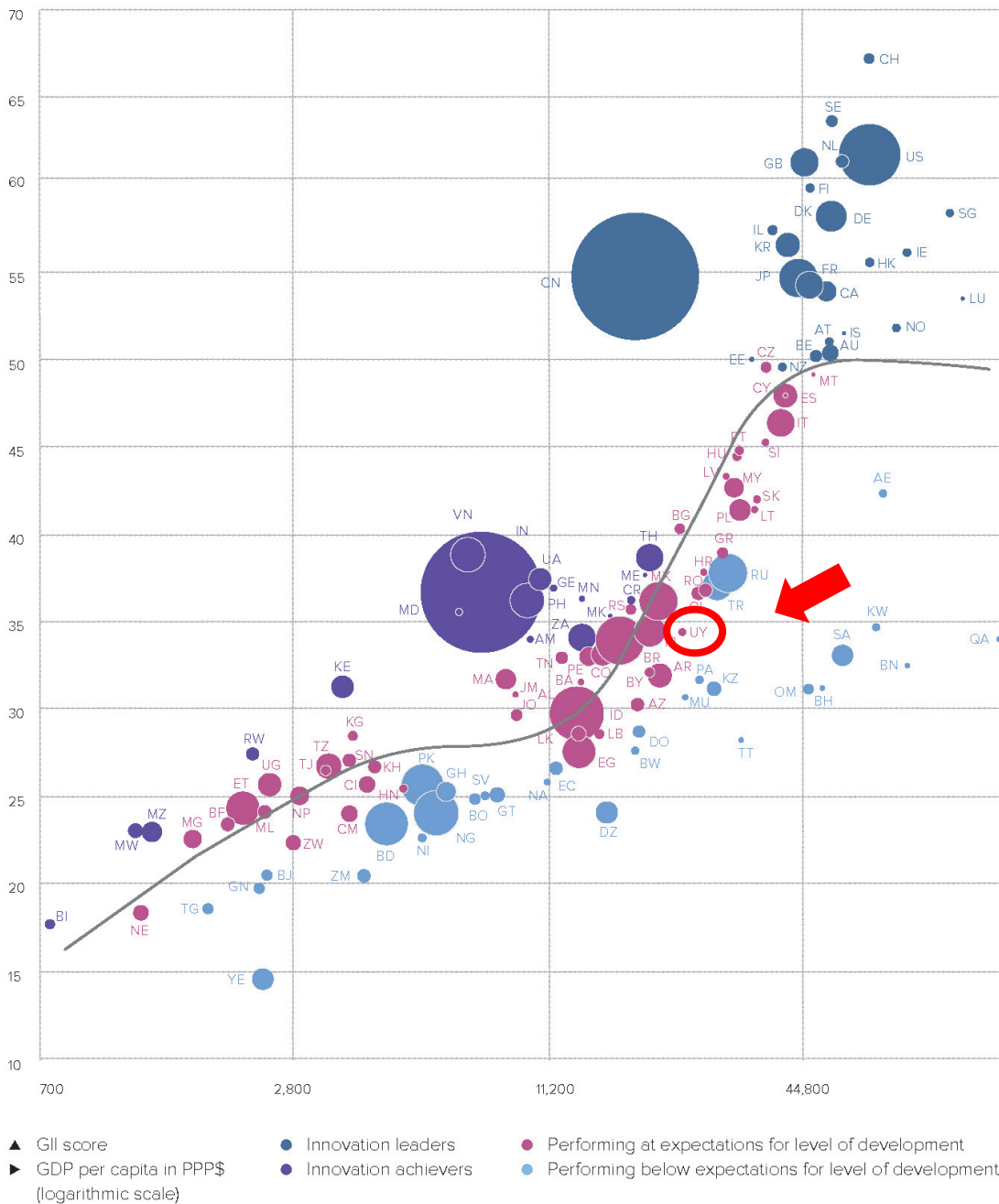
4th Uruguay ranks 4th among the 19 economies in Latin America and the Caribbean.

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, Uruguay performs at its expected level of development.

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

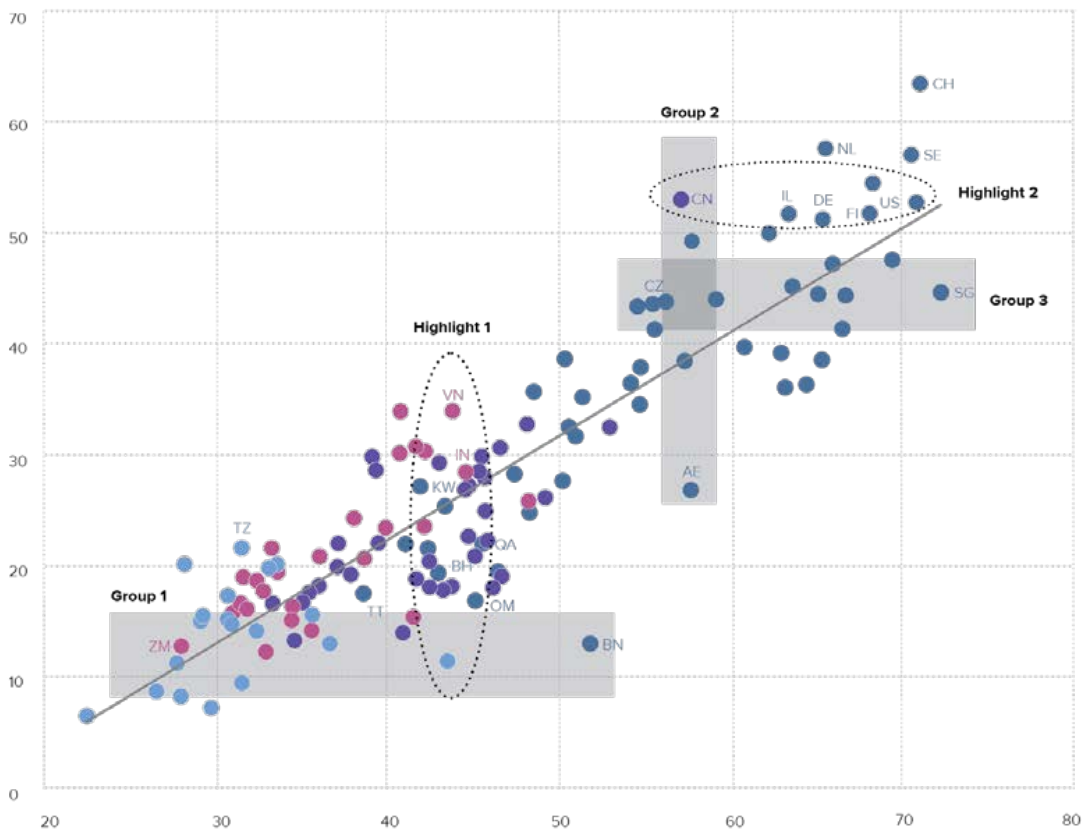


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

Uruguay's outputs are in line with its level of innovation investments.

Innovation input/output performance by income group, 2019

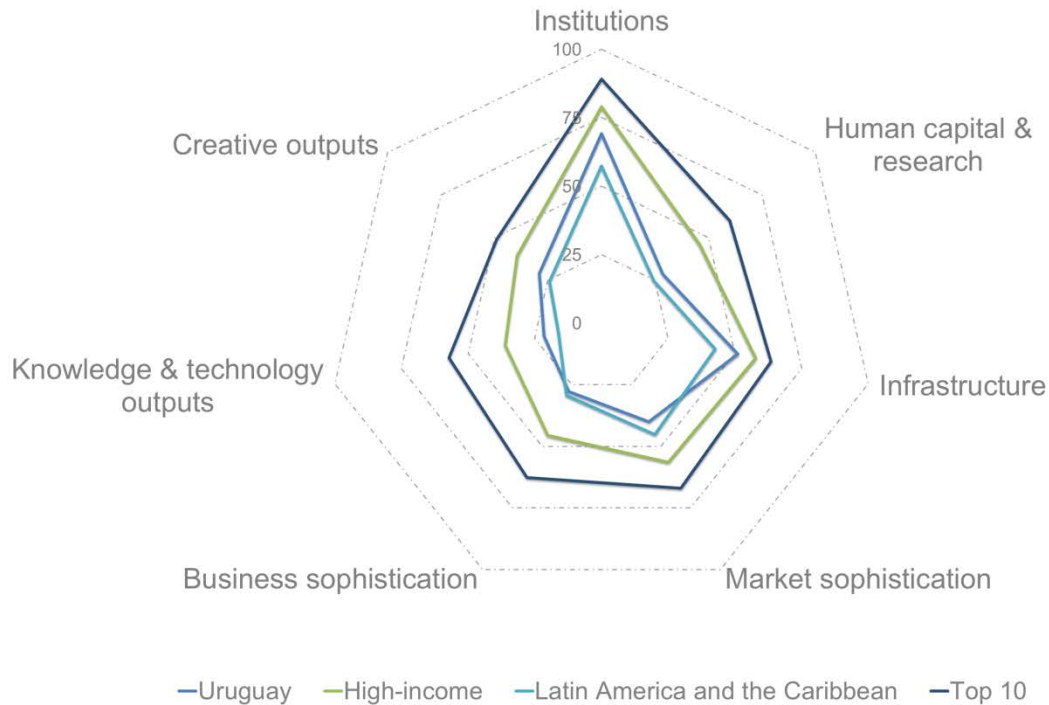


- ▲ Output score
- ▶ Input score
- High income
- Upper-middle income
- Lower-middle income
- Low income
- Fitted values

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 URUGUAY TO OTHER HIGH-INCOME ECONOMIES AND THE LATIN AMERICA AND THE CARIBBEAN REGION

Uruguay's scores in the seven GII pillars



High-income economies

Uruguay scores below the income group average in all the 7 GII pillars: Institutions, Human capital & research, Infrastructure, Market sophistication, Business sophistication, Knowledge & technology outputs and Creative outputs.

Low scores for Political environment, Research & development (R&D), General infrastructure, Credit, Innovation linkages, Knowledge creation, Creative goods & services and Online creativity are behind this positioning.

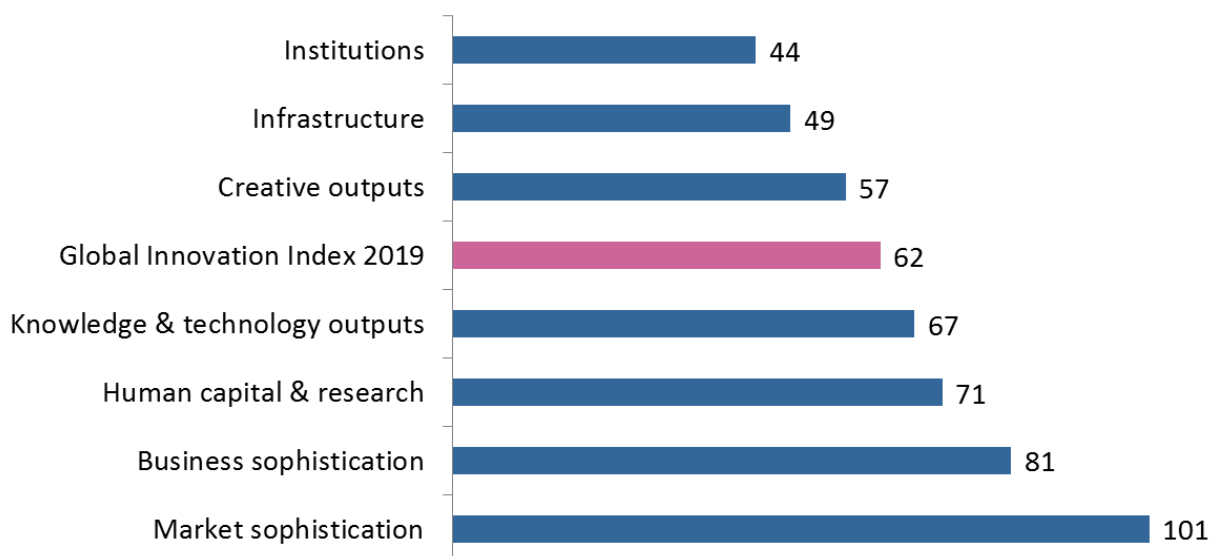
Latin America and the Caribbean Region

Compared to other economies in the Latin America and the Caribbean region, Uruguay performs:

- above average in 5 out of the 7 GII pillars: Institutions, Human capital & research, Infrastructure, Knowledge & technology outputs, and Creative outputs, attaining top scores in Regulatory environment, Business environment, Education, Information & communication technologies (ICTs), Knowledge impact, and Intangible assets.
- below average in 5 out of the 7 GII pillars: Market sophistication and Business sophistication, with low scores for Credit and Innovation linkages.

OVERVIEW OF URUGUAY'S RANKING'S IN THE 7 GII AREAS

Uruguay performs the best in Institutions and its weakest performance is in Market sophistication.



*The highest possible ranking in each pillar is 1.

URUGUAY'S INNOVATION STRENGTHS AND WEAKNESSES

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

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
1.1.1	Political & operational stability*	25	2.2.2	Graduates in science & engineering, %	95
2.1.3	School life expectancy, years	25	2.3.3	Global R&D companies, top 3, in mn US\$	43
3.1	Information & communication technologies (ICTs)	27	3.2	General infrastructure	107
3.1.3	Government's online service*	27	3.2.3	Gross capital formation, % GDP	104
3.1.4	E-participation*	26	4.1	Credit	111
3.3.1	GDP/unit of energy use	24	4.1.2	Domestic credit to private sector, % GDP	105
5.3.3	ICT services imports, % total trade	15	4.1.3	Microfinance gross loans, % GDP	67
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP	23	4.2.1	Ease of protecting minority investors*	105
6.3.3	ICT services exports, % total trade	30	5.1.3	GERD performed by business, % GDP	80
7.2.1	Cultural & creative services exports, % total trade	12	5.1.4	GERD financed by business, %	81
7.3.3	Wikipedia edits/mn pop. 15–69	14	5.3.4	FDI net inflows, % GDP, 3-year average	112
			5.3.5	Research talent, % in business enterprise	80
			7.2.5	Creative goods exports, % total trade	106

STRENGTHS

- GII strengths for Uruguay are found in 6 of the seven GII pillars.
- In Institutions (44), Uruguay exhibits strength in indicator Political & operational stability (25).
- In Human capital & research (71), indicator School life expectancy (25) is highlighted as particular strength.
- In Infrastructure (49), Uruguay shows strengths in sub-pillar Information & communication technologies (ICTs) (27) as well as in three indicators: Government's online service (27), E-participation (26), and GDP per unit of energy use (24).
- In Business sophistication (81 indicators ICT services imports (15) presents strong Uruguay's performance.
- In Knowledge & technology outputs (67), relative strengths are found in two indicators: ISO 9001 quality certificates (23) and ICT services exports (30).
- In Creative outputs (57), Uruguay demonstrates strengths in two indicators: Cultural & creative services exports (12) and Wikipedia edits (14).

WEAKNESSES

- Uruguay's weaknesses in the GII are found in 5 of the seven GII pillars.
- In Human capital & research (71), Uruguay exhibits weaknesses in indicators Graduates in science & engineering (95) and Global R&D companies (43).
- In Infrastructure (49), Uruguay performs rather weakly in sub-pillar General infrastructure (107) and in indicator Gross capital formation (104).
- In Market sophistication (101), relative weaknesses are found in sub-pillar Credit (111) as well as in three indicators: Domestic credit to private sector (105), Microfinance gross loans (67), and Ease of protecting minority investors (105).
- In Business sophistication (81), Uruguay has relative weaknesses in four indicators R&D performed by business (80), R&D financed by business (81), FDI net inflows (112), and Research talent (80).
- In Creative outputs (57), single weakness is exposed in indicator Creative goods exports (106).

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
61	66	High	LCN	3.5	81.6	23,274.1	62
				Score/Value	Rank		
INSTITUTIONS 69.3 44				BUSINESS SOPHISTICATION 27.7 81			
1.1	Political environment	65.8	44	5.1	Knowledge workers	33.3	78
1.1.1	Political and operational stability*	84.2	25	5.1.1	Knowledge-intensive employment, %	22.2	67
1.1.2	Government effectiveness*	56.6	48	5.1.2	Firms offering formal training, % firms	48.6	23
1.2	Regulatory environment	70.6	50	5.1.3	GERD performed by business, % GDP	0.0	80
1.2.1	Regulatory quality*	59.6	41	5.1.4	GERD financed by business, %	4.6	81
1.2.2	Rule of law*	61.9	38	5.1.5	Females employed w/advanced degrees, %	10.1	65
1.2.3	Cost of redundancy dismissal, salary weeks	20.8	87	5.2	Innovation linkages	18.3	101
1.3	Business environment	71.4	61	5.2.1	University/industry research collaboration*	34.9	93
1.3.1	Ease of starting a business*	89.8	55	5.2.2	State of cluster development*	37.0	101
1.3.2	Ease of resolving insolvency*	53.0	64	5.2.3	GERD financed by abroad, %	7.4	52
				5.2.4	JV-strategic alliance deals/bn PPP\$ GDP	0.0	79
				5.2.5	Patent families 2+ offices/bn PPP\$ GDP	0.2	49
HUMAN CAPITAL & RESEARCH 28.7 71				KNOWLEDGE & TECHNOLOGY OUTPUTS 21.5 67			
2.1	Education	54.8	44	5.3	Knowledge absorption	31.4	77
2.1.1	Expenditure on education, % GDP	4.4	66	5.3.1	Intellectual property payments, % total trade	0.8	48
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	5.3.2	High-tech imports, % total trade	7.1	71
2.1.3	School life expectancy, years	16.3	25	5.3.3	ICT services imports, % total trade	2.5	15
2.1.4	PISA scales in reading, maths, & science	430.0	48	5.3.4	FDI net inflows, % GDP	0.8	112
2.1.5	Pupil-teacher ratio, secondary	12.7	54	5.3.5	Research talent, % in business enterprise	0.7	80
2.2	Tertiary education	24.1	83	6.1	Knowledge creation	9.4	72
2.2.1	Tertiary enrolment, % gross	62.4	43	6.1.1	Patents by origin/bn PPP\$ GDP	0.3	87
2.2.2	Graduates in science & engineering, %	13.2	95	6.1.2	PCT patents by origin/bn PPP\$ GDP	n/a	n/a
2.2.3	Tertiary inbound mobility, %	n/a	n/a	6.1.3	Utility models by origin/bn PPP\$ GDP	0.3	38
2.3	Research & development (R&D)	7.1	69	6.1.4	Scientific & technical articles/bn PPP\$ GDP	9.2	52
2.3.1	Researchers, FTE/mn pop	667.7	62	6.1.5	Citable documents H-index	9.9	68
2.3.2	Gross expenditure on R&D, % GDP	0.4	69	6.2	Knowledge impact	36.3	66
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$	0.0	43	6.2.1	Growth rate of PPP\$ GDP/worker, %	2.0	44
2.3.4	QS university ranking, average score top 3*	12.0	61	6.2.2	New businesses/th pop. 15-64	2.1	50
				6.2.3	Computer software spending, % GDP	0.2	68
				6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP	14.6	23
				6.2.5	High- & medium-high-tech manufactures, %	0.1	72
INFRASTRUCTURE 51.0 49				CREATIVE OUTPUTS 29.2 57			
3.1	Information & communication technologies (ICTs)	81.7	27	7.1	Intangible assets	41.7	60
3.1.1	ICT access*	75.1	42	7.1.1	Trademarks by origin/bn PPP\$ GDP	47.4	51
3.1.2	ICT use*	71.4	31	7.1.2	Industrial designs by origin/bn PPP\$ GDP	0.7	81
3.1.3	Government's online service*	88.9	27	7.1.3	ICTs & business model creation*	66.8	43
3.1.4	E-participation*	91.6	26	7.1.4	ICTs & organizational model creation*	58.4	50
3.2	General infrastructure	23.6	107	7.2	Creative goods & services	16.6	64
3.2.1	Electricity output, kWh/mn pop	3,848.3	53	7.2.1	Cultural & creative services exports, % total trade	1.6	12
3.2.2	Logistics performance*	29.1	83	7.2.2	National feature films/mn pop. 15-69	4.7	45
3.2.3	Gross capital formation, % GDP	17.8	104	7.2.3	Entertainment & Media market/th pop. 15-69	n/a	n/a
3.3	Ecological sustainability	47.7	40	7.2.4	Printing & other media, % manufacturing	1.1	56
3.3.1	GDP/unit of energy use	13.0	24	7.2.5	Creative goods exports, % total trade	0.1	106
3.3.2	Environmental performance*	64.7	43	7.3	Online creativity	16.7	39
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP	3.0	32	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	6.4	50
				7.3.2	Country-code TLDs/th pop. 15-69	9.8	39
				7.3.3	Wikipedia edits/mn pop. 15-69	68.1	14
				7.3.4	Mobile app creation/bn PPP\$ GDP	4.6	50
MARKET SOPHISTICATION 39.9 101							
4.1	Credit	23.5	111				
4.1.1	Ease of getting credit*	60.0	66				
4.1.2	Domestic credit to private sector, % GDP	26.3	105				
4.1.3	Microfinance gross loans, % GDP	0.0	67				
4.2	Investment	43.3	[61]				
4.2.1	Ease of protecting minority investors*	43.3	105				
4.2.2	Market capitalization, % GDP	n/a	n/a				
4.2.3	Venture capital deals/bn PPP\$ GDP	n/a	n/a				
4.3	Trade, competition, & market scale	52.8	97				
4.3.1	Applied tariff rate, weighted avg., %	6.3	97				
4.3.2	Intensity of local competition*	61.5	101				
4.3.3	Domestic market scale, bn PPP\$	81.6	86				

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 Uruguay.

Missing data

Code	Indicator name	Country year	Model year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2015	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	n/a	2016	UNESCO Institute for Statistics
4.2.2	Market capitalization, % GDP	n/a	2017	World Federation of Exchanges
4.2.3	Venture capital deals/bn PPP\$ GDP	n/a	2018	Thomson Reuters
6.1.2	PCT patents by origin/bn PPP\$ GDP	n/a	2018	World Intellectual Property Organization
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2017	PwC

Outdated data

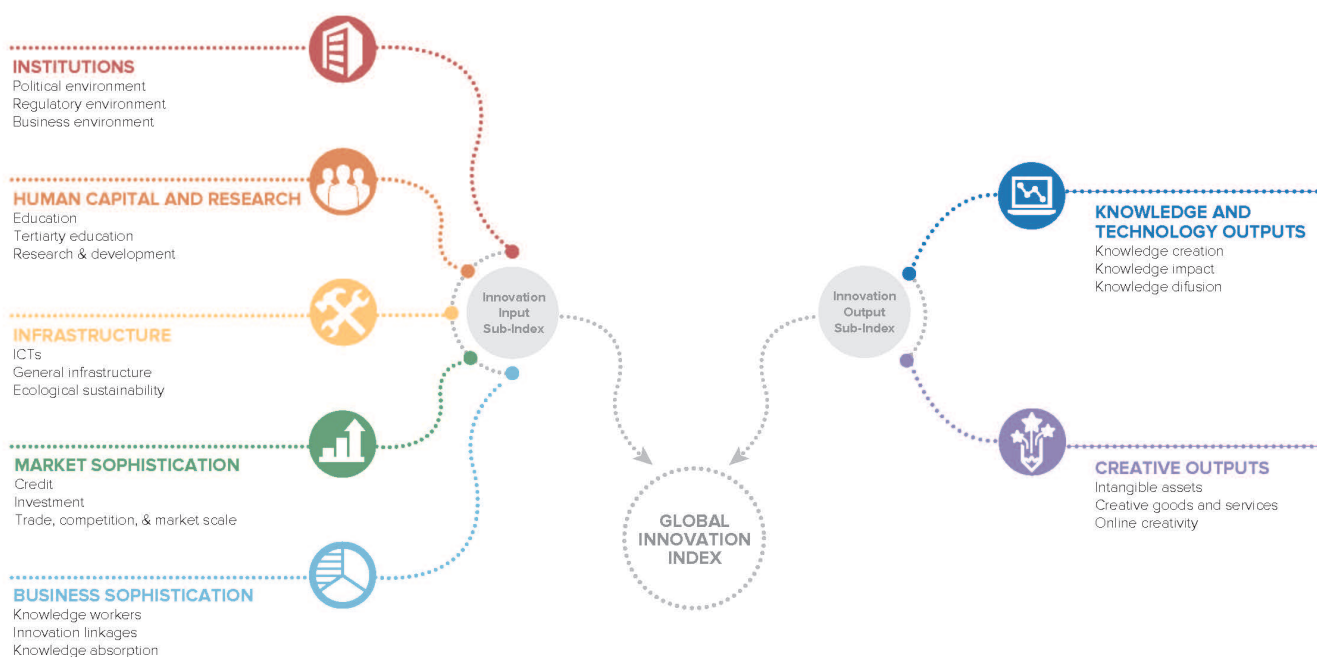
Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	2011	2015	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2010	2017	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2016	2017	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	2016	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
4.1.3	Microfinance gross loans, % GDP	2015	2017	Microfinance Information Exchange
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
6.2.5	High- & medium-high-tech manufactures, %	2012	2016	United Nations Industrial Development Organization
7.2.2	National feature films/mn pop. 15–69	2015	2017	UNESCO Institute for Statistics
7.2.4	Printing & other media, % manufacturing	2012	2016	United Nations Industrial Development Organization
7.3.3	Wikipedia edits/mn pop. 15–69	2016	2017	Wikimedia Foundation

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 GI presents its 12th edition devoted to the theme **Creating Healthy Lives—The Future of Medical Innovation**.

Recognizing that innovation is a key driver of economic development, the GI aims to provide a rich innovation ranking and analysis referencing around 130 economies. Over the last decade, the GI has established itself as both a leading reference on innovation and a “tool for action” for countries that incorporate the GI 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 GI has two sub-indices: the Innovation Input Sub-Index and the Innovation Output Sub-Index, and seven pillars, each containing three sub-pillars.