Global Innovation Index 2022

URUGUAY

64th Uruguay ranks 64th among the 132 economies featured in the GII 2022.

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 Uruguay 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 Uruguay in the GII 2022 is between ranks 58 and 72.

Rankings for Uruguay (2020–2022)

GIIYR	GII	Innovation inputs	Innovation outputs
2020	69	69	65
2021	65	69	63
2022	64	57	76

- Uruguay performs better in innovation inputs than innovation outputs in 2022.
- This year Uruguay ranks 57th in innovation inputs, higher than both 2021 and 2020.
- As for innovation outputs, Uruguay ranks 76th. This position is lower than both 2021 and 2020.

44th Uruguay ranks 44th among the 48 high-income group economies.

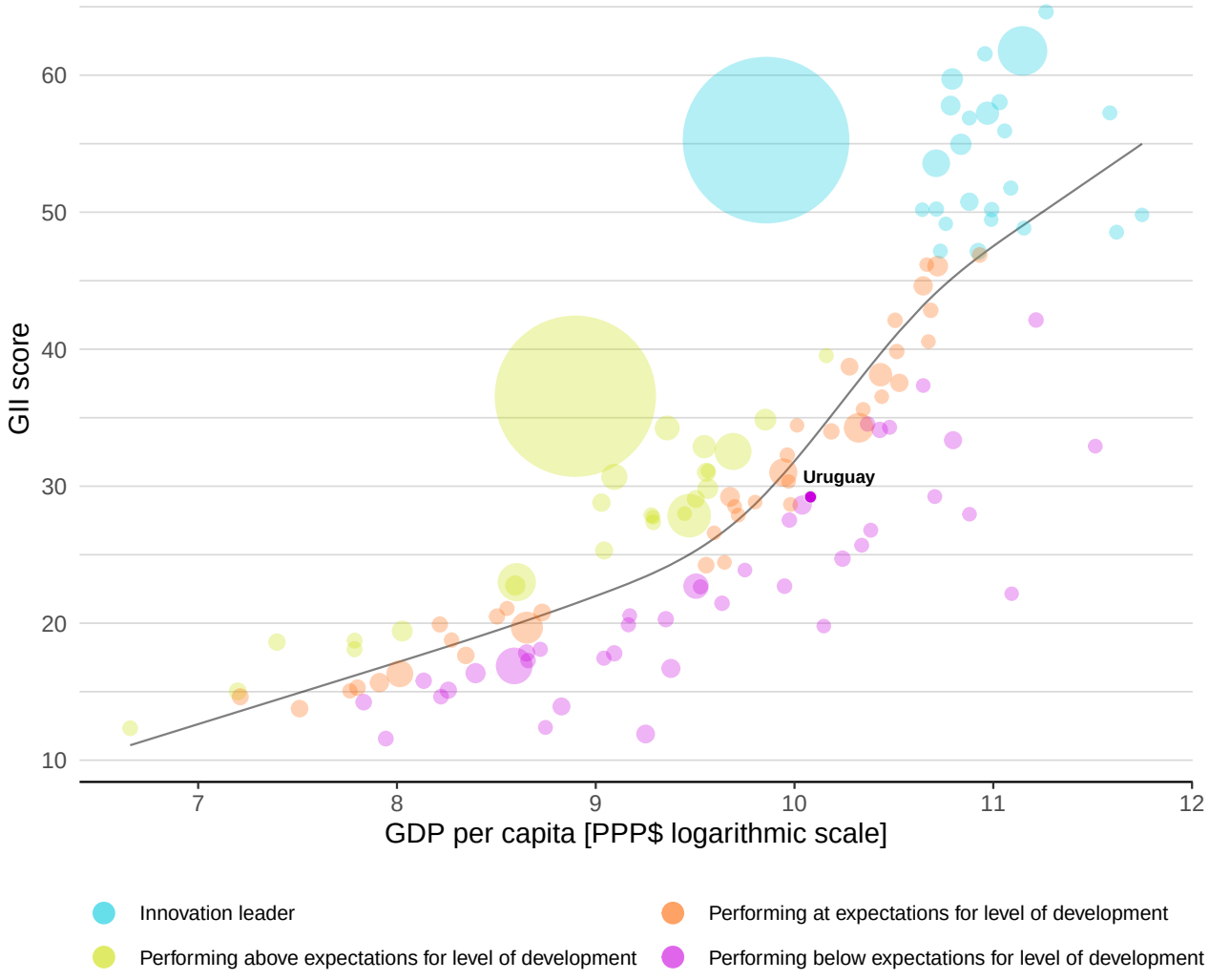
5th Uruguay ranks 5th among the 18 economies in Latin America and the Caribbean.

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, Uruguay's performance is below expectations for its level of development.

The positive relationship between innovation and development

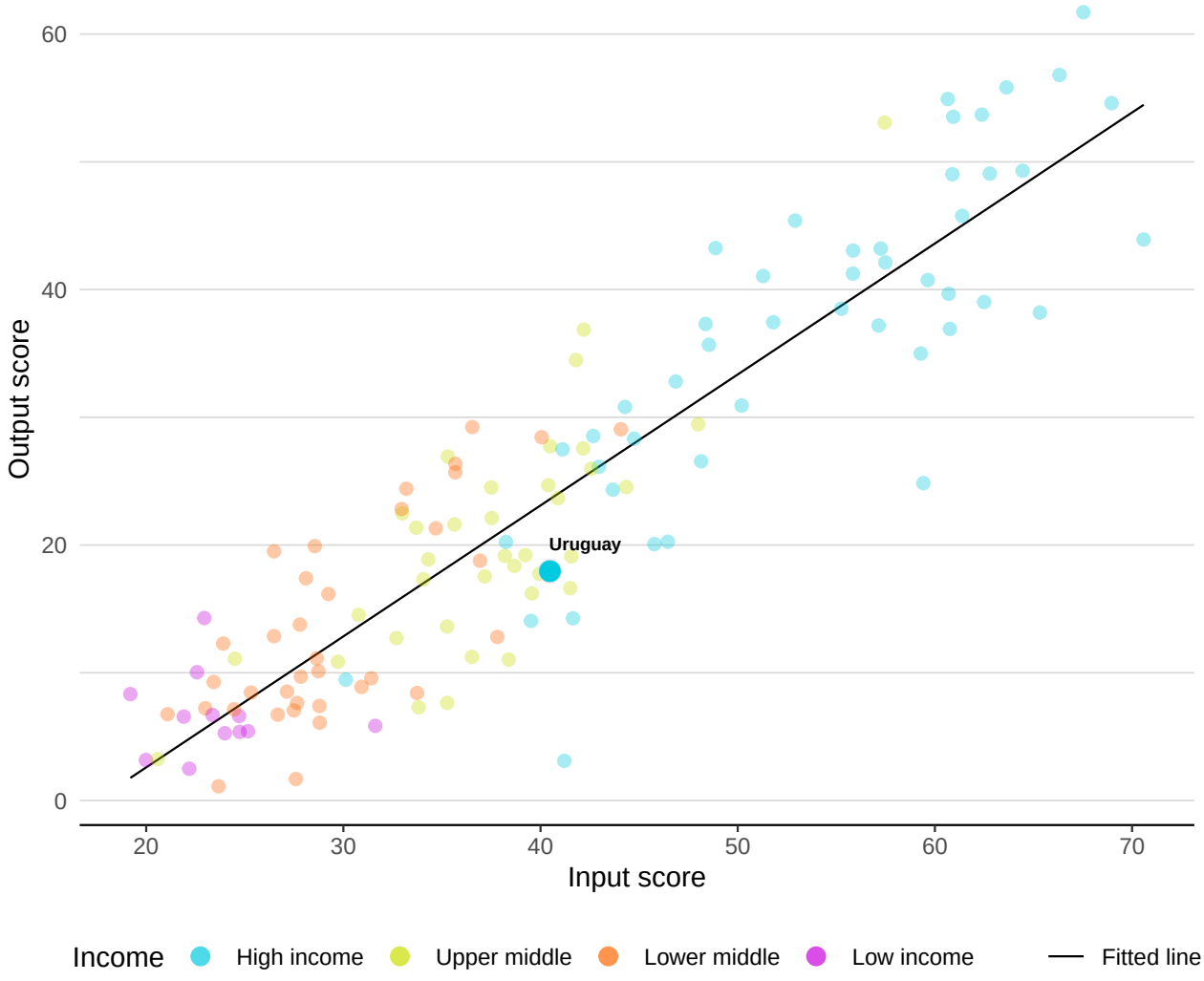


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

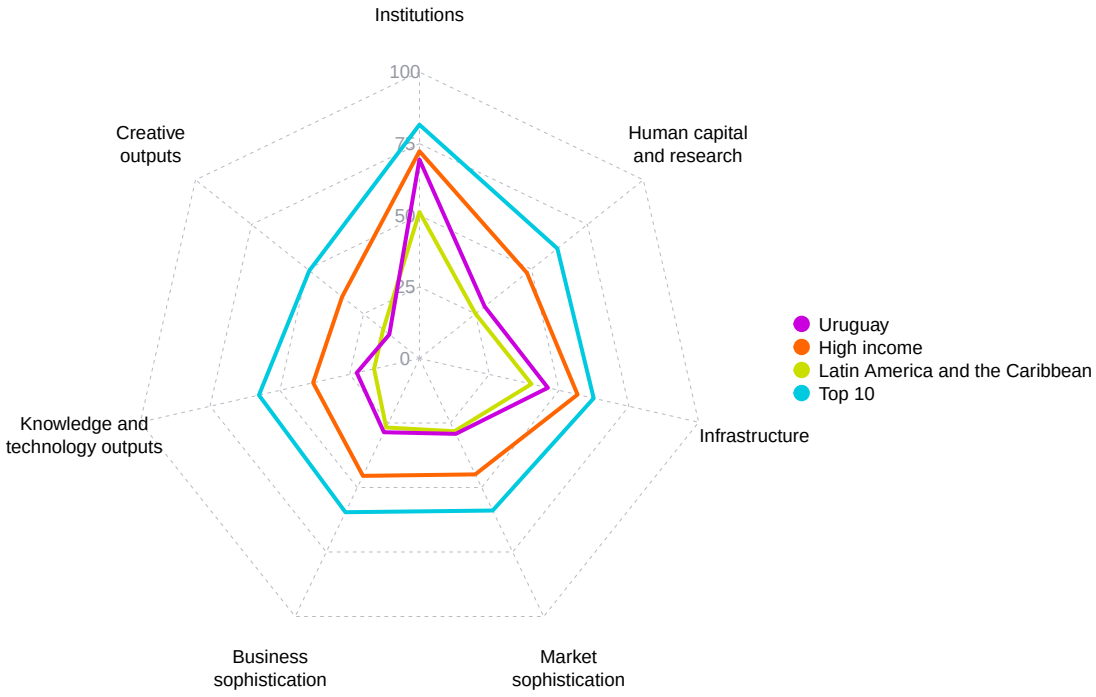
Uruguay produces less innovation outputs relative to its level of innovation investments.

Innovation input to output performance



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

The seven GII pillar scores for Uruguay



High-income group economies

Uruguay performs below the high-income group average in all GII pillars.

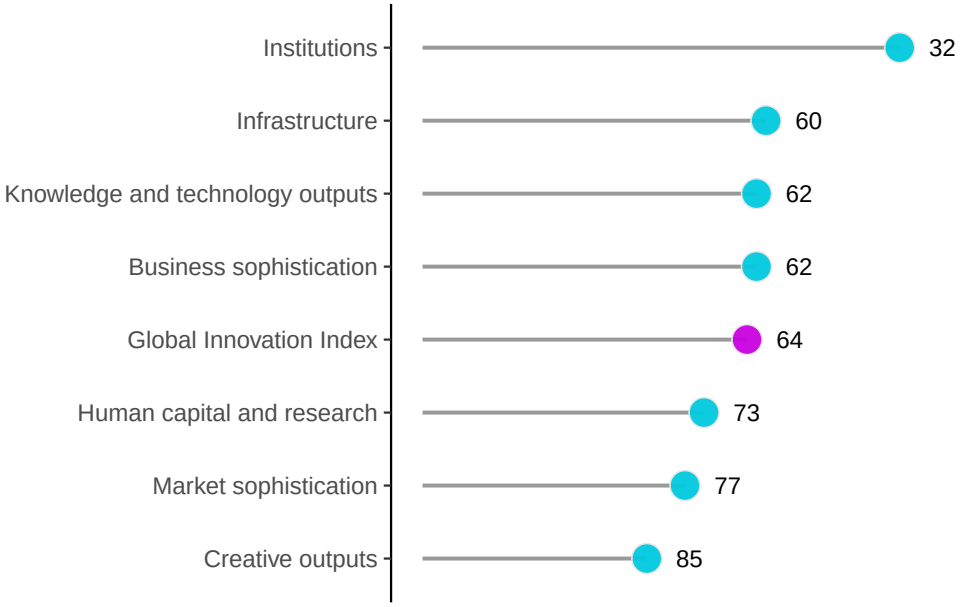
Latin America and the Caribbean

Uruguay performs above the regional average in six pillars, namely: Institutions; Human capital and research; Infrastructure; Market sophistication; Business sophistication; and, Knowledge and technology outputs.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2022 AREAS

Uruguay performs best in Institutions and its weakest performance is in Creative outputs.

The seven GII pillar ranks for Uruguay



Note: The highest possible ranking in each pillar is 1.

The full WIPO Intellectual Property Statistics profile for Uruguay can be found at:

https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=UY.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the indicator strengths and weaknesses of Uruguay in the GII 2022.

Strengths and weaknesses for Uruguay

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
1.1.1	Political and operational stability	10	2.2.2	Graduates in science and engineering, %	88
1.3.1	Policies for doing business	5	2.3.3	Global corporate R&D investors, top 3, mn USD	38
2.1.3	School life expectancy, years	21	3.2.3	Gross capital formation, % GDP	115
3.1.2	ICT use	29	4.1.2	Domestic credit to private sector, % GDP	99
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	26	4.2.3	Venture capital recipients, deals/bn PPP$ GDP	82
4.2.2	Venture capital investors, deals/bn PPP$ GDP	13	4.3.2	Domestic industry diversification	90
5.1.2	Firms offering formal training, %	17	5.1.4	GERD financed by business, %	82
5.3.3	ICT services imports, % total trade	4	5.3.5	Research talent, % in businesses	80
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	19	7.1.3	Global brand value, top 5,000, % GDP	77
6.3.4	ICT services exports, % total trade	16	7.2.5	Creative goods exports, % total trade	105

GII 2022 rank

Uruguay

64

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
76	57	High	LCN	3.5	84.6	23,869

		Score/ Value	Rank	
Institutions		**69.4**	**32**	
1.1	**Political environment**	76.0	32	
1.1.1	Political and operational stability*	85.5	10	●
1.1.2	Government effectiveness*	66.5	40	
1.2	**Regulatory environment**	68.1	56	◇
1.2.1	Regulatory quality*	59.5	43	◇
1.2.2	Rule of law*	63.7	37	
1.2.3	Cost of redundancy dismissal	20.8	90	
1.3	**Business environment**	64.2	26	●
1.3.1	Policies for doing business†	81.9	5	● ◆
1.3.2	Entrepreneurship policies and culture*	46.5	35	
Human capital and research		**29.1**	**73**	◇
2.1	**Education**	42.9	88	◇
2.1.1	Expenditure on education, % GDP	4.7	51	
2.1.2	Government funding/pupil, secondary, % GDP/cap	15.5	80	◇
2.1.3	School life expectancy, years	16.8	21	●
2.1.4	PISA scales in reading, maths and science	423.5	52	◇
2.1.5	Pupil-teacher ratio, secondary	n/a	n/a	
2.2	**Tertiary education**	34.2	53	
2.2.1	Tertiary enrolment, % gross	65.2	45	
2.2.2	Graduates in science and engineering, %	17.2	88	○ ◇
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	10.3	56	◇
2.3.1	Researchers, FTE/mn pop.	767.2	59	◇
2.3.2	Gross expenditure on R&D, % GDP	0.5	61	◇
2.3.3	Global corporate R&D investors, top 3, mn USD	0.0	38	○ ◇
2.3.4	QS university ranking, top 3*	21.8	47	
Infrastructure		**46.0**	**60**	◇
3.1	**Information and communication technologies (ICTs)**	83.3	32	
3.1.1	ICT access*	86.0	68	◇
3.1.2	ICT use*	77.2	29	●
3.1.3	Government's online service*	84.1	31	
3.1.4	E-participation*	85.7	29	
3.2	**General infrastructure**	22.0	96	◇
3.2.1	Electricity output, GWh/mn pop.	3,775.2	56	
3.2.2	Logistics performance*	29.8	81	◇
3.2.3	Gross capital formation, % GDP	16.0	115	○ ◇
3.3	**Ecological sustainability**	32.8	46	
3.3.1	GDP/unit of energy use	13.8	33	
3.3.2	Environmental performance*	37.4	83	◇
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	3.7	26	●
Market sophistication		**29.2**	**77**	◇
4.1	**Credit**	19.7	85	◇
4.1.1	Finance for startups and scaleups*	30.6	55	◇
4.1.2	Domestic credit to private sector, % GDP	27.8	99	○ ◇
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	22.5	33	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital investors, deals/bn PPP$ GDP	0.3	13	●
4.2.3	Venture capital recipients, deals/bn PPP$ GDP	0.0	82	○
4.2.4	Venture capital received, value, % GDP	0.0	29	
4.3	**Trade, diversification, and market scale**	45.4	91	◇
4.3.1	Applied tariff rate, weighted avg., %	5.3	92	◇
4.3.2	Domestic industry diversification	68.8	90	○
4.3.3	Domestic market scale, bn PPP$	84.6	89	

		Score/ Value	Rank	
Business sophistication		**28.6**	**62**	◇
5.1	**Knowledge workers**	28.4	71	◇
5.1.1	Knowledge-intensive employment, %	24.1	62	◇
5.1.2	Firms offering formal training, %	53.3	17	●
5.1.3	GERD performed by business, % GDP	0.1	61	◇
5.1.4	GERD financed by business, %	4.6	82	○ ◇
5.1.5	Females employed w/advanced degrees, %	10.4	72	◇
5.2	**Innovation linkages**	20.7	85	◇
5.2.1	University-industry R&D collaboration†	42.7	72	◇
5.2.2	State of cluster development and depth†	45.6	75	◇
5.2.3	GERD financed by abroad, % GDP	0.0	57	
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	68	
5.2.5	Patent families/bn PPP$ GDP	0.1	55	◇
5.3	**Knowledge absorption**	36.7	45	
5.3.1	Intellectual property payments, % total trade	1.0	42	
5.3.2	High-tech imports, % total trade	7.3	87	
5.3.3	ICT services imports, % total trade	5.0	4	● ◆
5.3.4	FDI net inflows, % GDP	1.9	79	
5.3.5	Research talent, % in businesses	0.7	80	○ ◇
Knowledge and technology outputs		**22.4**	**62**	◇
6.1	**Knowledge creation**	11.2	70	◇
6.1.1	Patents by origin/bn PPP$ GDP	0.3	89	
6.1.2	PCT patents by origin/bn PPP$ GDP	n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP	0.3	40	
6.1.4	Scientific and technical articles/bn PPP$ GDP	18.0	53	
6.1.5	Citable documents H-index	10.4	70	◇
6.2	**Knowledge impact**	28.4	62	
6.2.1	Labor productivity growth, %	1.1	60	
6.2.2	New businesses/th pop. 15–64	2.3	54	
6.2.3	Software spending, % GDP	0.2	65	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	15.2	19	●
6.2.5	High-tech manufacturing, %	15.0	77	◇
6.3	**Knowledge diffusion**	27.7	52	
6.3.1	Intellectual property receipts, % total trade	0.2	43	
6.3.2	Production and export complexity	41.9	61	◇
6.3.3	High-tech exports, % total trade	0.9	76	◇
6.3.4	ICT services exports, % total trade	6.2	16	●
Creative outputs		**13.5**	**85**	◇
7.1	**Intangible assets**	13.9	92	◇
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	51.8	45	
7.1.3	Global brand value, top 5,000, % GDP	0.0	77	○ ◇
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.7	80	
7.2	**Creative goods and services**	17.6	60	
7.2.1	Cultural and creative services exports, % total trade	1.1	29	
7.2.2	National feature films/mn pop. 15–69	4.2	28	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Printing and other media, % manufacturing	1.1	40	
7.2.5	Creative goods exports, % total trade	0.1	105	○
7.3	**Online creativity**	8.6	49	◇
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	6.5	50	
7.3.2	Country-code TLDs/th pop. 15–69	11.5	40	
7.3.3	GitHub commit pushes received/mn pop. 15–69	9.9	44	
7.3.4	Mobile app creation/bn PPP$ GDP	6.3	54	

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 appendices for details, including the year of the data, at https://www.wipo.int/global_innovation_index/en/2022. 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 indicators that are either missing or outdated for Uruguay.

Missing data for Uruguay

Code	Indicator name	Economy year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	n/a	2019	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	n/a	2019	UNESCO Institute for Statistics
4.1.3	Loans from microfinance institutions, % GDP	n/a	2020	International Monetary Fund, Financial Access Survey (FAS)
4.2.1	Market capitalization, % GDP	n/a	2020	World Federation of Exchanges
6.1.2	PCT patents by origin/bn PPP$ GDP	n/a	2021	World Intellectual Property Organization
7.1.1	Intangible asset intensity, top 15, %	n/a	2021	Brand Finance
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2021	PwC, GEMO

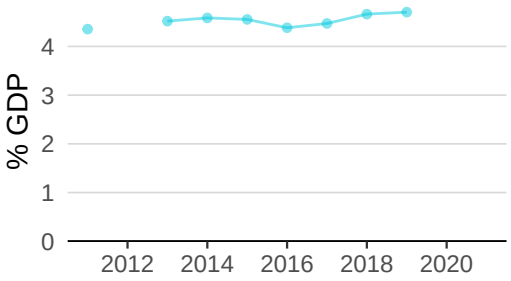
Outdated data for Uruguay

Code	Indicator name	Economy year	Model year	Source
2.1.1	Expenditure on education, % GDP	2019	2020	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2019	2020	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	2019	2020	UNESCO Institute for Statistics
4.3.2	Domestic industry diversification	2014	2019	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2020	2021	International Labour Organization
5.1.2	Firms offering formal training, %	2017	2019	World Bank Enterprise Surveys
5.1.3	GERD performed by business, % GDP	2018	2020	UNESCO Institute for Statistics
5.1.5	Females employed w/advanced degrees, %	2019	2021	International Labour Organization
5.2.3	GERD financed by abroad, % GDP	2018	2019	UNESCO Institute for Statistics
5.3.5	Research talent, % in businesses	2019	2020	UNESCO Institute for Statistics
6.1.1	Patents by origin/bn PPP$ GDP	2017	2020	World Intellectual Property Organization
6.1.3	Utility models by origin/bn PPP$ GDP	2017	2020	World Intellectual Property Organization
6.2.5	High-tech manufacturing, %	2014	2019	United Nations Industrial Development Organization
7.1.4	Industrial designs by origin/bn PPP$ GDP	2017	2020	World Intellectual Property Organization
7.2.4	Printing and other media, % manufacturing	2014	2019	United Nations Industrial Development Organization

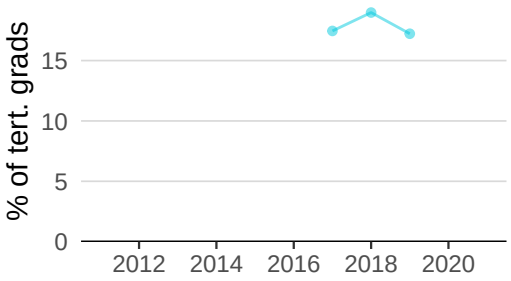
URUGUAY'S INNOVATION SYSTEM

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

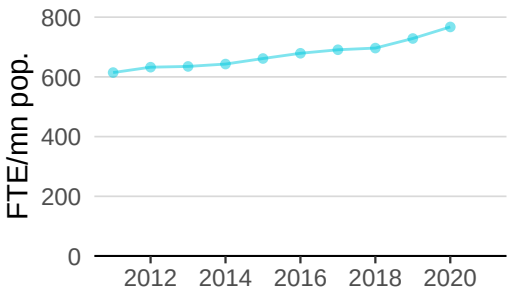
Innovation inputs



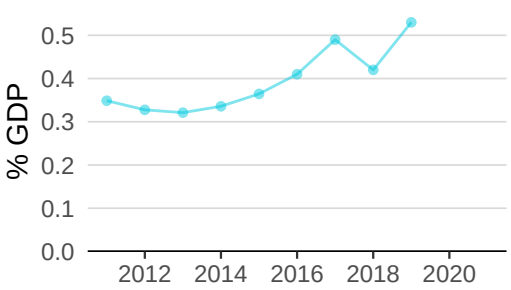
2.1.1 Expenditure on education was equal to 4.7% GDP in 2019–up by 1 percentage point from the year prior–and equivalent to an indicator rank of 51.



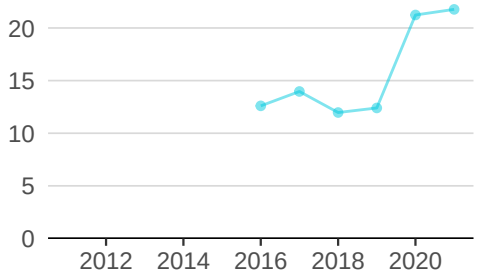
2.2.2 Graduates in science and engineering was equal to 17.2% of tert. grads in 2019–down by 9 percentage points from the year prior–and equivalent to an indicator rank of 88.



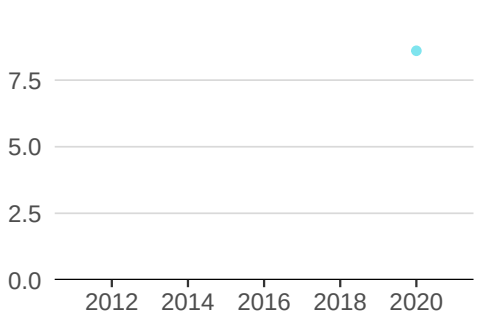
2.3.1 Researchers was equal to 767.2 FTE/mn pop. in 2020–up by 5 percentage points from the year prior–and equivalent to an indicator rank of 59.



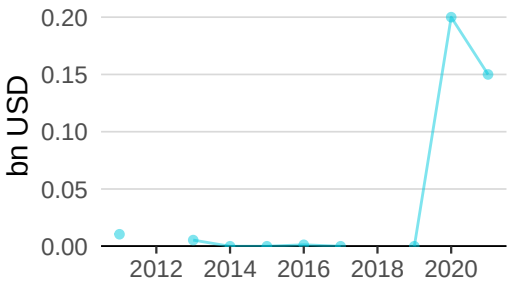
2.3.2 Gross expenditure on R&D was equal to 0.5% GDP in 2019–up by 26 percentage points from the year prior–and equivalent to an indicator rank of 61.



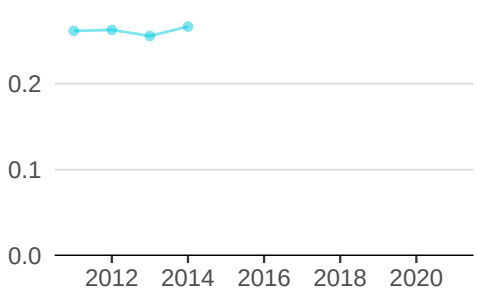
2.3.4 QS university ranking was equal to 21.8 in 2021–up by 3 percentage points from the year prior–and equivalent to an indicator rank of 47.



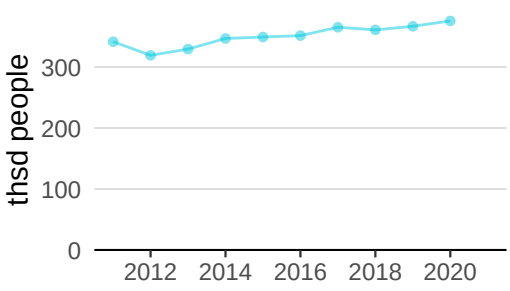
3.1.1 ICT access was equal to 8.6 in 2020 and equivalent to an indicator rank of 68.



4.2.4 Venture capital received was equal to 0.1 bn USD in 2021–down by 25 percentage points from the year prior–and equivalent to an indicator rank of 29.

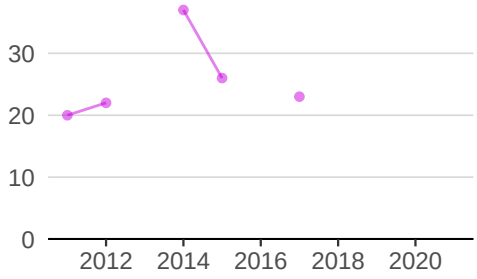


4.3.2 Domestic industry diversification was equal to 0.3 in 2014–up by 4 percentage points from the year prior–and equivalent to an indicator rank of 90.

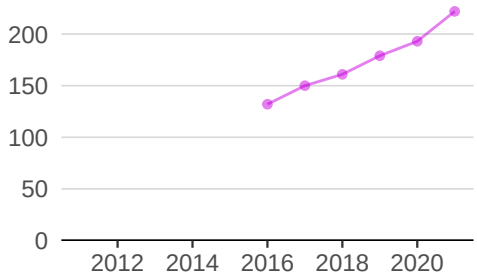


5.1.1 Knowledge-intensive employment was equal to 375.5 thsd people in 2020–up by 2 percentage points from the year prior–and equivalent to an indicator rank of 62.

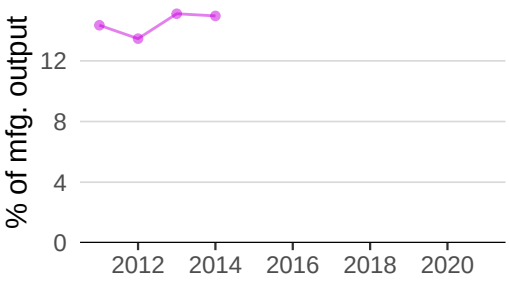
Innovation outputs



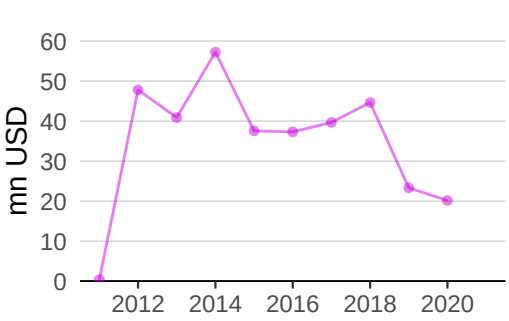
6.1.1 Patents by origin was equal to 23.0 in 2017 and equivalent to an indicator rank of 89.



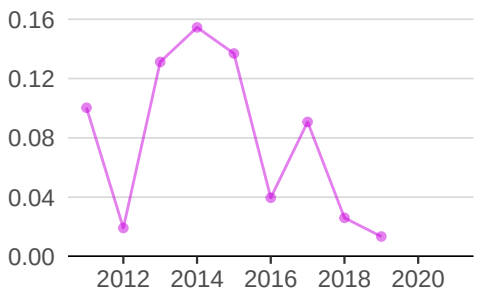
6.1.5 Citable documents H-index was equal to 222.0 in 2021–up by 15 percentage points from the year prior–and equivalent to an indicator rank of 70.



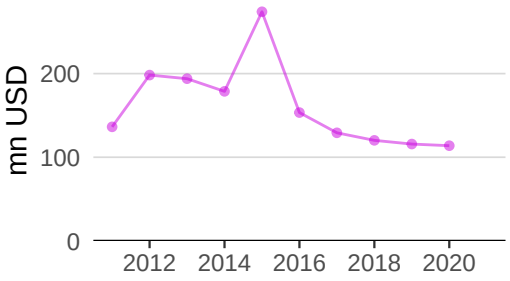
6.2.5 High-tech manufacturing was equal to 15.0% of mfg. output in 2014–down by 1 percentage point from the year prior–and equivalent to an indicator rank of 77.



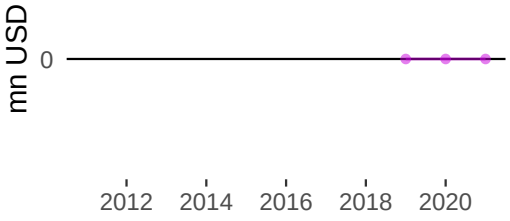
6.3.1 Intellectual property receipts was equal to 20.2 mn USD in 2020–down by 14 percentage points from the year prior–and equivalent to an indicator rank of 43.



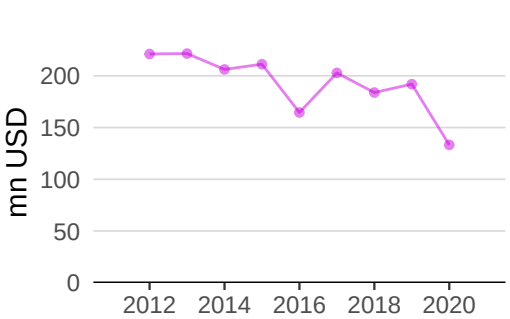
6.3.2 Production and export complexity was equal to 0.0 in 2019–down by 48 percentage points from the year prior–and equivalent to an indicator rank of 61.



6.3.3 High-tech exports was equal to 113.8 mn USD in 2020–down by 2 percentage points from the year prior–and equivalent to an indicator rank of 76.



7.1.3 Global brand value was equal to 0.0 mn USD in 2021–effectively unchanged from the year prior–and equivalent to an indicator rank of 77.



7.2.1 Cultural and creative services exports was equal to 133.2 mn USD in 2020–down by 31 percentage points from the year prior–and equivalent to an indicator rank of 29.

URUGUAY'S INNOVATION TOP PERFORMERS

2.3.3 Global corporate R&D investors

Firm	Industry	R&D	R&D Growth	R&D Intensity	Rank

No observations

Source: European Commission's Joint Research Centre (https://iri.jrc.ec.europa.eu/scoreboard/2021-eu-industrial-rd-investment-scoreboard).

2.3.4 QS university ranking

University	Score	Rank
UNIVERSIDAD DE MONTEVIDEO	25.2	469=
UNIVERSIDAD ORT URUGUAY	25.1	471=
UNIVERSIDAD DE LA REPÚBLICA	15.0	751-800

Source: QS Quacquarelli Symonds Ltd (https://www.topuniversities.com/university-rankings/world-university-rankings/2022).
Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100].
Ranks can represent a single value "x", a tie "x=" or a range "x-y".

7.1.1 Intangible asset intensity, top 15

Firm	Rank

No observations

Source: Brand Finance (https://brandirectory.com/reports/gift-2021).

7.1.3 Global brand value, top 5,000

Brand	Industry	Rank

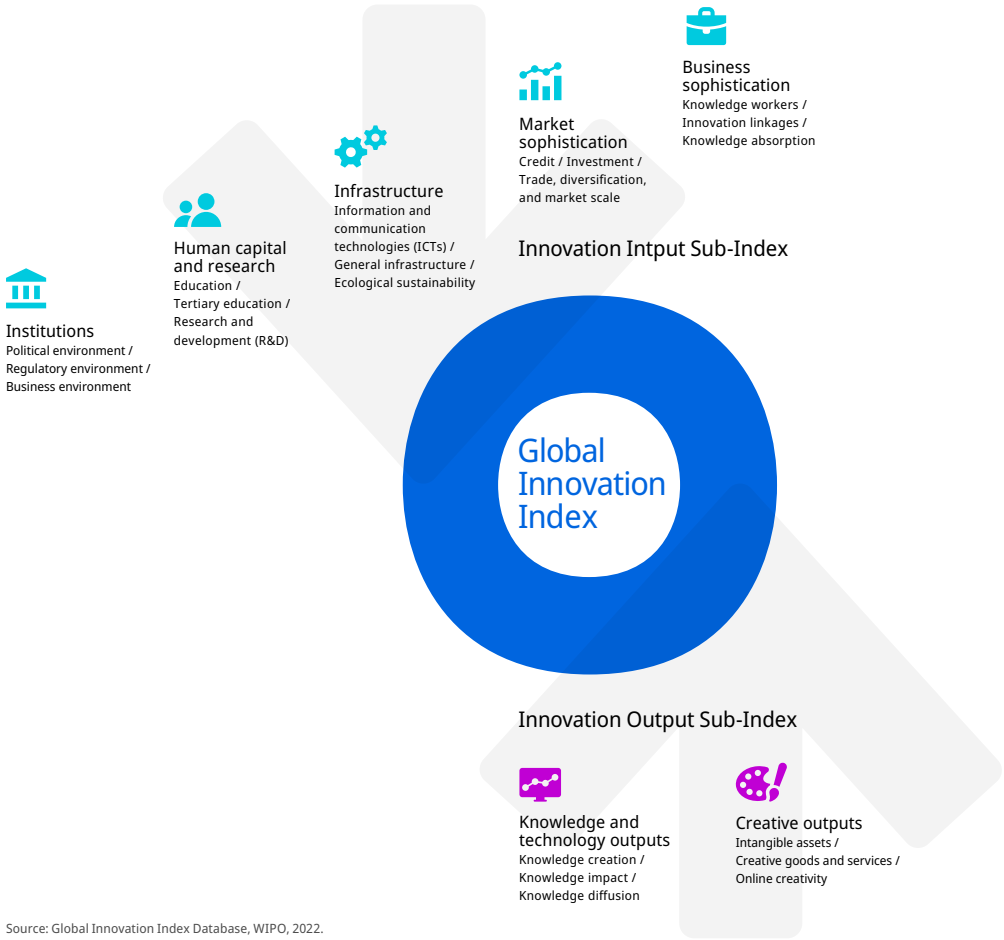
No observations

Source: Brand Finance (https://brandirectory.com).

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, 2022.

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.