Global Innovation Index 2022

JAMAICA

76th Jamaica ranks 76th 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 Jamaica 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 Jamaica in the GII 2022 is between ranks 68 and 78.

Rankings for Jamaica (2020–2022)

GIIYR	GII	Innovation inputs	Innovation outputs
2020	72	86	62
2021	74	82	66
2022	76	88	60

- Jamaica performs better in innovation outputs than innovation inputs in 2022.
- This year Jamaica ranks 88th in innovation inputs, lower than both 2021 and 2020.
- As for innovation outputs, Jamaica ranks 60th. This position is higher than both 2021 and 2020.

22nd Jamaica ranks 22nd among the 36 upper-middle-income group economies.

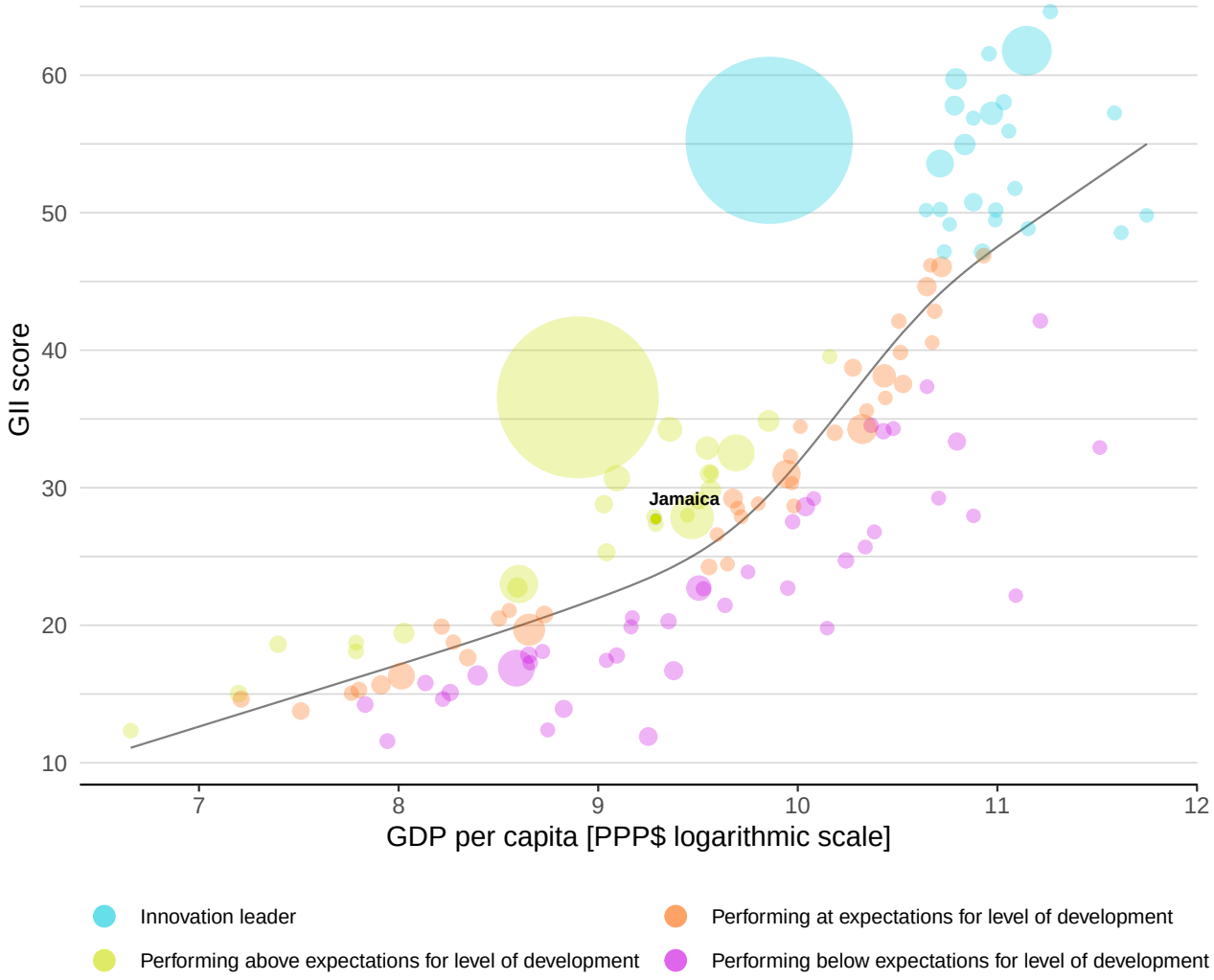
9th Jamaica ranks 9th among the 18 economies in Latin America and the Caribbean.

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

The positive relationship between innovation and development

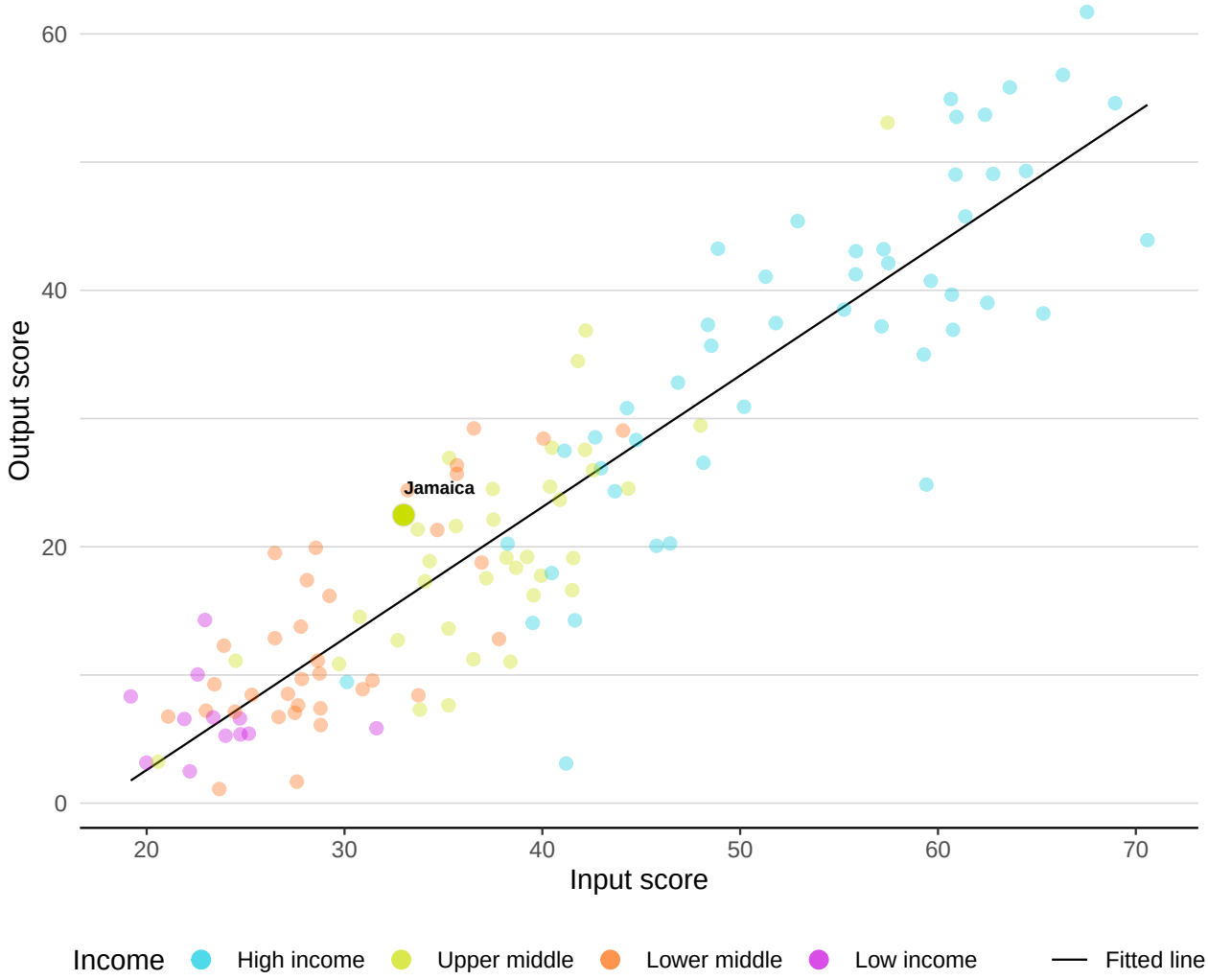


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

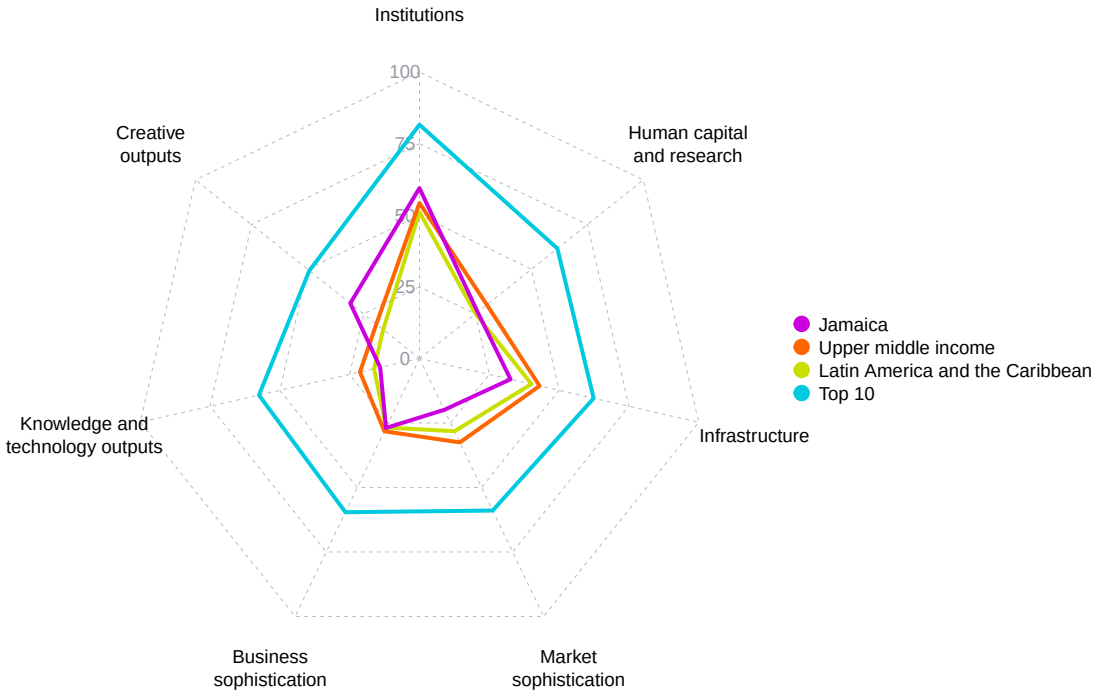
Jamaica produces more innovation outputs relative to its level of innovation investments.

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 Jamaica



Upper-middle-income group economies

Jamaica performs above the upper-middle-income group average in two pillars, namely: Institutions; and, Creative outputs.

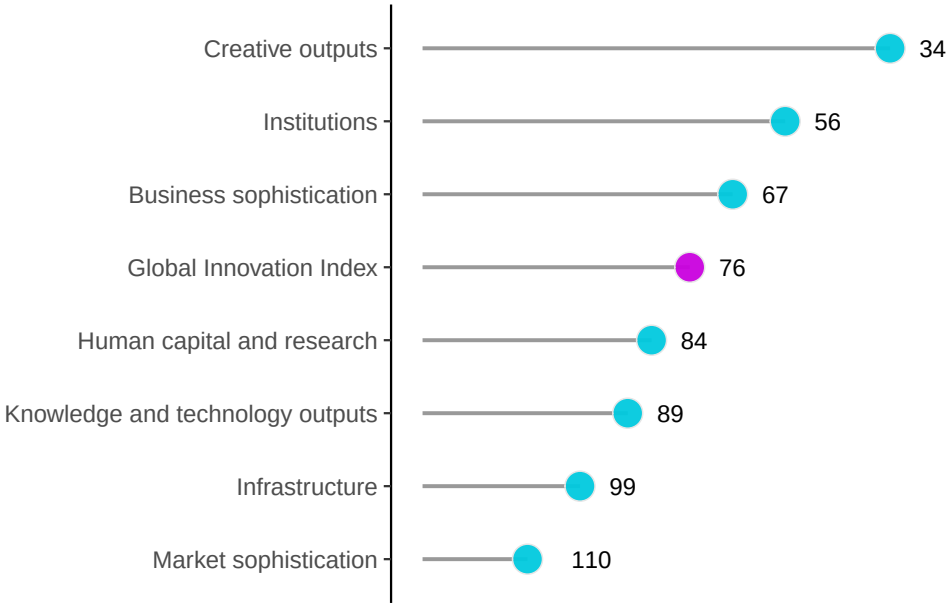
Latin America and the Caribbean

Jamaica performs above the regional average in four pillars, namely: Institutions; Human capital and research; Business sophistication; and, Creative outputs.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2022 AREAS

Jamaica performs best in Creative outputs and its weakest performance is in Market sophistication.

The seven GII pillar ranks for Jamaica



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

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

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

INNOVATION STRENGTHS AND WEAKNESSES

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

Strengths and weaknesses for Jamaica

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
1.1.1	Political and operational stability	42	2.3.3	Global corporate R&D investors, top 3, mn USD	38
2.1.1	Expenditure on education, % GDP	22	2.3.4	QS university ranking, top 3	72
2.1.2	Government funding/pupil, secondary, % GDP/cap	13	3.1.3	Government's online service	115
4.2.1	Market capitalization, % GDP	20	3.1.4	E-participation	114
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	24	4.2.4	Venture capital received, value, % GDP	101
5.3.4	FDI net inflows, % GDP	28	4.3.3	Domestic market scale, bn PPP$	124
6.2.3	Software spending, % GDP	23	5.2.5	Patent families/bn PPP$ GDP	101
7.1.2	Trademarks by origin/bn PPP$ GDP	9	6.2.1	Labor productivity growth, %	110
7.1.3	Global brand value, top 5,000, % GDP	21	7.2.2	National feature films/mn pop. 15–69	70
7.1.4	Industrial designs by origin/bn PPP$ GDP	14	7.3.4	Mobile app creation/bn PPP$ GDP	101

GII 2022 rank

Jamaica

76

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
60	88	Upper middle	LCN	3.0	29.6	10,815

		Score/ Value	Rank	
Institutions		**59.5**	**56**	
1.1	**Political environment**	66.6	48	
1.1.1	Political and operational stability*	74.5	42 ●	
1.1.2	Government effectiveness*	58.6	47	
1.2	**Regulatory environment**	65.8	64	
1.2.1	Regulatory quality*	47.2	68	
1.2.2	Rule of law*	39.9	74	
1.2.3	Cost of redundancy dismissal	14.0	53	
1.3	**Business environment**	46.1	72	
1.3.1	Policies for doing business†	54.8	49	
1.3.2	Entrepreneurship policies and culture*	37.3	44	
Human capital and research		**26.0**	**[84]**	
2.1	**Education**	62.0	[24]	
2.1.1	Expenditure on education, % GDP	6.0	22 ●	
2.1.2	Government funding/pupil, secondary, % GDP/cap	28.5	13 ● ◆	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil-teacher ratio, secondary	14.9	74	
2.2	**Tertiary education**	15.9	[99]	
2.2.1	Tertiary enrolment, % gross	27.1	88	◇
2.2.2	Graduates in science and engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	0.0	[120]	
2.3.1	Researchers, FTE/mn pop.	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3	Global corporate R&D investors, top 3, mn USD	0.0	38 ○	◇
2.3.4	QS university ranking, top 3*	0.0	72 ○	◇
Infrastructure		**32.6**	**99**	◇
3.1	**Information and communication technologies (ICTs)**	52.0	100	◇
3.1.1	ICT access*	80.4	85	
3.1.2	ICT use*	51.8	89	
3.1.3	Government's online service*	38.8	115 ○	◇
3.1.4	E-participation*	36.9	114 ○	◇
3.2	**General infrastructure**	19.9	110	
3.2.1	Electricity output, GWh/mn pop.	1,501.7	91	
3.2.2	Logistics performance*	21.9	104	◇
3.2.3	Gross capital formation, % GDP	22.8	70	
3.3	**Ecological sustainability**	26.0	63	
3.3.1	GDP/unit of energy use	8.7	84	
3.3.2	Environmental performance*	45.6	56	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	1.8	56	
Market sophistication		**19.9**	**110**	◇
4.1	**Credit**	25.0	72	
4.1.1	Finance for startups and scaleups*	29.9	60	
4.1.2	Domestic credit to private sector, % GDP	56.3	61	
4.1.3	Loans from microfinance institutions, % GDP	n/a	n/a	
4.2	**Investment**	11.7	50	
4.2.1	Market capitalization, % GDP	87.0	20 ●	
4.2.2	Venture capital investors, deals/bn PPP$ GDP	0.0	59	
4.2.3	Venture capital recipients, deals/bn PPP$ GDP	0.0	46	
4.2.4	Venture capital received, value, % GDP	0.0	101 ○	◇
4.3	**Trade, diversification, and market scale**	23.0	122 ○	◇
4.3.1	Applied tariff rate, weighted avg., %	8.4	107	◇
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	29.6	124 ○	

		Score/ Value	Rank	
Business sophistication		**26.9**	**67**	
5.1	**Knowledge workers**	22.5	[87]	
5.1.1	Knowledge-intensive employment, %	21.6	71	
5.1.2	Firms offering formal training, %	n/a	n/a	
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, %	4.1	96	◇
5.2	**Innovation linkages**	28.5	44 ●	◆
5.2.1	University-industry R&D collaboration†	44.8	61	
5.2.2	State of cluster development and depth†	46.5	73	
5.2.3	GERD financed by abroad, % GDP	n/a	n/a	
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.1	24 ●	◆
5.2.5	Patent families/bn PPP$ GDP	0.0	101 ○	◇
5.3	**Knowledge absorption**	29.9	65	
5.3.1	Intellectual property payments, % total trade	0.9	48	
5.3.2	High-tech imports, % total trade	5.9	108	
5.3.3	ICT services imports, % total trade	1.8	48	
5.3.4	FDI net inflows, % GDP	3.7	28 ●	
5.3.5	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**14.1**	**89**	
6.1	**Knowledge creation**	5.8	[101]	
6.1.1	Patents by origin/bn PPP$ GDP	0.4	82	
6.1.2	PCT patents by origin/bn PPP$ GDP	n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific and technical articles/bn PPP$ GDP	7.7	102	
6.1.5	Citable documents H-index	4.3	103	
6.2	**Knowledge impact**	20.4	92	
6.2.1	Labor productivity growth, %	−1.6	110 ○	◇
6.2.2	New businesses/th pop. 15–64	2.0	61	
6.2.3	Software spending, % GDP	0.4	23 ●	◆
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	1.3	99	
6.2.5	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	16.0	86	
6.3.1	Intellectual property receipts, % total trade	0.1	59	
6.3.2	Production and export complexity	35.9	72	
6.3.3	High-tech exports, % total trade	0.2	109	◇
6.3.4	ICT services exports, % total trade	2.8	49	
Creative outputs		**30.9**	**34 ●**	◆
7.1	**Intangible assets**	60.2	11 ●	◆
7.1.1	Intangible asset intensity, top 15, %	57.9	44	
7.1.2	Trademarks by origin/bn PPP$ GDP	111.2	9 ●	◆
7.1.3	Global brand value, top 5,000, % GDP	96.8	21 ●	◆
7.1.4	Industrial designs by origin/bn PPP$ GDP	7.7	14 ●	◆
7.2	**Creative goods and services**	2.0	[115]	
7.2.1	Cultural and creative services exports, % total trade	0.1	90	
7.2.2	National feature films/mn pop. 15–69	0.5	70 ○	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Printing and other media, % manufacturing	n/a	n/a	
7.2.5	Creative goods exports, % total trade	0.2	76	
7.3	**Online creativity**	1.2	97	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	1.9	79	
7.3.2	Country-code TLDs/th pop. 15–69	1.0	86	
7.3.3	GitHub commit pushes received/mn pop. 15–69	2.0	86	
7.3.4	Mobile app creation/bn PPP$ GDP	0.1	101 ○	

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 Jamaica.

Missing data for Jamaica

Code	Indicator name	Economy year	Model year	Source
2.1.3	School life expectancy, years	n/a	2019	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
2.2.2	Graduates in science and engineering, %	n/a	2020	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	n/a	2019	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	n/a	2020	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	n/a	2020	UNESCO Institute for Statistics
4.1.3	Loans from microfinance institutions, % GDP	n/a	2020	International Monetary Fund, Financial Access Survey (FAS)
4.3.2	Domestic industry diversification	n/a	2019	United Nations Industrial Development Organization
5.1.2	Firms offering formal training, %	n/a	2019	World Bank Enterprise Surveys
5.1.3	GERD performed by business, % GDP	n/a	2020	UNESCO Institute for Statistics
5.1.4	GERD financed by business, %	n/a	2019	UNESCO Institute for Statistics
5.2.3	GERD financed by abroad, % GDP	n/a	2019	UNESCO Institute for Statistics
5.3.5	Research talent, % in businesses	n/a	2020	UNESCO Institute for Statistics
6.1.2	PCT patents by origin/bn PPP$ GDP	n/a	2021	World Intellectual Property Organization
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2020	World Intellectual Property Organization
6.2.5	High-tech manufacturing, %	n/a	2019	United Nations Industrial Development Organization
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2021	PwC, GEMO
7.2.4	Printing and other media, % manufacturing	n/a	2019	United Nations Industrial Development Organization

Outdated data for Jamaica

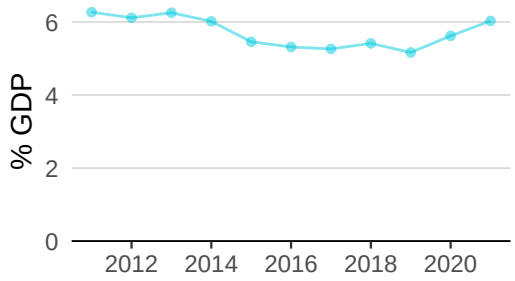
Code	Indicator name	Economy year	Model year	Source
1.3.1	Policies for doing business	2019	2021	World Economic Forum, Executive Opinion Survey (EOS)
2.2.1	Tertiary enrolment, % gross	2015	2019	UNESCO Institute for Statistics
3.2.1	Electricity output, GWh/mn pop.	2019	2020	International Energy Agency
4.2.2	Venture capital investors, deals/bn PPP$ GDP	2019	2021	Refinitiv

Code	Indicator name	Economy year	Model year	Source
4.2.3	Venture capital recipients, deals/bn PPP$ GDP	2019	2021	Refinitiv
4.2.4	Venture capital received, value, % GDP	2019	2021	Refinitiv
5.1.1	Knowledge-intensive employment, %	2017	2021	International Labour Organization
5.1.5	Females employed w/advanced degrees, %	2020	2021	International Labour Organization
5.2.1	University-industry R&D collaboration	2019	2021	World Economic Forum, Executive Opinion Survey (EOS)
5.2.2	State of cluster development and depth	2019	2021	World Economic Forum, Executive Opinion Survey (EOS)
7.2.2	National feature films/mn pop. 15–69	2015	2019	OMDIA

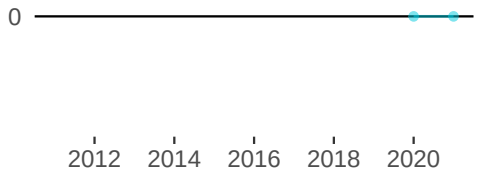
JAMAICA'S INNOVATION SYSTEM

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

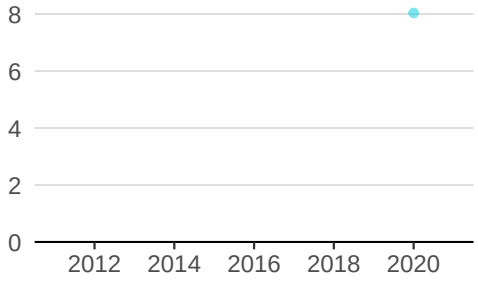
Innovation inputs



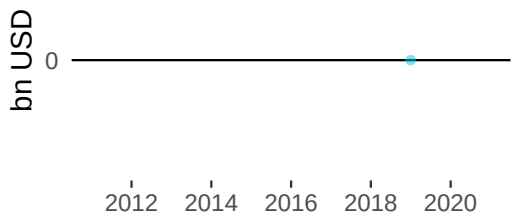
2.1.1 Expenditure on education was equal to 6.0% GDP in 2021–up by 7 percentage points from the year prior–and equivalent to an indicator rank of 22.



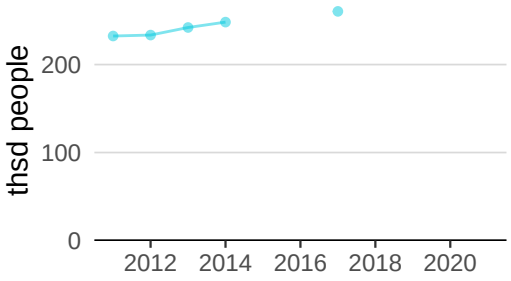
2.3.4 QS university ranking was equal to 0.0 in 2021–effectively unchanged from the year prior–and equivalent to an indicator rank of 72.



3.1.1 ICT access was equal to 8.0 in 2020 and equivalent to an indicator rank of 85.

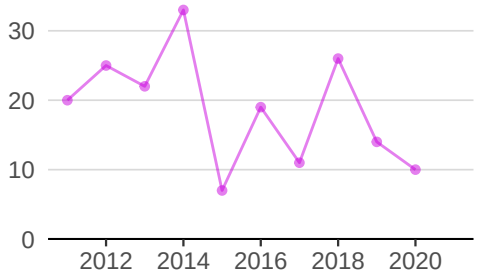


4.2.4 Venture capital received was equal to 0.0 bn USD in 2019 and equivalent to an indicator rank of 101.

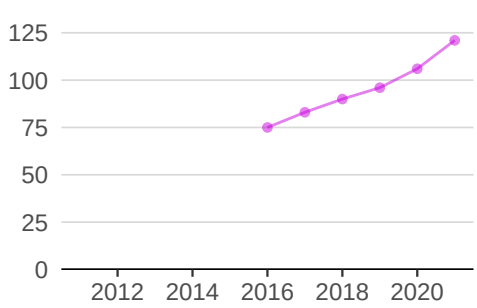


5.1.1 Knowledge-intensive employment was equal to 260.5 thsd people in 2017 and equivalent to an indicator rank of 71.

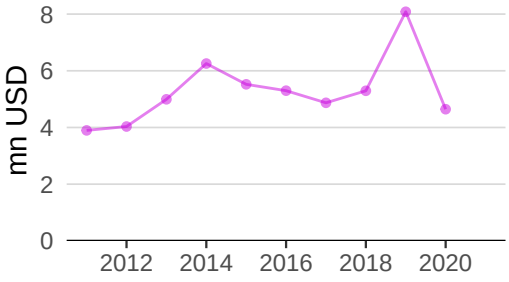
Innovation outputs



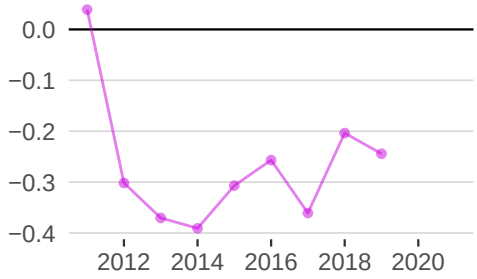
6.1.1 Patents by origin was equal to 10.0 in 2020–down by 29 percentage points from the year prior–and equivalent to an indicator rank of 82.



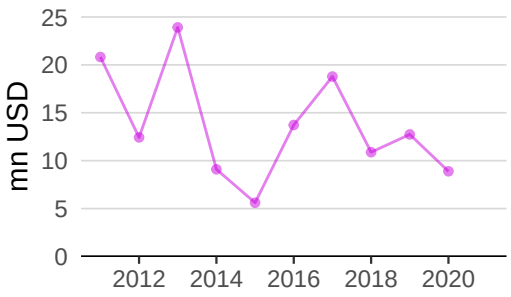
6.1.5 Citable documents H-index was equal to 121.0 in 2021–up by 14 percentage points from the year prior–and equivalent to an indicator rank of 103.



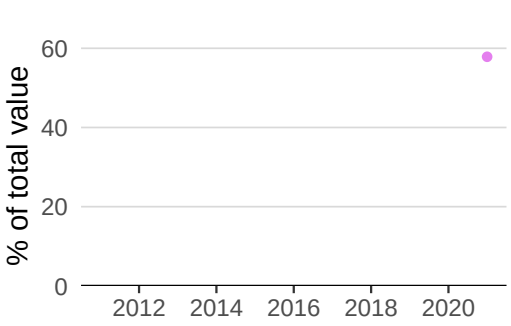
6.3.1 Intellectual property receipts was equal to 4.6 mn USD in 2020–down by 43 percentage points from the year prior–and equivalent to an indicator rank of 59.



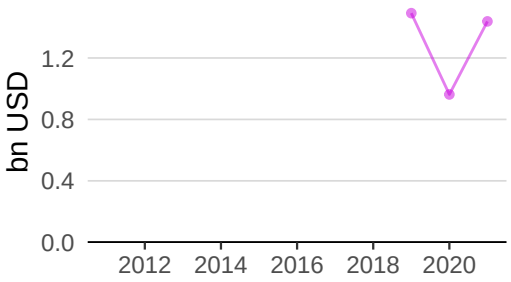
6.3.2 Production and export complexity was equal to -0.2 in 2019–down by 20 percentage points from the year prior–and equivalent to an indicator rank of 72.



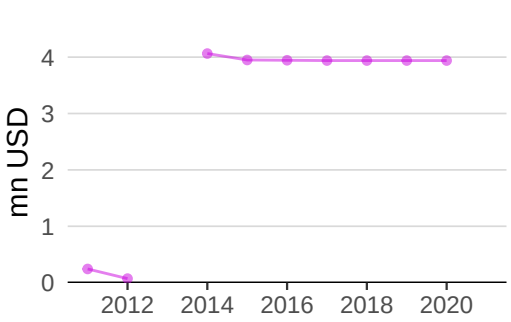
6.3.3 High-tech exports was equal to 8.9 mn USD in 2020–down by 30 percentage points from the year prior–and equivalent to an indicator rank of 109.



7.1.1 Intangible asset intensity was equal to 57.9% of total value in 2021 and equivalent to an indicator rank of 44.



7.1.3 Global brand value was equal to 1.4 bn USD in 2021–up by 49 percentage points from the year prior–and equivalent to an indicator rank of 21.



7.2.1 Cultural and creative services exports was equal to 3.9 mn USD in 2020–effectively unchanged from the year prior–and equivalent to an indicator rank of 90.

JAMAICA'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

No observations

Source: QS Quacquarelli Symonds Ltd (https://www.topuniversities.com/university-rankings/world-university-rankings/2022).

7.1.1 Intangible asset intensity, top 15

Firm	Rank
NCB FINANCIAL GROUP	1
SAGICOR GROUP JAMAICA	2
BARITA INVESTMENTS	3

Source: Brand Finance (https://brandirectory.com/reports/gift-2021).
Note: Brand Finance only provides within economy ranks.

7.1.3 Global brand value, top 5,000

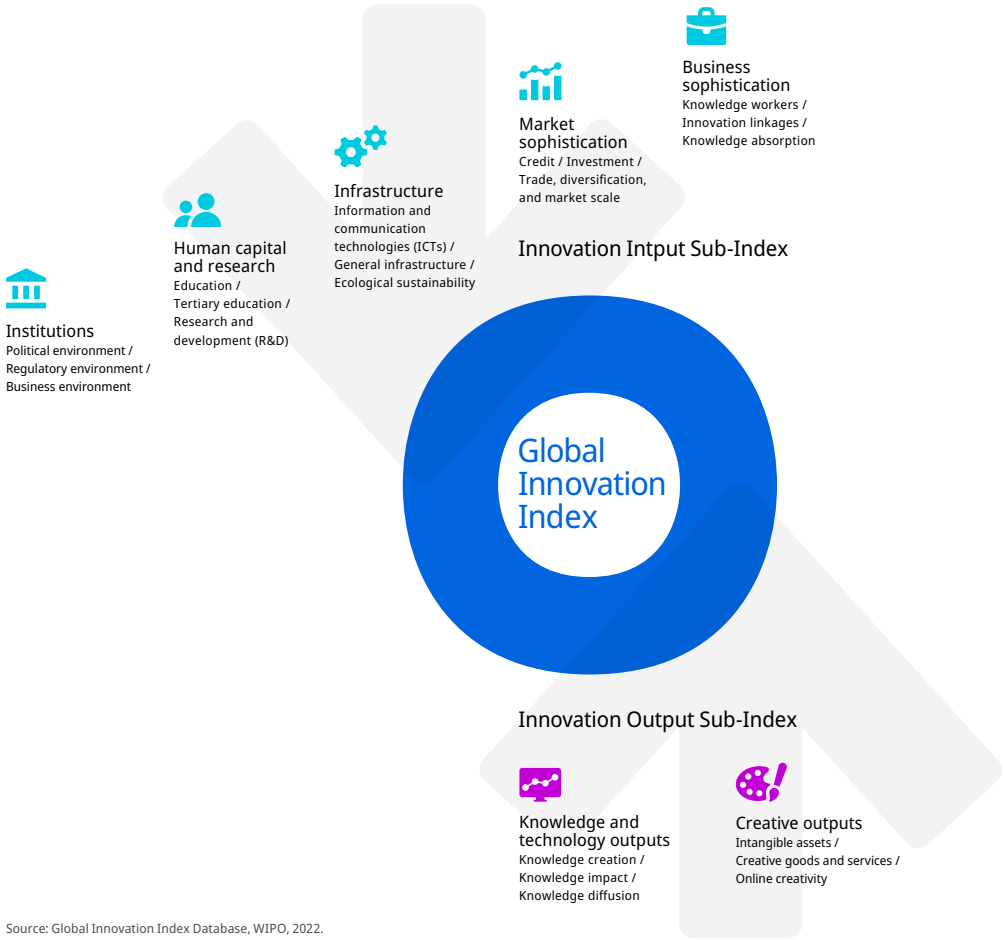
Brand	Industry	Rank
CAPTAIN MORGAN	Spirits	1
DIGICEL	Telecoms	2

Source: Brand Finance (https://brandirectory.com).
Note: Rank corresponds to within economy ranks.

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.