

GLOBAL INNOVATION INDEX 2018

Jamaica

81st Jamaica is ranked 81st in the GII 2018, moving up 3 positions from the previous year.

The GII indicators are grouped into innovation inputs and outputs. The following table reflects Jamaica's rankings over time¹.

	GII	Input	Output	Efficiency
2018	81	83	76	80
2017	84	84	84	86
2016	89	83	99	104

- Over the last three years, Jamaica demonstrates stable performance in innovation inputs, ranking 83rd-84th.
- It improves in innovation outputs, moving up 8 positions from 2017 and 23 from 2016. This year it reaches the 76th spot.
- The country also advances in the Innovation Efficiency Ratio (80th), gaining 6 positions from last year and 24 from 2016. This shows that Jamaica is becoming increasingly efficient in translating its innovation inputs into outputs. Such improvement in innovation efficiency is partly driven by the improved rank in innovation outputs (76th), which is higher than the rank in inputs (83rd).

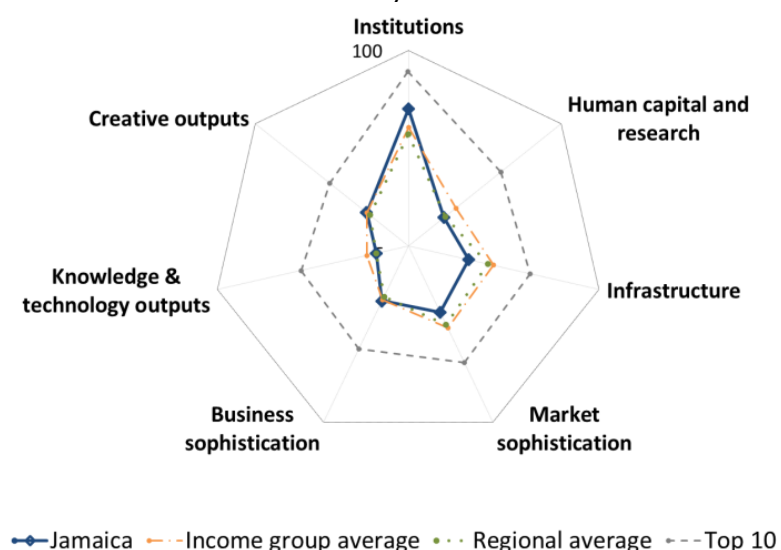
23rd Jamaica is ranked 23rd among the 34 upper-middle-income countries in the GII 2018.

10th Jamaica is ranked 10th among the 18 countries in Latin America and the Caribbean.

¹ Note that year-on-year comparisons of the GII ranks are imperfect and influenced by changes in the GII model and data availability.

Benchmarking Jamaica to other upper-middle-income countries and the Latin America and the Caribbean region

Jamaica's scores by area



Upper-middle-income countries

Jamaica has high scores in 2 of the 7 GII areas – **Institutions** and **Business Sophistication**, in which it scores above the average of the upper-middle-income group.

Top scores in the areas *Business environment* and *Innovation linkages* are behind these high rankings.

Latin America and the Caribbean region

Compared to other countries in the Latin America and the Caribbean region, Jamaica performs above-average in 3 GII areas: **Institutions**, **Business Sophistication**, and **Creative Outputs**.

Jamaica's innovation profile

Strengths

- Jamaica's strengths are spread across 6 of the 7 GII areas.
- **Institutions** (41st), the top-ranked GII area for the country, is highlighted as a GII strength. Here Jamaica performs strongly in the area *Business environment* (23rd) and both its indicators, *Ease of resolving insolvency* (32nd) and *Ease of starting a business*, which ranks 5th in the world.
- Two additional strengths are exhibited in **Human Capital & Research** (88th) in the indicators *Expenditure on education* (35th) and *Government funding per pupil* (17th).
- In **Market Sophistication** (109th), Jamaica demonstrates strong performance in the indicator *Ease of getting credit* (18th).
- *ICT services imports* (42nd) and *FDI inflows* (24th) are strong indicators within **Business Sophistication** (60th).
- On the **innovation output** side, most comparative strengths for Jamaica are exhibited in **Creative Outputs** (67th), where the area *Intangible assets* (27th) and two of its four indicators *Trademarks by origin* (10th) and *Industrial designs by origin* (20th) are marked as strengths.
- Jamaica performs strongly also in the indicator *Computer software spending* (24th) within **Knowledge & Technology Outputs** (91st).

Weaknesses

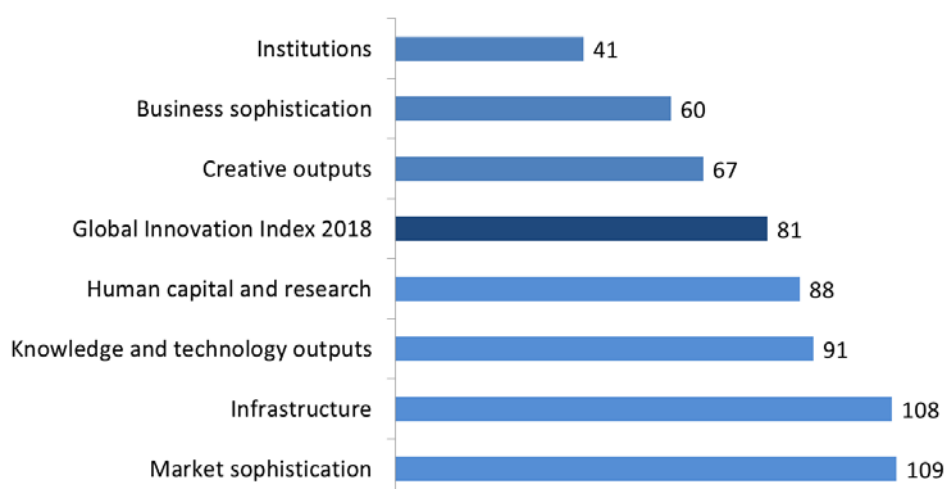
- Most Jamaica's relative weaknesses are found in the innovation input side of the GII, and in particular among four of the five areas.
- **Market Sophistication** (109th), the lowest-ranked GII area for Jamaica, is the main weakness for the country. The component *Trade, competition & market scale* (120th) and two of its three indicators, *Applied tariff rate* (119th) and *Domestic market scale* (116th), are signaled as relative weaknesses.
- Weak performance is also shown in **Human Capital & Research** (88th) in the component *Research & development - R&D* (117th) and both its available indicators, *Global R&D companies expenditures* (40th) and *Quality of universities* (78th).
- Jamaica exhibits weaknesses in **Infrastructure** (108th) in the area *General infrastructure* (114th) and the indicators *E-participation* (110th) and *Logistics performance* (111th).
- In **Business Sophistication** (60th), Jamaica performs relatively weakly in one indicator, *High-tech imports* (109th).
- On the **innovation output** side, Jamaica shows weakness in both the output areas of the GII.
- The indicators *Productivity growth* (100th) and *High-tech exports* (119th) present relative weaknesses in **Knowledge & Technology Outputs** (91st).
- In **Creative Outputs** (67th), the indicator *Creative goods exports* (107th) is relatively weak for Jamaica.

The following figure presents a summary of Jamaica's ranks in the 7 GII areas, as well as the overall rank in the GII 2018.

Jamaica's rank in the GII 2018 and the 7 GII areas

Rank 1 is the highest possible in each pillar

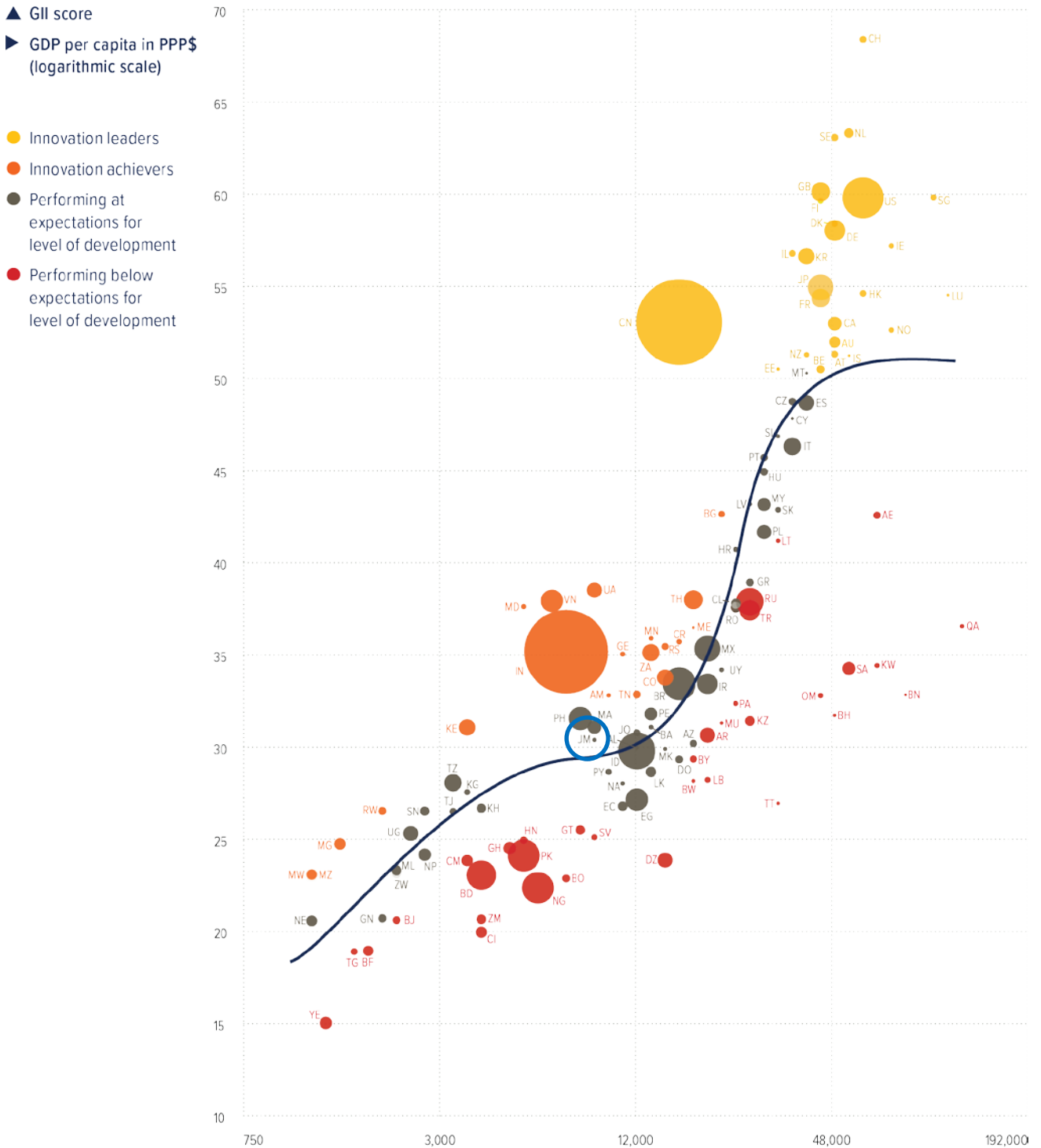
Total number of countries: 126



Expected vs. Observed Innovation Performance

The GII bubble chart shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The depicted trendline gives an indication of the expected innovation performance at different levels of income. Countries located above the trendline are performing better than what would be expected based on their income level. Countries below the line are Innovation Under-performers relative to GDP.

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



Missing and Outdated Data

More and better data improves the ability of a country to understand its strengths and weaknesses and give policymakers greater capacity to plan and adapt public policies accordingly. The GII 2018 covers 126 countries that complied with the minimum indicator coverage of 35 indicators in the Innovation Input Sub-Index (66%) and 18 indicators in the Innovation Output Sub-Index (66%).

The following tables show data for Jamaica that is not available or that is outdated.

Missing Data

Code	Indicator	Country Year	Model Year	Source
2.1.3	School life expectancy, years	n/a	2016	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths & science	n/a	2015	OECD PISA
2.2.2	Graduates in science & engineering, %	n/a	2016	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	n/a	2016	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	n/a	2016	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	n/a	2016	UNESCO Institute for Statistics
4.2.3	Venture capital deals/bn PPP\$ GDP	n/a	2017	Thomson Reuters, Thomson One Banker Private Equity, SDC Platinum
5.1.3	GERD performed by business, % GDP	n/a	2016	UNESCO Institute for Statistics
5.1.4	GERD financed by business, %	n/a	2015	UNESCO Institute for Statistics
5.1.5	Females employed w/advanced degrees, %	n/a	2016	ILO, ILOSTAT
5.2.3	GERD financed by abroad, %	n/a	2015	UNESCO Institute for Statistics
5.2.4	JV–strategic alliance deals/bn PPP\$ GDP	n/a	2017	Thomson Reuters, Thomson One Banker Private Equity, SDC Platinum
5.3.5	Research talent, % in business enterprise	n/a	2016	UNESCO Institute for Statistics
6.1.2	PCT patents by origin/bn PPP\$ GDP	n/a	2017	WIPO, Intellectual Property Statistics
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2016	WIPO, Intellectual Property Statistics
6.2.5	High- & medium-high-tech manufactures, %	n/a	2015	UNIDO, Industrial Statistics
7.2.2	National feature films/mn pop. 15–69	n/a	2015	UNESCO Institute for Statistics
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2016	PwC's Global Entertainment and Media Outlook, 2017–2021
7.2.4	Printing & other media, % manufacturing	n/a	2015	UNIDO, Industrial Statistics
7.3.4	Mobile app creation/bn PPP\$ GDP	n/a	2017	App Annie Intelligence

Outdated Data

Code	Indicator	Country Year	Model Year	Source
2.2.1	Tertiary enrolment, % gross	2015	2016	UNESCO Institute for Statistics
4.2.2	Market capitalization, % GDP	2011	2016	World Bank, World Development Indicators
5.1.1	Knowledge-intensive employment, %	2008	2016	ILO, ILOSTAT
5.1.2	Firms offering formal training, % firms	2010	2013	World Bank, Enterprise Surveys
7.3.3	Wikipedia edits/mn pop. 15–69	2014	2017	Wikimedia Foundation



Output rank	Input rank	Income	Region	Efficiency ratio	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2017 rank
76	83	Upper-middle	LCN	80	2.9	26.2	9,162.6	84

	Score/Value	Rank
Institutions	70.1	41 ●◆
1.1 Political environment	60.4	48
1.1.1 Political stability & safety*	70.3	51
1.1.2 Government effectiveness*	55.4	47
1.2 Regulatory environment	66.8	64
1.2.1 Regulatory quality*	48.3	63
1.2.2 Rule of law*	37.0	77
1.2.3 Cost of redundancy dismissal, salary weeks	14.0	52
1.3 Business environment	83.3	23
1.3.1 Ease of starting a business*	97.3	5
1.3.2 Ease of resolving insolvency*	69.3	32
Human capital & research	23.1	88
2.1 Education	47.8	62
2.1.1 Expenditure on education, % GDP	5.4	35
2.1.2 Government funding/pupil, secondary, % GDP/cap	27.2	17
2.1.3 School life expectancy, years	n/a	n/a
2.1.4 PISA scales in reading, maths & science	n/a	n/a
2.1.5 Pupil-teacher ratio, secondary	18.1	77
2.2 Tertiary education	21.6	[89]
2.2.1 Tertiary enrolment, % gross [Ⓞ]	26.9	85
2.2.2 Graduates in science & engineering, %	n/a	n/a
2.2.3 Tertiary inbound mobility, %	n/a	n/a
2.3 Research & development (R&D)	0.0	117
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 R&D companies, top 3, mn US\$	0.0	40
2.3.4 QS university ranking, average score top 3*	0.0	78
Infrastructure	31.6	108
3.1 Information & communication technologies (ICTs)	38.7	98
3.1.1 ICT access*	52.9	79
3.1.2 ICT use*	39.4	78
3.1.3 Government's online service*	35.5	103
3.1.4 E-participation*	27.1	110
3.2 General infrastructure	22.7	114
3.2.1 Electricity output, kWh/cap	1,477.4	87
3.2.2 Logistics performance*	15.6	111
3.2.3 Gross capital formation, % GDP	18.3	101
3.3 Ecological sustainability	33.2	82
3.3.1 GDP/unit of energy use	7.9	74
3.3.2 Environmental performance*	58.6	68
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP	0.6	84
Market sophistication	37.6	109
4.1 Credit	32.4	79
4.1.1 Ease of getting credit*	80.0	18
4.1.2 Domestic credit to private sector, % GDP	32.1	96
4.1.3 Microfinance gross loans, % GDP	0.3	46
4.2 Investment	41.4	60
4.2.1 Ease of protecting minority investors*	55.0	78
4.2.2 Market capitalization, % GDP [Ⓞ]	32.1	44
4.2.3 Venture capital deals/bn PPP\$ GDP	n/a	n/a
4.3 Trade, competition, & market scale	39.1	120
4.3.1 Applied tariff rate, weighted mean, %	10.8	119
4.3.2 Intensity of local competition [†]	72.1	44
4.3.3 Domestic market scale, bn PPP\$	26.2	116

	Score/Value	Rank
Business sophistication	31.3	60
5.1 Knowledge workers	30.5	[78]
5.1.1 Knowledge-intensive employment, % [Ⓞ]	20.1	74
5.1.2 Firms offering formal training, % firms [Ⓞ]	25.9	60
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, %	n/a	n/a
5.2 Innovation linkages	33.9	51
5.2.1 University/industry research collaboration [†]	42.1	57
5.2.2 State of cluster development [†]	46.1	65
5.2.3 GERD financed by abroad, %	n/a	n/a
5.2.4 JV-strategic alliance deals/bn PPP\$ GDP	n/a	n/a
5.2.5 Patent families 2+ offices/bn PPP\$ GDP	0.1	58
5.3 Knowledge absorption	29.4	68
5.3.1 Intellectual property payments, % total trade	1.0	40
5.3.2 High-tech net imports, % total trade	5.2	109
5.3.3 ICT services imports, % total trade	1.5	42
5.3.4 FDI net inflows, % GDP	5.8	24
5.3.5 Research talent, % in business enterprise	n/a	n/a
Knowledge & technology outputs	16.7	91
6.1 Knowledge creation	4.8	94
6.1.1 Patents by origin/bn PPP\$ GDP	0.8	74
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 & technical articles/bn PPP\$ GDP	2.6	105
6.1.5 Citable documents H index	4.2	100
6.2 Knowledge impact	29.8	89
6.2.1 Growth rate of PPP\$ GDP/worker, %	(1.8)	100
6.2.2 New businesses/th pop. 15-64	1.3	63
6.2.3 Computer software spending, % GDP	0.4	24
6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP	1.1	106
6.2.5 High- & medium-high-tech manufactures, %	n/a	n/a
6.3 Knowledge diffusion	15.7	89
6.3.1 Intellectual property receipts, % total trade	0.1	57
6.3.2 High-tech net exports, % total trade	0.0	119
6.3.3 ICT services exports, % total trade	2.5	46
6.3.4 FDI net outflows, % GDP	0.5	68
Creative outputs	27.3	67
7.1 Intangible assets	52.7	27
7.1.1 Trademarks by origin/bn PPP\$ GDP	108.2	10
7.1.2 Industrial designs by origin/bn PPP\$ GDP	7.0	20
7.1.3 ICTs & business model creation [†]	62.6	54
7.1.4 ICTs & organizational model creation [†]	52.3	70
7.2 Creative goods & services	2.4	[117]
7.2.1 Cultural & creative services exports, % total trade	0.1	60
7.2.2 National feature films/mn pop. 15-69	n/a	n/a
7.2.3 Entertainment & Media market/th pop. 15-69	n/a	n/a
7.2.4 Printing & other media, % manufacturing	n/a	n/a
7.2.5 Creative goods exports, % total trade	0.1	107
7.3 Online creativity	1.4	98
7.3.1 Generic top-level domains (TLDs)/th pop. 15-69	1.9	78
7.3.2 Country-code TLDs/th pop. 15-69	0.9	81
7.3.3 Wikipedia edits/mn pop. 15-69 [Ⓞ]	2.3	98
7.3.4 Mobile app creation/bn PPP\$ GDP	n/a	n/a

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question.

Ⓞ indicates that the country'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; see page 75 of this appendix for details.