

GLOBAL INNOVATION INDEX 2018

Morocco

76th Morocco is ranked 76th in the GII 2018, moving down 4 positions from the previous year.

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

Morocco's ranking over time				
	GII	Input	Output	Efficiency
2018	76	84	69	65
2017	72	79	68	71
2016	72	75	70	64

- Morocco exhibits stability in innovation outputs, ranking between 68th and 70th over the last three years.
- Morocco's position in innovation inputs, instead, deteriorates further this year, taking the 84th place and moving down 5 positions from 2017 and 9 from 2016.
- It ranks 65th in the Innovation Efficiency Ratio, improving from the 71st spot it held last year. Relative to its overall GII position (76th), Morocco proves to be efficient in translating its innovation inputs into outputs. This is partly due to a higher ranking in innovation outputs (69th) compared to inputs (84th).

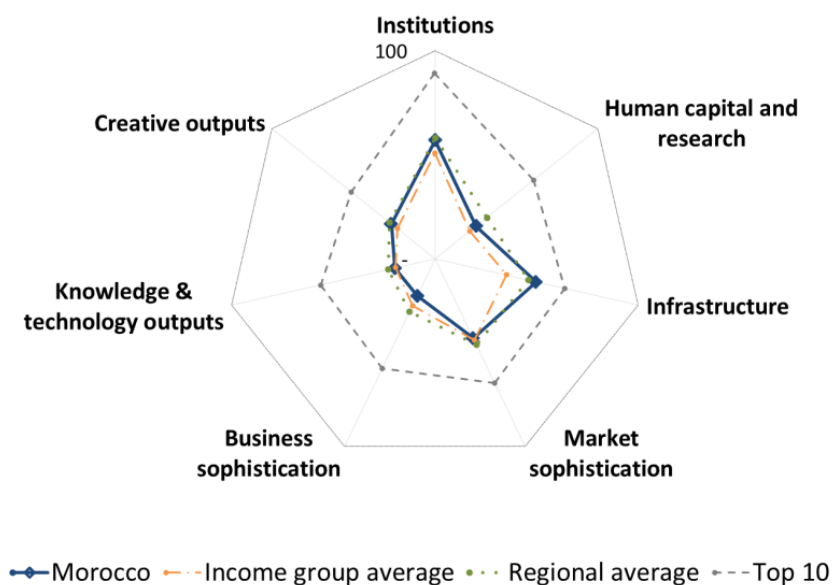
10th Morocco is ranked 10th among the 30 lower-middle-income economies in the GII 2018.

13th Morocco is ranked 13th among the 19 countries in Northern Africa and Western Asia.

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 Morocco to other lower-middle-income countries and the Northern Africa and Western Asia region

Morocco's scores by GII area



Lower-middle-income countries

Morocco has high scores in 5 of the 7 GII areas – **Institutions, Human Capital & Research, Infrastructure, Knowledge & Technology Outputs, and Creative Outputs**, in which it scores above the average of the lower-middle-income group.

Top scores in areas such as *Business environment, Education, Information & Communication Technologies (ICTs), Knowledge impact, and Intangible assets* are behind these high rankings.

Northern Africa and Western Asia region

Compared to other countries in the Northern Africa and Western Asia region, Morocco performs above-average in one GII area – Infrastructure.

Morocco's innovation profile

Strengths

- Morocco exhibits a good performance in **Infrastructure** (50th), the top-ranked GII area for the country. Here four indicators are marked as relatively strong: *Government's online service* (36th), *E-participation* (17th), *Gross capital formation* (16th), and *GDP per unit of energy use* (21st).
- In **Human Capital & Research** (84th), GII strengths lie in two indicators: *Expenditure on education* (41st) and *Government funding per pupil*, where it ranks 6th globally.
- Other GII strengths on the **innovation input** side are found in two indicators: *Ease of starting a business* (31st) within **Institutions** (75th) and *Market capitalization* (31st) within **Market Sophistication** (93rd).
- On the **innovation output** side, Morocco shows strengths in the two GII areas that capture the output side of the innovation process.
- In **Knowledge & Technology Outputs** (78th), the country performs strongly in the indicator *ICT services exports* (25th).
- The area *Intangible assets* (40th) and the indicator *Industrial designs by origin* (8th) are GII strengths for Morocco in **Creative Outputs** (70th).

Weaknesses

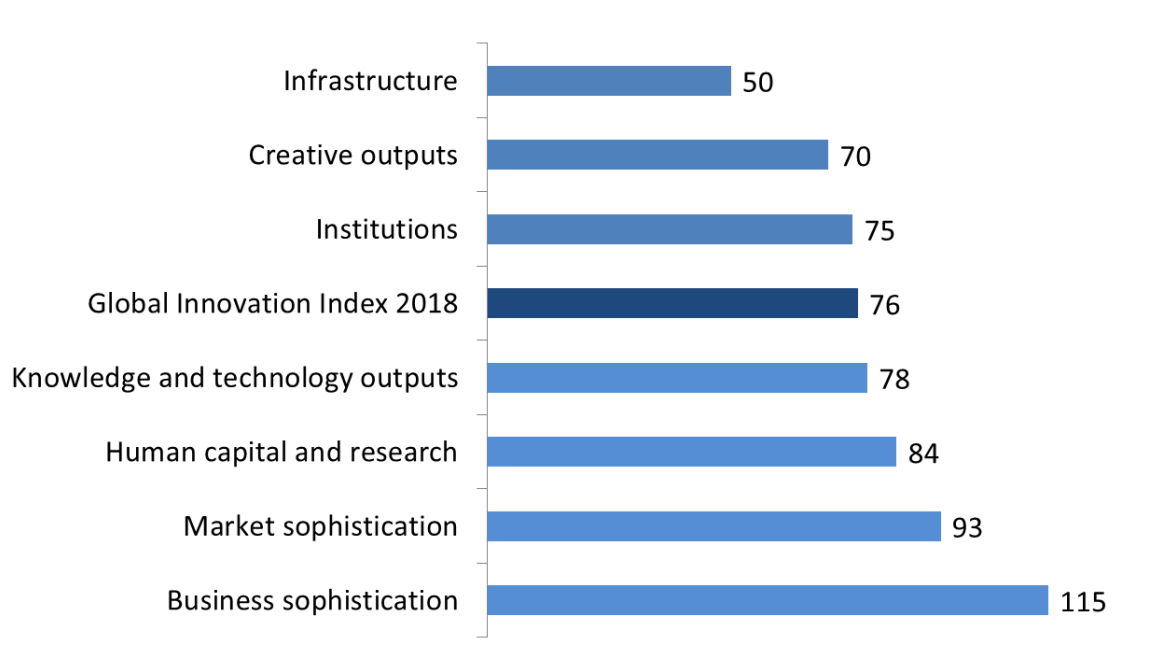
- On the **innovation input** side, most of the relative GII weaknesses are accrued in **Business Sophistication** (115th), the lowest ranked area for the country, signaled itself as a relative weakness. Here the country demonstrates weak performance in all its three components: *Knowledge workers* (104th), *Innovation linkages* (106th), and *Knowledge absorption* (106th). At the indicator level, Morocco ranks relatively weakly in *Knowledge-intensive employment* (104th), *R&D financed by abroad* (81st), *Patent families in 2 or more offices* (97th), and *Research talent in business enterprise* (68th).
- On the **innovation output** side, instead, Morocco shows most of its weaknesses in **Creative Outputs** (70th), and in particular in the area *Creative goods & services* (105th) and three of its five indicators – *National feature films* (85th), *Entertainment & Media market* (59th), and *Printing & other media* (77th).
- The other relative weaknesses for Morocco are scattered around various GII areas.
- In **Institutions** (75th), one indicator – *Ease of resolving insolvency* (110th) – is marked as a weakness.
- The indicator *Global R&D companies expenditure* (40th) is the only GII weakness in **Human Capital & Research** (84th).
- In **Knowledge & Technology Outputs** (78th), a weakness lies in the indicator *Intellectual property receipts* (87th).

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

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

Rank 1 is the highest possible in each pillar

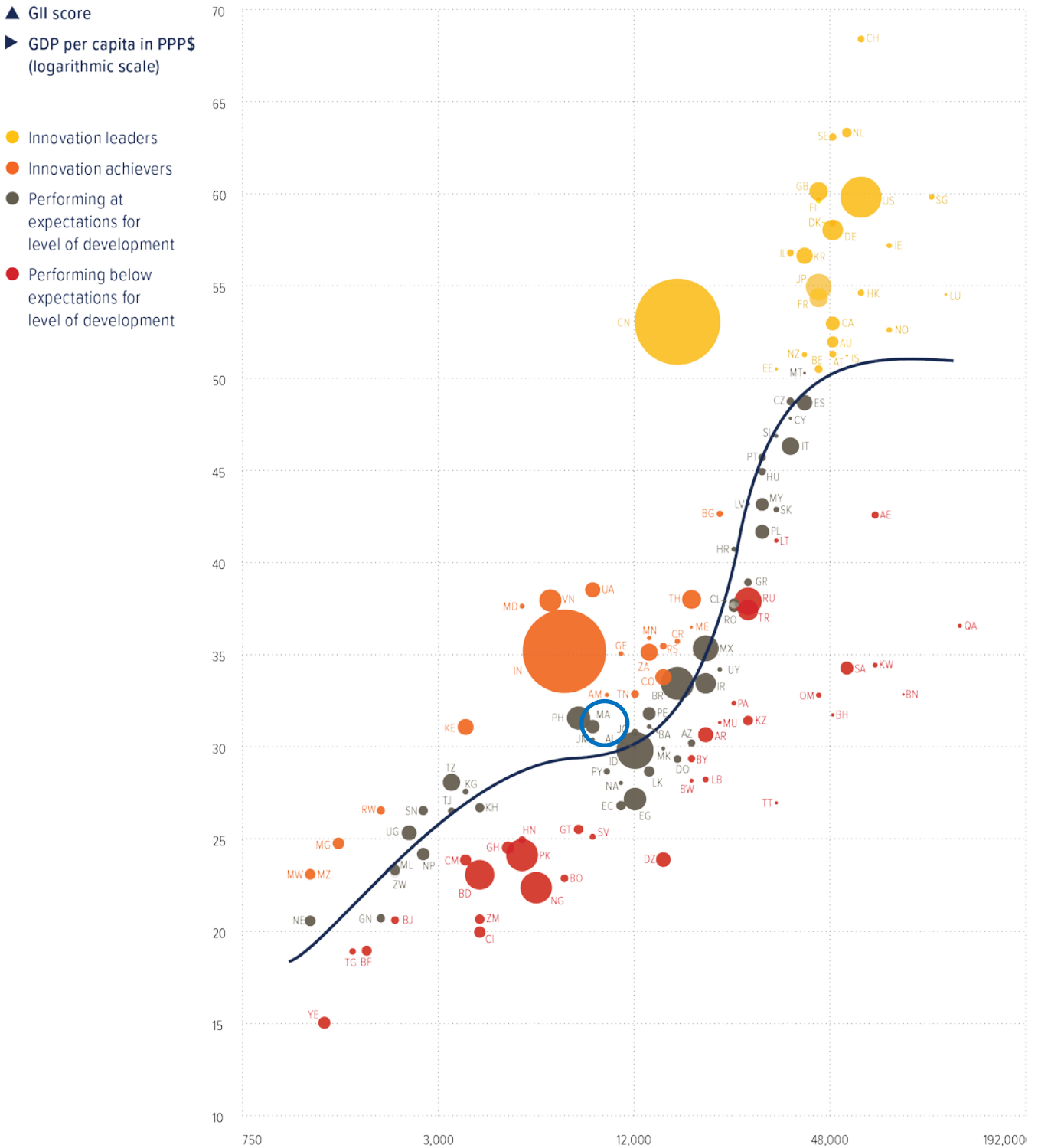
Total number of countries: 126



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, Morocco 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 Morocco that is not available or that is outdated.

Missing Data








Code	Indicator	Country Year	Model Year	Source
2.1.4	PISA scales in reading, maths & science	n/a	2015	OECD PISA
2.1.5	Pupil-teacher ratio, secondary	n/a	2016	UNESCO Institute for Statistics
5.1.5	Females employed w/advanced degrees, %	n/a	2016	ILO, ILOSTAT
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2016	WIPO, Intellectual Property Statistics

Outdated Data

Code	Indicator	Country Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2009	2014	UNESCO Institute for Statistics
2.1.2	Government funding/pupil, secondary, % GDP/cap	2012	2014	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2012	2016	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	2010	2016	UNESCO Institute for Statistics
5.1.1	Knowledge-intensive employment, %	2011	2016	ILO, ILOSTAT
5.1.3	GERD performed by business, % GDP	2010	2016	UNESCO Institute for Statistics
5.1.4	GERD financed by business, %	2010	2015	UNESCO Institute for Statistics
5.2.3	GERD financed by abroad, %	2010	2015	UNESCO Institute for Statistics
6.2.5	High- & medium-high-tech manufactures, %	2013	2015	UNIDO, Industrial Statistics
7.2.4	Printing & other media, % manufacturing	2013	2015	UNIDO, Industrial Statistics
7.2.5	Creative goods exports, % total trade	2015	2016	UN COMTRADE
7.3.3	Wikipedia edits/mn pop. 15–69	2016	2017	Wikimedia Foundation



Output rank	Input rank	Income	Region	Efficiency ratio	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2017 rank
69	84	Lower-middle	NAWA	65	35.7	300.1	8,566.8	72

	Score/Value	Rank		Score/Value	Rank			
	Institutions	57.0	75		Business sophistication	19.7	115	◇
1.1	Political environment.....	47.8	75	5.1	Knowledge workers.....	19.7	104	○
1.1.1	Political stability & safety*.....	58.0	80	5.1.1	Knowledge-intensive employment, % [Ⓔ]	6.9	104	○◇
1.1.2	Government effectiveness*.....	42.7	75	5.1.2	Firms offering formal training, % firms.....	26.3	59	
1.2	Regulatory environment.....	59.8	79	5.1.3	GERD performed by business, % GDP [Ⓔ]	0.2	51	◆
1.2.1	Regulatory quality*.....	38.1	86	5.1.4	GERD financed by business, % [Ⓔ]	29.9	54	
1.2.2	Rule of law*.....	40.0	70	5.1.5	Females employed w/advanced degrees, %.....	n/a	n/a	
1.2.3	Cost of redundancy dismissal, salary weeks.....	20.7	80	5.2	Innovation linkages.....	20.1	106	○
1.3	Business environment.....	63.2	86	5.2.1	University/industry research collaboration [†]	33.4	96	
1.3.1	Ease of starting a business*.....	92.5	31	5.2.2	State of cluster development [†]	46.9	57	
1.3.2	Ease of resolving insolvency*.....	34.0	110	5.2.3	GERD financed by abroad, % [Ⓔ]	1.7	81	○
				5.2.4	JV–strategic alliance deals/bn PPP\$ GDP.....	0.0	76	
				5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....	0.0	97	○
	Human capital & research	25.1	84	5.3	Knowledge absorption.....	19.3	106	○
2.1	Education.....	46.2	68	5.3.1	Intellectual property payments, % total trade.....	0.3	79	
2.1.1	Expenditure on education, % GDP [Ⓔ]	5.3	41	5.3.2	High-tech net imports, % total trade.....	7.8	66	
2.1.2	Government funding/pupil, secondary, % GDP/cap [Ⓔ]	36.5	6	5.3.3	ICT services imports, % total trade.....	0.6	95	
2.1.3	School life expectancy, years [Ⓔ]	11.8	89	5.3.4	FDI net inflows, % GDP.....	2.9	56	
2.1.4	PISA scales in reading, maths & science.....	n/a	n/a	5.3.5	Research talent, % in business enterprise.....	7.0	68	○
2.1.5	Pupil-teacher ratio, secondary.....	n/a	n/a					
2.2	Tertiary education.....	21.0	92		Knowledge & technology outputs	19.9	78	
2.2.1	Tertiary enrolment, % gross.....	32.0	77	6.1	Knowledge creation.....	7.7	79	
2.2.2	Graduates in science & engineering, %.....	18.4	67	6.1.1	Patents by origin/bn PPP\$ GDP.....	0.8	70	
2.2.3	Tertiary inbound mobility, %.....	1.7	76	6.1.2	PCT patents by origin/bn PPP\$ GDP.....	0.2	55	
2.3	Research & development (R&D).....	8.2	64	6.1.3	Utility models by origin/bn PPP\$ GDP.....	n/a	n/a	
2.3.1	Researchers, FTE/mn pop.....	1,069.0	48	6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	5.6	72	
2.3.2	Gross expenditure on R&D, % GDP [Ⓔ]	0.7	47	6.1.5	Citable documents H index.....	9.9	65	
2.3.3	Global R&D companies, top 3, mn US\$.....	0.0	40	6.2	Knowledge impact.....	33.4	77	
2.3.4	QS university ranking, average score top 3*.....	3.6	74	6.2.1	Growth rate of PPP\$ GDP/worker, %.....	(0.1)	82	
				6.2.2	New businesses/th pop. 15–64.....	1.7	59	
				6.2.3	Computer software spending, % GDP.....	0.2	60	
	Infrastructure	49.5	50	6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	5.4	60	◆
3.1	Information & communication technologies (ICTs).....	63.6	53	6.2.5	High- & medium-high-tech manufactures, % [Ⓔ]	0.3	38	◆
3.1.1	ICT access*.....	60.6	70	6.3	Knowledge diffusion.....	18.6	71	
3.1.2	ICT use*.....	36.8	84	6.3.1	Intellectual property receipts, % total trade.....	0.0	87	○
3.1.3	Government's online service*.....	73.9	36	6.3.2	High-tech net exports, % total trade.....	1.6	59	
3.1.4	E-participation*.....	83.1	17	6.3.3	ICT services exports, % total trade.....	3.7	25	●
3.2	General infrastructure.....	41.6	50	6.3.4	FDI net outflows, % GDP.....	0.6	65	
3.2.1	Electricity output, kWh/cap.....	896.5	96		Creative outputs	27.1	70	
3.2.2	Logistics performance*.....	27.9	85	7.1	Intangible assets.....	49.5	40	◆◆
3.2.3	Gross capital formation, % GDP.....	33.2	16	7.1.1	Trademarks by origin/bn PPP\$ GDP.....	53.9	42	
3.3	Ecological sustainability.....	43.3	46	7.1.2	Industrial designs by origin/bn PPP\$ GDP.....	14.4	8	◆◆
3.3.1	GDP/unit of energy use.....	13.0	21	7.1.3	ICTs & business model creation [†]	61.4	56	
3.3.2	Environmental performance*.....	63.5	49	7.1.4	ICTs & organizational model creation [†]	50.2	76	
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....	0.6	83	7.2	Creative goods & services.....	7.4	105	○
	Market sophistication	42.2	93	7.2.1	Cultural & creative services exports, % total trade.....	0.1	51	
4.1	Credit.....	26.3	101	7.2.2	National feature films/mn pop. 15–69.....	0.8	85	○
4.1.1	Ease of getting credit*.....	45.0	88	7.2.3	Entertainment & Media market/th pop. 15–69.....	0.8	59	○
4.1.2	Domestic credit to private sector, % GDP.....	64.0	52	7.2.4	Printing & other media, % manufacturing [Ⓔ]	0.7	77	○
4.1.3	Microfinance gross loans, % GDP.....	0.5	37	7.2.5	Creative goods exports, % total trade [Ⓔ]	0.2	81	
4.2	Investment.....	35.7	90	7.3	Online creativity.....	2.1	88	
4.2.1	Ease of protecting minority investors*.....	58.3	61	7.3.1	Generic top-level domains (TLDs)/th pop. 15–69.....	1.5	85	
4.2.2	Market capitalization, % GDP.....	49.6	31	7.3.2	Country-code TLDs/th pop. 15–69.....	0.8	84	
4.2.3	Venture capital deals/bn PPP\$ GDP.....	0.0	49	7.3.3	Wikipedia edits/mn pop. 15–69 [Ⓔ]	5.2	81	
4.3	Trade, competition, & market scale.....	64.5	52	7.3.4	Mobile app creation/bn PPP\$ GDP.....	2.7	71	
4.3.1	Applied tariff rate, weighted mean, %.....	3.8	75					
4.3.2	Intensity of local competition [†]	70.1	61					
4.3.3	Domestic market scale, bn PPP\$.....	300.1	53					

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.