GLOBAL INNOVATION INDEX 2020

MOROCCO

75th Morocco ranks 75th among the 131 economies featured in the GII 2020.

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 Morocco 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 Morocco in the GII 2020 is between ranks 66 and 76.

Rankings of Morocco (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	75	85	69
2019	74	83	66
2018	76	84	69

- Morocco performs better in innovation outputs than innovation inputs in 2020.
- This year Morocco ranks 85th in innovation inputs, lower than last year and lower compared to 2018.
- As for innovation outputs, Morocco ranks 69th. This position is lower than last year and the same compared to 2018.

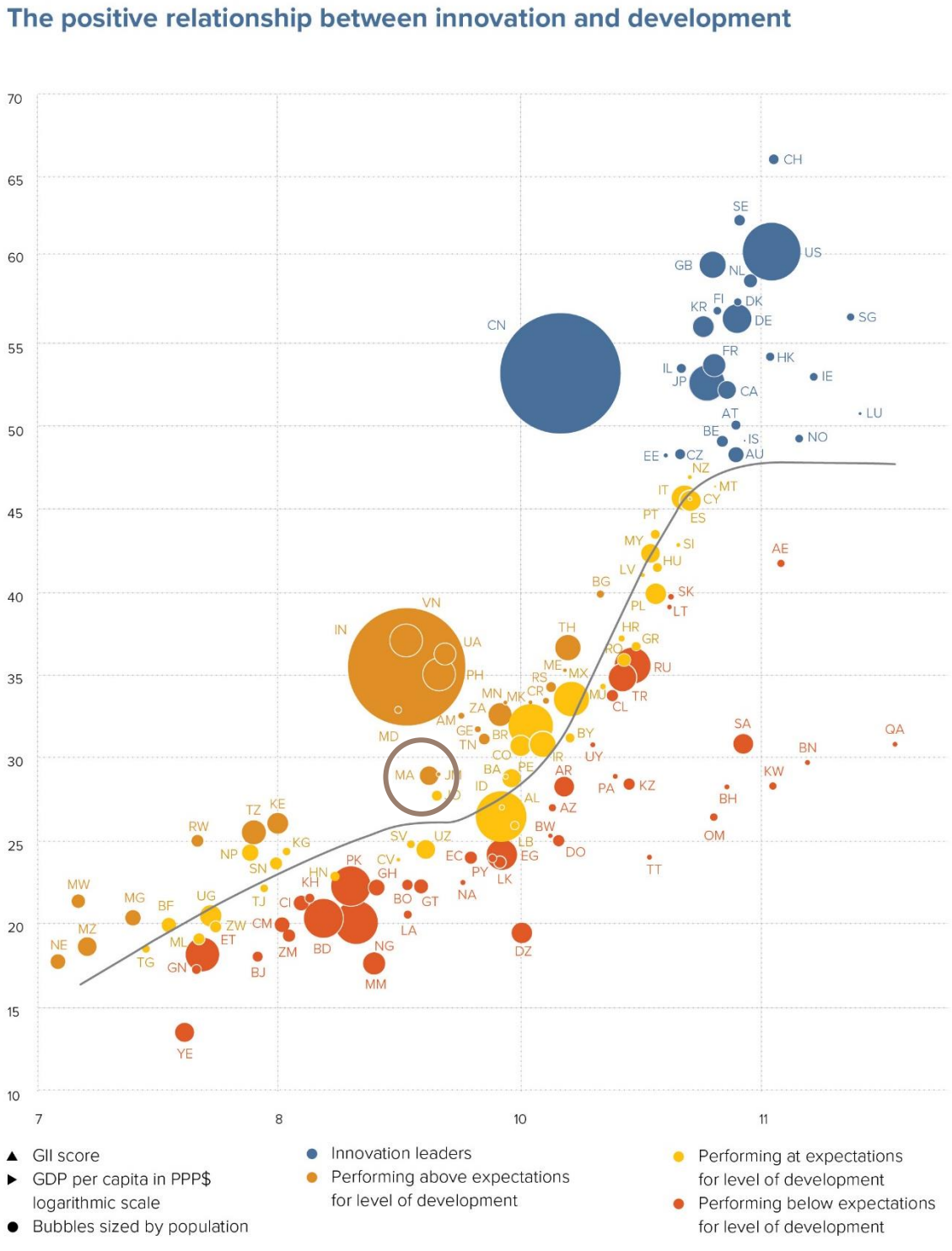
8th Morocco ranks 8th among the 29 lower middle-income group economies.

10th Morocco ranks 10th among the 19 economies in Northern Africa and Western Asia.

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

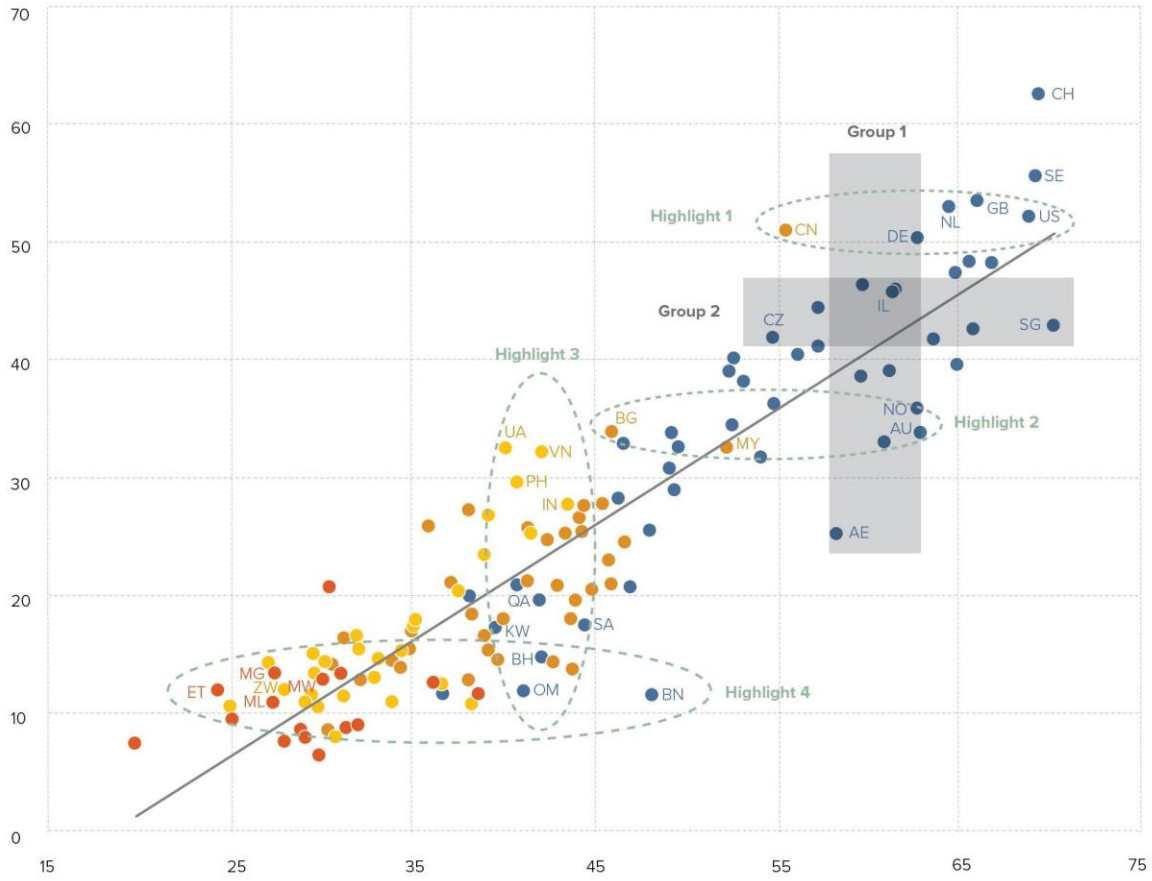


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

Innovation input to output performance, 2020



▲ Output score
► Input score

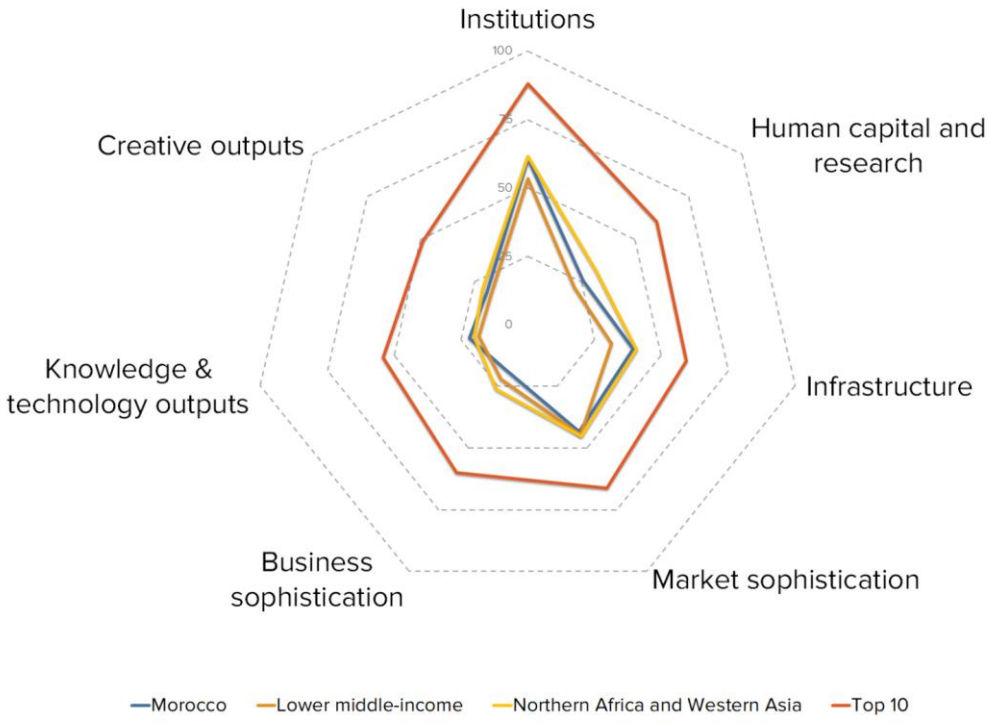
● High income group
● Upper middle-income group
● Lower middle-income group
● Low income group

— Fitted values

AU	Australia	IN	India	NL	Netherlands	CH	Switzerland
BH	Bahrain	IL	Israel	NO	Norway	UA	Ukraine
BN	Brunei Darussalam	KW	Kuwait	OM	Oman	AE	United Arab Emirates
BG	Bulgaria	MG	Madagascar	PH	Philippines	GB	United Kingdom
CN	China	MW	Malawi	QA	Qatar	US	United States of America
CZ	Czech Republic	ML	Mali	SA	Saudi Arabia	VN	Viet Nam
ET	Ethiopia	MY	Malaysia	SG	Singapore	ZW	Zimbabwe
DE	Germany			SE	Sweden		

BENCHMARKING MOROCCO AGAINST OTHER LOWER MIDDLE-INCOME GROUP ECONOMIES AND NORTHERN AFRICA AND WESTERN ASIA

Morocco's scores in the seven GII pillars



Lower middle-income group economies

Morocco has high scores in five out of the seven GII pillars: Institutions, Human capital & research, Infrastructure, Knowledge & technology outputs and Creative outputs, which are above average for the lower middle-income group.

Conversely, Morocco scores below average for its income group in two GII pillars: Market sophistication and Business sophistication.

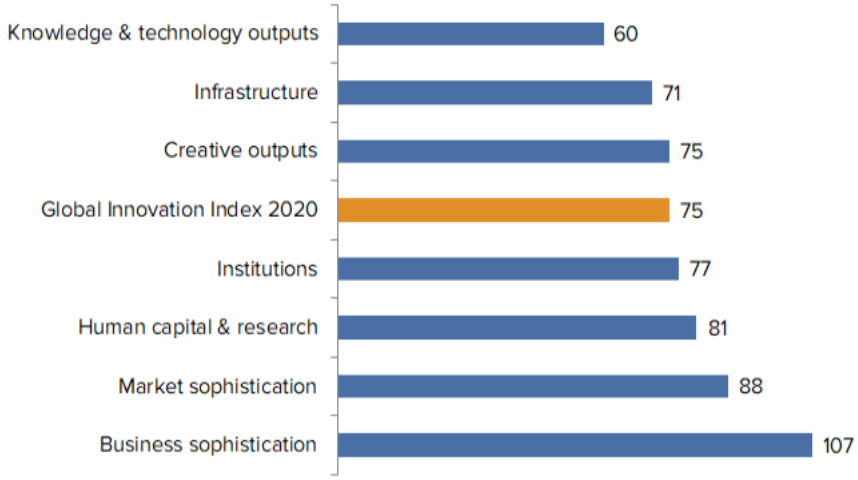
Northern Africa and Western Asia

Compared to other economies in Northern Africa and Western Asia, Morocco performs:

- above average in one out of the seven GII pillars: Knowledge & technology outputs; and
- below average in six out of the seven GII pillars: Institutions, Human capital & research, Infrastructure, Market sophistication, Business sophistication and Creative outputs.

OVERVIEW OF MOROCCO RANKINGS IN THE SEVEN GII AREAS

Morocco performs best in Knowledge & technology outputs and its weakest performance is in Business sophistication.



*The highest possible ranking in each pillar is 1.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Morocco in the GII 2020.

Strengths

Code	Indicator name	Rank
1.3.1	Ease of starting a business*	41
2.1.1	Expenditure on education, % GDP	34
2.1.2	Government funding/pupil, secondary, % GDP/cap	5
3.2.3	Gross capital formation, % GDP	19
3.3.1	GDP/unit of energy use	24
4.1.2	Domestic credit to private sector, % GDP	33
4.2.1	Ease of protecting minority investors*	36
6.2.5	High- and medium-high-tech manufacturing, %	29
6.3.3	ICT services exports, % total trade	24
7.1.3	Industrial designs by origin/bn PPP$ GDP	10

Weaknesses

Code	Indicator name	Rank
2.1.4	PISA scales in reading, maths, & science	75
2.3.3	Global R&D companies, top 3, mn US$	42
2.3.4	QS university ranking, average score top 3*	77
3.2.2	Logistics performance*	103
4.1.1	Ease of getting credit*	101
4.2.3	Venture capital deals/bn PPP$ GDP	81
5.1.1	Knowledge-intensive employment, %	110
5.2	Innovation linkages	117
5.2.1	University/industry research collaboration†	113
5.2.4	JV–strategic alliance deals/bn PPP$ GDP	105
5.3	Knowledge absorption	110
7.2.3	Entertainment & Media market/th pop. 15–69	58

STRENGTHS

GII strengths for Morocco are found in six of the seven GII pillars.

- Institutions (77): exhibits strengths in the indicator Ease of starting a business (41).
- Human capital & research (81): shows strengths in the indicators Expenditure on education (34) and Government funding/pupil (5).
- Infrastructure (71): demonstrates strengths in the indicators Gross capital formation (19) and GDP (24).
- Market sophistication (88): displays strengths in the indicators Domestic credit to private sector (33) and Ease of protecting minority investors (36).
- Knowledge & technology outputs (60): reveals strengths in the indicators High- and medium-high-tech manufacturing (29) and ICT services exports (24).
- Creative outputs (75): shows strengths in the indicator Industrial designs by origin (10).

WEAKNESSES

GII weaknesses for Morocco are found in five of the seven GII pillars.

- Human capital & research (81): exhibits weaknesses in the indicators PISA scales in reading, maths, & science (75), Global R&D companies (42) and QS university ranking (77).
- Infrastructure (71): displays weaknesses in the indicator Logistics performance (103).
- Market sophistication (88): shows weaknesses in the indicators Ease of getting credit (101) and Venture capital deals (81).
- Business sophistication (107): demonstrates weaknesses in the sub-pillars Innovation linkages (117) and Knowledge absorption (110) and in the indicators Knowledge-intensive employment (110), University/industry research collaboration (113) and JV–strategic alliance deals (105).
- Creative outputs (75): reveals weaknesses in the indicator Entertainment & Media market (58).

MOROCCO

GII 2020 rank

75

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2019 rank
69	85	Lower middle	NAWA	36.5	328.7	8,062.6	74

		Score/Value	Rank	
INSTITUTIONS		**60.8**	**77**	◆
1.1	**Political environment**	**52.3**	**86**	
1.1.1	Political and operational stability*	66.1	76	
1.1.2	Government effectiveness*	45.5	81	
1.2	**Regulatory environment**	**57.0**	**87**	
1.2.1	Regulatory quality*	35.4	91	
1.2.2	Rule of law*	43.1	69	
1.2.3	Cost of redundancy dismissal, salary weeks	20.7	87	
1.3	**Business environment**	**73.0**	**59**	◆
1.3.1	Ease of starting a business*	93.0	41	●
1.3.2	Ease of resolving insolvency*	52.9	67	
HUMAN CAPITAL & RESEARCH		**25.9**	**81**	
2.1	**Education**	**48.5**	**58**	
2.1.1	Expenditure on education, % GDP	5.3	34	●
2.1.2	Government funding/pupil, secondary, % GDP/cap	36.4	5	● ◆
2.1.3	School life expectancy, years	13.7	73	◆
2.1.4	PISA scales in reading, maths, & science	367.9	75	○
2.1.5	Pupil-teacher ratio, secondary	19.4	97	
2.2	**Tertiary education**	**22.4**	**88**	
2.2.1	Tertiary enrolment, % gross	35.9	74	
2.2.2	Graduates in science & engineering, %	19.0	76	
2.2.3	Tertiary inbound mobility, %	1.9	77	
2.3	**Research & development (R&D)**	**6.7**	**71**	
2.3.1	Researchers, FTE/mn pop.	1,073.5	51	◆
2.3.2	Gross expenditure on R&D, % GDP	0.7	50	◆
2.3.3	Global R&D companies, avg. exp. top 3, mn $US	0.0	42	○ ◇
2.3.4	QS university ranking, average score top 3*	0.0	77	○ ◇
INFRASTRUCTURE		**39.3**	**71**	◆
3.1	**Information & communication technologies (ICTs)**	**63.2**	**75**	◆
3.1.1	ICT access*	65.1	67	◆
3.1.2	ICT use*	43.7	88	
3.1.3	Government's online service*	66.7	76	
3.1.4	E-participation*	77.5	56	
3.2	**General infrastructure**	**25.5**	**73**	
3.2.1	Electricity output, kWh/mn pop	918.1	96	
3.2.2	Logistics performance*	22.0	103	○
3.2.3	Gross capital formation, % GDP	34.3	19	●
3.3	**Ecological sustainability**	**29.2**	**64**	◆
3.3.1	GDP/unit of energy use	13.0	24	● ◆
3.3.2	Environmental performance*	42.3	85	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.6	75	
MARKET SOPHISTICATION		**43.3**	**88**	
4.1	**Credit**	**33.6**	**95**	
4.1.1	Ease of getting credit*	45.0	101	○
4.1.2	Domestic credit to private sector, % GDP	84.9	33	● ◆
4.1.3	Microfinance gross loans, % GDP	0.2	47	
4.2	**Investment**	**31.8**	**90**	
4.2.1	Ease of protecting minority investors*	70.0	36	●
4.2.2	Market capitalization, % GDP	56.2	30	
4.2.3	Venture capital deals/bn PPP$ GDP	0.0	81	○ ◇
4.3	**Trade, competition, and market scale**	**64.5**	**53**	
4.3.1	Applied tariff rate, weighted avg., %	3.9	75	
4.3.2	Intensity of local competition+	67.2	73	
4.3.3	Domestic market scale, bn PPP$	328.7	54	

		Score/Value	Rank	
BUSINESS SOPHISTICATION		**18.4**	**107**	
5.1	**Knowledge workers**	**22.3**	**94**	
5.1.1	Knowledge-intensive employment, %	6.9	110	○ ◇
5.1.2	Firms offering formal training, %	35.7	39	
5.1.3	GERD performed by business, % GDP	0.2	49	◆
5.1.4	GERD financed by business, %	29.9	60	
5.1.5	Females employed w/advanced degrees, %	n/a	n/a	
5.2	**Innovation linkages**	**14.0**	**117**	○
5.2.1	University/industry research collaboration+	29.2	113	○
5.2.2	State of cluster development+	42.9	84	
5.2.3	GERD financed by abroad, % GDP	0.0	77	
5.2.4	JV-strategic alliance deals/bn PPP$ GDP	0.0	105	○
5.2.5	Patent families 2+ offices/bn PPP$ GDP	0.0	72	
5.3	**Knowledge absorption**	**18.8**	**110**	○
5.3.1	Intellectual property payments, % total trade	0.3	78	
5.3.2	High-tech imports, % total trade	7.6	65	
5.3.3	ICT services imports, % total trade	0.6	99	
5.3.4	FDI net inflows, % GDP	2.5	67	
5.3.5	Research talent, % in business enterprise	7.0	67	
KNOWLEDGE & TECHNOLOGY OUTPUTS		**21.9**	**60**	
6.1	**Knowledge creation**	**10.3**	**77**	
6.1.1	Patents by origin/bn PPP$ GDP	0.6	79	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.1	61	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific & technical articles/bn PPP$ GDP	7.5	63	
6.1.5	Citable documents H-index	11.4	66	
6.2	**Knowledge impact**	**27.7**	**51**	
6.2.1	Growth rate of PPP$ GDP/worker, %	2.3	41	
6.2.2	New businesses/th pop. 15-64	1.9	57	
6.2.3	Computer software spending, % GDP	0.0	59	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	2.9	75	
6.2.5	High- and medium-high-tech manufacturing, %	36.7	29	● ◆
6.3	**Knowledge diffusion**	**27.6**	**51**	
6.3.1	Intellectual property receipts, % total trade	0.0	84	
6.3.2	High-tech net exports, % total trade	1.7	58	
6.3.3	ICT services exports, % total trade	3.5	24	●
6.3.4	FDI net outflows, % GDP	0.7	66	
CREATIVE OUTPUTS		**19.0**	**75**	
7.1	**Intangible assets**	**31.3**	**45**	
7.1.1	Trademarks by origin/bn PPP$ GDP	46.4	55	
7.1.2	Global brand value, top 5,000, % GDP	17.5	49	
7.1.3	Industrial designs by origin/bn PPP$ GDP	12.3	10	● ◆
7.1.4	ICTs & organizational model creation+	51.3	77	
7.2	**Creative goods and services**	**5.1**	**105**	
7.2.1	Cultural & creative services exports, % total trade	0.4	56	
7.2.2	National feature films/mn pop. 15-69	1.5	76	
7.2.3	Entertainment & Media market/th pop. 15-69	1.1	58	○
7.2.4	Printing and other media, % manufacturing	0.7	77	
7.2.5	Creative goods exports, % total trade	0.1	99	
7.3	**Online creativity**	**8.2**	**95**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	1.5	87	
7.3.2	Country-code TLDs/th pop. 15-69	1.0	86	
7.3.3	Wikipedia edits/mn pop. 15-69	33.4	90	
7.3.4	Mobile app creation/bn PPP$ GDP	0.3	76	

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 either missing or outdated for Morocco.

Missing data

Code	Indicator name	Country year	Model year	Source
5.1.5	Females employed w/advanced degrees, %	n/a	2018	International Labour Organization
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2018	World Intellectual Property Organization

Outdated data

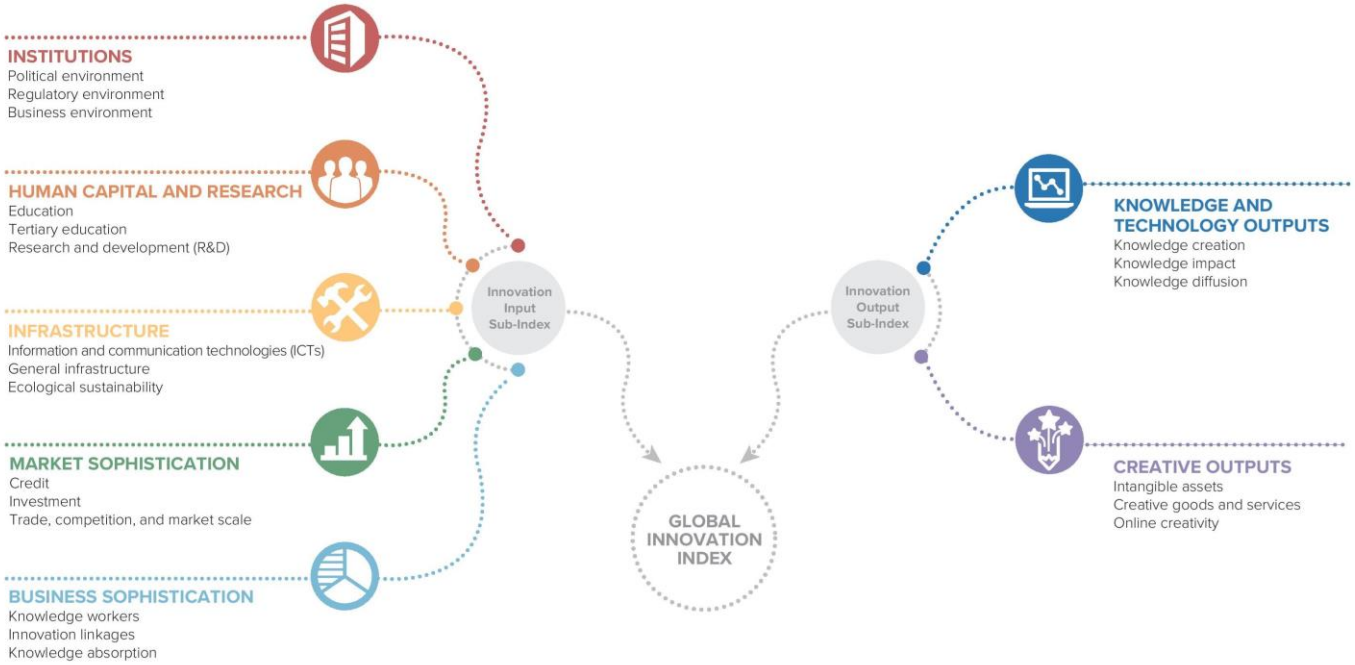
Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	2009	2018	UNESCO Institute for Statistics
2.1.2	Government funding/pupil, secondary, % GDP/cap	2012	2016	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2016	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2010	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
4.3.1	Applied tariff rate, weighted avg., %	2017	2018	World Bank
5.1.1	Knowledge-intensive employment, %	2011	2018	International Labour Organization
5.1.3	GERD performed by business, % GDP	2010	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.1.4	GERD financed by business, %	2010	2017	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.2.3	GERD financed by abroad, % GDP	2010	2017	UNESCO Institute for Statistics
5.3.5	Research talent, % in business enterprise	2016	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
6.2.5	High- and medium-high-tech manufacturing, %	2016	2017	United Nations Industrial Development Organization
7.2.4	Printing and other media, % manufacturing	2011	2017	United Nations Industrial Development Organization

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 2020, the GII presents its 13th edition devoted to the theme *Who Will Finance Innovation?*

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.

Framework of the Global Innovation Index 2020



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.