Global Innovation Index 2021

MOROCCO

77th Morocco ranks 77th among the 132 economies featured in the GII 2021.

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 2021 is between ranks 70 and 78.

Rankings for Morocco (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	77	84	67
2020	75	85	69
2019	74	83	66

- Morocco performs better in innovation outputs than innovation inputs in 2021.
- This year Morocco ranks 84th in innovation inputs, higher than last year but lower than 2019.
- As for innovation outputs, Morocco ranks 67th. This position is higher than last year but lower than 2019.

8th Morocco ranks 8th among the 34 lower middle-income group economies.

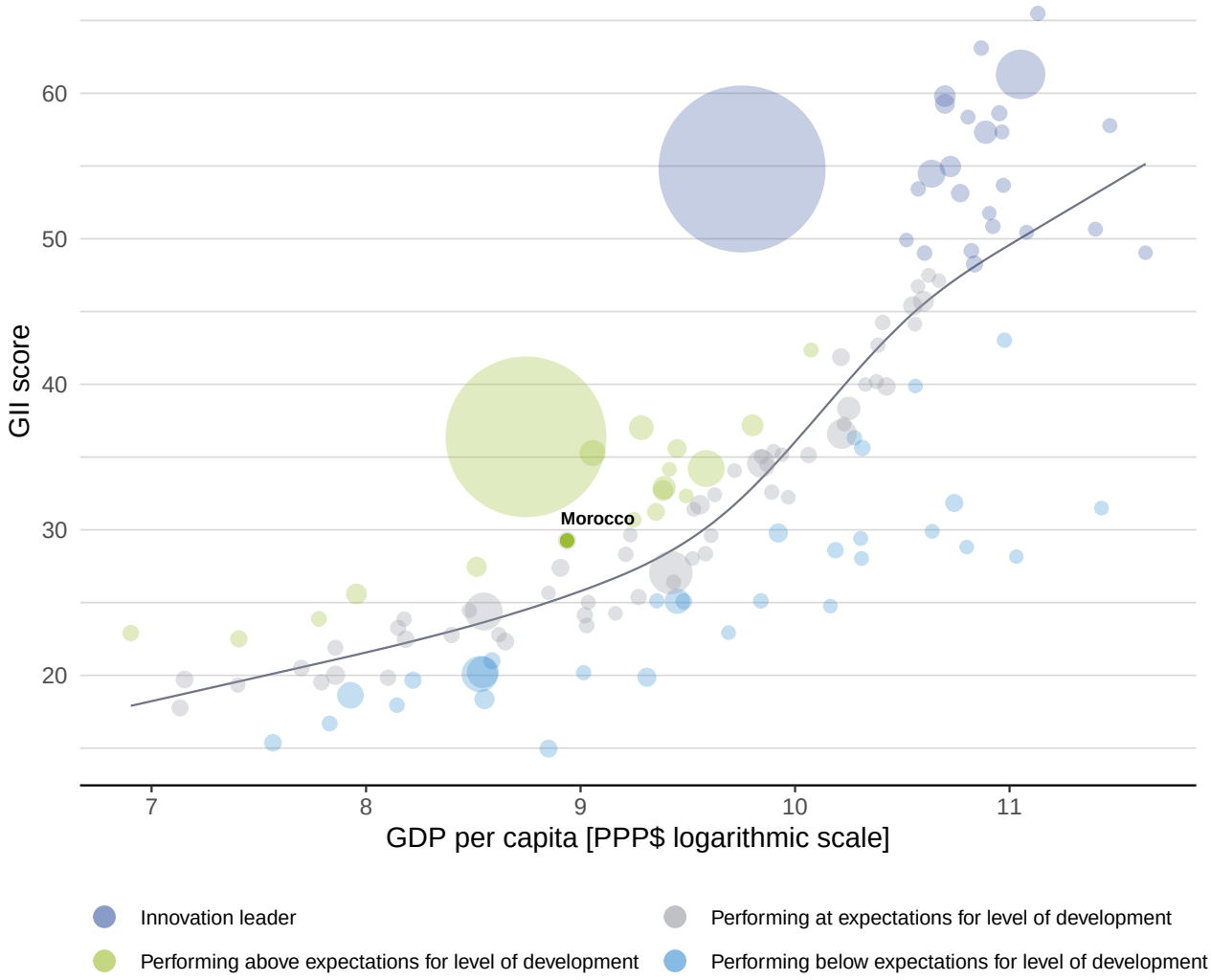
12th Morocco ranks 12th among the 19 economies in Northern Africa and Western Asia.

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.

The positive relationship between innovation and development

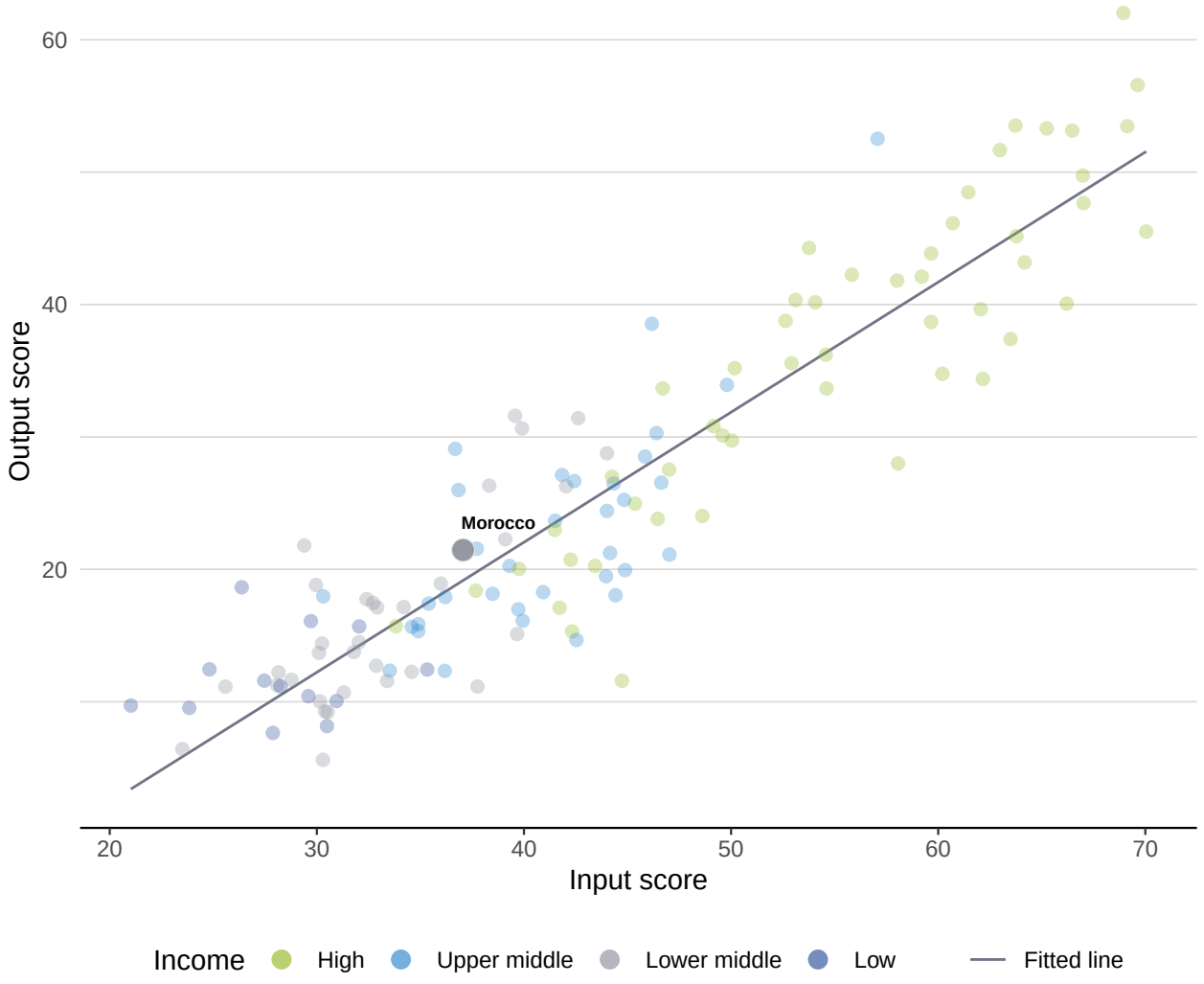


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

Innovation input to output performance



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

The seven GII pillar scores for Morocco

Lower middle-income group economies

Morocco performs above the lower middle-income group average in six pillars, namely: Institutions; Human capital and research; Infrastructure; Market sophistication; Knowledge and technology outputs; and, Creative outputs.

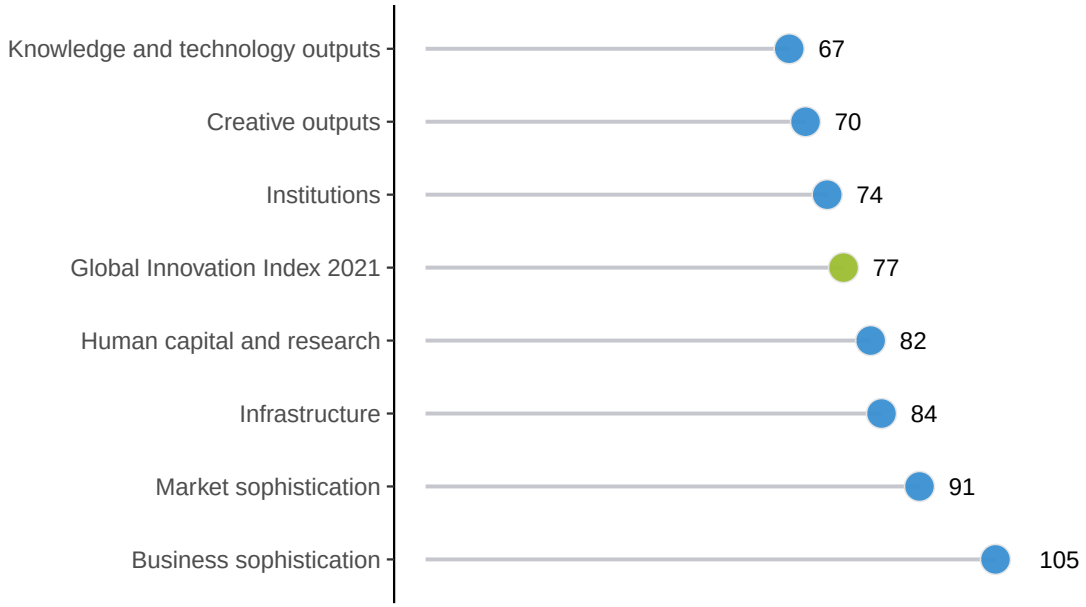
Northern Africa and Western Asia

Morocco performs below the regional average in all GII pillars.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

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

The seven GII pillar ranks for Morocco



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

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Morocco in the GII 2021.

Strengths and weaknesses for Morocco

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
1.3.1	Ease of starting a business	41	2.1.4	PISA scales in reading, maths and science	75
2.1.2	Government funding/pupil, secondary, % GDP/cap	4	2.3.3	Global corporate R&D investors, top 3, mn US$	41
3.2.3	Gross capital formation, % GDP	27	2.3.4	QS university ranking, top 3	74
3.3.1	GDP/unit of energy use	26	3.2.2	Logistics performance	103
4.1.2	Domestic credit to private sector, % GDP	32	4.1.1	Ease of getting credit	101
4.2.1	Ease of protecting minority investors	36	4.2.3	Venture capital investors, deals/bn PPP$ GDP	81
6.2.5	High-tech manufacturing, %	29	5.1.1	Knowledge-intensive employment, %	115
6.3.4	ICT services exports, % total trade	30	5.2	Innovation linkages	112
7.1	Intangible assets	41	5.2.1	University-industry R&D collaboration	114
7.1.1	Trademarks by origin/bn PPP$ GDP	37	6.3.1	Intellectual property receipts, % total trade	91
7.1.3	Industrial designs by origin/bn PPP$ GDP	10	7.2.3	Entertainment and media market/th pop. 15–69	58

Morocco

GII 2021 rank
77

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$	GII 2020 rank
67	84	Lower middle	NAWA	36.9	273.6	7,609	75

		Score/ Value	Rank	
Institutions		**61.6**	**74**	◆
1.1	**Political environment**	**54.0**	**80**	
1.1.1	Political and operational stability*	66.1	74	
1.1.2	Government effectiveness*	48.0	82	
1.2	**Regulatory environment**	**57.7**	**86**	
1.2.1	Regulatory quality*	38.0	86	
1.2.2	Rule of law*	43.1	71	◆
1.2.3	Cost of redundancy dismissal	20.7	88	
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 and research		**27.5**	**82**	
2.1	**Education**	**53.2**	**56**	
2.1.1	Expenditure on education, % GDP	n/a	n/a	
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	36.4	4	● ◆
2.1.3	School life expectancy, years	14.0	72	◆
2.1.4	PISA scales in reading, maths and science	367.9	75	○
2.1.5	Pupil-teacher ratio, secondary	18.8	92	
2.2	**Tertiary education**	**22.6**	**91**	
2.2.1	Tertiary enrolment, % gross	38.5	77	
2.2.2	Graduates in science and engineering, %	19.0	79	
2.2.3	Tertiary inbound mobility, %	2.0	77	
2.3	**Research and development (R&D)**	**6.7**	**71**	
2.3.1	Researchers, FTE/mn pop. ⏲	1,073.5	50	◆
2.3.2	Gross expenditure on R&D, % GDP ⏲	0.7	50	◆
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	41	○ ◇
2.3.4	QS university ranking, top 3*	0.0	74	○ ◇
Infrastructure		**36.3**	**84**	
3.1	**Information and communication technologies (ICTs)**	**54.8**	**90**	
3.1.1	ICT access*	66.6	67	◆
3.1.2	ICT use*	49.1	81	
3.1.3	Government's online service*	52.3	99	
3.1.4	E-participation*	51.2	99	
3.2	**General infrastructure**	**25.0**	**83**	
3.2.1	Electricity output, GWh/mn pop.	1,131.3	95	
3.2.2	Logistics performance*	22.9	103	○
3.2.3	Gross capital formation, % GDP	28.1	27	●
3.3	**Ecological sustainability**	**29.1**	**62**	◆
3.3.1	GDP/unit of energy use	14.5	26	● ◆
3.3.2	Environmental performance*	42.3	85	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.8	71	
Market sophistication		**41.9**	**91**	
4.1	**Credit**	**33.1**	**97**	
4.1.1	Ease of getting credit*	45.0	101	○
4.1.2	Domestic credit to private sector, % GDP	87.8	32	● ◆
4.1.3	Microfinance gross loans, % GDP	0.2	46	
4.2	**Investment**	**23.3**	**98**	
4.2.1	Ease of protecting minority investors*	70.0	36	●
4.2.2	Market capitalization, % GDP	55.8	30	
4.2.3	Venture capital investors, deals/bn PPP$ GDP	0.0	81	○
4.2.4	Venture capital recipients, deals/bn PPP$ GDP	0.0	70	
4.3	**Trade, diversification, and market scale**	**69.2**	**64**	
4.3.1	Applied tariff rate, weighted avg., %	3.6	72	
4.3.2	Domestic industry diversification ⏲	77.5	84	
4.3.3	Domestic market scale, bn PPP$	273.5	56	

		Score/ Value	Rank	
Business sophistication		**18.1**	**105**	
5.1	**Knowledge workers**	**22.1**	**97**	
5.1.1	Knowledge-intensive employment, % ⏲	6.9	115	○ ◇
5.1.2	Firms offering formal training, %	35.7	40	
5.1.3	GERD performed by business, % GDP ⏲	0.2	52	
5.1.4	GERD financed by business, % ⏲	29.9	61	
5.1.5	Females employed w/advanced degrees, %	n/a	n/a	
5.2	**Innovation linkages**	**14.0**	**112**	○
5.2.1	University-industry R&D collaboration† ⏲	29.2	114	○
5.2.2	State of cluster development and depth† ⏲	42.9	88	
5.2.3	GERD financed by abroad, % GDP ⏲	0.0	76	
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	97	
5.2.5	Patent families/bn PPP$ GDP	0.0	87	
5.3	**Knowledge absorption**	**18.0**	**103**	
5.3.1	Intellectual property payments, % total trade	0.3	79	
5.3.2	High-tech imports, % total trade	8.5	54	
5.3.3	ICT services imports, % total trade	0.7	90	
5.3.4	FDI net inflows, % GDP	2.3	72	
5.3.5	Research talent, % in businesses ⏲	7.0	66	
Knowledge and technology outputs		**20.1**	**67**	
6.1	**Knowledge creation**	**11.3**	**75**	
6.1.1	Patents by origin/bn PPP$ GDP	0.7	74	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.2	56	◆
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific and technical articles/bn PPP$ GDP	14.4	60	
6.1.5	Citable documents H-index	11.4	67	
6.2	**Knowledge impact**	**31.6**	**60**	◆
6.2.1	Labor productivity growth, %	0.1	63	
6.2.2	New businesses/th pop. 15–64	1.9	57	
6.2.3	Software spending, % GDP	0.2	57	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	3.7	66	
6.2.5	High-tech manufacturing, %	38.5	29	● ◆
6.3	**Knowledge diffusion**	**17.4**	**63**	
6.3.1	Intellectual property receipts, % total trade	0.0	91	○
6.3.2	Production and export complexity	30.9	90	
6.3.3	High-tech exports, % total trade	2.1	56	
6.3.4	ICT services exports, % total trade	3.3	30	●
Creative outputs		**22.8**	**70**	
7.1	**Intangible assets**	**38.7**	**41**	● ◆
7.1.1	Trademarks by origin/bn PPP$ GDP	58.7	37	●
7.1.2	Global brand value, top 5,000, % GDP	17.8	50	
7.1.3	Industrial designs by origin/bn PPP$ GDP	12.5	10	● ◆
7.1.4	ICTs and organizational model creation†	51.3	77	
7.2	**Creative goods and services**	**5.1**	**104**	
7.2.1	Cultural and creative services exports, % total trade	0.4	57	
7.2.2	National feature films/mn pop. 15–69	1.5	75	
7.2.3	Entertainment and 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	101	
7.3	**Online creativity**	**8.8**	**104**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	1.5	88	
7.3.2	Country-code TLDs/th pop. 15–69	1.1	83	
7.3.3	Wikipedia edits/mn pop. 15–69	31.8	98	
7.3.4	Mobile app creation/bn PPP$ GDP	3.3	63	

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 IV 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 for Morocco

Code	Indicator name	Economy year	Model year	Source
2.1.1	Expenditure on education, % GDP	n/a	2017	UNESCO Institute for Statistics
5.1.5	Females employed w/advanced degrees, %	n/a	2019	International Labour Organization
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2019	World Intellectual Property Organization

Outdated data for Morocco

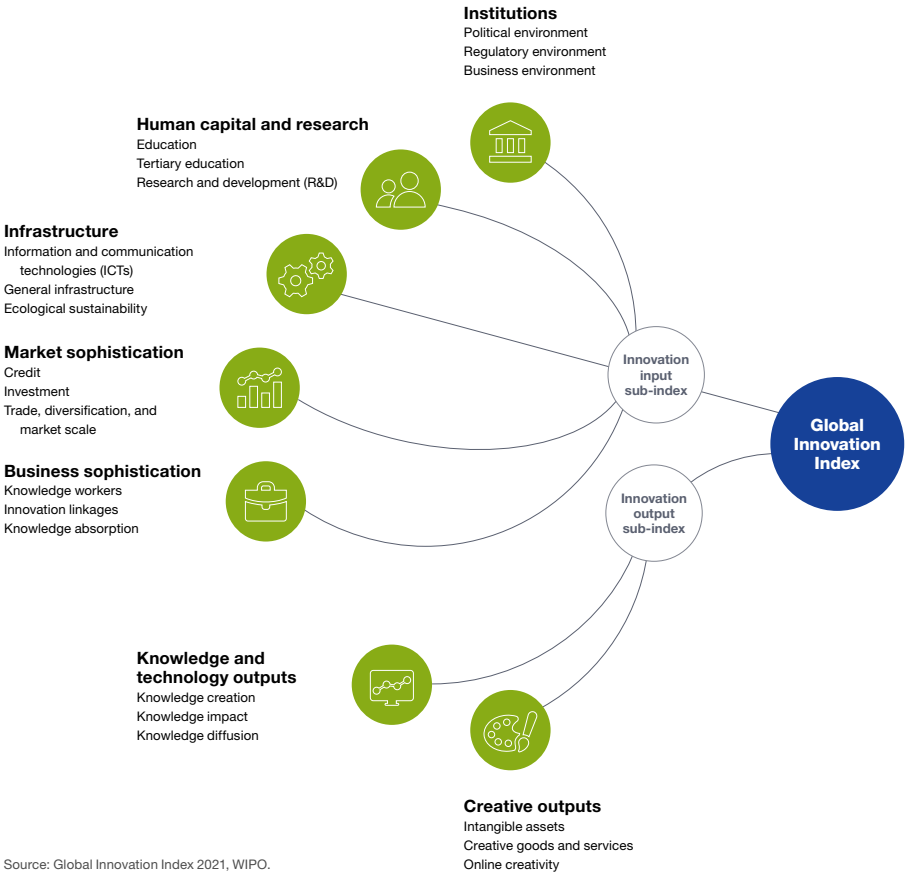
Code	Indicator name	Economy year	Model year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	2012	2017	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2016	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2010	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
4.3.2	Domestic industry diversification	2017	2018	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2011	2019	International Labour Organization
5.1.3	GERD performed by business, % GDP	2010	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.4	GERD financed by business, %	2010	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.2.1	University-industry R&D collaboration	2019	2020	World Economic Forum
5.2.2	State of cluster development and depth	2019	2020	World Economic Forum
5.2.3	GERD financed by abroad, % GDP	2010	2018	UNESCO Institute for Statistics

Code	Indicator name	Economy year	Model year	Source
5.3.5	Research talent, % in businesses	2016	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
7.2.4	Printing and other media, % manufacturing	2011	2018	United Nations Industrial Development Organization

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 2021, WIPO.

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.