Global Innovation Index 2021

TUNISIA

71st Tunisia ranks 71st 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 Tunisia 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 Tunisia in the GII 2021 is between ranks 68 and 78.

Rankings for Tunisia (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	71	78	64
2020	65	78	59
2019	70	74	65

- Tunisia performs better in innovation outputs than innovation inputs in 2021.
- This year Tunisia ranks 78th in innovation inputs, the same as last year but lower than 2019.
- As for innovation outputs, Tunisia ranks 64th. This position is lower than last year but higher than 2019.

7th Tunisia ranks 7th among the 34 lower middle-income group economies.

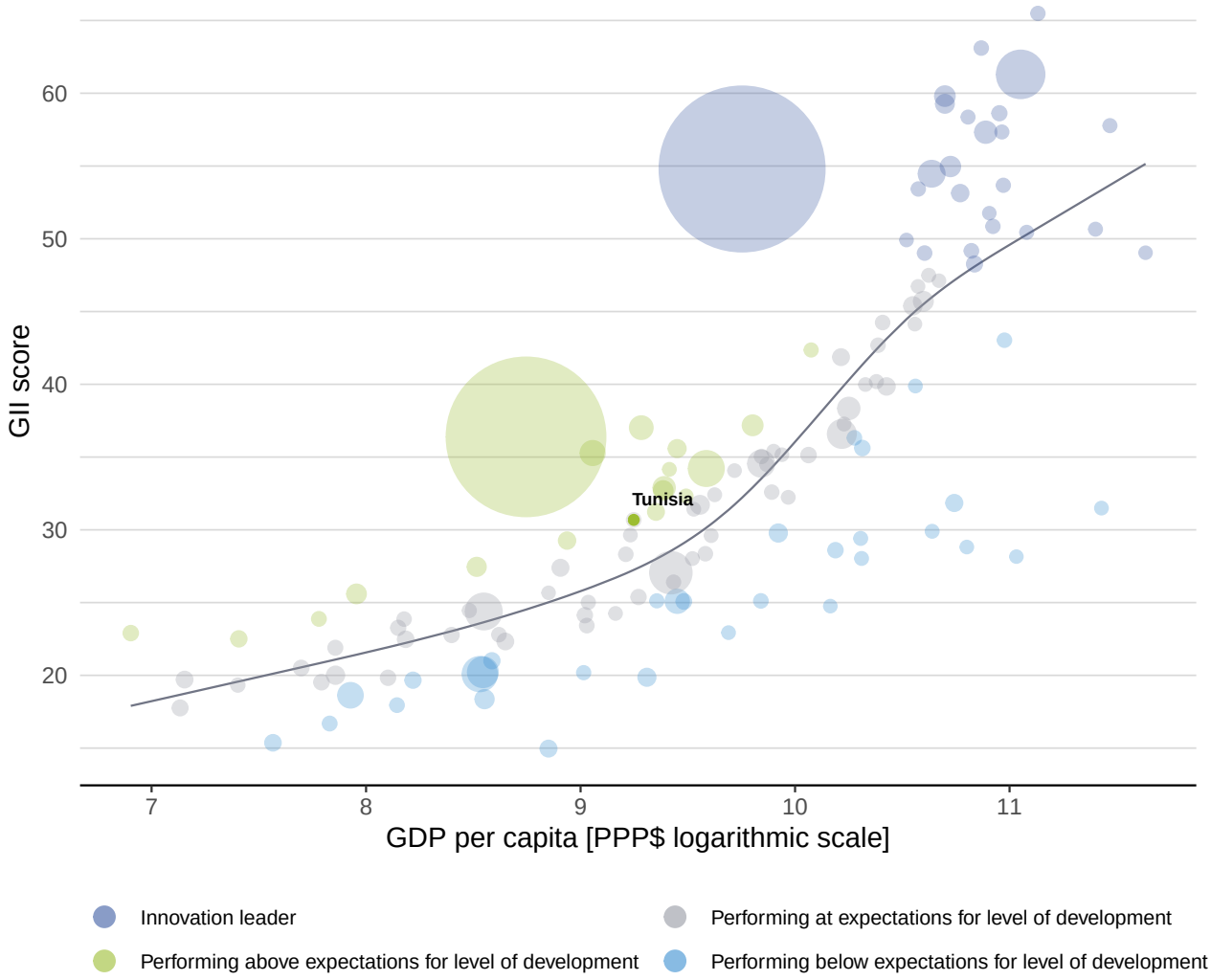
9th Tunisia ranks 9th among the 19 economies in Northern Africa and Western Asia.

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

The positive relationship between innovation and development

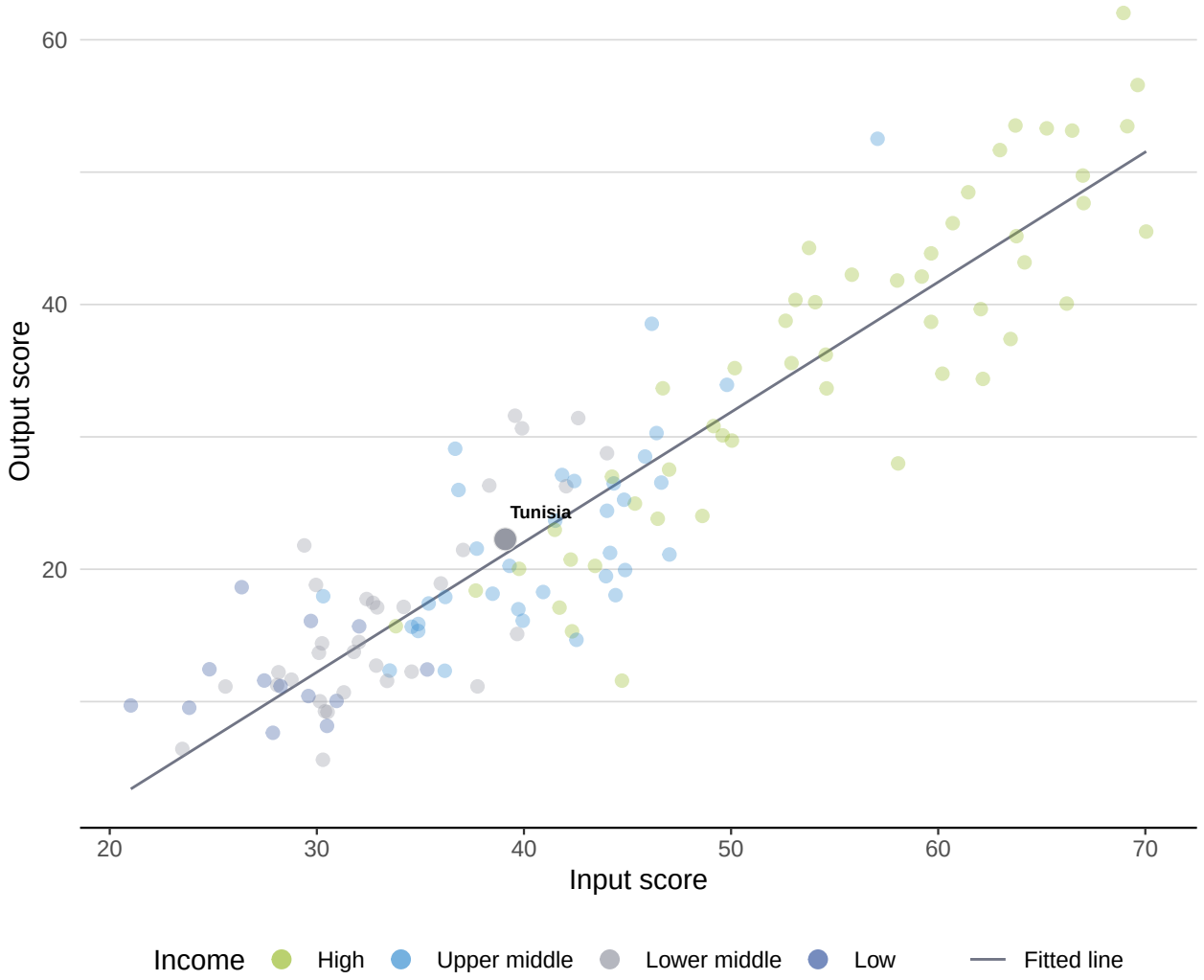


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

Tunisia 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 Tunisia

Lower middle-income group economies

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

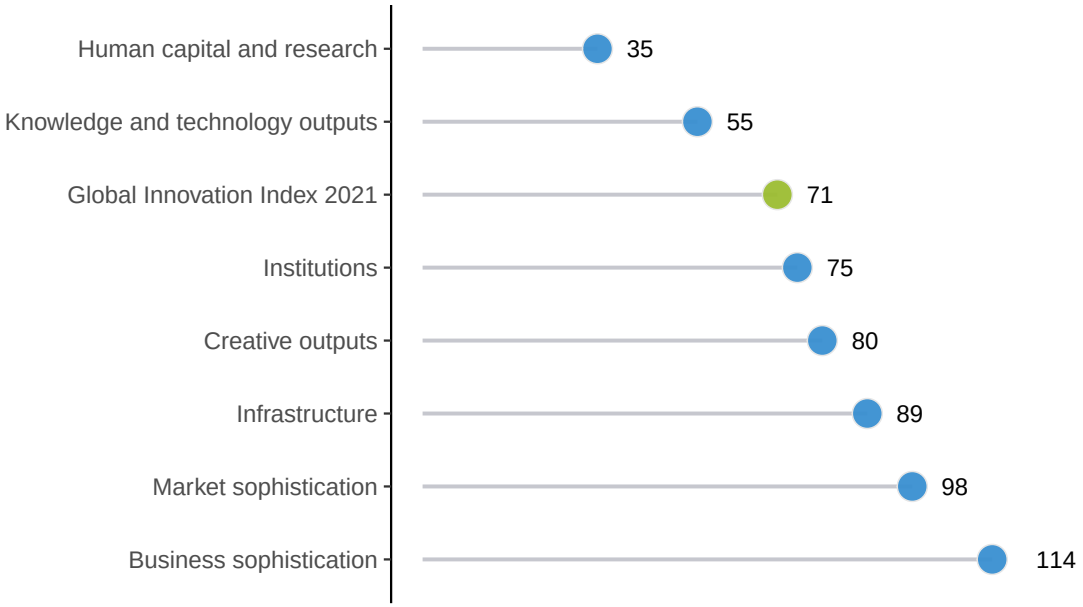
Northern Africa and Western Asia

Tunisia performs above the regional average in two pillars, namely: Human capital and research; and, Knowledge and technology outputs.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Tunisia performs best in Human capital and research and its weakest performance is in Business sophistication.

The seven GII pillar ranks for Tunisia



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 Tunisia in the GII 2021.

Strengths and weaknesses for Tunisia

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
1.3.1	Ease of starting a business	18	2.1.4	PISA scales in reading, maths and science	74
2.1	Education	8	2.3.3	Global corporate R&D investors, top 3, mn US$	41
2.1.1	Expenditure on education, % GDP	7	2.3.4	QS university ranking, top 3	74
2.1.2	Government funding/pupil, secondary, % GDP/cap	1	3.2	General infrastructure	128
2.2	Tertiary education	16	3.2.3	Gross capital formation, % GDP	124
2.2.2	Graduates in science and engineering, %	2	4.3.1	Applied tariff rate, weighted avg., %	113
4.1.2	Domestic credit to private sector, % GDP	34	5.2	Innovation linkages	114
6.1	Knowledge creation	38	5.3	Knowledge absorption	113
6.1.4	Scientific and technical articles/bn PPP$ GDP	18	5.3.1	Intellectual property payments, % total trade	106
6.2.3	Software spending, % GDP	35	5.3.3	ICT services imports, % total trade	110
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	32	7.1.4	ICTs and organizational model creation	105
6.3.3	High-tech exports, % total trade	40	7.2.3	Entertainment and media market/th pop. 15–69	57
7.2.5	Creative goods exports, % total trade	30	7.3.4	Mobile app creation/bn PPP$ GDP	87

Tunisia

GII 2021 rank

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Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$	GII 2020 rank
64	78	Lower middle	NAWA	11.8	123.6	10,382	65

		Score/ Value	Rank	
Institutions		**61.4**	**75**	◆
1.1	**Political environment**	**53.1**	**84**	
1.1.1	Political and operational stability*	62.5	89	
1.1.2	Government effectiveness*	48.4	80	◆
1.2	**Regulatory environment**	**56.7**	**90**	
1.2.1	Regulatory quality*	32.1	101	
1.2.2	Rule of law*	48.4	60	◆
1.2.3	Cost of redundancy dismissal	21.6	92	
1.3	**Business environment**	**74.4**	**54**	◆
1.3.1	Ease of starting a business*	94.6	18	● ◆
1.3.2	Ease of resolving insolvency*	54.2	64	
Human capital and research		**42.7**	**35**	● ◆
2.1	**Education**	**71.2**	**8**	● ◆
2.1.1	Expenditure on education, % GDP	6.6	7	● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	52.4	1	● ◆
2.1.3	School life expectancy, years	15.1	50	◆
2.1.4	PISA scales in reading, maths and science	371.4	74	○
2.1.5	Pupil-teacher ratio, secondary	13.6	64	
2.2	**Tertiary education**	**48.6**	**16**	● ◆
2.2.1	Tertiary enrolment, % gross	31.8	82	
2.2.2	Graduates in science and engineering, %	43.3	2	● ◆
2.2.3	Tertiary inbound mobility, %	2.2	75	
2.3	**Research and development (R&D)**	**8.2**	**65**	
2.3.1	Researchers, FTE/mn pop.	1,771.6	42	◆
2.3.2	Gross expenditure on R&D, % GDP	0.6	58	◆
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		**34.2**	**89**	
3.1	**Information and communication technologies (ICTs)**	**61.7**	**78**	◆
3.1.1	ICT access*	61.5	73	◆
3.1.2	ICT use*	53.8	74	◆
3.1.3	Government's online service*	62.4	83	
3.1.4	E-participation*	69.0	73	
3.2	**General infrastructure**	**11.0**	**128**	○ ◇
3.2.1	Electricity output, GWh/mn pop.	1,816.7	85	
3.2.2	Logistics performance*	24.3	100	
3.2.3	Gross capital formation, % GDP	10.3	124	○ ◇
3.3	**Ecological sustainability**	**30.0**	**58**	◆
3.3.1	GDP/unit of energy use	12.0	50	
3.3.2	Environmental performance*	46.7	65	◆
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	1.9	45	◆
Market sophistication		**40.7**	**98**	
4.1	**Credit**	**35.9**	**83**	
4.1.1	Ease of getting credit*	50.0	94	
4.1.2	Domestic credit to private sector, % GDP	86.6	34	● ◆
4.1.3	Microfinance gross loans, % GDP	0.5	34	
4.2	**Investment**	**22.3**	**103**	
4.2.1	Ease of protecting minority investors*	62.0	60	
4.2.2	Market capitalization, % GDP	21.8	57	
4.2.3	Venture capital investors, deals/bn PPP$ GDP	0.0	47	
4.2.4	Venture capital recipients, deals/bn PPP$ GDP	0.0	37	
4.3	**Trade, diversification, and market scale**	**63.9**	**78**	
4.3.1	Applied tariff rate, weighted avg., %	9.4	113	○
4.3.2	Domestic industry diversification	88.5	56	
4.3.3	Domestic market scale, bn PPP$	123.6	78	

		Score/ Value	Rank	
Business sophistication		**16.5**	**114**	○
5.1	**Knowledge workers**	**19.6**	**102**	
5.1.1	Knowledge-intensive employment, %	20.9	78	
5.1.2	Firms offering formal training, %	19.1	80	
5.1.3	GERD performed by business, % GDP	0.1	59	
5.1.4	GERD financed by business, %	18.9	67	
5.1.5	Females employed w/advanced degrees, %	8.8	75	
5.2	**Innovation linkages**	**13.9**	**114**	○
5.2.1	University-industry R&D collaboration†	32.8	103	
5.2.2	State of cluster development and depth†	39.0	105	
5.2.3	GERD financed by abroad, % GDP	0.0	62	
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	98	
5.2.5	Patent families/bn PPP$ GDP	0.0	70	
5.3	**Knowledge absorption**	**16.1**	**113**	○
5.3.1	Intellectual property payments, % total trade	0.1	106	○
5.3.2	High-tech imports, % total trade	9.3	41	
5.3.3	ICT services imports, % total trade	0.4	110	○
5.3.4	FDI net inflows, % GDP	2.2	75	
5.3.5	Research talent, % in businesses	5.2	71	
Knowledge and technology outputs		**24.0**	**55**	◆
6.1	**Knowledge creation**	**24.2**	**38**	● ◆
6.1.1	Patents by origin/bn PPP$ GDP	1.4	52	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.0	81	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific and technical articles/bn PPP$ GDP	40.9	18	● ◆
6.1.5	Citable documents H-index	11.2	68	
6.2	**Knowledge impact**	**29.7**	**63**	
6.2.1	Labor productivity growth, %	–1.4	93	
6.2.2	New businesses/th pop. 15–64	1.7	60	
6.2.3	Software spending, % GDP	0.3	35	● ◆
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	8.6	32	● ◆
6.2.5	High-tech manufacturing, %	24.3	51	
6.3	**Knowledge diffusion**	**18.0**	**60**	
6.3.1	Intellectual property receipts, % total trade	0.1	56	
6.3.2	Production and export complexity	51.6	46	◆
6.3.3	High-tech exports, % total trade	4.0	40	●
6.3.4	ICT services exports, % total trade	1.2	76	
Creative outputs		**20.6**	**[80]**	
7.1	**Intangible assets**	**30.5**	**[65]**	
7.1.1	Trademarks by origin/bn PPP$ GDP	n/a	n/a	
7.1.2	Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.3	Industrial designs by origin/bn PPP$ GDP	1.3	61	
7.1.4	ICTs and organizational model creation†	42.7	105	○
7.2	**Creative goods and services**	**12.9**	**[70]**	
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a	
7.2.2	National feature films/mn pop. 15–69	1.4	77	
7.2.3	Entertainment and media market/th pop. 15–69	1.2	57	○
7.2.4	Printing and other media, % manufacturing	n/a	n/a	
7.2.5	Creative goods exports, % total trade	2.0	30	●
7.3	**Online creativity**	**8.3**	**107**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	2.8	67	◆
7.3.2	Country-code TLDs/th pop. 15–69	1.7	73	
7.3.3	Wikipedia edits/mn pop. 15–69	31.1	100	
7.3.4	Mobile app creation/bn PPP$ GDP	0.1	87	○

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 Tunisia.

Missing data for Tunisia

Code	Indicator name	Economy year	Model year	Source
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2019	World Intellectual Property Organization
7.1.1	Trademarks by origin/bn PPP$ GDP	n/a	2019	World Intellectual Property Organization
7.1.2	Global brand value, top 5,000, % GDP	n/a	2020	Brand Finance
7.2.1	Cultural and creative services exports, % total trade	n/a	2019	World Trade Organization
7.2.4	Printing and other media, % manufacturing	n/a	2018	United Nations Industrial Development Organization

Outdated data for Tunisia

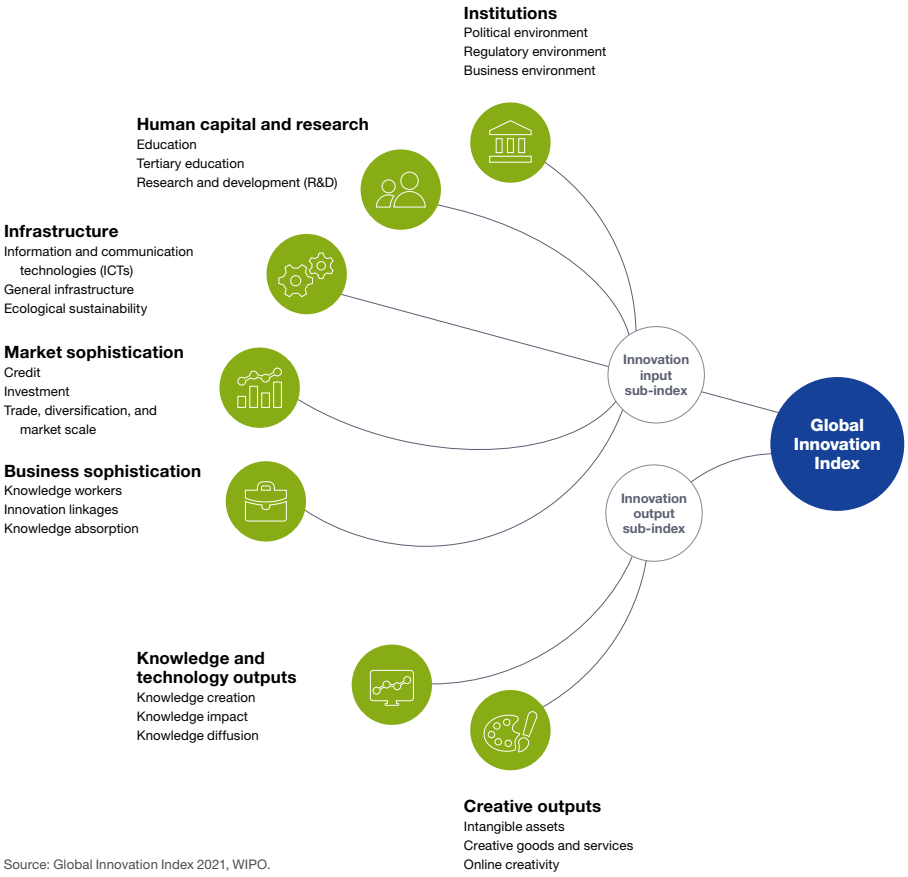
Code	Indicator name	Economy year	Model year	Source
2.1.1	Expenditure on education, % GDP	2015	2017	UNESCO Institute for Statistics
2.1.2	Government funding/pupil, secondary, % GDP/cap	2015	2017	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2016	2018	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	2015	2018	OECD Programme for International Student Assessment (PISA)
2.1.5	Pupil-teacher ratio, secondary	2018	2019	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
4.1.2	Domestic credit to private sector, % GDP	2017	2019	International Monetary Fund

Code	Indicator name	Economy year	Model year	Source
4.3.1	Applied tariff rate, weighted avg., %	2016	2019	World Bank
5.1.1	Knowledge-intensive employment, %	2012	2019	International Labour Organization
5.1.3	GERD performed by business, % GDP	2014	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.4	GERD financed by business, %	2015	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.5	Females employed w/advanced degrees, %	2017	2019	International Labour Organization
5.2.3	GERD financed by abroad, % GDP	2015	2018	UNESCO Institute for Statistics
5.3.5	Research talent, % in businesses	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
6.1.1	Patents by origin/bn PPP$ GDP	2018	2019	World Intellectual Property Organization
7.1.3	Industrial designs by origin/bn PPP$ GDP	2018	2019	World Intellectual Property Organization
7.2.2	National feature films/mn pop. 15–69	2015	2017	UNESCO Institute for Statistics
7.2.5	Creative goods exports, % total trade	2017	2019	United Nations, COMTRADE

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.