

NIGERIA

117th Nigeria ranks 117th 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 Nigeria 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 Nigeria in the GII 2020 is between ranks 114 and 119.

Rankings of Nigeria (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	117	115	121
2019	114	116	105
2018	118	116	115

- Nigeria performs better in innovation inputs than innovation outputs in 2020.
- This year Nigeria ranks 115th in innovation inputs, higher than last year and higher compared to 2018.
- As for innovation outputs, Nigeria ranks 121st. This position is lower than last year and lower compared to 2018.

25th Nigeria ranks 25th among the 29 lower middle-income group economies.

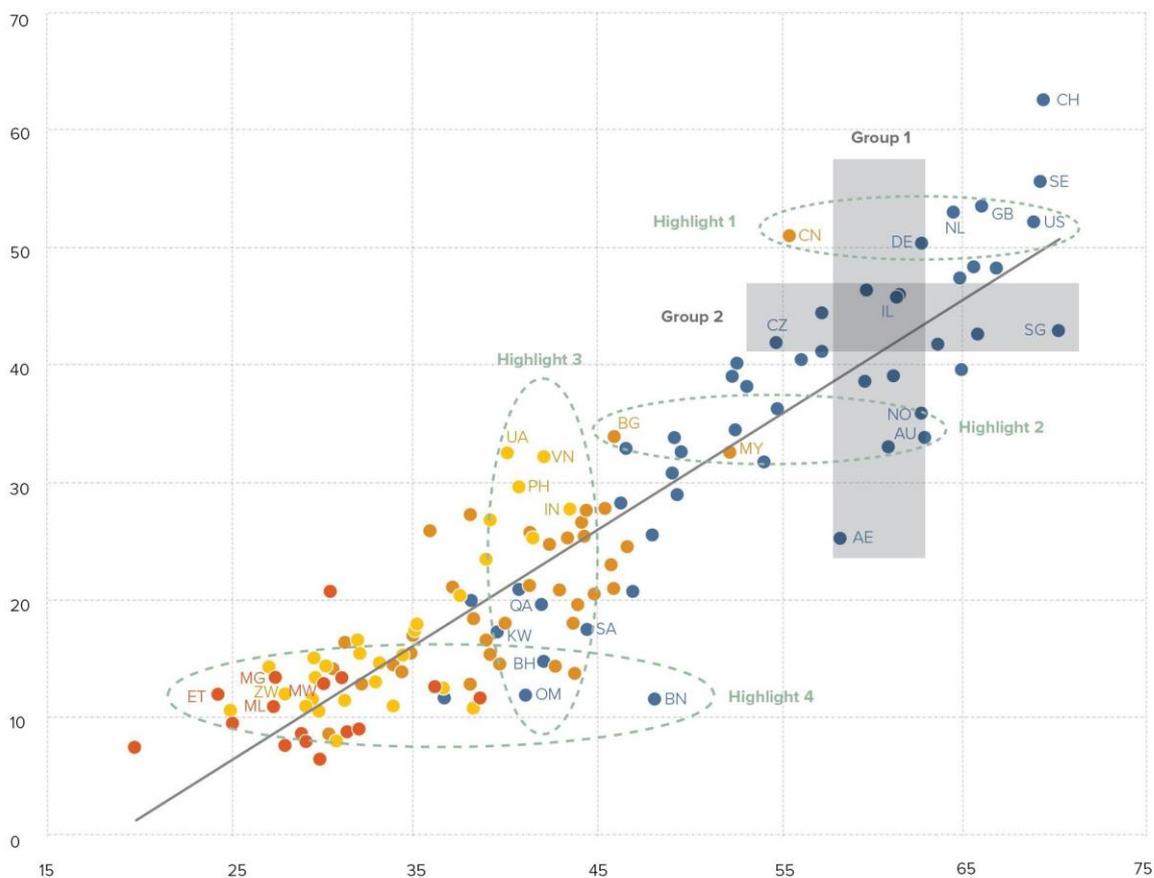
15th Nigeria ranks 15th among the 26 economies in Sub-Saharan Africa.

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.

Nigeria produces less innovation outputs relative to its level of innovation investments.

Innovation input to output performance, 2020

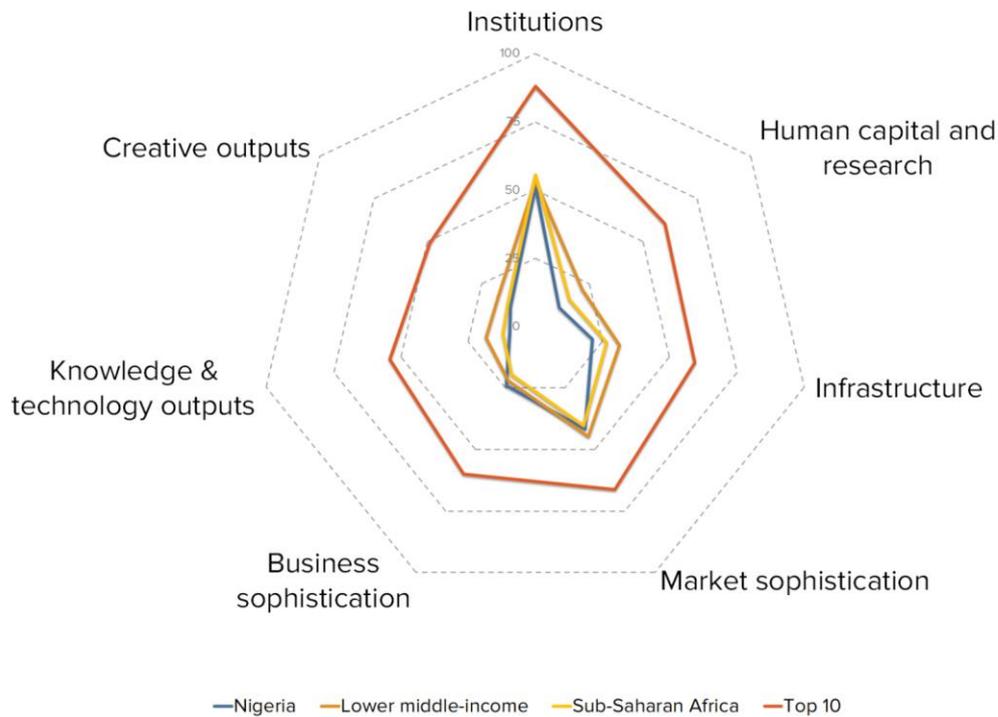


▲ Output score ● High income group ● Lower middle-income group — Fitted values
 ► Input score ● Upper middle-income group ● Low income group

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 NIGERIA AGAINST OTHER LOWER MIDDLE-INCOME GROUP ECONOMIES AND SUB-SAHARAN AFRICA

Nigeria's scores in the seven GII pillars



Lower middle-income group economies

Nigeria has high scores in one out of the seven GII pillars: Business sophistication, which is above average for the lower middle-income group.

Conversely, Nigeria scores below average for its income group in six GII pillars: Institutions, Human capital & research, Infrastructure, Market sophistication, Knowledge & technology outputs and Creative outputs.

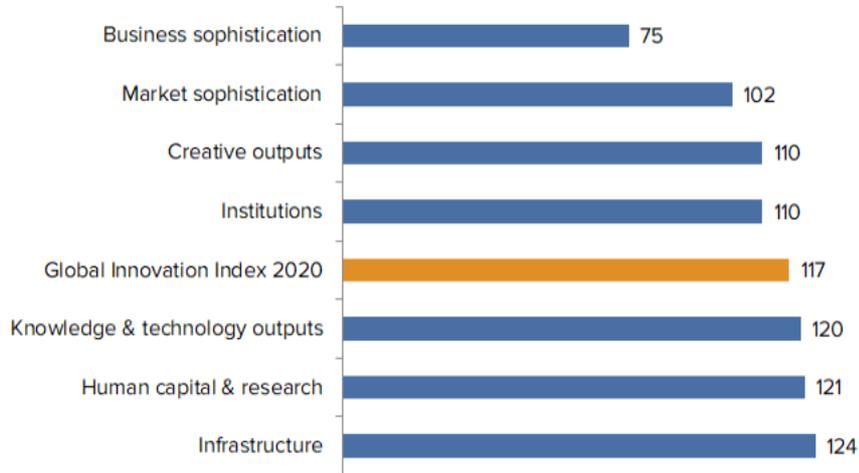
Sub-Saharan Africa

Compared to other economies in Sub-Saharan Africa, Nigeria performs:

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

OVERVIEW OF NIGERIA RANKINGS IN THE SEVEN GII AREAS

Nigeria performs best in Business sophistication and its weakest performance is in Infrastructure.



*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 Nigeria in the GII 2020.

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
1.2.3	Cost of redundancy dismissal, salary weeks	1	1.1	Political environment	129
4.1.1	Ease of getting credit*	14	1.1.1	Political and operational stability*	128
4.2.1	Ease of protecting minority investors*	27	2.3.3	Global R&D companies, top 3, mn US\$	42
4.3	Trade, competition, and market scale	58	2.3.4	QS university ranking, average score top 3*	77
4.3.2	Intensity of local competition†	66	3.2.3	Gross capital formation, % GDP	121
4.3.3	Domestic market scale, bn PPP\$	23	3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP	127
5.1.1	Knowledge-intensive employment, %	51	4.1.2	Domestic credit to private sector, % GDP	125
5.1.2	Firms offering formal training, %	48	5.2.1	University/industry research collaboration†	122
6.1.5	Citable documents H index	65	6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP	127
6.2.1	Growth rate of PPP\$ GDP/worker, %	66	7.2.5	Creative goods exports, % total trade	128
7.2.2	National feature films/mn pop. 15–69	15	7.3.3	Wikipedia edits/mn pop. 15–69	119

NOTES: * indicates an index; † indicates a survey question.

STRENGTHS

GII strengths for Nigeria are found in five of the seven GII pillars.

- Institutions (110): exhibits strengths in the indicator Cost of redundancy dismissal (1).
- Market sophistication (102): displays strengths in the sub-pillar Trade, competition, and market scale (58) and in the indicators Ease of getting credit (14), Ease of protecting minority investors (27), Intensity of local competition (66) and Domestic market scale (23).
- Business sophistication (75): demonstrates strengths in the indicators Knowledge-intensive employment (51) and Firms offering formal training (48).
- Knowledge & technology outputs (120): reveals strengths in the indicators Citable documents H index (65) and Growth rate of PPP\$ GDP/worker (66).
- Creative outputs (110): shows strengths in the indicator National feature films (15).

WEAKNESSES

GII weaknesses for Nigeria are found in all GII pillars.

- Institutions (110): exhibits weaknesses in the sub-pillar Political environment (129) and in the indicator Political and operational stability (128).
- Human capital & research (121): reveals weaknesses in the indicators Global R&D companies (42) and QS university ranking (77).
- Infrastructure (124): displays weaknesses in the indicators Gross capital formation (121) and ISO 14001 environmental certificates (127).
- Market sophistication (102): shows weaknesses in the indicator Domestic credit to private sector (125).
- Business sophistication (75): demonstrates weaknesses in the indicator University/industry research collaboration (122).
- Knowledge & technology outputs (120): exhibits weaknesses in the indicator ISO 9001 quality certificates (127).
- Creative outputs (110): reveals weaknesses in the indicators Creative goods exports (128) and Wikipedia edits (119).

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2019 rank
121	115	Lower middle	SSF	201.0	1,216.8	5,286.0	114
				Score/Value	Rank		
				Score/Value	Rank		
INSTITUTIONS				51.1	110		
1.1	Political environment	34.3	129	○ ◇	5.1	Knowledge workers	34.7 [57]
1.1.1	Political and operational stability*	48.2	128	○ ◇	5.1.1	Knowledge-intensive employment, %	28.4 51 ● ◆
1.1.2	Government effectiveness*	27.3	125	◇	5.1.2	Firms offering formal training, %	30.7 48 ●
1.2	Regulatory environment	60.6	78		5.1.3	GERD performed by business, % GDP	n/a n/a
1.2.1	Regulatory quality*	18.5	122	◇	5.1.4	GERD financed by business, %	n/a n/a
1.2.2	Rule of law*	23.7	118		5.1.5	Females employed w/advanced degrees, %	5.0 90
1.2.3	Cost of redundancy dismissal, salary weeks	8.0	1	● ◆	5.2	Innovation linkages	18.2 86
1.3	Business environment	58.4	109		5.2.1	University/industry research collaboration†	26.4 122 ○ ◇
1.3.1	Ease of starting a business*	86.2	81		5.2.2	State of cluster development†	46.3 70
1.3.2	Ease of resolving insolvency*	30.6	118		5.2.3	GERD financed by abroad, % GDP	n/a n/a
					5.2.4	JV-strategic alliance deals/bn PPP\$ GDP	0.0 89
					5.2.5	Patent families 2+ offices/bn PPP\$ GDP	0.0 97
HUMAN CAPITAL & RESEARCH				11.2 [121]			
2.1	Education	26.8 [113]			5.3	Knowledge absorption	18.6 111
2.1.1	Expenditure on education, % GDP	n/a	n/a		5.3.1	Intellectual property payments, % total trade	0.5 67
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a		5.3.2	High-tech imports, % total trade	4.0 122
2.1.3	School life expectancy, years	8.7	114	◇	5.3.3	ICT services imports, % total trade	0.6 97
2.1.4	PISA scales in reading, maths, & science	n/a	n/a		5.3.4	FDI net inflows, % GDP	0.8 117
2.1.5	Pupil-teacher ratio, secondary	23.2	105		5.3.5	Research talent, % in business enterprise	n/a n/a
2.2	Tertiary education	6.9 [120]			KNOWLEDGE & TECHNOLOGY OUTPUTS 9.4 120 ◇		
2.2.1	Tertiary enrolment, % gross	10.2	108		6.1	Knowledge creation	4.9 108
2.2.2	Graduates in science & engineering, %	n/a	n/a		6.1.1	Patents by origin/bn PPP\$ GDP	0.1 113
2.2.3	Tertiary inbound mobility, %	n/a	n/a		6.1.2	PCT patents by origin/bn PPP\$ GDP	0.0 99
2.3	Research & development (R&D)	0.0 [121]			6.1.3	Utility models by origin/bn PPP\$ GDP	n/a n/a
2.3.1	Researchers, FTE/mn pop	n/a	n/a		6.1.4	Scientific & technical articles/bn PPP\$ GDP	2.3 114
2.3.2	Gross expenditure on R&D, % GDP	n/a	n/a		6.1.5	Citable documents H-index	11.5 65 ●
2.3.3	Global R&D companies, avg. exp. top 3, mn \$US	0.0	42	○ ◇	6.2	Knowledge impact	13.4 109
2.3.4	QS university ranking, average score top 3*	0.0	77	○ ◇	6.2.1	Growth rate of PPP\$ GDP/worker, %	0.8 66 ● ◇
					6.2.2	New businesses/th pop. 15-64	0.8 87
					6.2.3	Computer software spending, % GDP	0.0 83
					6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP	0.2 127 ○ ◇
					6.2.5	High- and medium-high-tech manufacturing, %	n/a n/a
INFRASTRUCTURE				21.3 124 ◇	6.3	Knowledge diffusion	10.0 121
3.1	Information & communication technologies (ICTs)	38.3 112			6.3.1	Intellectual property receipts, % total trade	n/a n/a
3.1.1	ICT access*	27.9	123	◇	6.3.2	High-tech net exports, % total trade	0.1 119
3.1.2	ICT use*	24.2	109		6.3.3	ICT services exports, % total trade	0.3 107
3.1.3	Government's online service*	52.8	104		6.3.4	FDI net outflows, % GDP	0.3 84
3.1.4	E-participation*	48.3	106		CREATIVE OUTPUTS 11.5 110		
3.2	General infrastructure	10.1 126 ◇			7.1	Intangible assets	17.2 105
3.2.1	Electricity output, kWh/mn pop	168.9	116	◇	7.1.1	Trademarks by origin/bn PPP\$ GDP	19.8 95
3.2.2	Logistics performance*	21.7	104		7.1.2	Global brand value, top 5,000, % GDP	6.3 66
3.2.3	Gross capital formation, % GDP	14.2	121	○ ◇	7.1.3	Industrial designs by origin/bn PPP\$ GDP	1.0 68
					7.1.4	ICTs & organizational model creation†	47.5 89
3.3	Ecological sustainability	15.6 122 ◇			7.2	Creative goods and services	9.7 [78]
3.3.1	GDP/unit of energy use	6.4	98		7.2.1	Cultural & creative services exports, % total trade	n/a n/a
3.3.2	Environmental performance*	31.0	117		7.2.2	National feature films/mn pop. 15-69	11.3 15 ● ◆
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP	0.1	127	○	7.2.3	Entertainment & Media market/th pop. 15-69	0.8 59
					7.2.4	Printing and other media, % manufacturing	n/a n/a
					7.2.5	Creative goods exports, % total trade	0.0 128 ○
MARKET SOPHISTICATION				41.6 102	7.3	Online creativity	1.8 122
4.1	Credit	35.3 87			7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	0.5 108
4.1.1	Ease of getting credit*	85.0	14	● ◆	7.3.2	Country-code TLDs/th pop. 15-69	0.4 101
4.1.2	Domestic credit to private sector, % GDP	10.9	125	○ ◇	7.3.3	Wikipedia edits/mn pop. 15-69	10.8 119 ○ ◇
4.1.3	Microfinance gross loans, % GDP	0.1	60		7.3.4	Mobile app creation/bn PPP\$ GDP	0.2 79
4.2	Investment	25.4 116					
4.2.1	Ease of protecting minority investors*	72.0	27	●			
4.2.2	Market capitalization, % GDP	8.4	68				
4.2.3	Venture capital deals/bn PPP\$ GDP	0.0	78				
4.3	Trade, competition, and market scale	64.1 58 ●					
4.3.1	Applied tariff rate, weighted avg., %	8.5	106				
4.3.2	Intensity of local competition†	68.7	66	●			
4.3.3	Domestic market scale, bn PPP\$	1,216.8	23	● ◆			

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 Nigeria.

Missing data

Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	n/a	2018	UNESCO Institute for Statistics
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2016	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths, & science	n/a	2018	OECD Programme for International Student Assessment (PISA)
2.2.2	Graduates in science & engineering, %	n/a	2017	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	n/a	2017	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.1.3	GERD performed by business, % GDP	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.1.4	GERD financed by business, %	n/a	2017	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.2.3	GERD financed by abroad, % GDP	n/a	2017	UNESCO Institute for Statistics
5.3.5	Research talent, % in business enterprise	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2018	World Intellectual Property Organization
6.2.5	High- and medium-high-tech manufacturing, %	n/a	2017	United Nations Industrial Development Organization
6.3.1	Intellectual property receipts, % total trade	n/a	2018	World Trade Organization
7.2.1	Cultural & creative services exports, % total trade	n/a	2018	World Trade Organization
7.2.4	Printing and other media, % manufacturing	n/a	2017	United Nations Industrial Development Organization

Outdated data

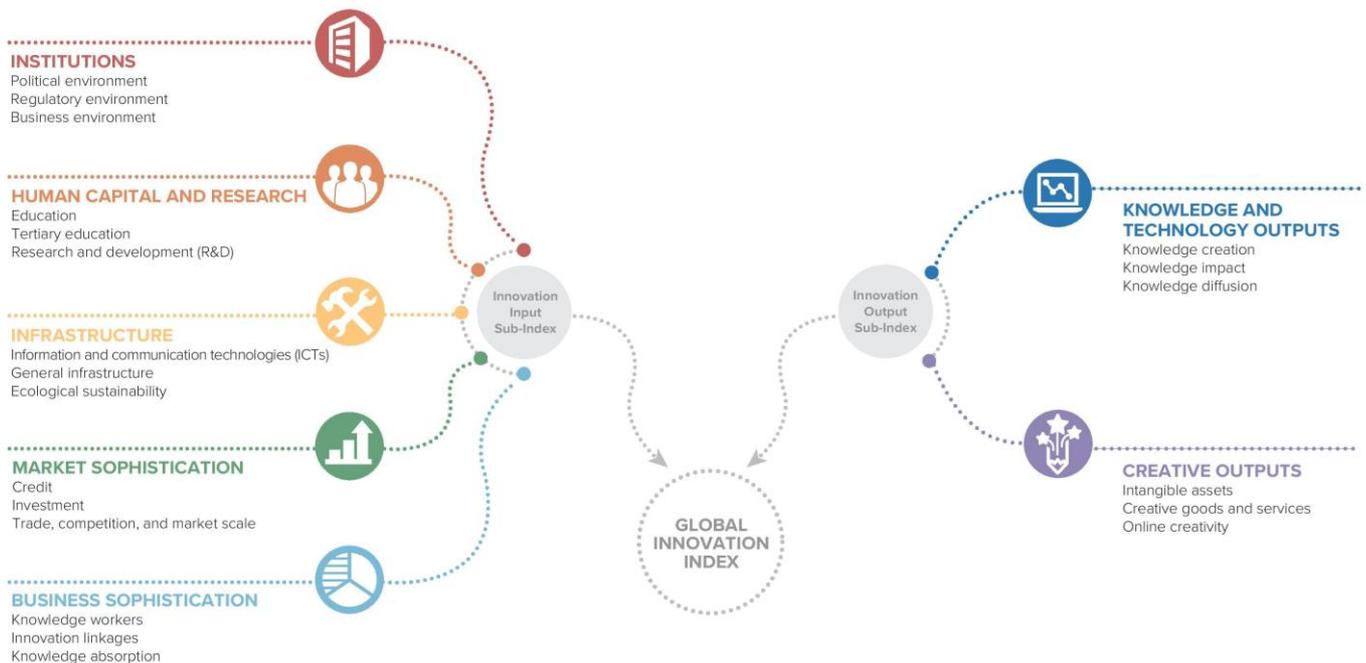
Code	Indicator name	Country year	Model year	Source
2.1.3	School life expectancy, years	2011	2017	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2010	2018	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2011	2017	UNESCO Institute for Statistics
4.3.1	Applied tariff rate, weighted avg., %	2016	2018	World Bank
5.1.1	Knowledge-intensive employment, %	2013	2018	International Labour Organization
5.1.2	Firms offering formal training, %	2013	2018	World Bank
5.1.5	Females employed w/advanced degrees, %	2016	2018	International Labour Organization
7.1.1	Trademarks by origin/bn PPP\$ GDP	2013	2018	World Intellectual Property Organization
7.2.2	National feature films/mn pop. 15–69	2011	2017	UNESCO Institute for Statistics
7.2.5	Creative goods exports, % total trade	2014	2018	United Nations, COMTRADE

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.

