



GLOBAL INNOVATION INDEX 2019

NIGERIA

114th

Nigeria ranks 114th among the 129 economies featured in the GII 2019.

The Global Innovation Index (GII) is a ranking of world economies based on 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 the GII model influence year-on-year comparisons of the GII ranks. The confidence interval for Nigeria's ranking in the GII 2019 is between 109 and 115.

Nigeria's Rankings, 2017 - 2019

	GII	Innovation Inputs	Innovation Outputs
2019	114	116	105
2018	118	116	115
2017	119	118	119

- Nigeria performs better in Innovation Outputs than Inputs.
- This year Nigeria ranks 116th in Innovation Inputs, the same as last year and better compared to 2017.
- As for Innovation Outputs, Nigeria ranks 105th. This position is better than last year and compared to 2017.

22nd

Nigeria ranks 22nd among the 26 lower middle-income economies.

14th

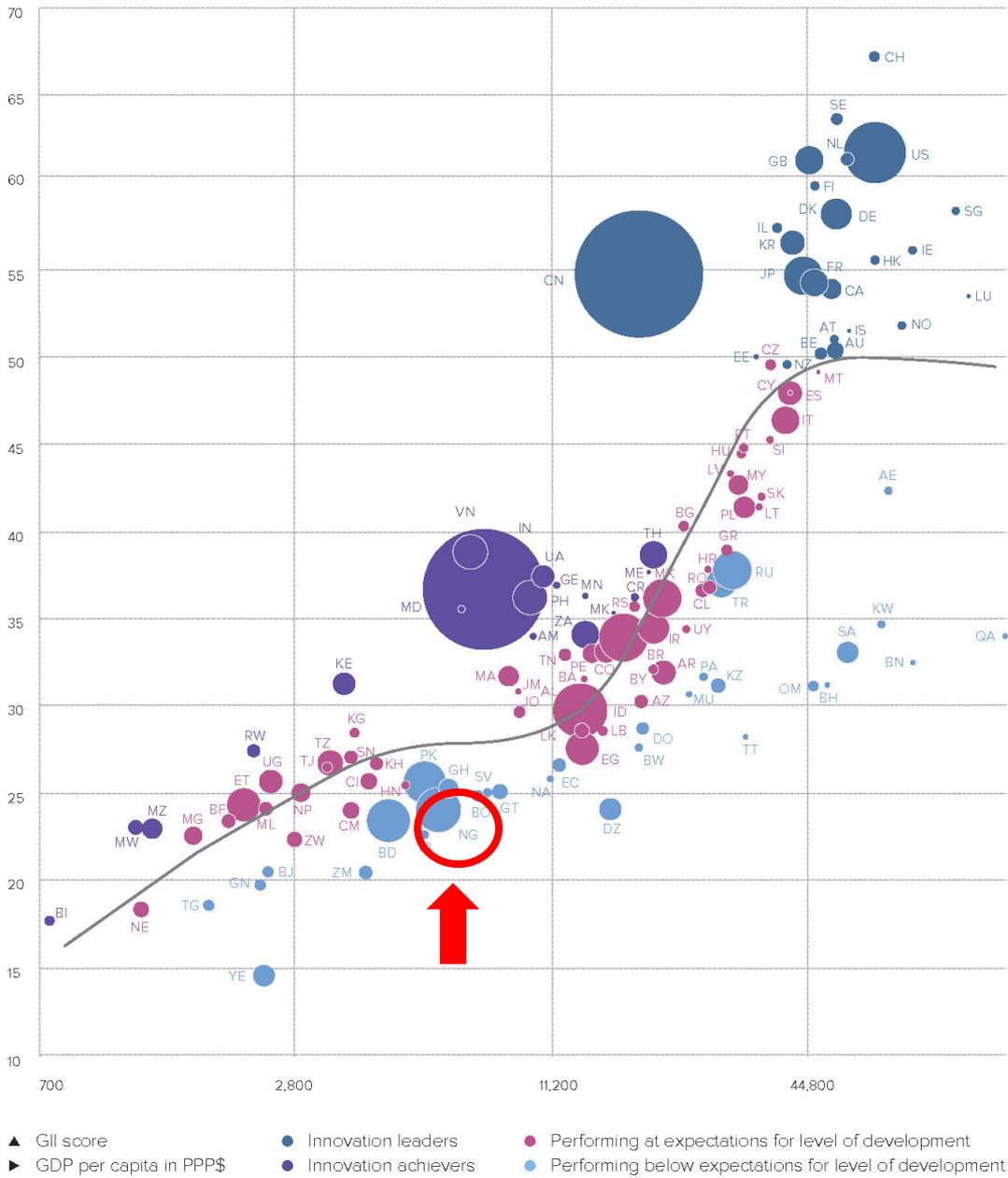
Nigeria ranks 14th among the 26 economies in Sub-Saharan Africa.

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 considered Innovation under-performers relative to GDP.

Relative to GDP, Nigeria performs below its expected level of development.

GII scores and GDP per capita in PPP US\$ (bubbles sized by population)

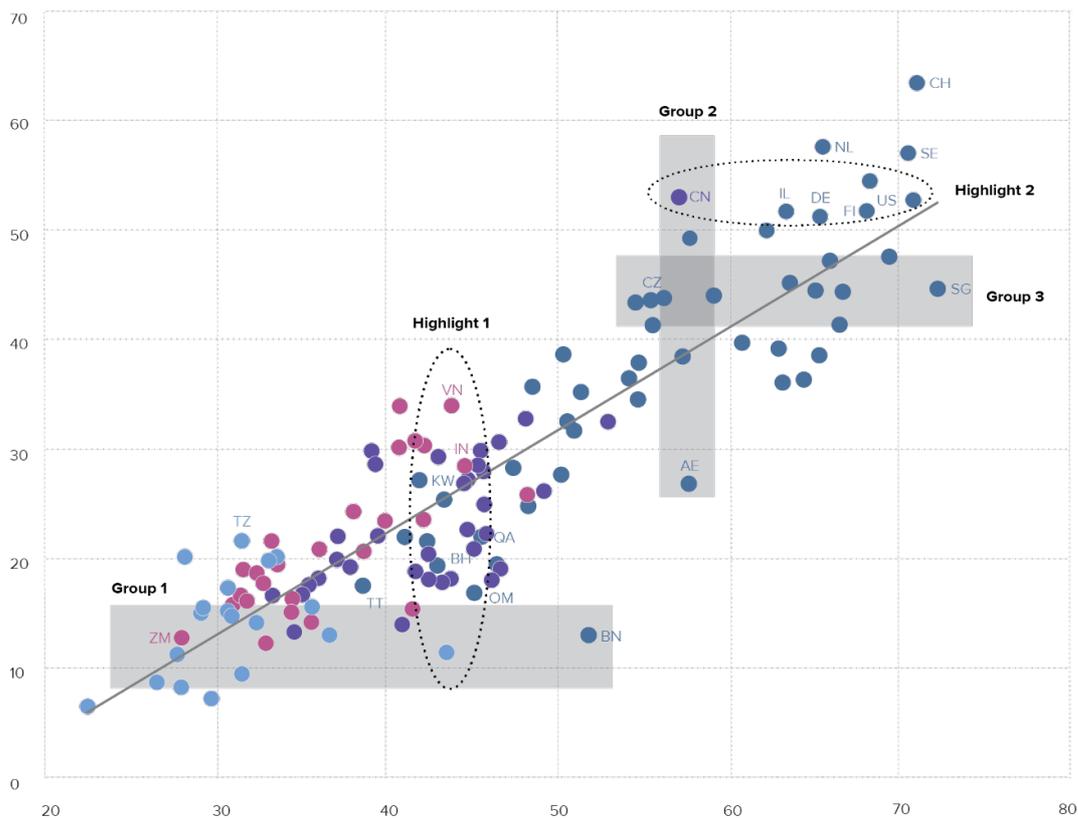


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

The chart below shows the relationship between innovation inputs and innovation outputs, indicating which economies best translate innovation inputs into innovation outputs. Economies appearing above the line are effectively translating their costly innovation investments into more and higher-quality outputs. In contrast, those below the line are not effectively translating innovation inputs into outputs.

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

Innovation input/output performance by income group, 2019



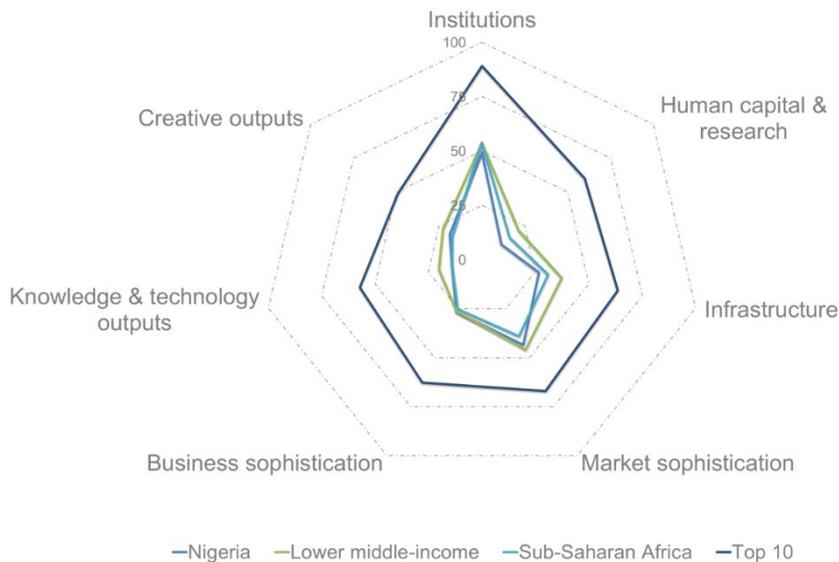
- ▲ Output score
- ▶ Input score
- High income
- Upper-middle income
- Lower-middle income
- Low income
- Fitted values

AE United Arab Emirates	CZ Czech Republic	NL Netherlands	TZ United Republic of Tanzania
BH Bahrain	DE Germany	OM Oman	US United States of America
BN Brunei Darussalam	FI Finland	QA Qatar	VN Viet Nam
CH Switzerland	IL Israel	SE Sweden	ZM Zambia
CN China	IN India	SG Singapore	
	KW Kuwait	TT Trinidad and Tobago	

Source: Global Innovation Index Database, Cornell, INSEAD, and WIPO, 2019.

BENCHMARKING NIGERIA TO OTHER LOWER MIDDLE-INCOME ECONOMIES AND THE SUB-SAHARAN AFRICA REGION

Nigeria's scores in the seven GII pillars



Lower middle-income economies

Nigeria has high scores in 1 out of the 7 GII pillars: Business sophistication, which is above the average of the lower middle-income group.

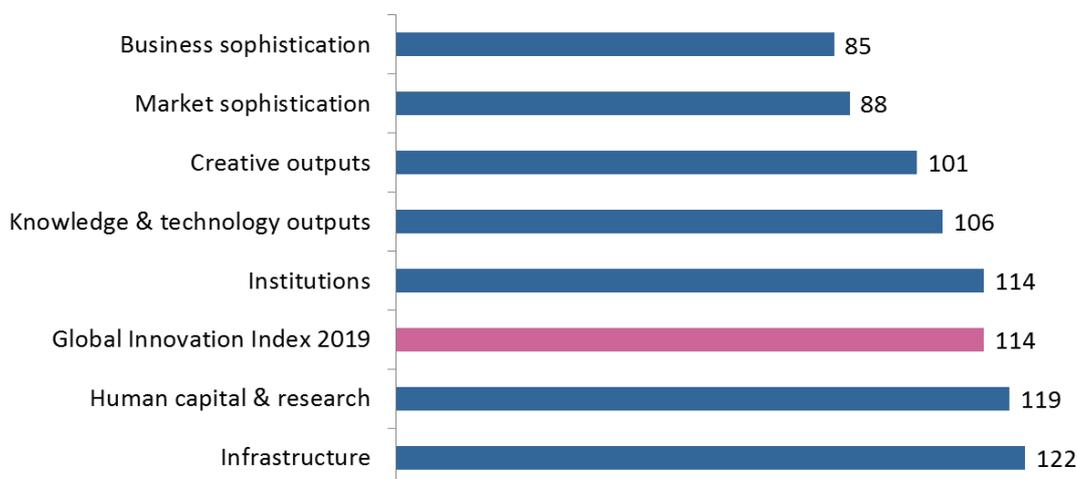
Sub-Saharan Africa Region

Compared to other economies in Sub-Saharan Africa, Nigeria performs above average in 4 out of the 7 GII pillars: Market sophistication, Business sophistication, Knowledge & technology outputs and Creative outputs.

Top ranks are found in sub-pillars Regulatory environment, Credit, Trade, competition, & market scale, Knowledge workers, and Creative goods & services where the country ranks in the top 90 worldwide.

OVERVIEW OF NIGERIA'S RANKINGS IN THE 7 GII AREAS

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



*The highest possible ranking in each pillar is 1.

NIGERIA'S INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of Nigeria's strengths and weaknesses in the GII 2019.

Strengths		
Code	Indicator name	Rank
1.2.3	Cost of redundancy dismissal, salary weeks	1
4.1.1	Ease of getting credit*	11
4.1.3	Microfinance gross loans, % GDP	26
4.2.1	Ease of protecting minority investors*	35
4.3	Trade, competition, & market scale	63
4.3.2	Intensity of local competition [†]	66
4.3.3	Domestic market scale, bn PPP\$	23
5.1.1	Knowledge-intensive employment, %	49
5.3.1	Intellectual property payments, % total trade	64
6.1.5	Citable documents H index	65
7.2.2	National feature films/mn pop. 15–69	12

Weaknesses		
Code	Indicator name	Rank
1.1	Political environment	126
1.1.1	Political & operational stability*	125
2.1.3	School life expectancy, years	113
2.3.3	Global R&D companies, top 3, in mn US\$	43
2.3.4	QS university ranking, average score top 3*	78
3.2	General infrastructure	126
3.2.3	Gross capital formation, % GDP	120
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP	125
5.2.1	University/industry research collaboration [†]	123
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP	126
6.3.2	High-tech net exports, % total trade	122
7.2.5	Creative goods exports, % total trade	126

STRENGTHS

- GII strengths for Nigeria are found in five of the seven GII pillars.
- Most of these strengths are in Market sophistication (88), where GII strengths of Nigeria are sub-pillar Trade, competition, & market scale (63) and indicators Ease of getting credit (11), Microfinance gross loans (26), Ease of protecting minority investors (35), Intensity of local competition (66), and Domestic market scale (23).
- In Business sophistication (85), two relative strengths are found in indicators Knowledge-intensive employment (49) and Intellectual property payments (64).
- In Institutions (114), Nigeria exhibits strength in indicator Cost of redundancy dismissal, where it positions 1st economy globally.
- In Knowledge & technology outputs (106), indicator Quality of scientific publications (65) is a relative strength for Nigeria.
- In Creative outputs (101), Nigeria's strength is indicator National feature films (12).

WEAKNESSES

- Nigeria's weaknesses in the GII are found in 6 of the seven GII pillars.
- In Institutions (114), Nigeria's weaknesses are sub-pillar Political environment (126) and one of its indicators - Political & operational stability (125).
- In Human capital & research (119), GII weakness for this country are three indicators: School life expectancy (113), Global R&D companies (43), and Quality of universities (78).
- In Infrastructure (122), Nigeria's weaknesses are sub-pillar General infrastructure (126) and two indicators: Gross capital formation (120) and ISO 14001 environmental certificates (125).
- In Business sophistication (85), indicator University-industry research collaboration (123) is a relative weakness for the country.
- In Knowledge & technology outputs (106), Nigeria has two GII weaknesses: indicators ISO 9001 quality certificates (126) and High-tech exports (122).
- In Creative outputs (101), only one indicator – Creative goods exports (126) – is a relative weakness for the country.

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
105	116	Lower middle	SSF	195.9	1,169.1	6,027.2	118
				Score/Value	Rank		
INSTITUTIONS				49.3	114		
1.1	Political environment	30.7	126	○ ◇	5.1	Knowledge workers	37.2 [64]
1.1.1	Political and operational stability*.....	45.6	125	○ ◇	5.1.1	Knowledge-intensive employment, %.....	28.4 49 ● ◆
1.1.2	Government effectiveness*.....	23.3	122	◇	5.1.2	Firms offering formal training, % firms.....	30.7 50
1.2	Regulatory environment	60.4	81		5.1.3	GERD performed by business, % GDP.....	n/a n/a
1.2.1	Regulatory quality*.....	18.2	121	◇	5.1.4	GERD financed by business, %.....	n/a n/a
1.2.2	Rule of law*.....	23.5	117		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	18.4 100
1.3	Business environment	56.7	113		5.2.1	University/industry research collaboration*.....	23.7 123 ○ ◇
1.3.1	Ease of starting a business*.....	83.0	92		5.2.2	State of cluster development*.....	41.5 88
1.3.2	Ease of resolving insolvency*.....	30.4	119	◇	5.2.3	GERD financed by abroad, %.....	n/a n/a
				Score/Value	Rank		
HUMAN CAPITAL & RESEARCH				11.3	119		
2.1	Education	26.4	[114]		5.3	Knowledge absorption	24.6 105
2.1.1	Expenditure on education, % GDP.....	n/a	n/a		5.3.1	Intellectual property payments, % total trade.....	0.5 64 ●
2.1.2	Government funding/pupil, secondary, % GDP/cap... ..	n/a	n/a		5.3.2	High-tech imports, % total trade.....	4.0 117
2.1.3	School life expectancy, years.....	8.7	113	○ ◇	5.3.3	ICT services imports, % total trade.....	0.9 81
2.1.4	PISA scales in reading, maths, & science.....	n/a	n/a		5.3.4	FDI net inflows, % GDP.....	0.9 106
2.1.5	Pupil-teacher ratio, secondary.....	23.2	94		5.3.5	Research talent, % in business enterprise.....	n/a n/a
2.2	Tertiary education	7.5	[114]		KNOWLEDGE & TECHNOLOGY OUTPUTS14.0 106		
2.2.1	Tertiary enrolment, % gross.....	10.2	107	◇	6.1	Knowledge creation	5.0 99
2.2.2	Graduates in science & engineering, %.....	n/a	n/a		6.1.1	Patents by origin/bn PPP\$ GDP.....	0.1 119
2.2.3	Tertiary inbound mobility, %.....	n/a	n/a		6.1.2	PCT patents by origin/bn PPP\$ GDP.....	0.0 98
2.3	Research & development (R&D)	0.0	[120]		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.....	1.8 115
2.3.2	Gross expenditure on R&D, % GDP.....	n/a	n/a		6.1.5	Citable documents H-index.....	10.3 65 ●
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$.....	0.0	43	○ ◇	6.2	Knowledge impact	26.9 102
2.3.4	QS university ranking, average score top 3*.....	0.0	78	○ ◇	6.2.1	Growth rate of PPP\$ GDP/worker, %.....	-0.1 91 ◇
				Score/Value	Rank		
INFRASTRUCTURE				26.6	122		
3.1	Information & communication technologies (ICTs)	36.7	111	◇	6.2.2	New businesses/th pop. 15-64.....	0.8 78
3.1.1	ICT access*.....	29.9	117	◇	6.2.3	Computer software spending, % GDP.....	0.1 83
3.1.2	ICT use*.....	15.9	114	◇	6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	0.2 126 ○ ◇
3.1.3	Government's online service*.....	52.8	103		6.2.5	High- & medium-high-tech manufactures, %.....	n/a n/a
3.1.4	E-participation*.....	48.3	105		6.3	Knowledge diffusion	10.1 101
3.2	General infrastructure	14.1	126	○ ◇	6.3.1	Intellectual property receipts, % total trade.....	n/a n/a
3.2.1	Electricity output, kWh/mn pop.....	166.1	115	◇	6.3.2	High-tech net exports, % total trade.....	0.0 122 ○
3.2.2	Logistics performance*.....	21.9	102		6.3.3	ICT services exports, % total trade.....	0.6 99
3.2.3	Gross capital formation, % GDP.....	13.6	120	○ ◇	6.3.4	FDI net outflows, % GDP.....	0.3 79
3.3	Ecological sustainability	29.1	103		CREATIVE OUTPUTS18.8 101		
3.3.1	GDP/unit of energy use.....	6.6	93		7.1	Intangible assets	32.0 102
3.3.2	Environmental performance*.....	54.8	84		7.1.1	Trademarks by origin/bn PPP\$ GDP.....	19.8 89
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..	0.1	125	○ ◇	7.1.2	Industrial designs by origin/bn PPP\$ GDP.....	0.8 72
				Score/Value	Rank		
MARKET SOPHISTICATION				43.4	88		
4.1	Credit	34.2	72		7.1.3	ICTs & business model creation*.....	55.1 85
4.1.1	Ease of getting credit*.....	85.0	11	●	7.1.4	ICTs & organizational model creation*.....	47.5 88
4.1.2	Domestic credit to private sector, % GDP.....	14.2	119	◇	7.2	Creative goods & services	10.8 [81]
4.1.3	Microfinance gross loans, % GDP.....	0.8	26	●	7.2.1	Cultural & creative services exports, % total trade.....	n/a n/a
4.2	Investment	34.8	101		7.2.2	National feature films/mn pop. 15-69.....	11.2 12 ● ◆
4.2.1	Ease of protecting minority investors*.....	66.7	35	●	7.2.3	Entertainment & Media market/th pop. 15-69.....	0.6 59
4.2.2	Market capitalization, % GDP.....	9.1	70		7.2.4	Printing & other media, % manufacturing.....	n/a n/a
4.2.3	Venture capital deals/bn PPP\$ GDP.....	0.0	47		7.2.5	Creative goods exports, % total trade.....	0.0 126 ○
4.3	Trade, competition, & market scale	61.2	63	●	7.3	Online creativity	0.3 117
4.3.1	Applied tariff rate, weighted avg., %.....	11.3	118	◇	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....	0.5 107
4.3.2	Intensity of local competition*.....	68.7	66	●	7.3.2	Country-code TLDs/th pop. 15-69.....	0.3 102
4.3.3	Domestic market scale, bn PPP\$.....	1,169.1	23	● ◆	7.3.3	Wikipedia edits/mn pop. 15-69.....	0.3 112
					7.3.4	Mobile app creation/bn PPP\$ GDP.....	0.1 81

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 missing or are outdated for Nigeria.

Missing data

Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	n/a	2015	UNESCO Institute for Statistics
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2015	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths & science	n/a	2015	OECD Programme for International Student Assessment (PISA)
2.2.2	Graduates in science & engineering, %	n/a	2016	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	n/a	2016	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	n/a	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	n/a	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.3	GERD performed by business, % GDP	n/a	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.4	GERD financed by business, %	n/a	2016	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.2.3	GERD financed by abroad, %	n/a	2016	UNESCO Institute for Statistics
5.3.5	Research talent, % in business enterprise	n/a	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2017	World Intellectual Property Organization
6.2.5	High- & medium-high-tech manufactures, %	n/a	2016	United Nations Industrial Development Organization
6.3.1	Intellectual property receipts, % total trade	n/a	2017	World Trade Organization
7.2.1	Cultural & creative services exports, % total trade	n/a	2017	World Trade Organization
7.2.4	Printing & other media, % manufacturing	n/a	2016	United Nations Industrial Development Organization

Outdated data

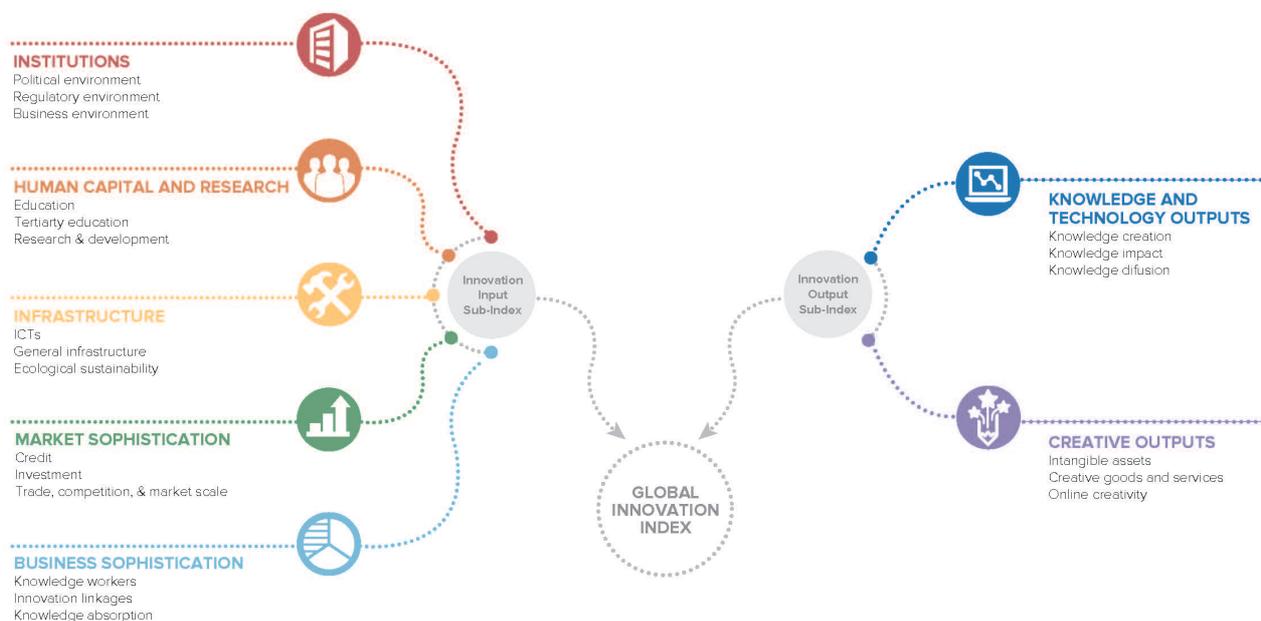
Code	Indicator name	Country year	Model year	Source
2.1.3	School life expectancy, years	2011	2016	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2010	2017	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2011	2017	UNESCO Institute for Statistics
4.3.1	Applied tariff rate, weighted mean, %	2016	2017	World Bank
5.1.1	Knowledge-intensive employment, %	2013	2017	Source: International Labour Organization
5.1.5	Females employed w/advanced degrees, %	2016	2017	International Labour Organization
6.1.1	Patents by origin/bn PPP\$ GDP	2013	2017	World Intellectual Property Organization
7.1.1	Trademarks by origin/bn PPP\$ GDP	2013	2017	World Intellectual Property Organization
7.1.2	Industrial designs by origin/bn PPP\$ GDP	2013	2017	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	2017	United Nations, COMTRADE
7.3.3	Wikipedia edits/mn pop. 15–69	2014	2017	Wikimedia Foundation

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 2019, the GII presents its 12th edition devoted to the theme **Creating Healthy Lives—The Future of Medical Innovation**.

Recognizing that innovation is a key driver of economic development, the GII aims to provide a rich innovation ranking and 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 countries that incorporate the GII into their innovation agendas.

Framework of the Global Innovation Index 2019



The Index is a ranking of the innovation capabilities and results of world economies. It measures innovation based on criteria that includes 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 containing three sub-pillars.

