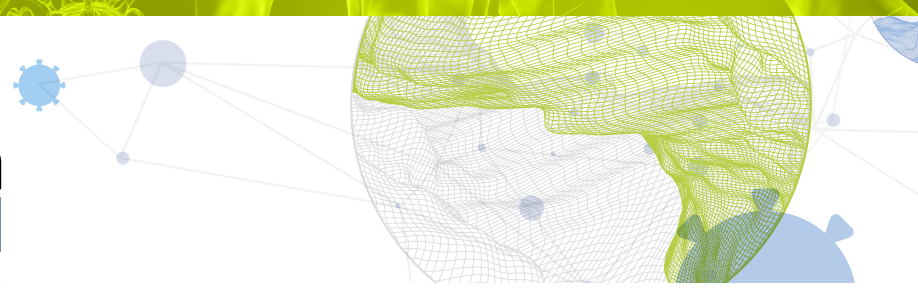




# Global Innovation Index 2021



## GUINEA

**130th** Guinea ranks 130th 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 Guinea 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 Guinea in the GII 2021 is between ranks 130 and 132.

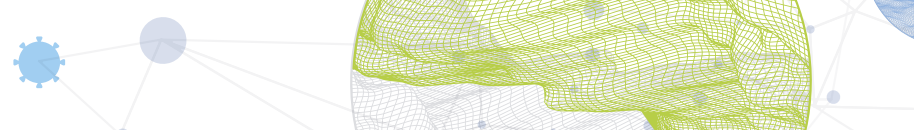
### Rankings for Guinea (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	130	130	126
2020	130	128	122
2019	125	127	124

- Guinea performs better in innovation outputs than innovation inputs in 2021.
- This year Guinea ranks 130th in innovation inputs, lower than both 2020 and 2019.
- As for innovation outputs, Guinea ranks 126th. This position is lower than both 2020 and 2019.

**12th** Guinea ranks 12th among the 13 low-income group economies.

**26th** Guinea ranks 26th among the 27 economies in Sub-Saharan Africa.

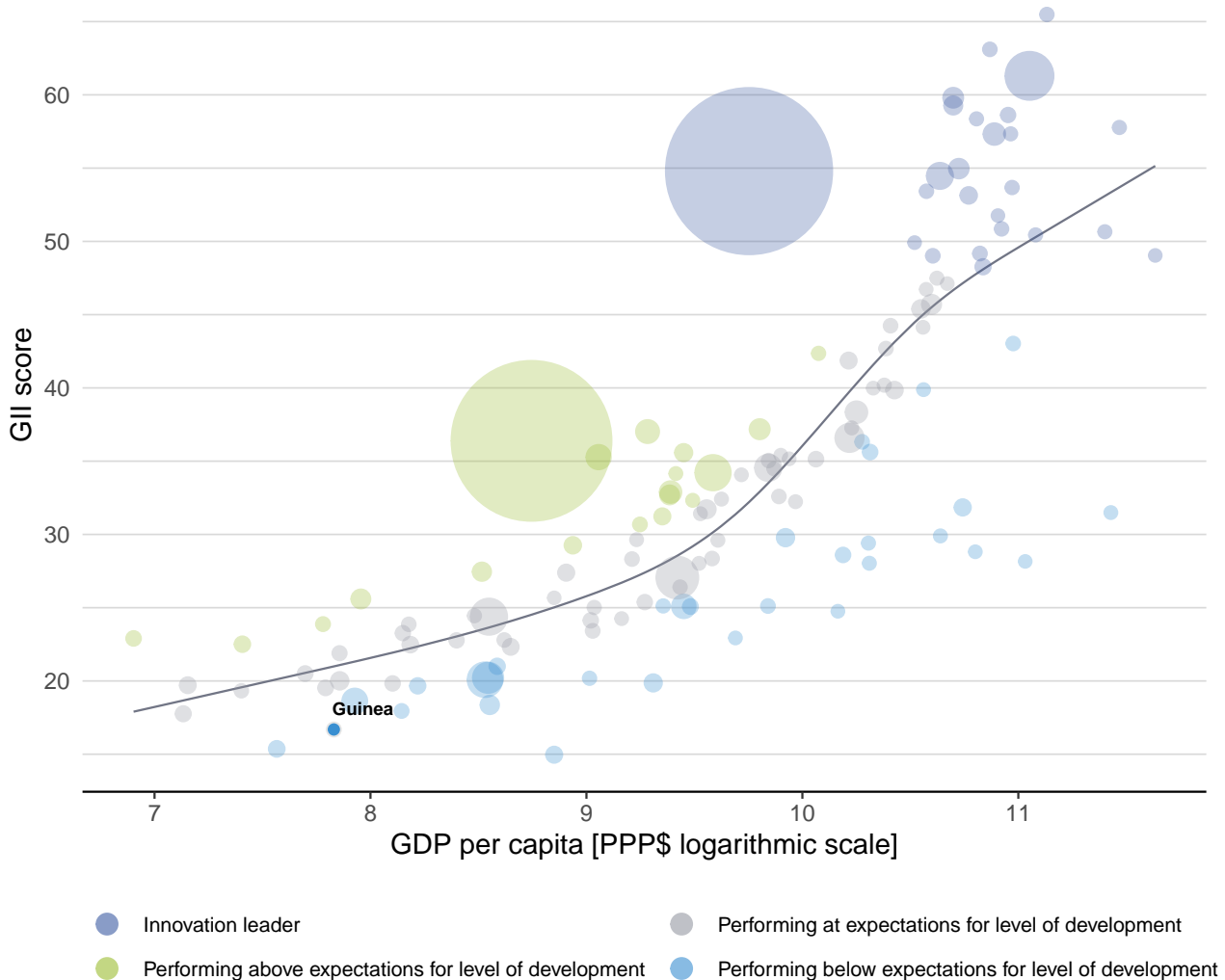


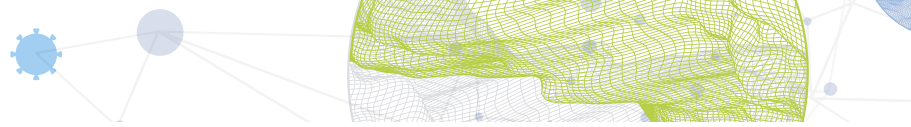
## EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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 performing below expectations.

Relative to GDP, Guinea's performance is below expectations for its level of development.

### The positive relationship between innovation and development



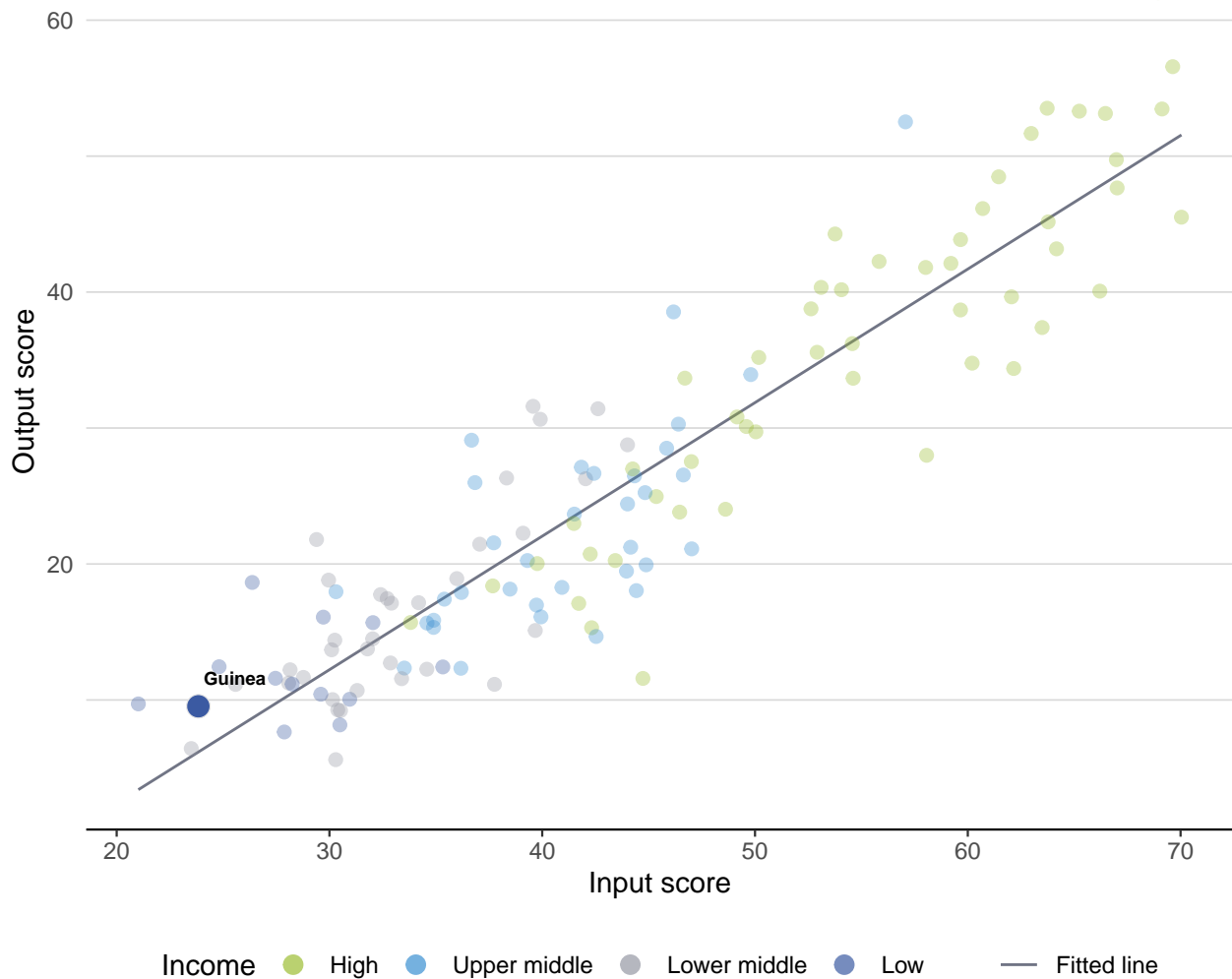


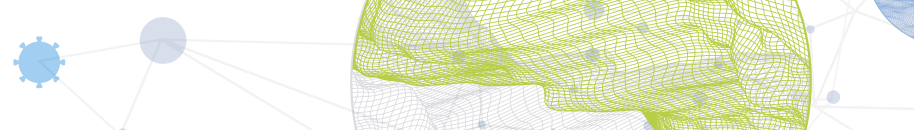
## EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

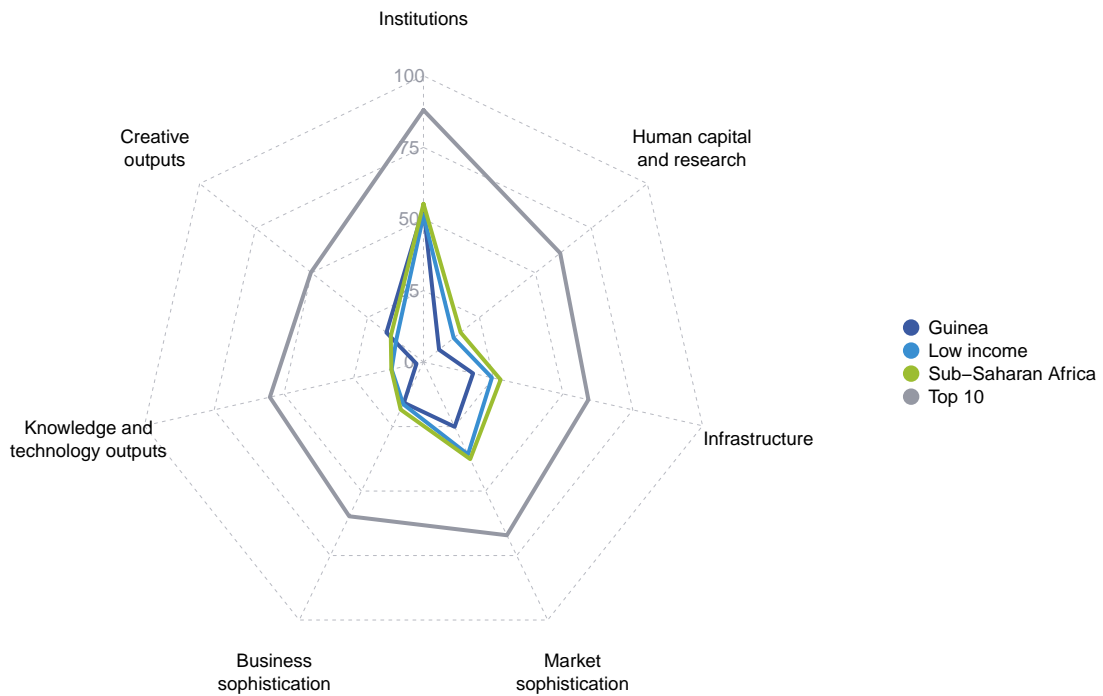
### Innovation input to output performance





# BENCHMARKING AGAINST OTHER LOW-INCOME GROUP ECONOMIES AND SUB-SAHARAN AFRICA

## The seven GII pillar scores for Guinea

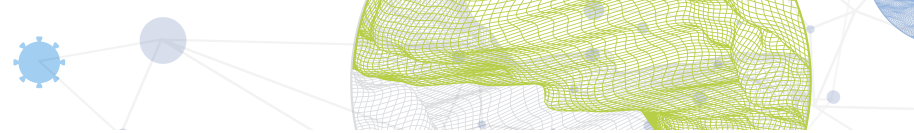


### Low-income group economies

Guinea performs above the low-income group average in two pillars, namely: Institutions; and, Creative outputs.

### Sub-Saharan Africa

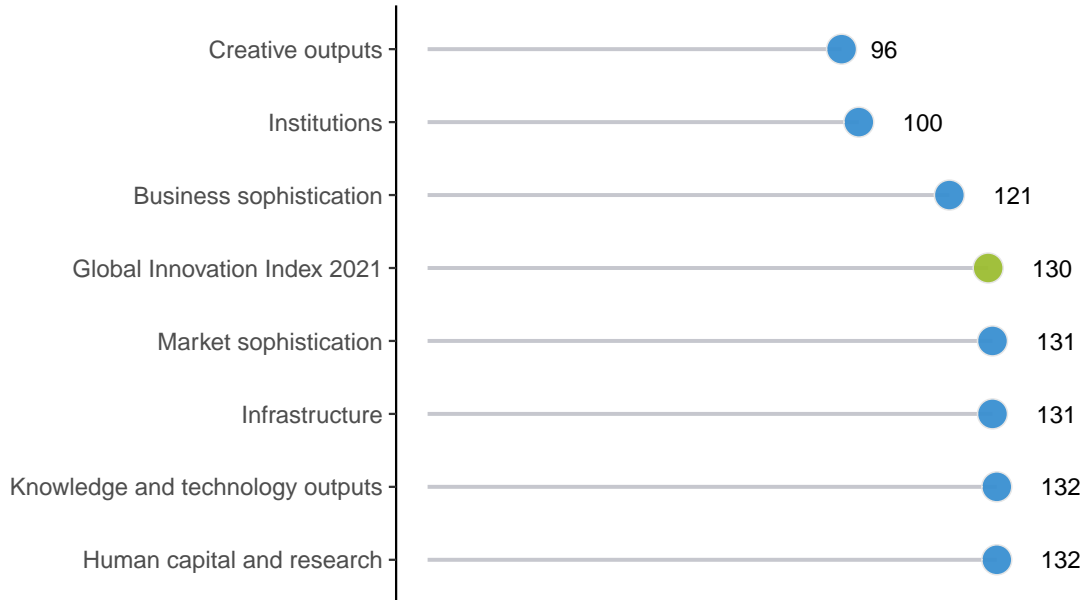
Guinea performs above the regional average in Creative outputs.



## OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Guinea performs best in Creative outputs and its weakest performance is in Human capital and research and knowledge and technology outputs.

### The seven GII pillar ranks for Guinea



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 Guinea in the GII 2021.

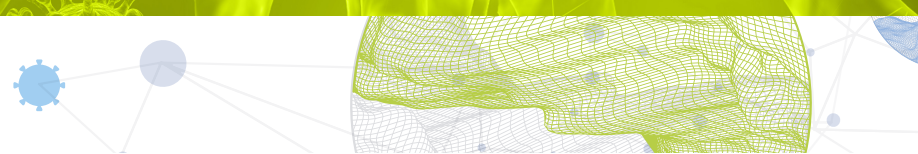
### Strengths and weaknesses for Guinea

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
1.2	Regulatory environment	88	2.1	Education	130
1.2.3	Cost of redundancy dismissal	30	2.3.3	Global corporate R&D investors, top 3, mn US\$	41
1.3.1	Ease of starting a business	94	2.3.4	QS university ranking, top 3	74
4.1.3	Microfinance gross loans, % GDP	51	3.1.3	Government's online service	130
5.2.1	University-industry R&D collaboration	48	3.3	Ecological sustainability	130
5.3.3	ICT services imports, % total trade	92	3.3.2	Environmental performance	128
5.3.4	FDI net inflows, % GDP	47	4.1.2	Domestic credit to private sector, % GDP	129
6.3.4	ICT services exports, % total trade	93	5.2.5	Patent families/bn PPP\$ GDP	100
7.1	Intangible assets	79	5.3	Knowledge absorption	132
7.1.3	Industrial designs by origin/bn PPP\$ GDP	57	6.1	Knowledge creation	130
7.1.4	ICTs and organizational model creation	45	6.1.1	Patents by origin/bn PPP\$ GDP	128
7.2.1	Cultural and creative services exports, % total trade	65	6.1.2	PCT patents by origin/bn PPP\$ GDP	98
			6.1.3	Utility models by origin/bn PPP\$ GDP	76
			7.2.5	Creative goods exports, % total trade	129
			7.3.2	Country-code TLDs/th pop. 15–69	132

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$	GII 2020 rank
126	130	Low	SSF	13.1	35.1	2,516	130

	Score/Value	Rank		Score/Value	Rank
<b>Institutions</b>	53.6	100	<b>Business sophistication</b>	15.8	[121]
<b>1.1 Political environment</b>	41.9	110	<b>5.1 Knowledge workers</b>	9.6	[125]
1.1.1 Political and operational stability*	58.9	100	5.1.1 Knowledge-intensive employment, %	7.4	114
1.1.2 Government effectiveness*	33.3	116	5.1.2 Firms offering formal training, %	16.0	89
<b>1.2 Regulatory environment</b>	57.5	88 ●	5.1.3 GERD performed by business, % GDP	n/a	n/a
1.2.1 Regulatory quality*	23.4	118	5.1.4 GERD financed by business, %	n/a	n/a
1.2.2 Rule of law*	14.9	129	5.1.5 Females employed w/advanced degrees, %	2.2	104
1.2.3 Cost of redundancy dismissal	10.1	30 ●	<b>5.2 Innovation linkages</b>	26.3	[44]
<b>1.3 Business environment</b>	61.5	102	5.2.1 University-industry R&D collaboration†	46.9	48 ●◆
1.3.1 Ease of starting a business*	84.5	94 ●	5.2.2 State of cluster development and depth†	42.2	93
1.3.2 Ease of resolving insolvency*	38.6	103	5.2.3 GERD financed by abroad, % GDP	n/a	n/a
<b>Human capital and research</b>	7.0	132 ○◇	5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP	n/a	n/a
<b>2.1 Education</b>	15.0	130 ○◇	5.2.5 Patent families/bn PPP\$ GDP	0.0	100 ○◇
2.1.1 Expenditure on education, % GDP	2.3	109 ◇	<b>5.3 Knowledge absorption</b>	11.4	132 ○◇
2.1.2 Government funding/pupil, secondary, % GDP/cap ○	8.2	95 ◇	5.3.1 Intellectual property payments, % total trade	0.0	114
2.1.3 School life expectancy, years	9.0	113	5.3.2 High-tech imports, % total trade	2.4	128 ○◇
2.1.4 PISA scales in reading, maths and science	n/a	n/a	5.3.3 ICT services imports, % total trade	0.7	92 ●
2.1.5 Pupil-teacher ratio, secondary	33.1	120	5.3.4 FDI net inflows, % GDP	3.1	47 ●
<b>2.2 Tertiary education</b>	5.9	122	5.3.5 Research talent, % in businesses	n/a	n/a
2.2.1 Tertiary enrolment, % gross	11.6	110	<b>Knowledge and technology outputs</b>	2.5	132 ○◇
2.2.2 Graduates in science and engineering, %	n/a	n/a	<b>6.1 Knowledge creation</b>	1.3	130 ○◇
2.2.3 Tertiary inbound mobility, %	0.9	90	6.1.1 Patents by origin/bn PPP\$ GDP	0.0	128 ○◇
<b>2.3 Research and development (R&amp;D)</b>	0.0	[123]	6.1.2 PCT patents by origin/bn PPP\$ GDP	0.0	98 ○◇
2.3.1 Researchers, FTE/mn pop.	n/a	n/a	6.1.3 Utility models by origin/bn PPP\$ GDP	0.0	76 ○◇
2.3.2 Gross expenditure on R&D, % GDP	n/a	n/a	6.1.4 Scientific and technical articles/bn PPP\$ GDP	2.9	122
2.3.3 Global corporate R&D investors, top 3, mn US\$	0.0	41 ○◇	6.1.5 Citable documents H-index	2.3	128
2.3.4 QS university ranking, top 3*	0.0	74 ○◇	<b>6.2 Knowledge impact</b>	1.8	[132]
<b>Infrastructure</b>	17.8	131 ○◇	6.2.1 Labor productivity growth, %	n/a	n/a
<b>3.1 Information and communication technologies (ICTs)</b>	25.2	129	6.2.2 New businesses/th pop. 15–64	0.4	102
3.1.1 ICT access*	33.3	119	6.2.3 Software spending, % GDP	0.0	106
3.1.2 ICT use*	15.0	121	6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP	0.4	125
3.1.3 Government's online service*	21.8	130 ○◇	6.2.5 High-tech manufacturing, %	n/a	n/a
3.1.4 E-participation*	31.0	124	<b>6.3 Knowledge diffusion</b>	4.4	122
<b>3.2 General infrastructure</b>	14.3	119	6.3.1 Intellectual property receipts, % total trade	n/a	n/a
3.2.1 Electricity output, GWh/mn pop.	n/a	n/a	6.3.2 Production and export complexity	10.8	118 ◇
3.2.2 Logistics performance*	7.2	122 ◇	6.3.3 High-tech exports, % total trade	0.0	128 ◇
3.2.3 Gross capital formation, % GDP	17.1	103	6.3.4 ICT services exports, % total trade	0.7	93 ●
<b>3.3 Ecological sustainability</b>	13.7	130 ○	<b>Creative outputs</b>	16.6	96
3.3.1 GDP/unit of energy use	n/a	n/a	<b>7.1 Intangible assets</b>	27.1	79 ●
3.3.2 Environmental performance*	26.4	128 ○◇	7.1.1 Trademarks by origin/bn PPP\$ GDP	7.2	116
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP	0.2	111	7.1.2 Global brand value, top 5,000, % GDP	n/a	n/a
<b>Market sophistication</b>	25.1	131 ○◇	7.1.3 Industrial designs by origin/bn PPP\$ GDP	1.4	57 ●
<b>4.1 Credit</b>	13.3	127	7.1.4 ICTs and organizational model creation†	60.0	45 ●◆
4.1.1 Ease of getting credit*	30.0	122	<b>7.2 Creative goods and services</b>	2.8	[112]
4.1.2 Domestic credit to private sector, % GDP	9.0	129 ○	7.2.1 Cultural and creative services exports, % total trade ○	0.3	65 ●
4.1.3 Microfinance gross loans, % GDP	0.2	51 ●	7.2.2 National feature films/mn pop. 15–69	0.9	86
<b>4.2 Investment</b>	26.0	[80]	7.2.3 Entertainment and media market/th pop. 15–69	n/a	n/a
4.2.1 Ease of protecting minority investors*	26.0	126	7.2.4 Printing and other media, % manufacturing	n/a	n/a
4.2.2 Market capitalization, % GDP	n/a	n/a	7.2.5 Creative goods exports, % total trade	0.0	129 ○
4.2.3 Venture capital investors, deals/bn PPP\$ GDP	n/a	n/a	<b>7.3 Online creativity</b>	9.3	99
4.2.4 Venture capital recipients, deals/bn PPP\$ GDP	n/a	n/a	7.3.1 Generic top-level domains (TLDs)/th pop. 15–69	0.1	125
<b>4.3 Trade, diversification, and market scale</b>	36.0	127 ◇	7.3.2 Country-code TLDs/th pop. 15–69	0.0	132 ○◇
4.3.1 Applied tariff rate, weighted avg., %	10.9	121 ◇	7.3.3 Wikipedia edits/mn pop. 15–69	30.6	101
4.3.2 Domestic industry diversification	n/a	n/a	7.3.4 Mobile app creation/bn PPP\$ GDP	n/a	n/a
4.3.3 Domestic market scale, bn PPP\$	35.1	115			

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.



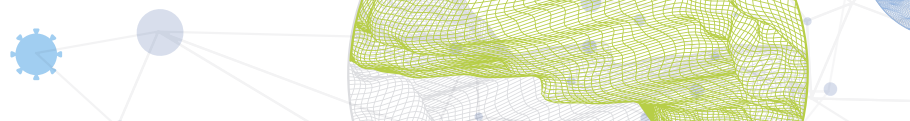
## DATA AVAILABILITY

The following tables list data that are either missing or outdated for Guinea.

### Missing data for Guinea

Code	Indicator name	Economy year	Model year	Source
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD Programme for International Student Assessment (PISA)
2.2.2	Graduates in science and engineering, %	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.1	Researchers, FTE/mn pop.	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
3.2.1	Electricity output, GWh/mn pop.	n/a	2018	International Energy Agency
3.3.1	GDP/unit of energy use	n/a	2018	International Energy Agency
4.2.2	Market capitalization, % GDP	n/a	2019	World Federation of Exchanges
4.2.3	Venture capital investors, deals/bn PPP\$ GDP	n/a	2020	Refinitiv Eikon
4.2.4	Venture capital recipients, deals/bn PPP\$ GDP	n/a	2020	Refinitiv Eikon
4.3.2	Domestic industry diversification	n/a	2018	United Nations Industrial Development Organization
5.1.3	GERD performed by business, % GDP	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.4	GERD financed by business, %	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.2.3	GERD financed by abroad, % GDP	n/a	2018	UNESCO Institute for Statistics
5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	n/a	2020	Refinitiv

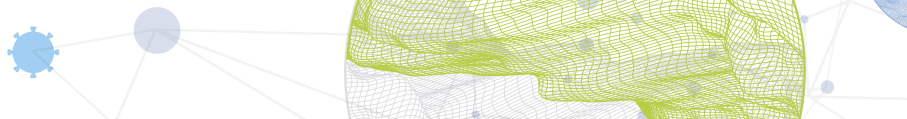




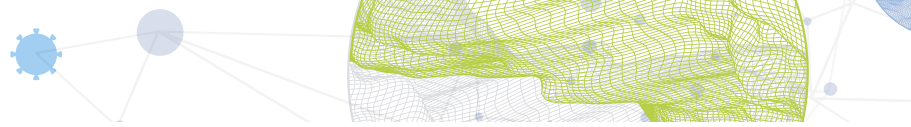
Code	Indicator name	Economy year	Model year	Source
5.3.5	Research talent, % in businesses	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
6.2.1	Labor productivity growth, %	n/a	2020	The Conference Board
6.2.5	High-tech manufacturing, %	n/a	2018	United Nations Industrial Development Organization
6.3.1	Intellectual property receipts, % total trade	n/a	2019	World Trade Organization
7.1.2	Global brand value, top 5,000, % GDP	n/a	2020	Brand Finance
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2020	PwC
7.2.4	Printing and other media, % manufacturing	n/a	2018	United Nations Industrial Development Organization
7.3.4	Mobile app creation/bn PPP\$ GDP	n/a	2020	App Annie

### Outdated data for Guinea

Code	Indicator name	Economy year	Model year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	2014	2017	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2014	2018	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2011	2019	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2014	2018	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	2012	2018	UNESCO Institute for Statistics
4.1.2	Domestic credit to private sector, % GDP	2018	2019	International Monetary Fund
4.1.3	Microfinance gross loans, % GDP	2012	2018	Microfinance Information Exchange
5.1.2	Firms offering formal training, %	2016	2019	World Bank
5.3.1	Intellectual property payments, % total trade	2012	2019	World Trade Organization
5.3.2	High-tech imports, % total trade	2016	2019	United Nations, COMTRADE
6.3.3	High-tech exports, % total trade	2016	2019	United Nations, COMTRADE



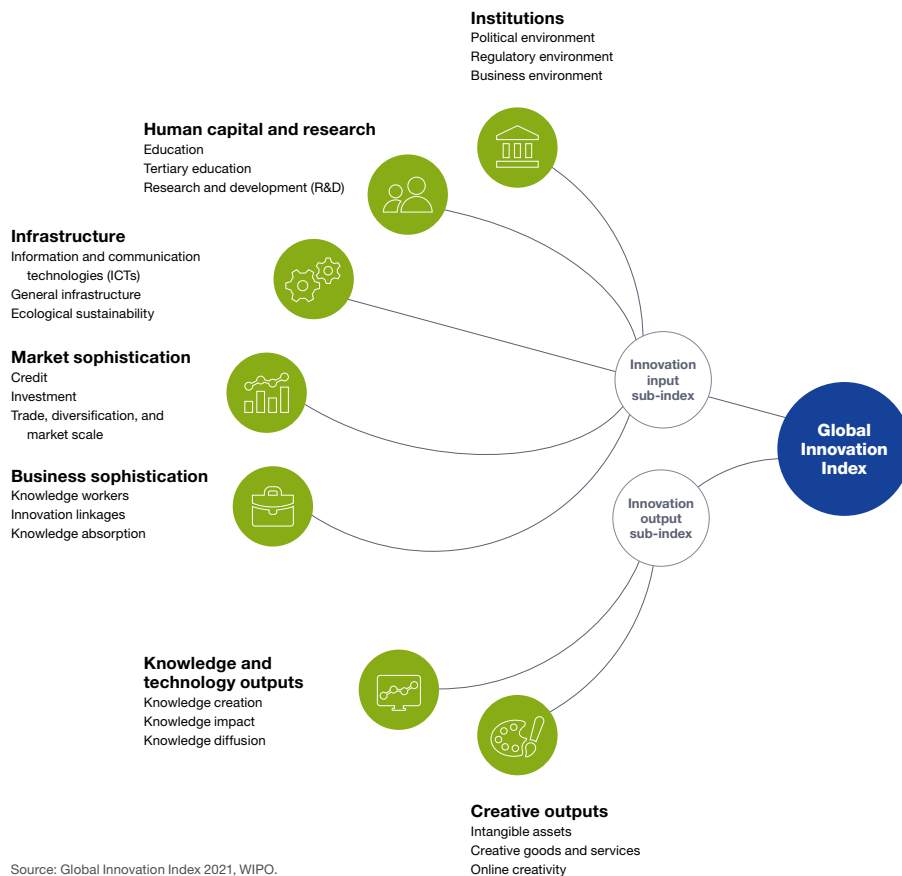
<b>Code</b>	<b>Indicator name</b>	<b>Economy year</b>	<b>Model year</b>	<b>Source</b>
7.2.1	Cultural and creative services exports, % total trade	2012	2019	World Trade Organization
7.2.2	National feature films/mn pop. 15–69	2010	2017	UNESCO Institute for Statistics
7.2.5	Creative goods exports, % total trade	2016	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.



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.