GLOBAL INNOVATION INDEX 2020

CÔTE D'IVOIRE

112th Côte d'Ivoire ranks 112th 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 Côte d'Ivoire 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 Côte d'Ivoire in the GII 2020 is between ranks 110 and 115.

Rankings of Côte d'Ivoire (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	112	105	115
2019	103	110	91
2018	123	122	121

- Côte d'Ivoire performs better in innovation inputs than innovation outputs in 2020.
- This year Côte d'Ivoire ranks 105th in innovation inputs, higher than last year and higher compared to 2018.
- As for innovation outputs, Côte d'Ivoire ranks 115th. This position is lower than last year and higher compared to 2018.

22nd Côte d'Ivoire ranks 22nd among the 29 lower middle-income group economies.

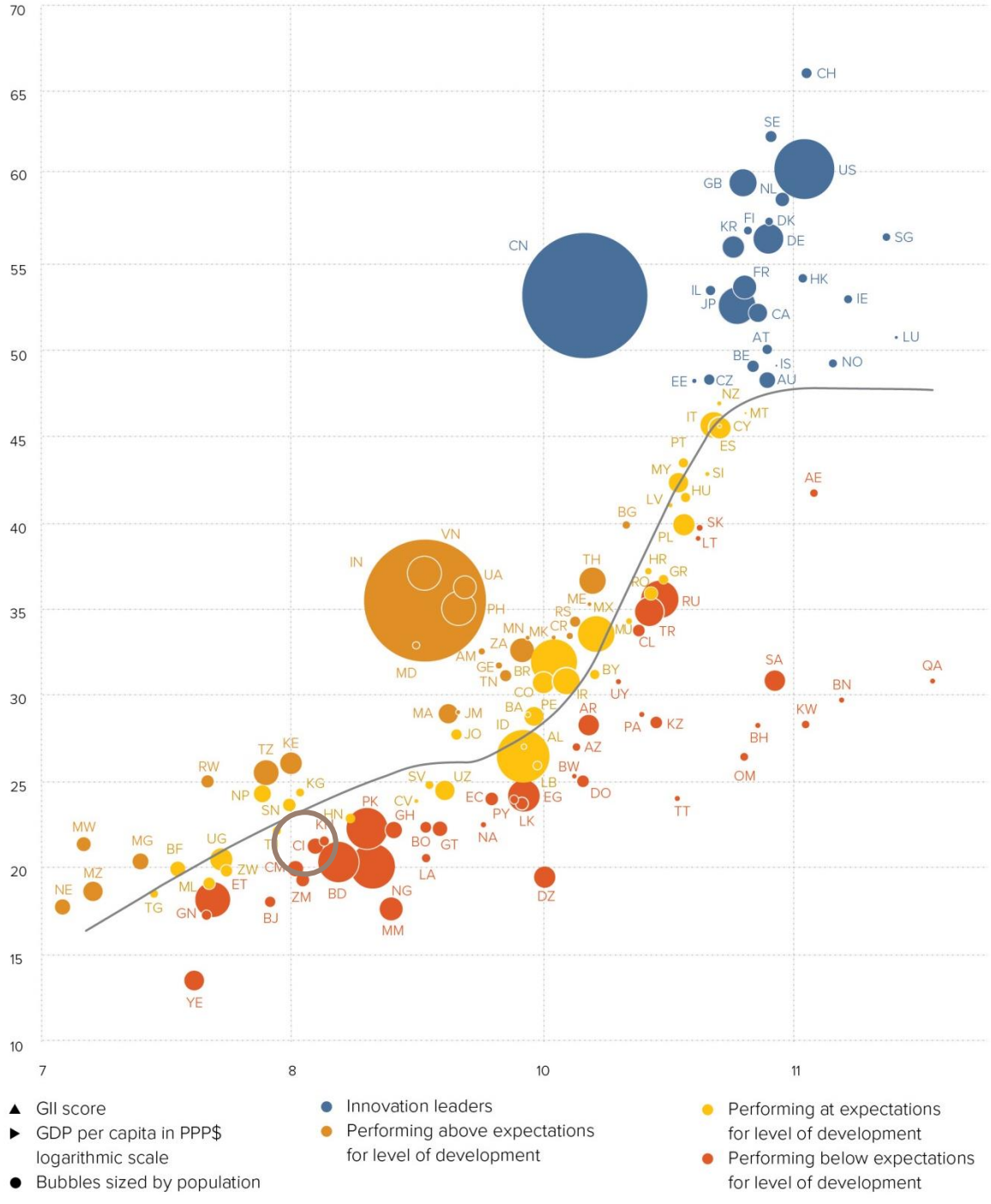
12th Côte d'Ivoire ranks 12th among the 26 economies in Sub-Saharan Africa.

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 performing below expectations.

Relative to GDP, Côte d'Ivoire is performing below expectations for its level of development.

The positive relationship between innovation and development

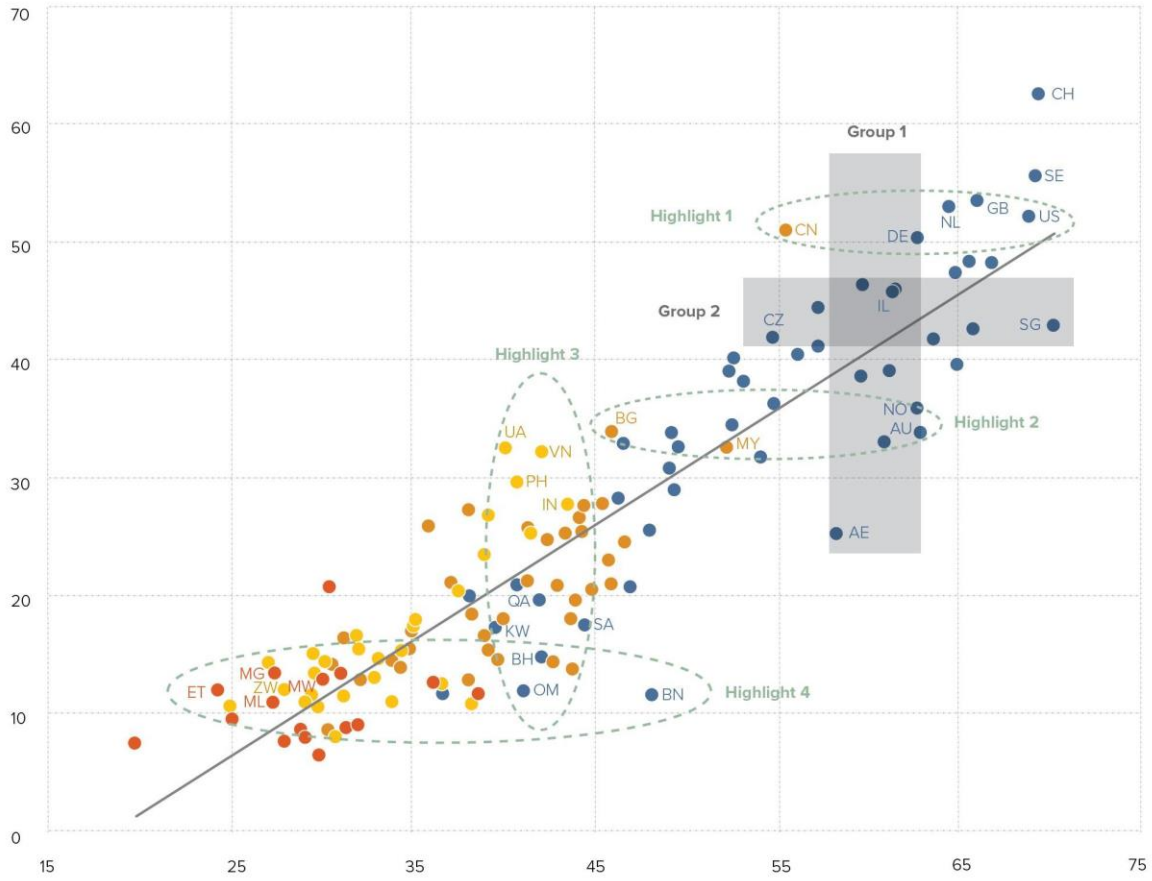


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

Côte d'Ivoire produces less innovation outputs relative to its level of innovation investments.

Innovation input to output performance, 2020



▲ Output score
► Input score

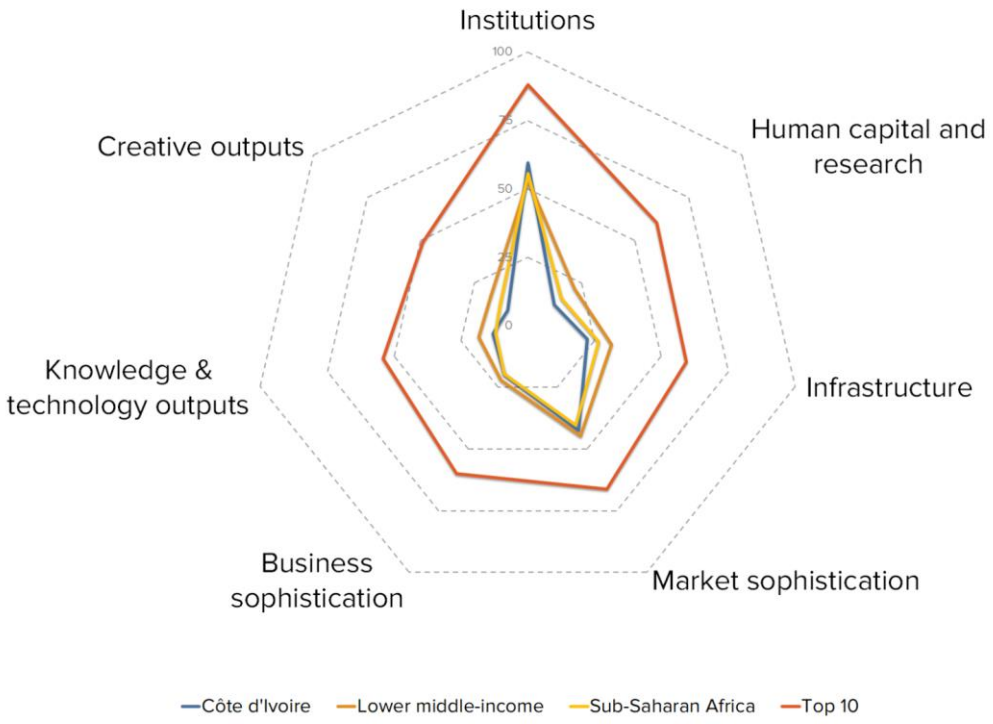
● High income group
● Upper middle-income group
● Lower middle-income group
● Low income group

— Fitted values

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 CÔTE D'IVOIRE AGAINST OTHER LOWER MIDDLE-INCOME GROUP ECONOMIES AND SUB-SAHARAN AFRICA

Côte d'Ivoire's scores in the seven GII pillars



Lower middle-income group economies

Côte d'Ivoire has high scores in one out of the seven GII pillars: Institutions, which is above average for the lower middle-income group.

Conversely, Côte d'Ivoire scores below average for its income group in six pillars: Human capital & research, Infrastructure, Market sophistication, Business sophistication, Knowledge & technology outputs and Creative outputs.

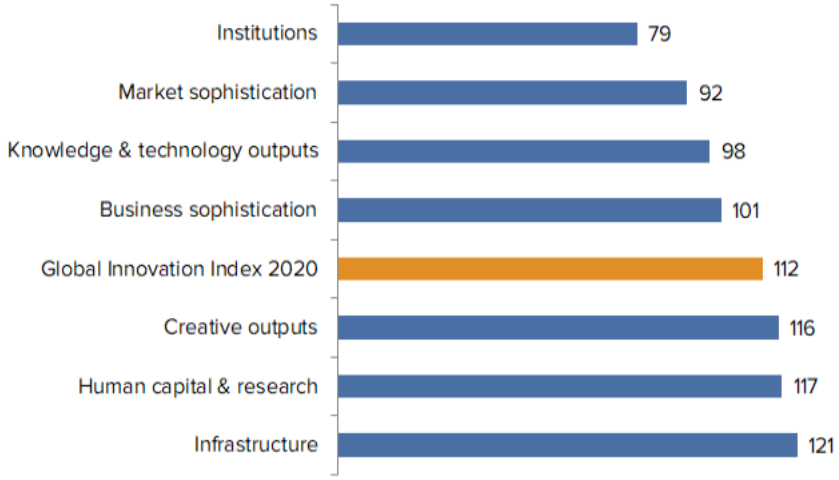
Sub-Saharan Africa

Compared to other economies in Sub-Saharan Africa, Côte d'Ivoire performs:

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

OVERVIEW OF CÔTE D'IVOIRE RANKINGS IN THE SEVEN GII AREAS

Côte d'Ivoire performs best in Institutions 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 Côte d'Ivoire in the GII 2020.

Strengths

Code	Indicator name	Rank
1.2.3	Cost of redundancy dismissal, salary weeks	46
1.3	Business environment	69
1.3.1	Ease of starting a business*	27
3.2.2	Logistics performance*	49
4.1.1	Ease of getting credit*	44
4.1.3	Microfinance gross loans, % GDP	44
4.3.2	Intensity of local competition†	57
5.1.2	Firms offering formal training, %	40
5.3.3	ICT services imports, % total trade	32
6.2.1	Growth rate of PPP$ GDP/worker, %	11
6.3.4	FDI net outflows, % GDP	47

Weaknesses

Code	Indicator name	Rank
2.3.2	Gross expenditure on R&D, % GDP	108
2.3.3	Global R&D companies, top 3, mn US$	42
2.3.4	QS university ranking, average score top 3*	77
3.1	Information & communication technologies (ICTs)	125
3.1.3	Government's online service*	125
3.1.4	E-participation*	126
3.3.2	Environmental performance*	128
5.2.5	Patent families 2+ offices/bn PPP$ GDP	101
5.3.1	Intellectual property payments, % total trade	115
6.2.3	Computer software spending, % GDP	119
7.3.3	Wikipedia edits/mn pop. 15–69	116

STRENGTHS

GII strengths for Côte d'Ivoire are found in five of the seven GII pillars.

- Institutions (79): exhibits strengths in the sub-pillar Business environment (69) and in the indicators Cost of redundancy dismissal (46) and Ease of starting a business (27).
- Infrastructure (121): the indicator Logistics performance (49) reveals a strength.
- Market sophistication (92): shows strengths in the indicators Ease of getting credit (44), Microfinance gross loans (44) and Intensity of local competition (57).
- Business sophistication (101): displays strengths in the indicators Firms offering formal training (40) and ICT services imports (32).
- Knowledge & technology outputs (98): reveals strengths in the indicators Growth rate of PPP (11) and FDI net outflows (47).

WEAKNESSES

GII weaknesses for Côte d'Ivoire are found in five of the seven GII pillars.

- Human capital & research (117): shows weaknesses in the indicators Gross expenditure on R&D (108), Global R&D companies (42) and QS university ranking (77).
- Infrastructure (121): displays weaknesses in the sub-pillar Information & communication technologies (125) and in the indicators Government's online service (125), E-participation (126) and Environmental performance (128).
- Business sophistication (101): exhibits weaknesses in the indicators Patent families (101) and Intellectual property payments (115).
- Knowledge & technology outputs (98): the indicator Computer software spending (119) demonstrates a weakness.
- Creative outputs (116): shows weakness in the indicator Wikipedia edits (116).

CÔTE D'IVOIRE

GII 2020 rank

112

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2019 rank
115	**105**	**Lower middle**	**SSF**	**25.7**	**117.1**	**3,891.2**	**103**

		Score/Value	Rank	
INSTITUTIONS		**59.5**	**79**	
1.1	**Political environment**	**45.8**	**102**	
1.1.1	Political and operational stability*	62.5	92	
1.1.2	Government effectiveness*	37.4	104	
1.2	**Regulatory environment**	**62.1**	**74**	◆
1.2.1	Regulatory quality*	36.8	85	
1.2.2	Rule of law*	31.6	99	
1.2.3	Cost of redundancy dismissal, salary weeks	13.1	46	●
1.3	**Business environment**	**70.8**	**69**	●
1.3.1	Ease of starting a business*	93.7	27	● ◆
1.3.2	Ease of resolving insolvency*	47.9	77	
HUMAN CAPITAL & RESEARCH		**12.2**	**117**	◇
2.1	**Education**	**28.9**	**109**	
2.1.1	Expenditure on education, % GDP	4.4	65	
2.1.2	Government funding/pupil, secondary, % GDP/cap	18.3	60	
2.1.3	School life expectancy, years	10.0	110	◇
2.1.4	PISA scales in reading, maths, & science	n/a	n/a	
2.1.5	Pupil-teacher ratio, secondary	27.3	113	◇
2.2	**Tertiary education**	**7.3**	**118**	◇
2.2.1	Tertiary enrolment, % gross	9.3	112	
2.2.2	Graduates in science & engineering, %	n/a	n/a	
2.2.3	Tertiary inbound mobility, %	2.2	76	
2.3	**Research & development (R&D)**	**0.5**	**113**	
2.3.1	Researchers, FTE/mn pop	n/a	n/a	
2.3.2	Gross expenditure on R&D, % GDP	0.1	108	○
2.3.3	Global R&D companies, avg. exp. top 3, mn $US	0.0	42	○ ◇
2.3.4	QS university ranking, average score top 3*	0.0	77	○ ◇
INFRASTRUCTURE		**22.4**	**121**	◇
3.1	**Information & communication technologies (ICTs)**	**27.8**	**125**	○ ◇
3.1.1	ICT access*	37.6	109	
3.1.2	ICT use*	33.9	102	
3.1.3	Government's online service*	22.2	125	○ ◇
3.1.4	E-participation*	17.4	126	○ ◇
3.2	**General infrastructure**	**22.5**	**84**	
3.2.1	Electricity output, kWh/mn pop	421.9	110	
3.2.2	Logistics performance*	47.5	49	● ◆
3.2.3	Gross capital formation, % GDP	22.1	78	
3.3	**Ecological sustainability**	**16.9**	**118**	◇
3.3.1	GDP/unit of energy use	8.2	77	
3.3.2	Environmental performance*	25.8	128	○ ◇
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.3	95	
MARKET SOPHISTICATION		**42.6**	**92**	
4.1	**Credit**	**32.6**	**100**	
4.1.1	Ease of getting credit*	70.0	44	●
4.1.2	Domestic credit to private sector, % GDP	26.2	101	
4.1.3	Microfinance gross loans, % GDP	0.3	44	●
4.2	**Investment**	**42.0**	**[47]**	
4.2.1	Ease of protecting minority investors*	42.0	102	
4.2.2	Market capitalization, % GDP	n/a	n/a	
4.2.3	Venture capital deals/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, competition, and market scale**	**53.3**	**101**	
4.3.1	Applied tariff rate, weighted avg., %	10.2	116	◇
4.3.2	Intensity of local competition+	70.2	57	●
4.3.3	Domestic market scale, bn PPP$	117.1	76	

		Score/Value	Rank	
BUSINESS SOPHISTICATION		**19.7**	**101**	
5.1	**Knowledge workers**	**21.9**	**[95]**	
5.1.1	Knowledge-intensive employment, %	10.3	106	
5.1.2	Firms offering formal training, %	35.5	40	●
5.1.3	GERD performed by business, % GDP	n/a	n/a	
5.1.4	GERD financed by business, %	n/a	n/a	
5.1.5	Females employed w/advanced degrees, %	1.3	107	
5.2	**Innovation linkages**	**15.9**	**104**	
5.2.1	University/industry research collaboration+	30.8	108	
5.2.2	State of cluster development+	38.3	102	
5.2.3	GERD financed by abroad, % GDP	n/a	n/a	
5.2.4	JV-strategic alliance deals/bn PPP$ GDP	0.0	110	
5.2.5	Patent families 2+ offices/bn PPP$ GDP	0.0	101	○ ◇
5.3	**Knowledge absorption**	**21.3**	**95**	
5.3.1	Intellectual property payments, % total trade	0.0	115	○ ◇
5.3.2	High-tech imports, % total trade	6.1	95	
5.3.3	ICT services imports, % total trade	1.9	32	● ◆
5.3.4	FDI net inflows, % GDP	2.1	79	
5.3.5	Research talent, % in business enterprise	n/a	n/a	
KNOWLEDGE & TECHNOLOGY OUTPUTS		**13.1**	**98**	
6.1	**Knowledge creation**	**3.5**	**118**	
6.1.1	Patents by origin/bn PPP$ GDP	0.2	98	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.0	96	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific & technical articles/bn PPP$ GDP	2.0	119	
6.1.5	Citable documents H-index	6.3	94	
6.2	**Knowledge impact**	**20.3**	**82**	
6.2.1	Growth rate of PPP$ GDP/worker, %	4.8	11	●
6.2.2	New businesses/th pop. 15-64	0.7	89	
6.2.3	Computer software spending, % GDP	0.0	119	○ ◇
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	1.7	87	
6.2.5	High- and medium-high-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	**15.4**	**92**	
6.3.1	Intellectual property receipts, % total trade	0.0	91	
6.3.2	High-tech net exports, % total trade	0.6	76	
6.3.3	ICT services exports, % total trade	1.2	78	
6.3.4	FDI net outflows, % GDP	1.3	47	●
CREATIVE OUTPUTS		**9.3**	**116**	
7.1	**Intangible assets**	**16.7**	**106**	
7.1.1	Trademarks by origin/bn PPP$ GDP	11.0	108	
7.1.2	Global brand value, top 5,000, % GDP	5.5	68	
7.1.3	Industrial designs by origin/bn PPP$ GDP	0.9	74	
7.1.4	ICTs & organizational model creation+	50.3	81	
7.2	**Creative goods and services**	**0.9**	**[127]**	
7.2.1	Cultural & creative services exports, % total trade	0.1	87	
7.2.2	National feature films/mn pop. 15-69	n/a	n/a	
7.2.3	Entertainment & Media market/th pop. 15-69	n/a	n/a	
7.2.4	Printing and other media, % manufacturing	n/a	n/a	
7.2.5	Creative goods exports, % total trade	0.0	113	
7.3	**Online creativity**	**2.9**	**117**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	0.4	112	
7.3.2	Country-code TLDs/th pop. 15-69	0.2	110	
7.3.3	Wikipedia edits/mn pop. 15-69	12.8	116	○ ◇
7.3.4	Mobile app creation/bn PPP$ GDP	n/a	n/a	

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 Côte d'Ivoire.

Missing data

Code	Indicator name	Country year	Model year	Source
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
2.3.1	Researchers, FTE/mn pop.	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
4.2.2	Market capitalization, % GDP	n/a	2018	World Federation of Exchanges
4.2.3	Venture capital deals/bn PPP$ GDP	n/a	2019	Thomson Reuters
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- & medium-high-tech manufacturing, %	n/a	2017	United Nations Industrial Development Organization
7.2.2	National feature films/mn pop. 15–69	n/a	2017	UNESCO Institute for Statistics
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2018	PwC
7.2.4	Printing & other media, % manufacturing	n/a	2017	United Nations Industrial Development Organization
7.3.4	Mobile app creation/bn PPP$ GDP	n/a	2019	App Annie

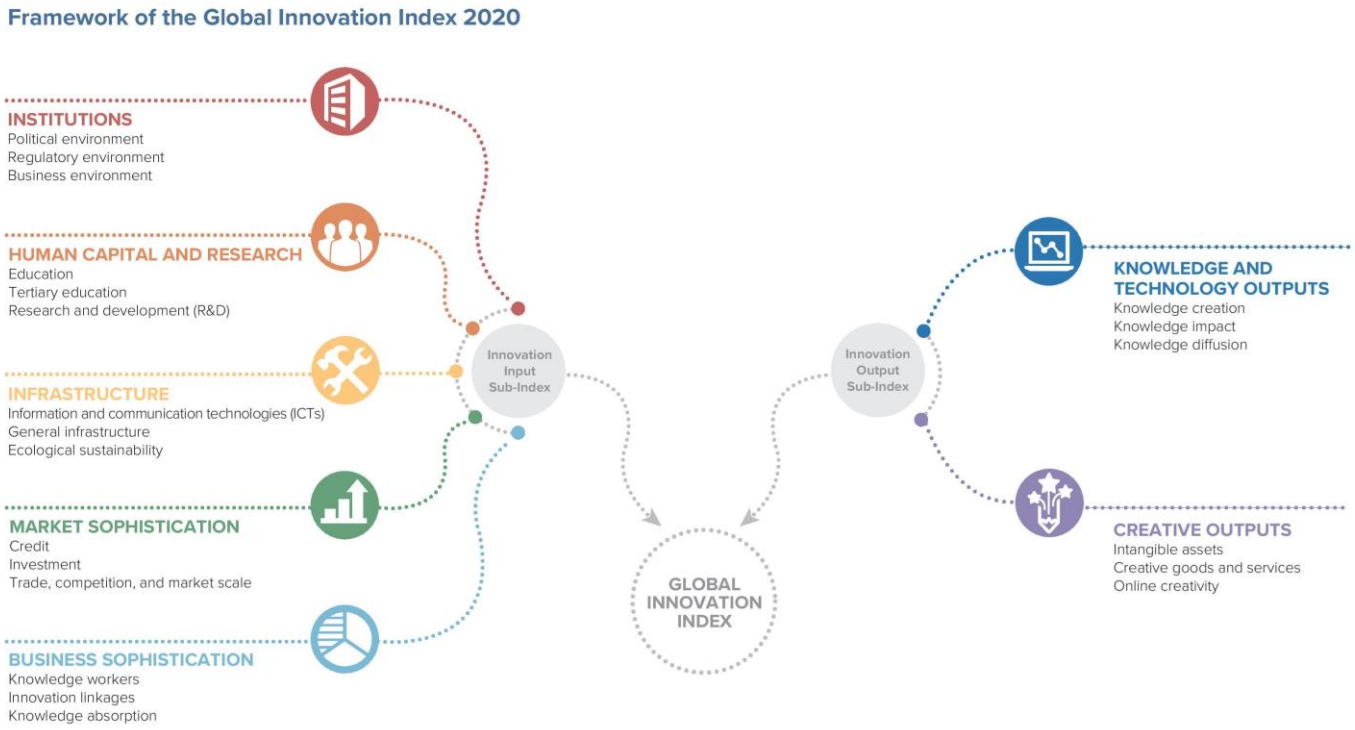
Outdated data

Code	Indicator name	Country year	Model year	Source
2.3.2	Gross expenditure on R&D, % GDP	2016	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.1.1	Knowledge-intensive employment, %	2017	2018	International Labour Organization
5.1.2	Firms offering formal training, %	2015	2018	World Bank
5.1.5	Females employed w/advanced degrees, %	2017	2018	International Labour Organization
5.3.1	Intellectual property payments, % total trade	2017	2018	World Trade Organization
5.3.3	ICT services imports, % total trade	2017	2018	World Trade Organization
6.3.1	Intellectual property receipts, % total trade	2016	2018	World Trade Organization
6.3.3	ICT services exports, % total trade	2017	2018	World Trade Organization

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.



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.