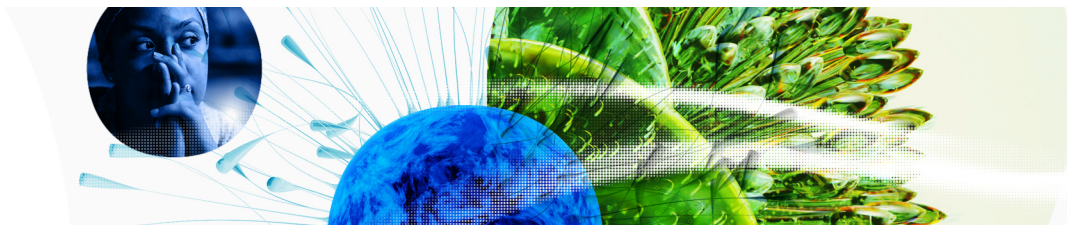


Global Innovation Index 2023

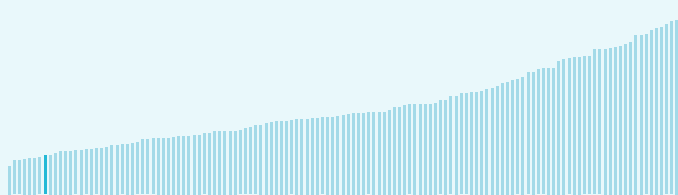


The Global Innovation Index (GII) **ranks world economies according to their innovation capabilities.**

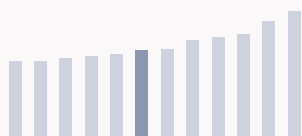
Consisting of **roughly 80 indicators**, grouped into innovation inputs and outputs, the GII **aims to capture the multi-dimensional facets of innovation.**

Ethiopia ranking in the Global Innovation Index 2023

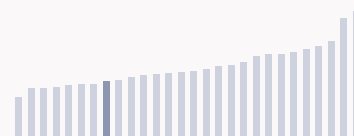
> Ethiopia ranks **125th** among the 132 economies featured in the GII 2023.



> Ethiopia ranks **7th** among the 12 low-income group economies.



> Ethiopia ranks **21st** among the 28 economies in Sub-Saharan Africa.



> Ethiopia GII Ranking (2020-2023)

The table shows the rankings of Ethiopia over the past four years. 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 Ethiopia in the GII 2023 is between ranks 121 and 127.

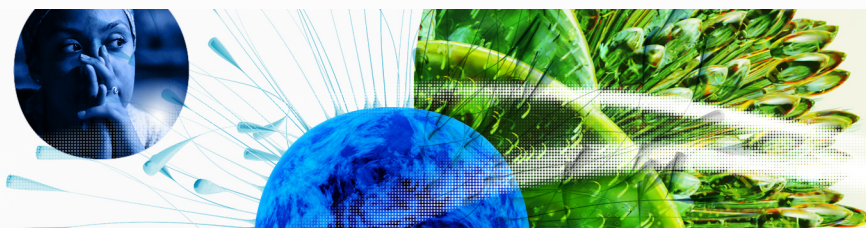
	GII Position	Innovation Inputs	Innovation Outputs
2020	127th	130th	110th
2021	126th	129th	107th
2022	117th	126th	100th
2023	125th	130th	109th

Ethiopia performs better in innovation outputs than innovation inputs in 2023.

This year Ethiopia ranks 130th in innovation inputs. This position is lower than last year.

Ethiopia ranks 109th in innovation outputs. This position is lower than last year.

Global Innovation Index 2023



→ 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, Ethiopia's performance is below expectations for its level of development.

> Innovation overperformers relative to their economic development

↑ **GII Score**



- Innovation leader
- Performing above expectations for level of development
- Performing at expectations for level of development
- Performing below expectations for level of development

Size legend (Population)



→ GDP per capita, PPP logarithmic scale (thousands of \$)

Global Innovation Index 2023



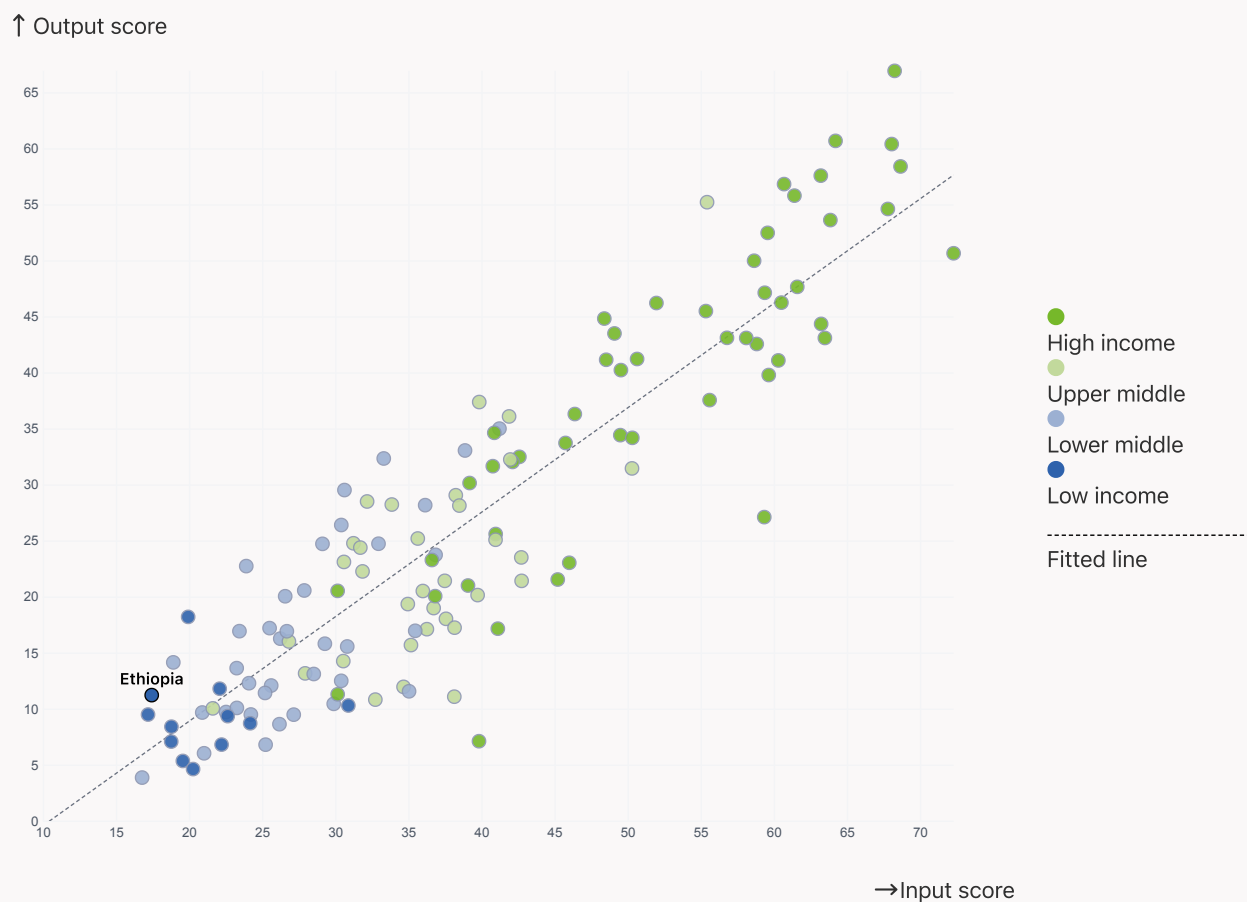
→ Effectively translating innovation investments into innovation outputs

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.



> Ethiopia produces more innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

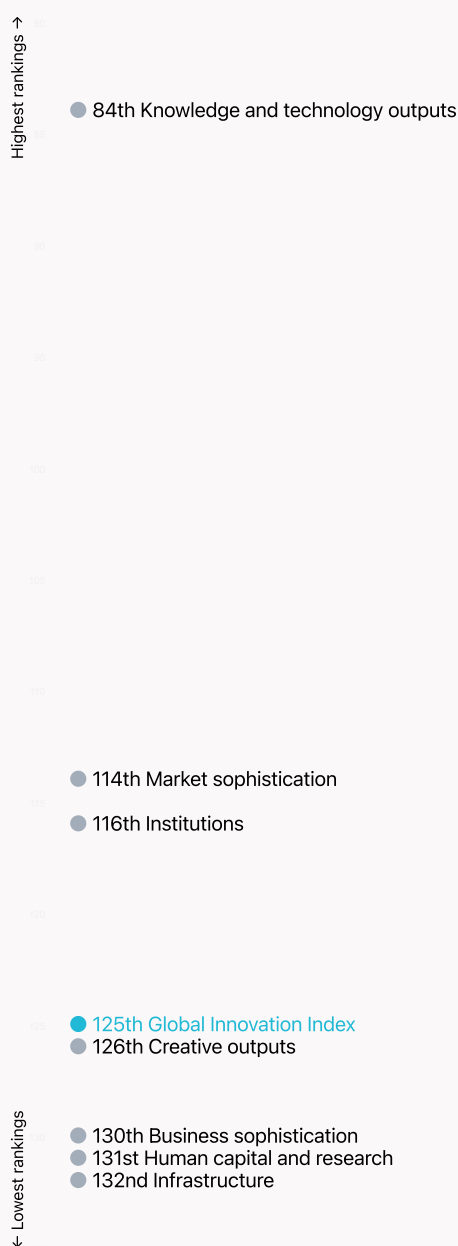


Global Innovation Index 2023



→ Overview of Ethiopia's rankings in the seven areas of the GII in 2023

The chart shows the ranking for each of the seven areas that the GII comprises. The strongest areas for Ethiopia are those that rank above the GII (shown in blue) and the weakest are those that rank below.



> Highest rankings



Ethiopia ranks highest in Knowledge and technology outputs (84th), Market sophistication (114th) and Institutions (116th).

> Lowest rankings



Ethiopia ranks lowest in Infrastructure (132nd), Human capital and research (131st) and Business sophistication (130th).



The full WIPO Intellectual Property Statistics profile for Ethiopia can be found on [this link](#).

Global Innovation Index 2023



→ Benchmark of Ethiopia against other country groupings for each of the seven areas of the GII Index

The charts show the relative position of Ethiopia (blue bar) against other country groupings (grey bars), for each of the seven areas of the GII Index.

> Low-Income economies

Ethiopia performs below the low-income group average in Creative outputs, Business sophistication, Human capital and research, Infrastructure, Institutions.



> Sub-Saharan Africa

Ethiopia performs below the regional average in Creative outputs, Business sophistication, Market sophistication, Human capital and research, Infrastructure, Institutions.



Knowledge and technology outputs

Top 10 | Score: 58.96

Ethiopia | Score: 17.85

Sub-Saharan Africa | Score: 12.16

Low income | Score: 11.03

Creative outputs

Top 10 | 56.09

Sub-Saharan Africa | 10.36

Low income | 7.48

Ethiopia | 4.55

Business sophistication

Top 10 | 64.39

Sub-Saharan Africa | 19.85

Low income | 16.81

Ethiopia | 14.66

Market sophistication

Top 10 | 61.93

Sub-Saharan Africa | 20.00

Ethiopia | 19.83

Low income | 15.67

Human capital and research

Top 10 | 60.28

Sub-Saharan Africa | 17.80

Low income | 15.55

Ethiopia | 8.03

Infrastructure

Top 10 | 62.83

Sub-Saharan Africa | 23.36

Low income | 19.43

Ethiopia | 12.07

Institutions

Top 10 | 79.85

Sub-Saharan Africa | 43.27

Low income | 38.42

Ethiopia | 32.67

Global Innovation Index 2023



→ Innovation strengths and weaknesses in Ethiopia

The table below gives an overview of the indicator strengths and weaknesses of Ethiopia in the GII 2023.

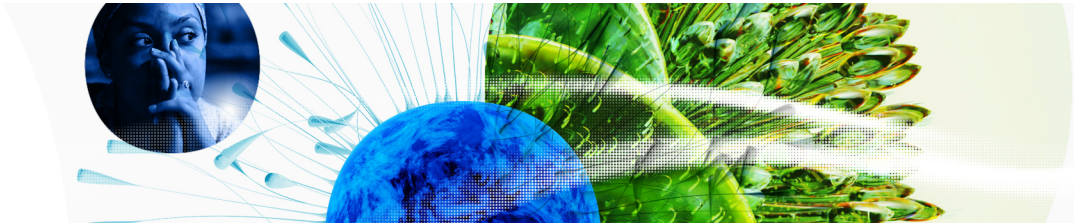


> Ethiopia's main innovation strengths are **Labor productivity growth, % (rank 8)**, **Utility models by origin/bn PPP\$ GDP (rank 19)** and **High-tech imports, % total trade (rank 40)**.

Strengths

Rank	Code	Indicator name	Rank	Code	Indicator name
8	6.2.1	Labor productivity growth, %	132	7.3.2	Country-code TLDs/th pop. 15-69
19	6.1.3	Utility models by origin/bn PPP\$ GDP	131	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69
40	5.3.2	High-tech imports, % total trade	131	3.1.1	ICT access
40	6.1.4	Scientific and technical articles/bn PPP\$ GDP	131	3.1.2	ICT use
43	5.3.3	ICT services imports, % total trade	131	3.3.3	ISO 14001 environment/bn PPP\$ GDP
48	5.3.4	FDI net inflows, % GDP	130	6.2.3	Software spending, % GDP
48	5.2.3	GERD financed by abroad, % GDP	95	5.2.5	Patent families/bn PPP\$ GDP
55	4.3.3	Domestic market scale, bn PPP\$	71	2.3.4	QS university ranking, top 3
66	7.1.3	Global brand value, top 5,000	48	6.2.2	Unicorn valuation, % GDP
			40	2.3.3	Global corporate R&D investors, top 3, mn US\$

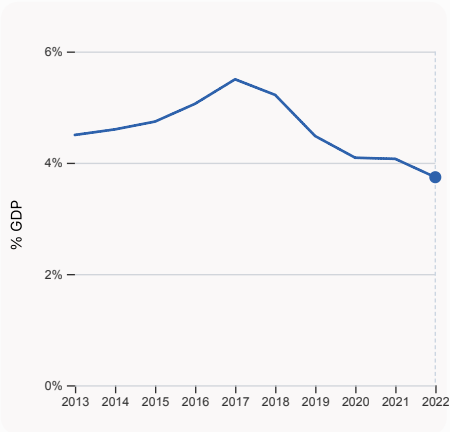
Global Innovation Index 2023



→ Ethiopia's innovation system

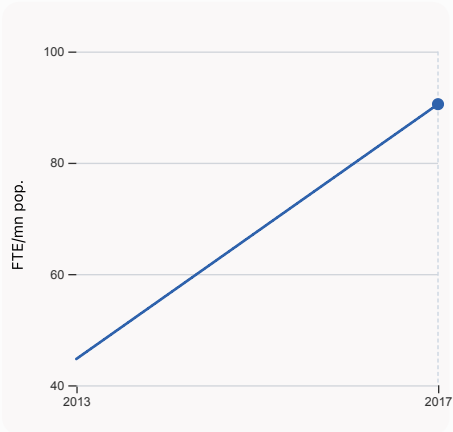
As far as practicable, the plots below present unscaled indicator data.

> Innovation inputs in Ethiopia



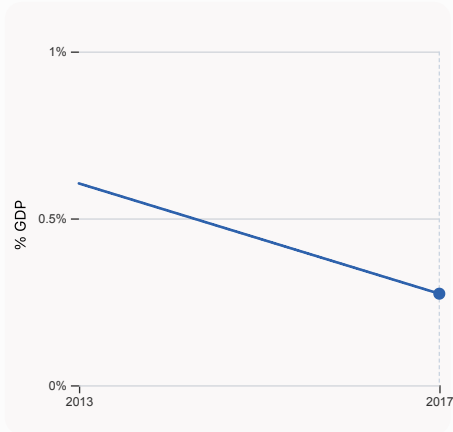
2.1.1 Expenditure on education, % GDP

was equal to 3.74% GDP in 2022, down by 0.33 percentage points from the year prior – and equivalent to an indicator rank of 82.



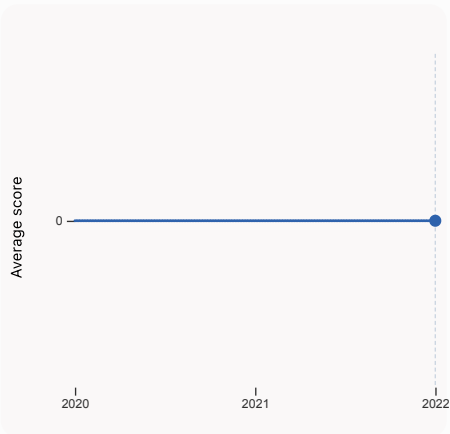
2.3.1 Researchers, FTE/mn pop.

was equal to 90.53 FTE/mn pop. in 2017, up by 102.39% from the year prior – and equivalent to an indicator rank of 90.



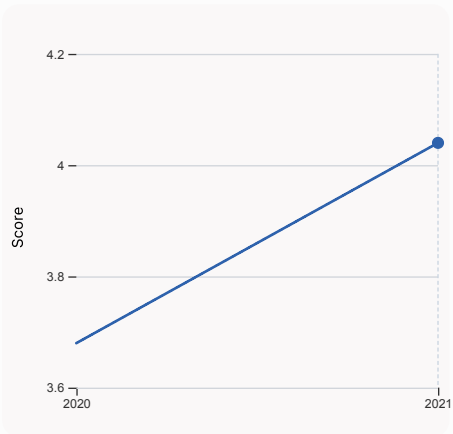
2.3.2 Gross expenditure on R&D, % GDP

was equal to 0.274% GDP in 2017, down by 0.33 percentage points from the year prior – and equivalent to an indicator rank of 81.



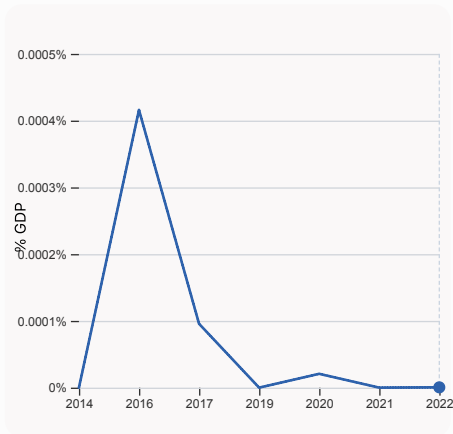
2.3.4 QS university ranking, top 3

was equal to an average score of 0 for the top 3 universities in 2022, equivalent to an indicator rank of 71.



3.1.1 ICT access

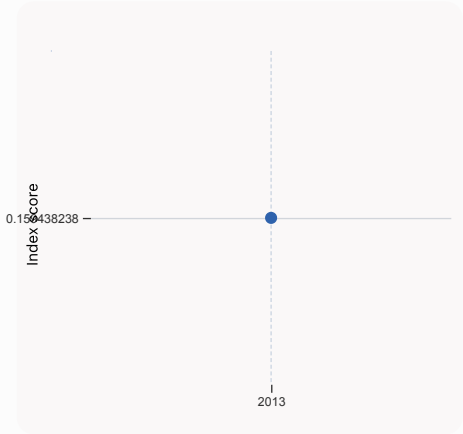
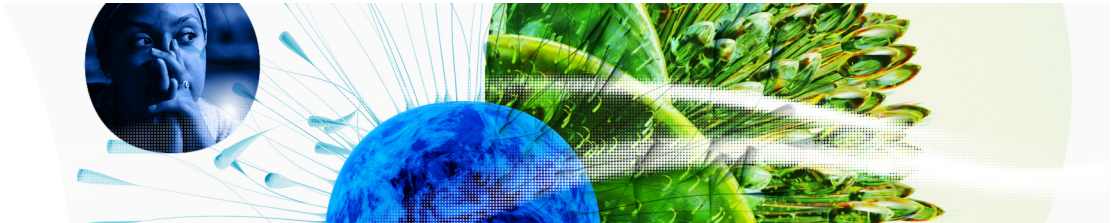
was equal to a score of 4.04 in 2021, up by 9.78% from the year prior – and equivalent to an indicator rank of 131.



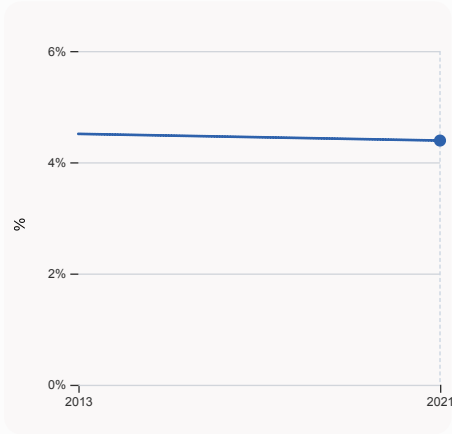
4.2.4 VC received, value, % GDP

was equal to 0 % GDP in 2022, equivalent to an indicator rank of 98.

Global Innovation Index 2023

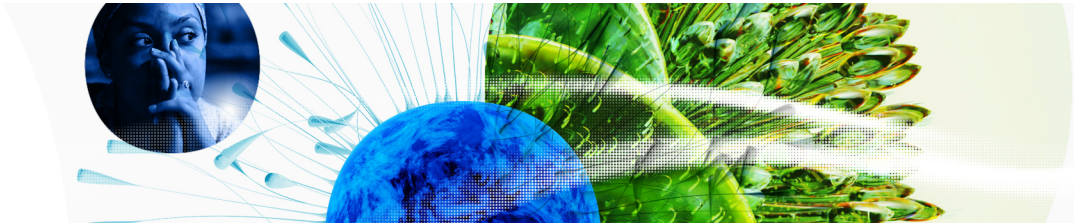


4.3.2 Domestic industry diversification was equal to an index score of 0.159 in 2013, equivalent to an indicator rank of 52.

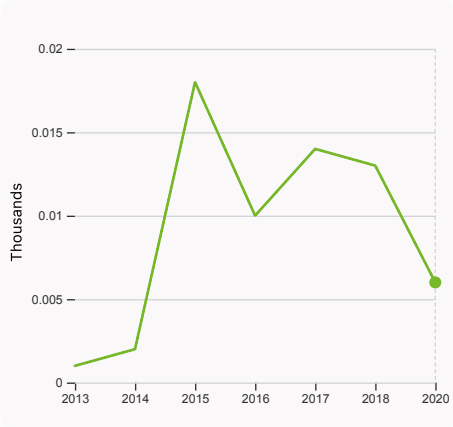


5.1.1 Knowledge-intensive employment, % was equal to 4.39% in 2021, down by 0.12 percentage points from the year prior – and equivalent to an indicator rank of 121.

Global Innovation Index 2023

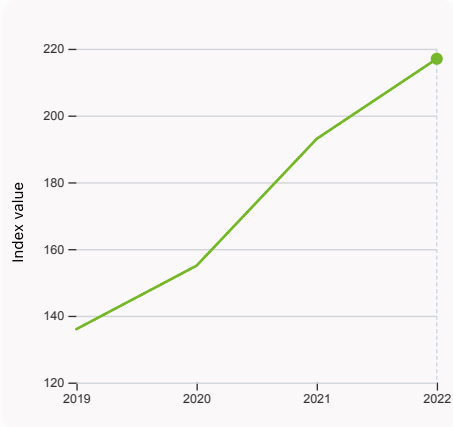


> Innovation outputs in Ethiopia



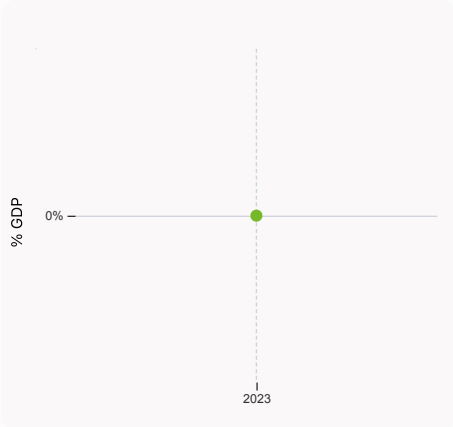
6.1.1 Patents by origin

was equal to 0.006 Thousands in 2020, down by 53.85% from the year prior – and equivalent to an indicator rank of 127.



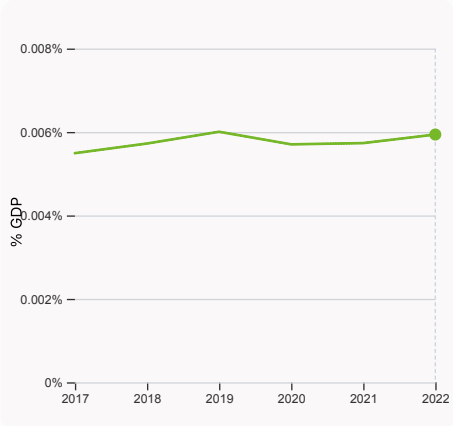
6.1.5 Citable documents H-index

was equal to an index value of 217 in 2022, up by 12.44% from the year prior – and equivalent to an indicator rank of 81.



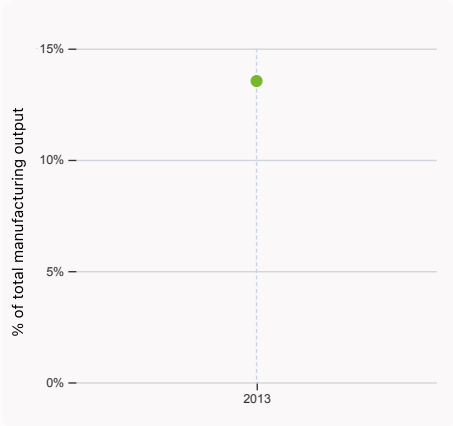
6.2.2 Unicorn valuation, % GDP

was equal to 0 % GDP in 2023 – and equivalent to an indicator rank of 48.



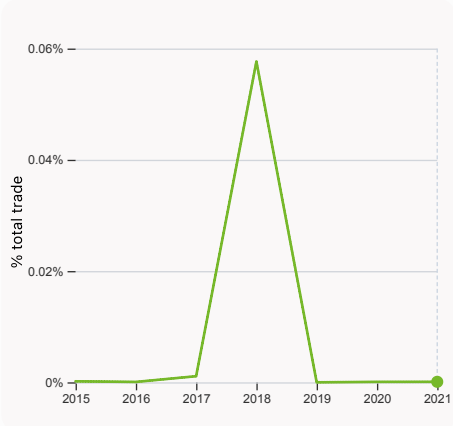
6.2.3 Software spending, % GDP

was equal to 0.006% GDP in 2022, up by 0.00021 percentage points from the year prior – and equivalent to an indicator rank of 130.



6.2.4 High-tech manufacturing, %

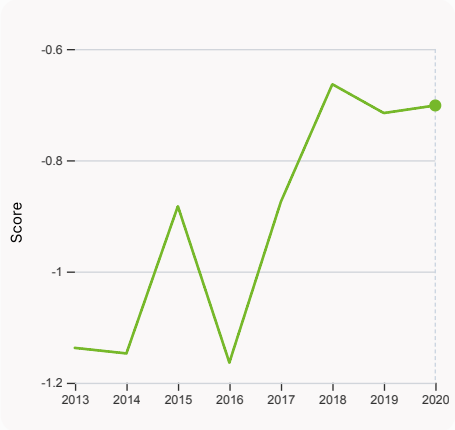
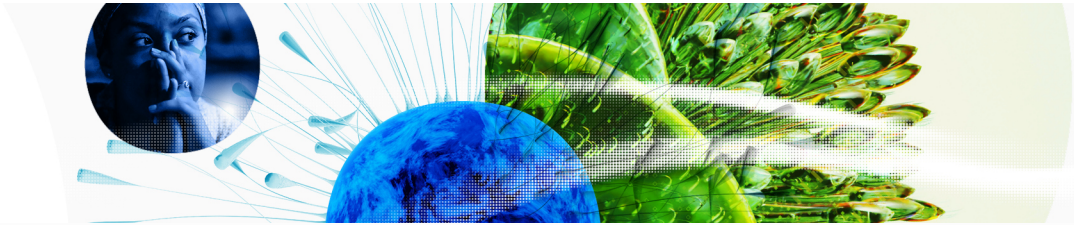
was equal to 13.54 % of total manufacturing output in 2013 – and equivalent to an indicator rank of 81.



6.3.1 Intellectual property receipts, % total trade

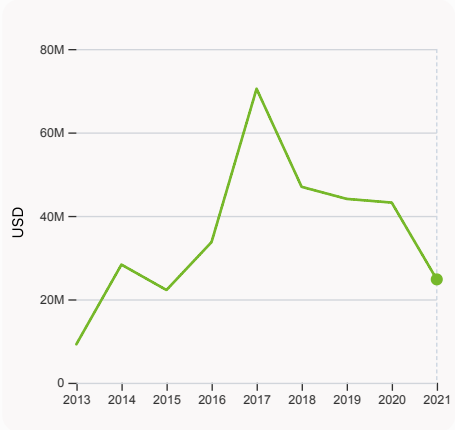
was equal to 0% total trade in 2021, up by 0.0000099 percentage points from the year prior – and equivalent to an indicator rank of 112.

Global Innovation Index 2023



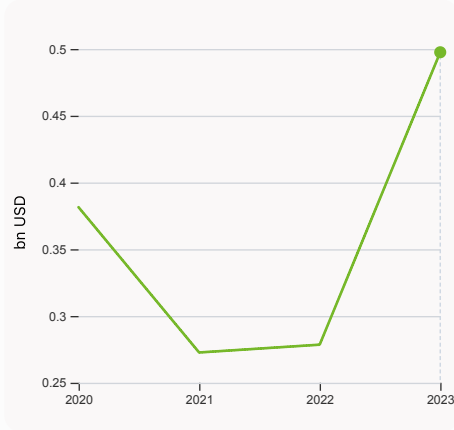
6.3.2 Production and export complexity

was equal to a score of -0.702 in 2020, up by 1.91% from the year prior – and equivalent to an indicator rank of 96.



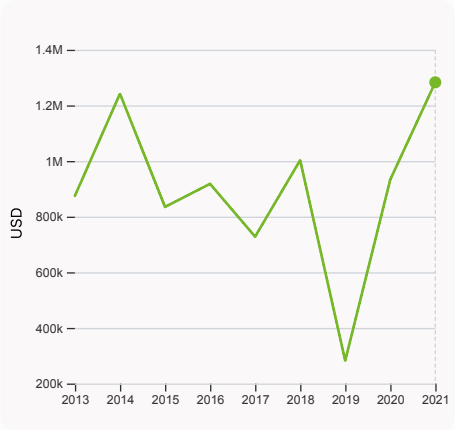
6.3.3 High-tech exports

was equal to 24,782,056 USD in 2021, down by 42.61% from the year prior – and equivalent to an indicator rank of 112.



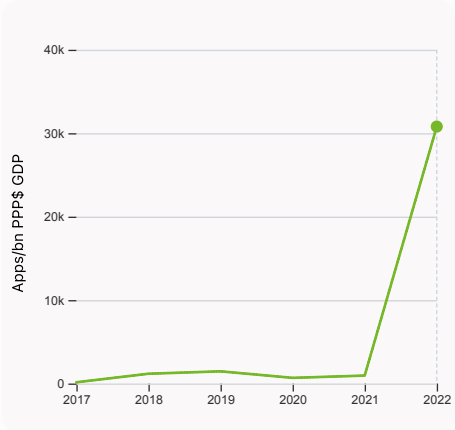
7.1.3 Global brand value, top 5,000

was equal to 0.498 bn USD in 2023, up by 78.64% from the year prior – and equivalent to an indicator rank of 66.



7.2.1 Cultural and creative services exports

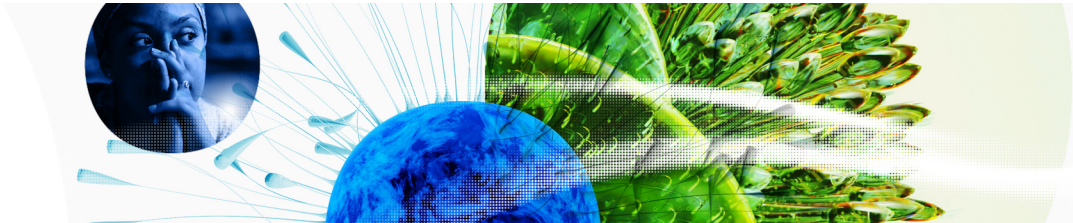
was equal to 1,283,000 USD in 2021, up by 37.51% from the year prior – and equivalent to an indicator rank of 104.



7.3.4 Mobile app creation/bn PPP\$ GDP

was equal to 30,797.39 Apps/bn PPP\$ GDP in 2022, up by 3130.34% from the year prior – and equivalent to an indicator rank of 99.

Global Innovation Index 2023



→ Ethiopia's innovation top performers

> 7.1.3 Top 5,000 companies in Ethiopia with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	ETHIOPIAN AIRLINES	Airlines	497.6

Source: Brand Finance (<https://brandirectory.com>).
Note: Rank corresponds to within economy ranks.

Global Innovation Index 2023



GII 2023 rank

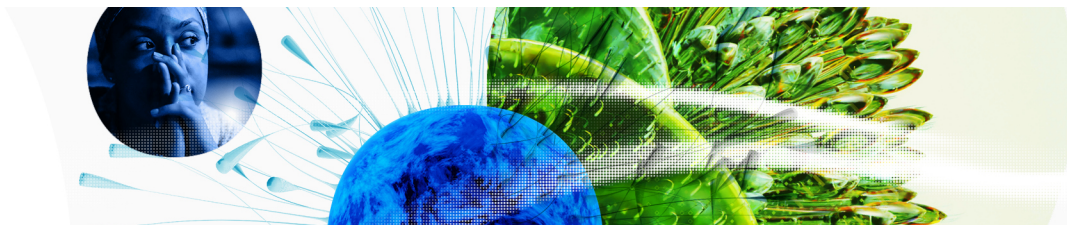
125

Ethiopia

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
109	130	Low	SSA	123.4	347.8	3,434.0
Score / Value Rank				Score / Value Rank		
Institutions				Business sophistication		
32.7 116				14.7 130		
1.1 Institutional environment				5.1 Knowledge workers		
18.6 123				5.0 128		
1.1.1 Operational stability for businesses*				5.1.1 Knowledge-intensive employment, %		
17.4 126				4.4 121		
1.1.2 Government effectiveness*				20.8 77		
19.8 103				0.0 86		
1.2 Regulatory environment				1.5 90		
49.0 103				0.3 126		
1.2.1 Regulatory quality*				5.2 Innovation linkages		
18.0 123				12.8 108		
1.2.2 Rule of law*				5.2.1 University-industry R&D collaboration†		
22.0 101				33.4 90		
1.2.3 Cost of redundancy dismissal				5.2.2 State of cluster development†		
19.1 83				19.1 114		
1.3 Business environment				5.2.3 GERD financed by abroad, % GDP		
30.5 99				0.1 48		
1.3.1 Policies for doing business†				5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP		
30.5 105				0.0 106		
1.3.2 Entrepreneurship policies and culture†				5.2.5 Patent families/bn PPP\$ GDP		
n/a n/a				0.0 95		
Human capital and research				5.3 Knowledge absorption		
8.0 131				26.2 100		
2.1 Education				5.3.1 Intellectual property payments, % total trade		
18.6 130				0.0 111		
2.1.1 Expenditure on education, % GDP				9.8 40		
3.7 82				1.8 43		
2.1.2 Government funding/pupil, secondary, % GDP/cap				2.9 48		
17.0 66				2.2 76		
2.1.3 School life expectancy, years				Knowledge and technology outputs		
n/a n/a				17.9 84		
2.1.4 PISA scales in reading, maths and science				6.1 Knowledge creation		
n/a n/a				19.2 56		
2.1.5 Pupil-teacher ratio, secondary				6.1.1 Patents by origin/bn PPP\$ GDP		
43.7 124				0.0 127		
2.2 Tertiary education				6.1.2 PCT patents by origin/bn PPP\$ GDP		
4.1 123				n/a n/a		
2.2.1 Tertiary enrolment, % gross				6.1.3 Utility models by origin/bn PPP\$ GDP		
10.4 113				1.3 19		
2.2.2 Graduates in science and engineering, %				6.1.4 Scientific and technical articles/bn PPP\$ GDP		
n/a n/a				n/a n/a		
2.2.3 Tertiary inbound mobility, %				6.1.5 Citable documents H-index		
n/a n/a				9.7 81		
2.3 Research and development (R&D)				6.2 Knowledge impact		
1.4 96				24.1 79		
2.3.1 Researchers, FTE/mn pop.				6.2.1 Labor productivity growth, %		
90.5 90				4.0 8		
2.3.2 Gross expenditure on R&D, % GDP				6.2.2 Unicorn valuation, % GDP		
0.3 81				0.0 48		
2.3.3 Global corporate R&D investors, top 3, mn US\$				6.2.3 Software spending, % GDP		
0.0 40				0.0 130		
2.3.4 QS university ranking, top 3*				6.2.4 High-tech manufacturing, %		
0.0 71				13.5 81		
Infrastructure				6.3 Knowledge diffusion		
12.1 132				10.2 108		
3.1 Information and communication technologies (ICTs)				6.3.1 Intellectual property receipts, % total trade		
17.0 132				0.0 112		
3.1.1 ICT access*				6.3.2 Production and export complexity		
9.9 131				37.8 96		
3.1.2 ICT use*				6.3.3 High-tech exports, % total trade		
9.8 131				0.2 112		
3.1.3 Government's online service*				6.3.4 ICT services exports, % total trade		
30.7 122				1.2 81		
3.1.4 E-participation*				6.3.5 ISO 9001 quality/bn PPP\$ GDP		
17.4 125				0.3 129		
3.2 General infrastructure				Creative outputs		
8.8 126				4.5 126		
3.2.1 Electricity output, GWh/mn pop.				7.1 Intangible assets		
134.8 119				2.1 127		
3.2.2 Logistics performance*				7.1.1 Intangible asset intensity, top 15, %		
n/a n/a				n/a n/a		
3.2.3 Gross capital formation, % GDP				7.1.2 Trademarks by origin/bn PPP\$ GDP		
22.2 79				5.5 120		
3.3 Ecological sustainability				7.1.3 Global brand value, top 5,000		
10.5 125				0.4 66		
3.3.1 GDP/unit of energy use				7.1.4 Industrial designs by origin/bn PPP\$ GDP		
5.5 114				n/a n/a		
3.3.2 Environmental performance*				7.2 Creative goods and services		
21.9 103				0.4 126		
3.3.3 ISO 14001 environment/bn PPP\$ GDP				7.2.1 Cultural and creative services exports, % total trade		
0.1 131				0.0 104		
Market sophistication				7.2.2 National feature films/mn pop. 15-69		
19.8 114				n/a n/a		
4.1 Credit				7.2.3 Entertainment and media market/th pop. 15-69		
n/a n/a				n/a n/a		
4.1.1 Finance for startups and scaleups†				7.2.4 Creative goods exports, % total trade		
n/a n/a				0.1 108		
4.1.2 Domestic credit to private sector, % GDP				7.3 Online creativity		
n/a n/a				13.6 103		
4.1.3 Loans from microfinance institutions, % GDP				7.3.1 Generic top-level domains (TLDs)/th pop. 15-69		
n/a n/a				0.0 131		
4.2 Investment				7.3.2 Country-code TLDs/th pop. 15-69		
0.4 111				0.0 132		
4.2.1 Market capitalization, % GDP				7.3.3 GitHub commits/mn pop. 15-69		
n/a n/a				1.2 113		
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP				7.3.4 Mobile app creation/bn PPP\$ GDP		
0.0 93				53.3 99		
4.2.3 VC recipients, deals/bn PPP\$ GDP						
0.0 95						
4.2.4 VC received, value, % GDP						
0.0 98						
4.3 Trade, diversification, and market scale						
39.3 105						
4.3.1 Applied tariff rate, weighted avg., %						
12.1 127						
4.3.2 Domestic industry diversification						
88.9 52						
4.3.3 Domestic market scale, bn PPP\$						
347.8 55						

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 appendices for details, including the year of the data, at <https://www.wipo.int/gii-ranking>. Square brackets [] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.

Global Innovation Index 2023



→ Data availability

The following tables list indicators that are either missing or outdated for Ethiopia.

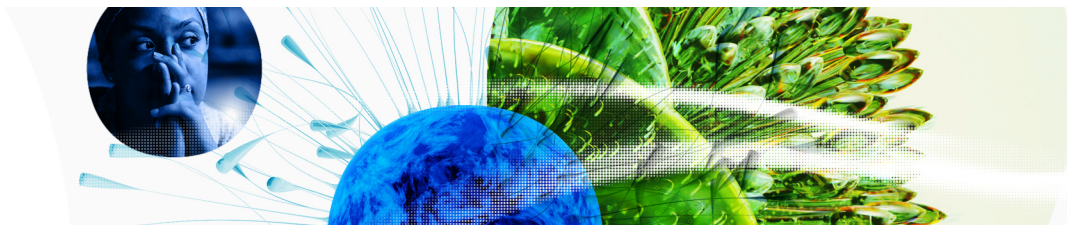


> Ethiopia has missing data for fifteen indicators and outdated data for twenty two indicators.

> Missing data for Ethiopia

Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2022	Global Entrepreneurship Monitor
2.1.3	School life expectancy, years	n/a	2020	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
2.2.2	Graduates in science and engineering, %	n/a	2020	UNESCO Institute for Statistics; Eurostat; OECD
2.2.3	Tertiary inbound mobility, %	n/a	2020	UNESCO Institute for Statistics
3.2.2	Logistics performance	n/a	2023	World Bank, Logistics Performance Index 2023 (https://lpi.worldbank.org/); and World Bank 2023, Connecting to Compete 2023: Trade Logistics in the Global Economy òÇô The Logistics Performance Index and its Indicators.
4.1.1	Finance for startups and scaleups	n/a	2022	Global Entrepreneurship Monitor
4.1.2	Domestic credit to private sector, % GDP	n/a	2020	International Monetary Fund; World Bank and OECD GDP estimates.
4.1.3	Loans from microfinance institutions, % GDP	n/a	2021	International Monetary Fund, Financial Access Survey (FAS)
4.2.1	Market capitalization, % GDP	n/a	2020	World Federation of Exchanges; World Bank
6.1.2	PCT patents by origin/bn PPP\$ GDP	n/a	2022	World Intellectual Property Organization; International Monetary Fund
7.1.1	Intangible asset intensity, top 15, %	n/a	2022	Brand Finance
7.1.4	Industrial designs by origin/bn PPP\$ GDP	n/a	2021	World Intellectual Property Organization; International Monetary Fund
7.2.2	National feature films/mn pop. 15-69	n/a	2021	OMDIA; United Nations, World Population Prospects
7.2.3	Entertainment and media market/th pop. 15-69	n/a	2022	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund

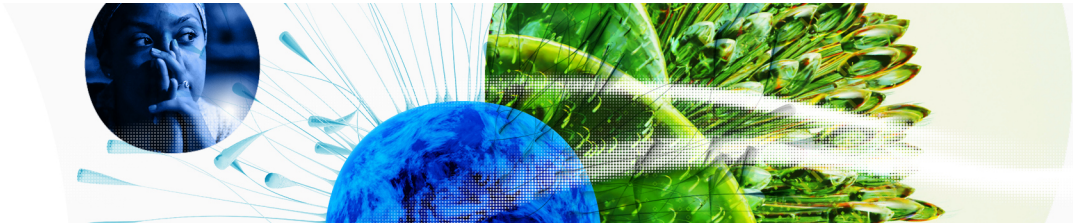
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> Outdated data for Ethiopia

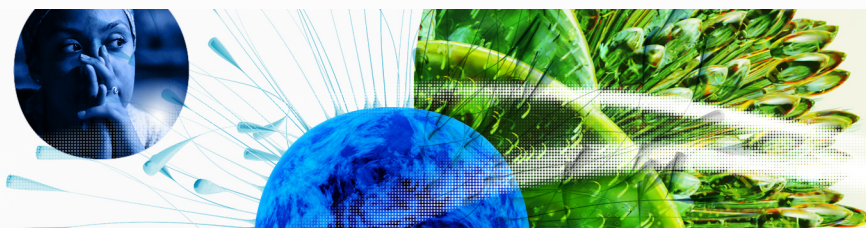
Code	Indicator name	Economy Year	Model Year	Source
1.3.1	Policies for doing business	2019	2022	World Economic Forum, Executive Opinion Survey (EOS)
2.1.2	Government funding/pupil, secondary, % GDP/cap	2015	2019	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2015	2020	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2018	2020	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2017	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	2017	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.1	Electricity output, GWh/mn pop.	2020	2021	International Energy Agency
4.3.1	Applied tariff rate, weighted avg., %	2018	2020	World Bank
4.3.2	Domestic industry diversification	2013	2020	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2021	2022	International Labour Organization
5.1.2	Firms offering formal training, %	2015	2019	World Bank Enterprise Surveys
5.1.3	GERD performed by business, % GDP	2017	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	2017	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	Females employed w/advanced degrees, %	2013	2022	International Labour Organization
5.2.1	University-industry R&D collaboration	2019	2022	World Economic Forum, Executive Opinion Survey (EOS)
5.2.2	State of cluster development	2019	2022	World Economic Forum, Executive Opinion Survey (EOS)
5.2.3	GERD financed by abroad, % GDP	2017	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.5	Research talent, % in businesses	2017	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.1.1	Patents by origin/bn PPP\$ GDP	2020	2021	World Intellectual Property Organization; International Monetary Fund
6.1.3	Utility models by origin/bn PPP\$ GDP	2020	2021	World Intellectual Property Organization; International Monetary Fund

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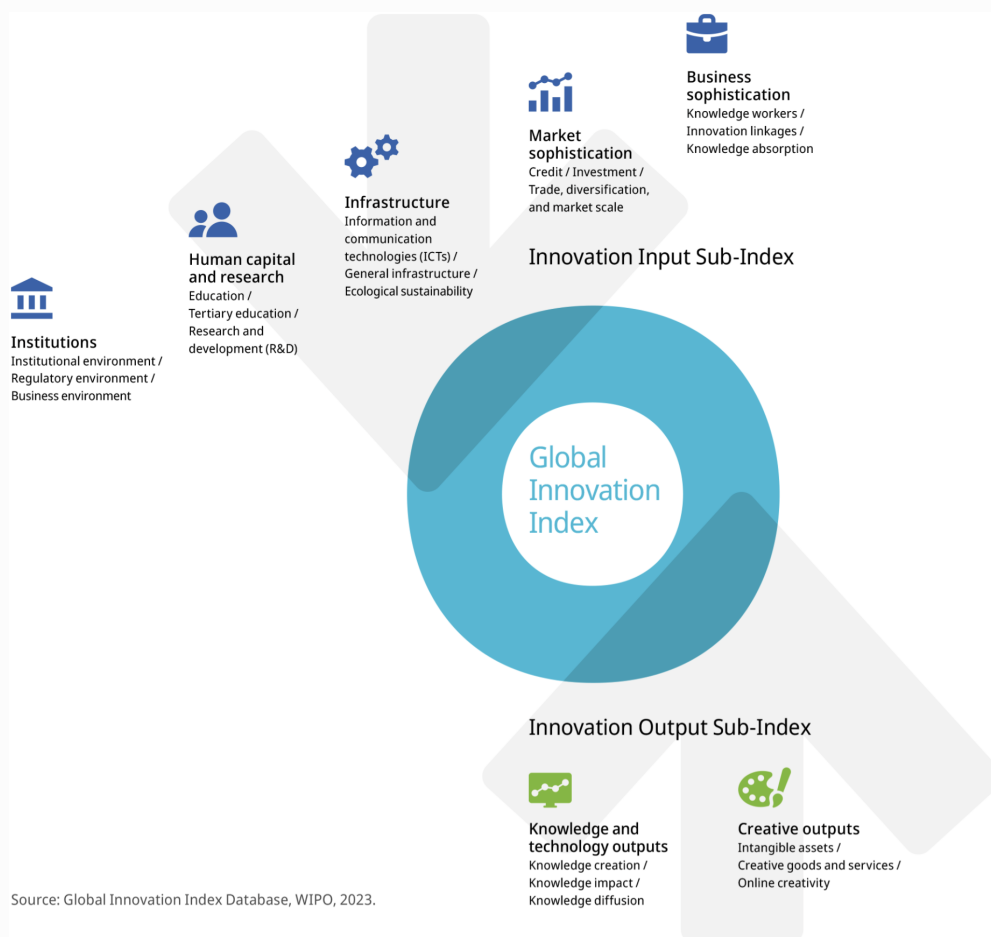
Code	Indicator name	Economy Year	Model Year	Source
6.2.4	High-tech manufacturing, %	2013	2020	United Nations Industrial Development Organization
7.1.2	Trademarks by origin/bn PPP\$ GDP	2020	2021	World Intellectual Property Organization; International Monetary Fund

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→ 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.