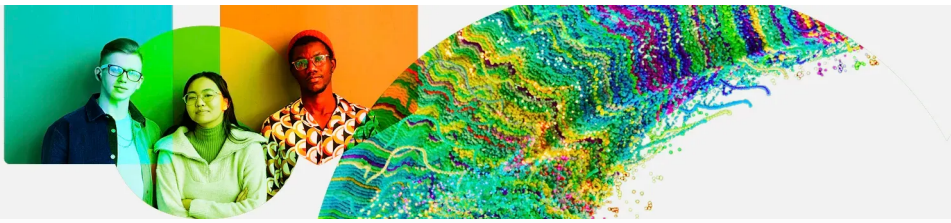
Global Innovation Index 2024



Ethiopia ranking in the Global Innovation Index 2024

Ethiopia ranks 130th among the 133 economies featured in the GII 2024.

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 ranks 8th among the 10 low-income group economies.

Ethiopia ranks 24th among the 27 economies in Sub-Saharan Africa.

Ethiopia GII Ranking (2020-2024)

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 2024 is between ranks 124 and 131.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	127th	130th	110th
2021	126th	129th	107th
2022	117th	126th	100th
2023	125th	130th	109th
2024	130th	133rd	112nd

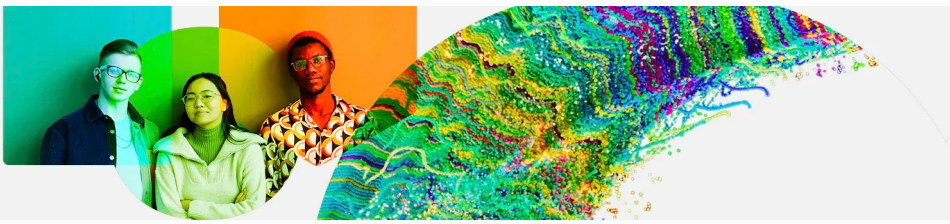
Ethiopia performs better in innovation outputs than innovation inputs in 2024.

This year **Ethiopia ranks 133rd in innovation inputs.** This position is lower than last year.

Ethiopia ranks 112nd in innovation outputs. This position is lower than last year.

Ethiopia has no clusters in the top 100 S&T clusters of the Global Innovation Index.

Global Innovation Index 2024



> Global Innovation Tracker

The Global Innovation Tracker 2024 shows what is the current state of innovation in Ethiopia, how rapidly is technology being embraced and what are the resulting societal impacts.

For Ethiopia, 6 indicators have improved in the short-term and 2 indicators have worsened.

Science and innovation investment

Scientific publications	R&D investments	Venture capital		International patent filings
		Deal numbers	Deal values	
▼ -18.5% 2022 - 2023	n/a	▲ 50% 2022 - 2023	▲ 220% 2022 - 2023	n/a
▲ 19.9% 2013 - 2023	▲ 15.6% 2007 - 2017	n/a	n/a	n/a

Technology adoption

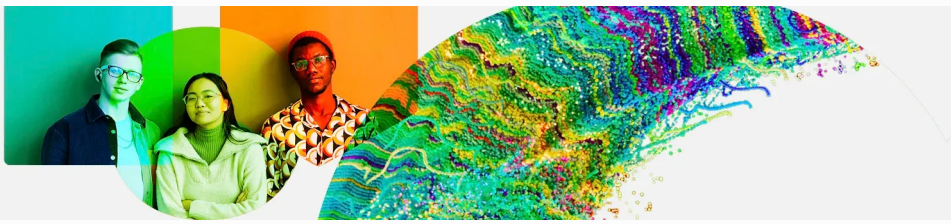
Safe sanitation	Connectivity		Robots	Electric vehicles
	Fixed broadband	5G		
▲ 0.8% 2021 - 2022	▲ 13.2% 2021 - 2022	n/a	n/a	n/a
▲ 3.6% 2012 - 2022	▲ 48.1% 2012 - 2022		n/a	n/a
7.2 per 100 inhabitants in 2022	0.5 per 100 inhabitants in 2022	n/a		n/a

Socioeconomic impact

Labor productivity	Life expectancy	Temperature change
▲ 3.7% 2022 - 2023	▲ 1% 2021 - 2022	▲ 1.2°C 2023
▲ 4.7% 2013 - 2023	▲ 0.6% 2012 - 2022	n/a
6,452 USD in 2023	65.6 years in 2022	

Notes: Not all indicators of the Global Innovation Tracker are used to calculate the Global Innovation Index. Long-term annual growth refers to the compound annual growth rate (CAGR) over the indicated period. For each variable, a one-year growth rate is set for the short run, and ten-year CAGR is set for the long run; time windows might differ when gaps exist in data availability. The end period corresponds to the most recent available observation, which may differ among countries. Temperature change is an exception: it indicates the change in degrees Celsius with respect to the average temperature in the country from 1951–1980. Figures are rounded.

Global Innovation Index 2024



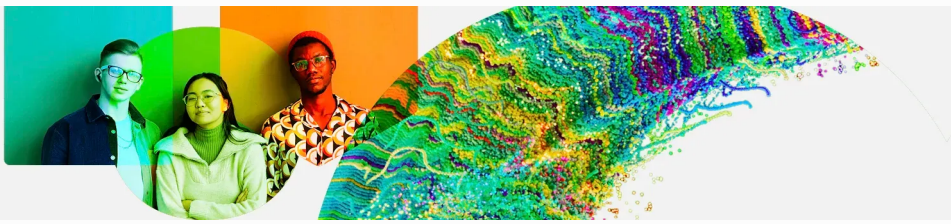
Expected vs. observed innovation performance

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

Global Innovation Index 2024



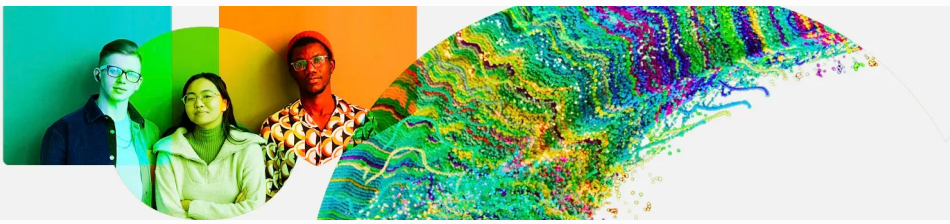
Effectively translating innovation investments into innovation outputs

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 2024



Overview of Ethiopia's rankings in the seven areas of the GII in 2024

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

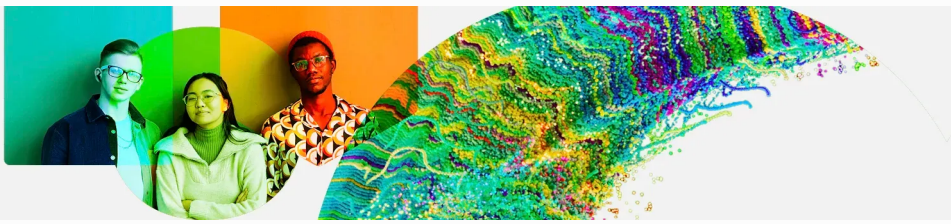
Ethiopia ranks highest in Knowledge and technology outputs (88th), Institutions (117th) and Creative outputs (122nd).

Lowest rankings

Ethiopia ranks lowest in Human capital and research, Market sophistication (133rd), Business sophistication (128th) and Infrastructure (123rd).

The full WIPO Intellectual Property Statistics profile for Ethiopia can be found on this link.

Global Innovation Index 2024



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

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

Low-Income economies

Ethiopia performs above the low-income group average in Infrastructure, Knowledge and technology outputs.

Sub-Saharan Africa

Ethiopia performs above the regional average in Knowledge and technology outputs.

Institutions

- Top 10 | Score: 80.81
- Sub-Saharan Africa | Score: 37.83
- Low income | Score: 31.64
- Ethiopia | Score: 25.56

Human capital and research

- Top 10 | Score: 61.30
- Sub-Saharan Africa | Score: 17.86
- Low income | Score: 15.48
- Ethiopia | Score: 7.21

Infrastructure

- Top 10 | Score: 58.57
- Sub-Saharan Africa | Score: 25.40
- Ethiopia | Score: 21.50
- Low income | Score: 20.65

Market sophistication

- Top 10 | Score: 62.12
- Sub-Saharan Africa | Score: 18.79
- Low income | Score: 15.81
- Ethiopia | Score: 5.01

Business sophistication

- Top 10 | Score: 63.64
- Sub-Saharan Africa | Score: 18.73
- Low income | Score: 15.07
- Ethiopia | Score: 13.32

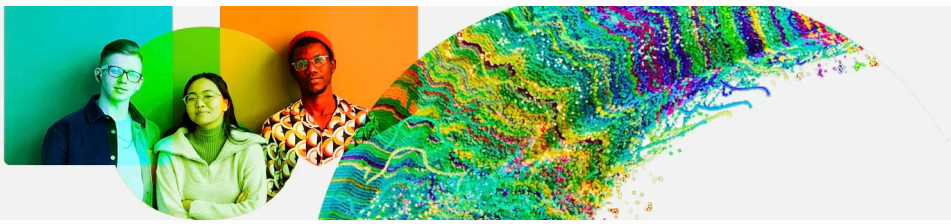
Knowledge and technology outputs

- Top 10 | Score: 57.29
- Ethiopia | Score: 14.73
- Sub-Saharan Africa | Score: 10.99
- Low income | Score: 10.02

Creative outputs

- Top 10 | Score: 56.54
- Sub-Saharan Africa | Score: 10.35
- Low income | Score: 7.56
- Ethiopia | Score: 5.52

Global Innovation Index 2024



Innovation strengths and weaknesses in Ethiopia

The table below gives an overview of the indicator strengths and weaknesses of Ethiopia in the GII 2024.

Ethiopia's main innovation strengths are **Labor productivity growth, %** (rank 9), **Low-carbon energy use, %** (rank 15) and **Utility models by origin/bn PPP$ GDP** (rank 25).

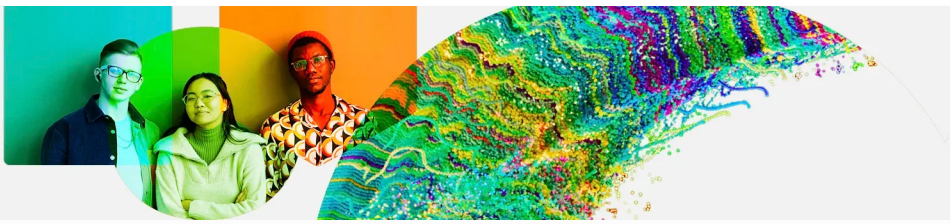
Strengths

Rank	Code	Indicator name
9	6.2.1	Labor productivity growth, %
15	3.3.2	Low-carbon energy use, %
25	6.1.3	Utility models by origin/bn PPP$ GDP
36	5.3.2	High-tech imports, % total trade
48	5.3.4	FDI net inflows, % GDP
49	5.3.3	ICT services imports, % total trade
51	6.1.4	Scientific and technical articles/bn PPP$ GDP
54	4.3.3	Domestic market scale, bn PPP$
54	3.2.3	Gross capital formation, % GDP
69	7.1.3	Global brand value, top 5,000, % GDP

Weaknesses

Rank	Code	Indicator name
133	6.2.3	Software spending, % GDP
133	3.3.3	ISO 14001 environment/bn PPP$ GDP
133	7.3.1	Top-level domains (TLDs)/th pop. 15–69
131	6.3.5	ISO 9001 quality/bn PPP$ GDP
112	7.2.1	Cultural and creative services exports, % total trade
102	5.2.5	Patent families/bn PPP$ GDP
75	2.3.4	QS university ranking, top 3*
49	6.2.2	Unicorn valuation, % GDP
41	2.3.3	Global corporate R&D investors, top 3, mn USD

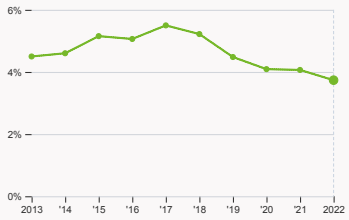
Global Innovation Index 2024



Ethiopia's innovation system

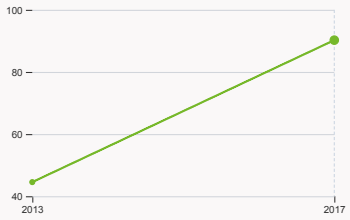
As far as practicable, the plots below present unscaled indicator data.

Innovation inputs in Ethiopia



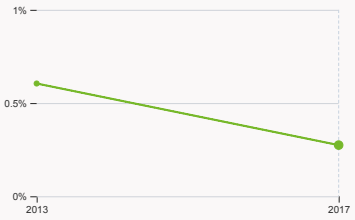
2.1.1 **Expenditure on education**

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.



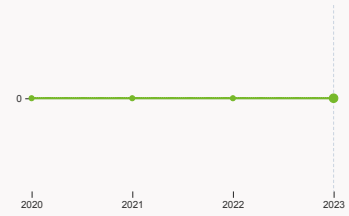
2.3.1 **Researchers**

was equal to 90.24 FTE per million population in 2017, up by 102.56% from the year prior – and equivalent to an indicator rank of 93.



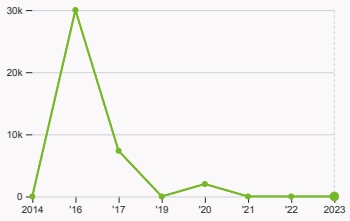
2.3.2 **Gross expenditure on R&D**

was equal to 0.27 % GDP in 2017, down by 0.33 percentage points from the year prior – and equivalent to an indicator rank of 78.



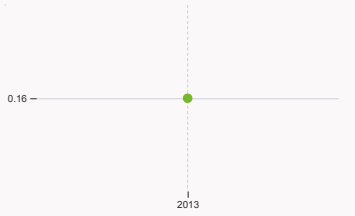
2.3.4 **QS university ranking**

was equal to an average score of 0 for the top three universities in 2023 with no change from the year prior – and equivalent to an indicator rank of 75.



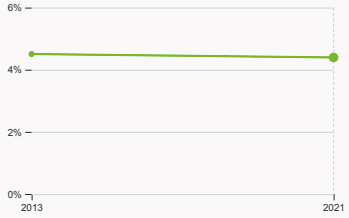
4.2.4 **VC received, value**

was equal to 0 USD in 2023 with no change from the year prior – and equivalent to an indicator rank of 105.



4.3.2 **Domestic industry diversification**

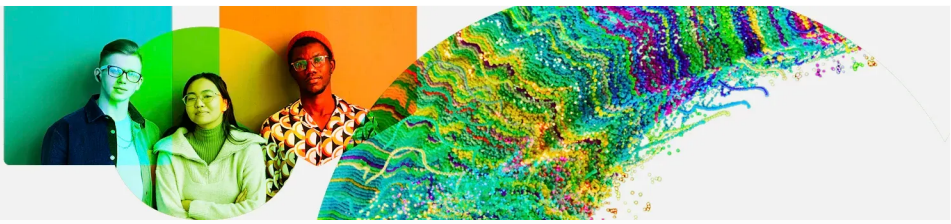
was equal to an index score of 0.16 in 2013 – and equivalent to an indicator rank of NA.



5.1.1 **Knowledge-intensive employment**

was equal to 4.39 % in 2021, down by 0.11 percentage points from the year prior – and equivalent to an indicator rank of 122.

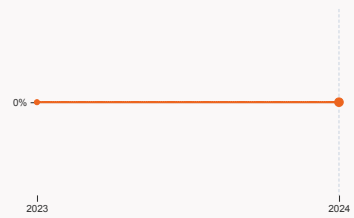
Global Innovation Index 2024



Innovation outputs in Ethiopia

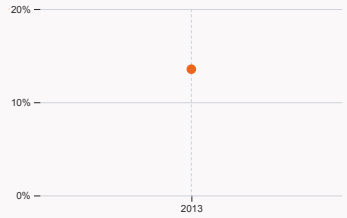
6.1.1 Patents by origin

was equal to 16 patents in 2022, up by 166.67% from the year prior – and equivalent to an indicator rank of 119.



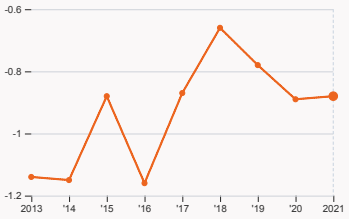
6.2.2 Unicorn valuation

was equal to 0 % GDP in 2024 with no change from the year prior – and equivalent to an indicator rank of 49.



6.2.4 High-tech manufacturing

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

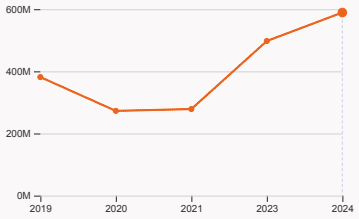


6.3.2 Production and export complexity

was equal to a score of -0.88 in 2021, up by 1.12% from the year prior – and equivalent to an indicator rank of 104.

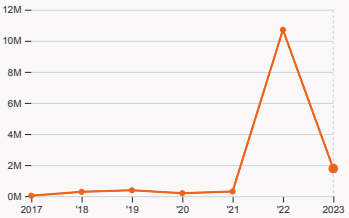
6.3.3 High-tech exports

was equal to 9.29 million USD in 2022, down by 63.22% from the year prior – and equivalent to an indicator rank of 126.



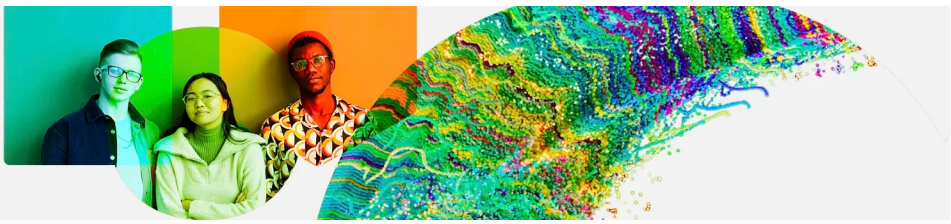
7.1.3 Global brand value

was equal to 589.24 million USD for the brands in the top 5,000 in 2024, up by 18.43% from the year prior – and equivalent to an indicator rank of 69.



7.3.3 Mobile app creation

was equal to 1.78 million global downloads of mobile apps in 2023, down by 83.38% from the year prior – and equivalent to an indicator rank of 100.



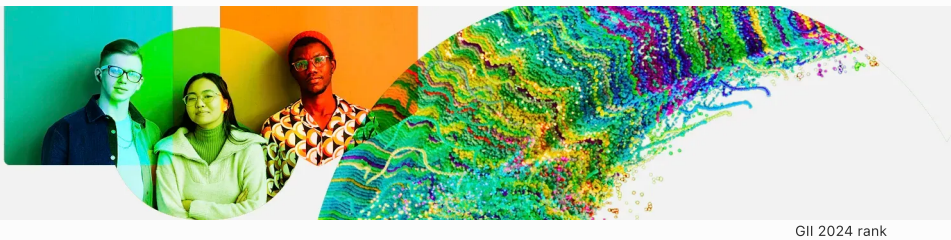
Ethiopia's innovation top performers

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	589.2

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

Global Innovation Index 2024



Ethiopia

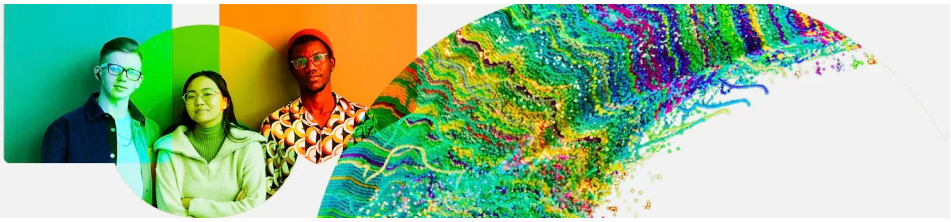
GII 2024 rank **130**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
112	133	Low	SSA	128.7	393.3	3,719.2

	Score / Value	Rank	
Institutions	**25.6**	**117**	
1.1 Institutional environment	**26.3**	**121**	
1.1.1 Operational stability for businesses*	28	122	
1.1.2 Government effectiveness*	24.5	113	
1.2 Regulatory environment	**21.4**	**112**	
1.2.1 Regulatory quality*	16.9	121	◇
1.2.2 Rule of law*	26	104	
1.3 Business environment	**29**	**[102]**	
1.3.1 Policy stability for doing business†	29	104	
1.3.2 Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research	**7.2**	**[133]**	
2.1 Education	**16.2**	**[132]**	
2.1.1 Expenditure on education, % GDP	3.7	82	
2.1.2 Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3 School life expectancy, years	n/a	n/a	
2.1.4 PISA scales in reading, maths and science	n/a	n/a	
2.1.5 Pupil–teacher ratio, secondary	43.7	126	
2.2 Tertiary education	**4.2**	**[125]**	
2.2.1 Tertiary enrolment, % gross	10.4	115	
2.2.2 Graduates in science and engineering, %	n/a	n/a	
2.2.3 Tertiary inbound mobility, %	n/a	n/a	
2.3 Research and development (R&D)	**1.3**	**98**	
2.3.1 Researchers, FTE/mn pop.	90.2	93	◆
2.3.2 Gross expenditure on R&D, % GDP	0.3	78	
2.3.3 Global corporate R&D investors, top 3, mn USD	0	41	○ ◇
2.3.4 QS university ranking, top 3*	0	75	○ ◇
Infrastructure	**21.5**	**123**	
3.1 Information and communication technologies (ICTs)	**26.3**	**126**	
3.1.1 ICT access*	13.8	126	
3.1.2 ICT use*	43.2	111	◆
3.1.3 Government's online service*	30.7	122	
3.1.4 E-participation*	17.4	126	
3.2 General infrastructure	**17**	**108**	
3.2.1 Electricity output, GWh/mn pop.	129	120	
3.2.2 Logistics performance*	n/a	n/a	
3.2.3 Gross capital formation, % GDP	24.8	54	● ◆
3.3 Ecological sustainability	**21.2**	**63**	● ◆
3.3.1 GDP/unit of energy use	5.7	113	
3.3.2 Low-carbon energy use, %	45.6	15	● ◆
3.3.3 ISO 14001 environment/bn PPP$ GDP	0.06	133	○ ◇
Market sophistication	**5**	**133**	○ ◇
4.1 Credit	**5.1**	**[125]**	
4.1.1 Finance for startups and scaleups†	n/a	n/a	
4.1.2 Domestic credit to private sector, % GDP	n/a	n/a	
4.1.3 Loans from microfinance institutions, % GDP	0.5	44	
4.2 Investment	**0.4**	**115**	○ ◇
4.2.1 Market capitalization, % GDP	n/a	n/a	
4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP	0.01	95	
4.2.3 VC recipients, deals/bn PPP$ GDP	0.005	105	◇
4.2.4 VC received, value, % GDP	5e-7	105	
4.3 Trade, diversification and market scale	**9.5**	**131**	○ ◇
4.3.1 Applied tariff rate, weighted avg., %	11.3	127	◇
4.3.2 Domestic industry diversification	n/a	n/a	
4.3.3 Domestic market scale, bn PPP$	393.3	54	● ◆

	Score / Value	Rank	
Business sophistication	**13.3**	**128**	
5.1 Knowledge workers	**7.2**	**127**	
5.1.1 Knowledge-intensive employment, %	4.4	122	
5.1.2 Firms offering formal training, %	20.8	77	
5.1.3 GERD performed by business, % GDP	0.006	87	
5.1.4 GERD financed by business, %	1.5	90	
5.1.5 Females employed w/advanced degrees, %	n/a	n/a	
5.2 Innovation linkages	**12.2**	**119**	
5.2.1 Public Research-Industry co-publications, %	0.5	118	
5.2.2 University-industry R&D collaboration†	32.3	93	
5.2.3 State of cluster development†	21.9	117	
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	0.006	102	
5.2.5 Patent families/bn PPP$ GDP	0	102	○ ◇
5.3 Knowledge absorption	**20.6**	**92**	
5.3.1 Intellectual property payments, % total trade	0.03	113	
5.3.2 High-tech imports, % total trade	10.3	36	● ◆
5.3.3 ICT services imports, % total trade	1.5	49	● ◆
5.3.4 FDI net inflows, % GDP	3	48	● ◆
5.3.5 Research talent, % in businesses	2.2	80	
Knowledge and technology outputs	**14.7**	**88**	◆
6.1 Knowledge creation	**14.6**	**65**	● ◆
6.1.1 Patents by origin/bn PPP$ GDP	0.04	119	◇
6.1.2 PCT patents by origin/bn PPP$ GDP	n/a	n/a	
6.1.3 Utility models by origin/bn PPP$ GDP	0.7	25	● ◆
6.1.4 Scientific and technical articles/bn PPP$ GDP	13.5	51	● ◆
6.1.5 Citable documents H-index	9.5	80	◆
6.2 Knowledge impact	**23.9**	**71**	● ◆
6.2.1 Labor productivity growth, %	3.5	9	● ◆
6.2.2 Unicorn valuation, % GDP	0	49	○ ◇
6.2.3 Software spending, % GDP	0.005	133	○ ◇
6.2.4 High-tech manufacturing, %	n/a	n/a	
6.3 Knowledge diffusion	**5.7**	**116**	
6.3.1 Intellectual property receipts, % total trade	0.0008	108	
6.3.2 Production and export complexity	20.9	104	
6.3.3 High-tech exports, % total trade	0.05	126	
6.3.4 ICT services exports, % total trade	0.9	87	
6.3.5 ISO 9001 quality/bn PPP$ GDP	0.2	131	○ ◇
Creative outputs	**5.5**	**122**	
7.1 Intangible assets	**1.9**	**121**	
7.1.1 Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2 Trademarks by origin/bn PPP$ GDP	5.2	117	
7.1.3 Global brand value, top 5,000, % GDP	0.3	69	● ◆
7.1.4 Industrial designs by origin/bn PPP$ GDP	0.2	104	
7.2 Creative goods and services	**0.1**	**[132]**	
7.2.1 Cultural and creative services exports, % total trade	0.002	112	○ ◇
7.2.2 National feature films/mn pop. 15–69	n/a	n/a	
7.2.3 Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4 Creative goods exports, % total trade	0.02	121	
7.3 Online creativity	**18.1**	**105**	
7.3.1 Top-level domains (TLDs)/th pop. 15–69	0	133	○ ◇
7.3.2 GitHub commits/mn pop. 15–69	1.1	113	
7.3.3 Mobile app creation/bn PPP$ GDP	53.2	100	

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question, 🕒 that the economy's data is outdated. Square brackets [ ] indicate the the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; n/a represents missing values; a dash - indicates an indicator which is not relevant to this economy and thus not considered for DMC thresholds.



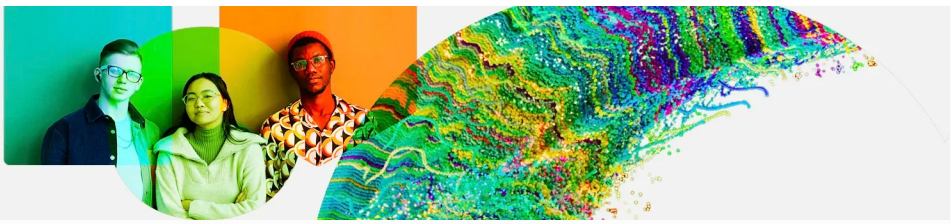
Data availability

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

Ethiopia has missing data for seventeen indicators and outdated data for thirteen indicators.

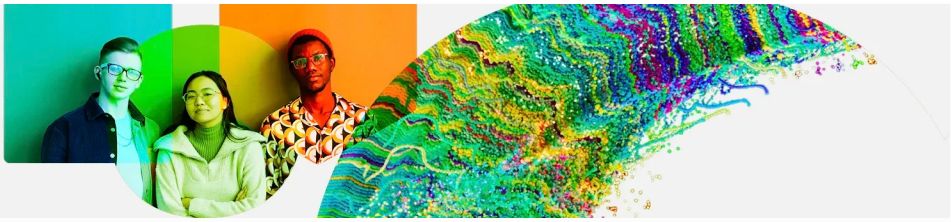
Missing data for Ethiopia

Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture†	n/a	2023	Global Entrepreneurship Monitor
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2020	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	n/a	2022	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	n/a	2022	OECD, PISA
2.2.2	Graduates in science and engineering, %	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD
2.2.3	Tertiary inbound mobility, %	n/a	2022	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 The Logistics Performance Index and its Indicators.
4.1.1	Finance for startups and scaleups†	n/a	2023	Global Entrepreneurship Monitor
4.1.2	Domestic credit to private sector, % GDP	n/a	2022	International Monetary Fund; World Bank and OECD GDP estimates.
4.2.1	Market capitalization, % GDP	n/a	2022	World Federation of Exchanges; World Bank
4.3.2	Domestic industry diversification	n/a	2021	United Nations Industrial Development Organization (UNIDO), Industrial Statistics Database (INDSTAT) Rev.3 and 4
5.1.5	Females employed w/advanced degrees, %	n/a	2023	International Labour Organization
6.1.2	PCT patents by origin/bn PPP$ GDP	n/a	2023	World Intellectual Property Organization; International Monetary Fund
6.2.4	High-tech manufacturing, %	n/a	2021	United Nations Industrial Development Organization
7.1.1	Intangible asset intensity, top 15, %	n/a	2023	Brand Finance



Code	Indicator name	Economy Year	Model Year	Source
7.2.2	National feature films/mn pop. 15–69	n/a	2022	OMDIA; United Nations, World Population Prospects
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2023	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund

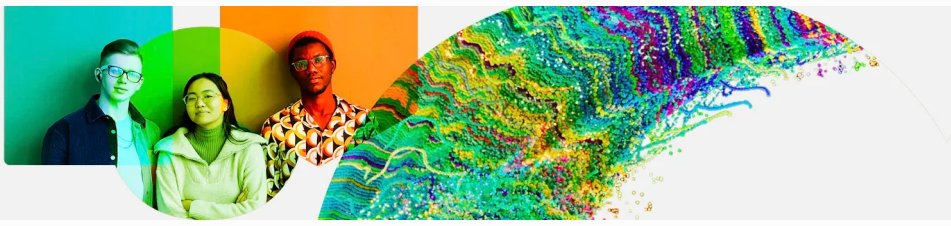
Global Innovation Index 2024



Outdated data for Ethiopia

Code	Indicator name	Economy Year	Model Year	Source
1.3.1	Policy stability for doing business†	2019	2023	World Economic Forum, Executive Opinion Survey (EOS)
2.1.5	Pupil–teacher ratio, secondary	2015	2022	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2018	2022	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2017	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	2017	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.1	Electricity output, GWh/mn pop.	2021	2022	International Energy Agency
5.1.1	Knowledge-intensive employment, %	2021	2022	International Labour Organization
5.1.2	Firms offering formal training, %	2015	2023	World Bank Enterprise Surveys
5.1.3	GERD performed by business, % GDP	2017	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	2017	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.2.2	University-industry R&D collaboration†	2019	2023	World Economic Forum, Executive Opinion Survey (EOS)
5.2.3	State of cluster development†	2019	2023	World Economic Forum, Executive Opinion Survey (EOS)
5.3.5	Research talent, % in businesses	2017	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT

Global Innovation Index 2024



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.

Source: Global Innovation Index Database, WIPO, 2024.

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.