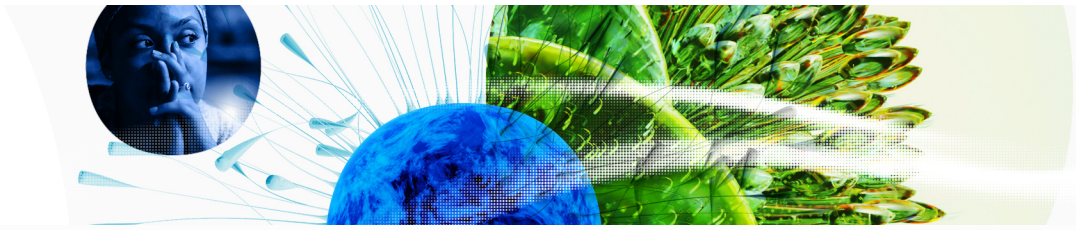
Global Innovation Index 2023



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**.

Zimbabwe ranking in the Global Innovation Index 2023

> Zimbabwe ranks 117th among the 132 economies featured in the GII 2023.

> Zimbabwe ranks 32nd among the 37 lower-middle-income group economies.

> Zimbabwe ranks 15th among the 28 economies in Sub-Saharan Africa.

> Zimbabwe GII Ranking (2020-2023)

The table shows the rankings of Zimbabwe 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 Zimbabwe in the GII 2023 is between ranks 108 and 129.

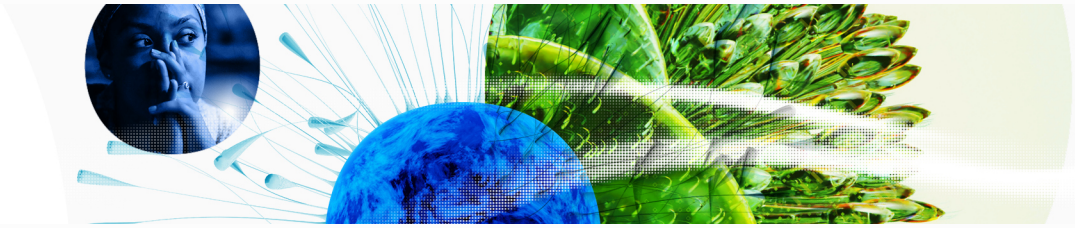
	GII Position	Innovation Inputs	Innovation Outputs
2020	120th	123rd	108th
2021	113rd	116th	105th
2022	107th	120th	93rd
2023	117th	127th	97th

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

This year Zimbabwe ranks 127th in innovation inputs. This position is lower than last year.

Zimbabwe ranks 97th in innovation outputs. This position is lower than last year.

Global Innovation Index 2023

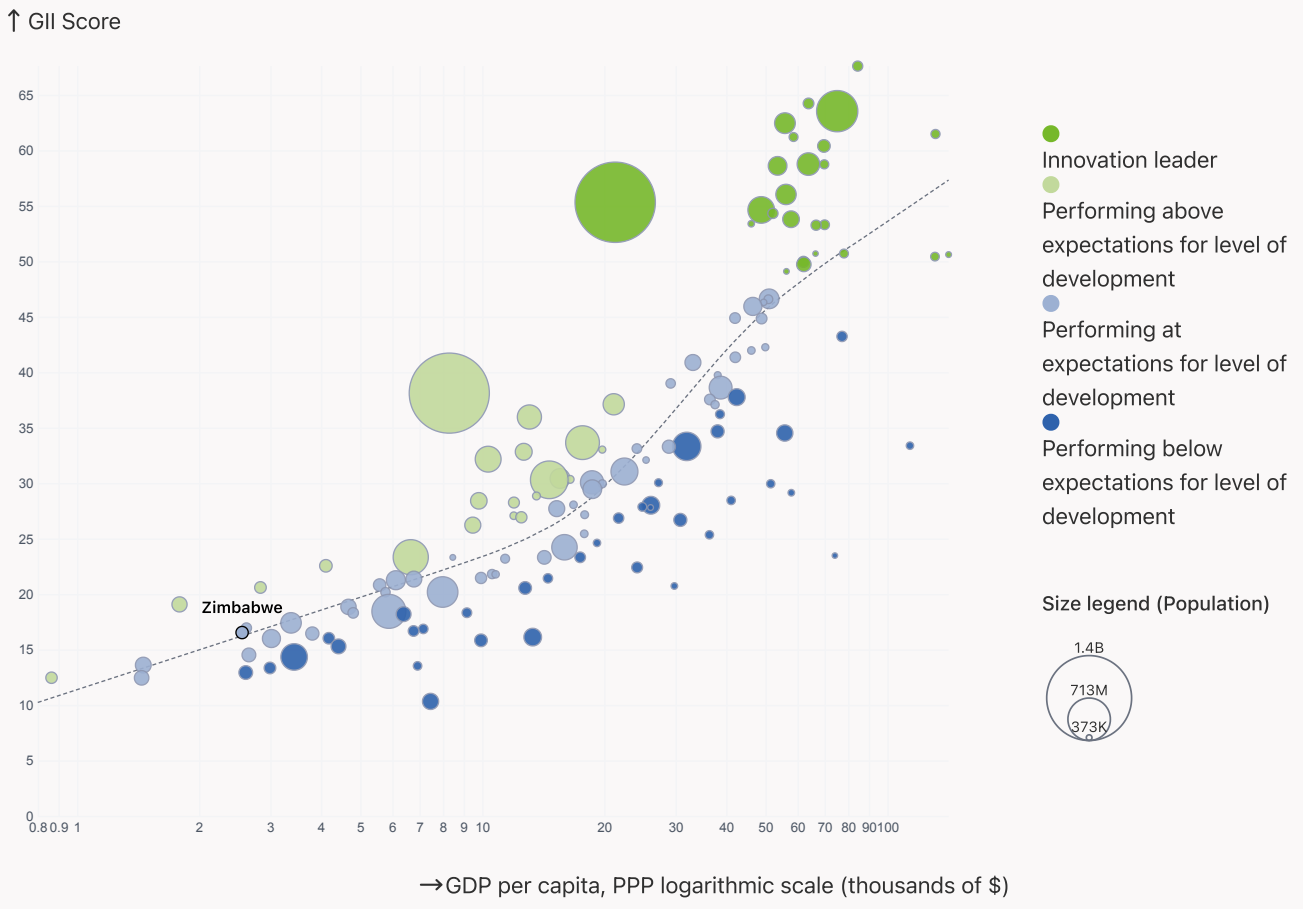


→ Expected vs. observed innovation performance

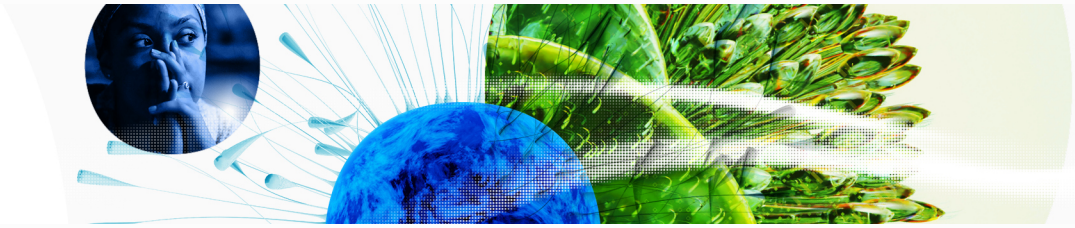
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected and those below are performing below expectations.

> Relative to GDP, Zimbabwe's performance is at expectations for its level of development.

> Innovation overperformers relative to their economic development



Global Innovation Index 2023

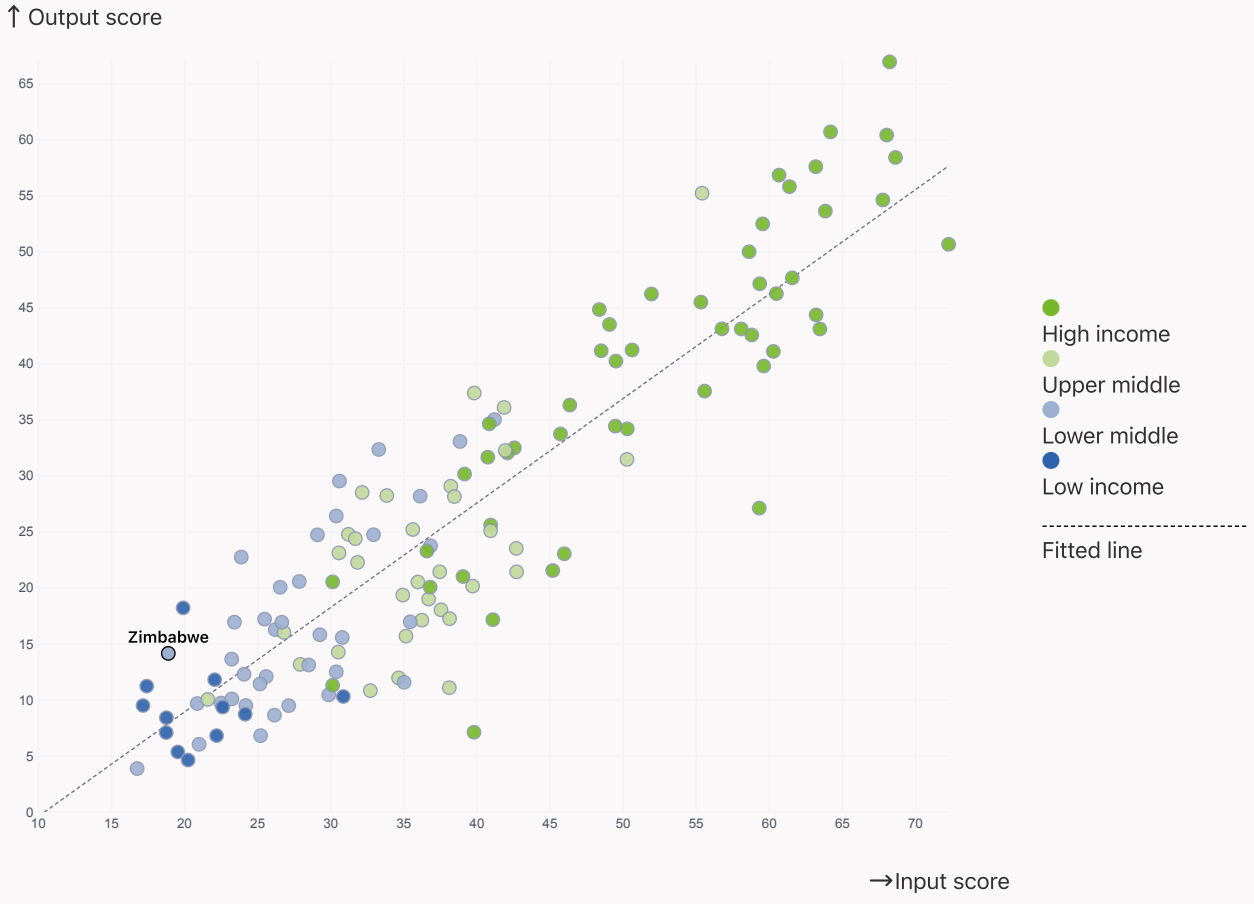


→ Effectively translating innovation investments into innovation outputs

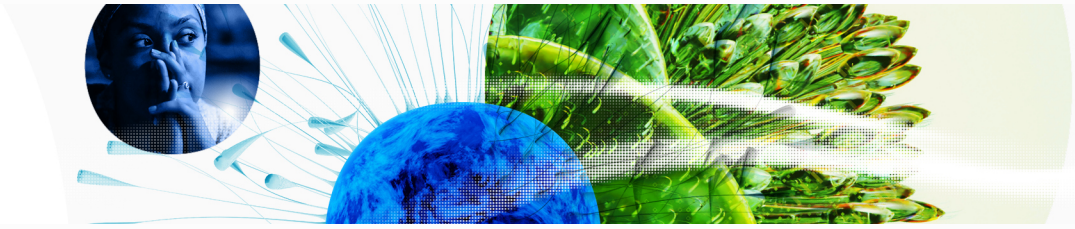
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

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

> Relationship between innovation inputs and outputs

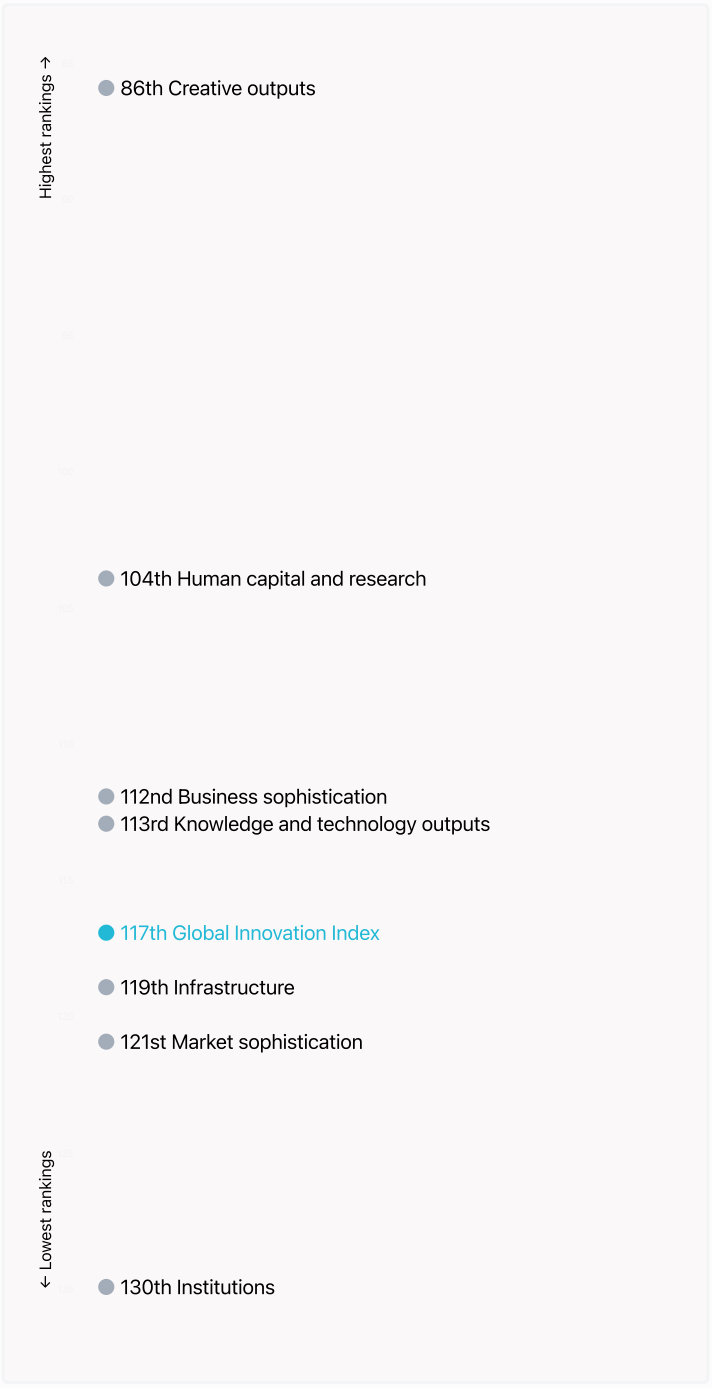


Global Innovation Index 2023



→ Overview of Zimbabwe'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 Zimbabwe are those that rank above the GII (shown in blue) and the weakest are those that rank below.



> Highest rankings

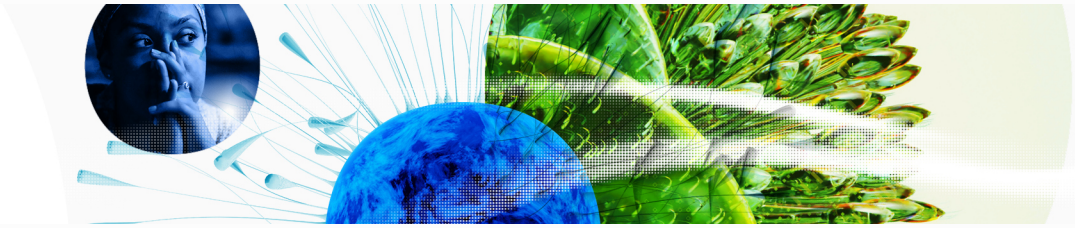
Zimbabwe ranks highest in Creative outputs (86th), Human capital and research (104th), Business sophistication (112nd) and Knowledge and technology outputs (113rd).

> Lowest rankings

Zimbabwe ranks lowest in Institutions (130th), Market sophistication (121st) and Infrastructure (119th).

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

Global Innovation Index 2023



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

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

> Lower-Middle-Income economies

Zimbabwe performs below the lower-middle-income group average in Knowledge and technology outputs, Business sophistication, Market sophistication, Human capital and research, Infrastructure, Institutions.

> Sub-Saharan Africa

Zimbabwe performs below the regional average in Knowledge and technology outputs, Business sophistication, Market sophistication, Infrastructure, Institutions.

Knowledge and technology outputs

- Top 10 | Score: 58.96
- Lower middle income | Score: 17.21
- Sub-Saharan Africa | Score: 12.16
- Zimbabwe | Score: 11.39

Creative outputs

- Top 10 | 56.09
- Zimbabwe | 16.85
- Lower middle income | 16.35
- Sub-Saharan Africa | 10.36

Business sophistication

- Top 10 | 64.39
- Lower middle income | 22.71
- Sub-Saharan Africa | 19.85
- Zimbabwe | 19.28

Market sophistication

- Top 10 | 61.93
- Lower middle income | 28.01
- Sub-Saharan Africa | 20.00
- Zimbabwe | 15.15

Human capital and research

- Top 10 | 60.28
- Lower middle income | 21.73
- Zimbabwe | 18.49
- Sub-Saharan Africa | 17.80

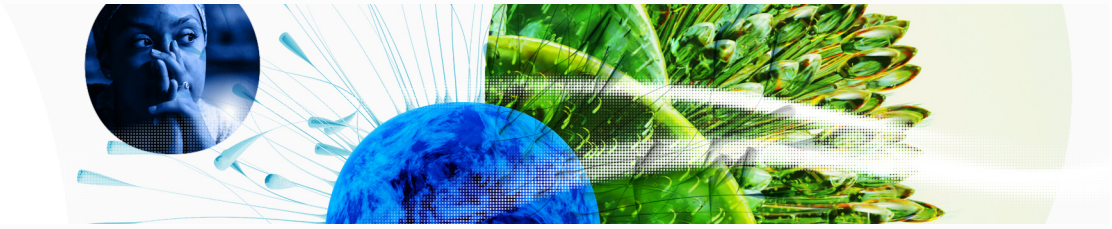
Infrastructure

- Top 10 | 62.83
- Lower middle income | 27.83
- Sub-Saharan Africa | 23.36
- Zimbabwe | 20.41

Institutions

- Top 10 | 79.85
- Sub-Saharan Africa | 43.27
- Lower middle income | 39.43
- Zimbabwe | 21.32

Global Innovation Index 2023



→ Innovation strengths and weaknesses in Zimbabwe

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

> Zimbabwe's main innovation strengths are **Graduates in science and engineering, %** (rank 17), **Joint venture/strategic alliance deals/bn PPP$ GDP** (rank 46) and **Scientific and technical articles/bn PPP$ GDP** (rank 48).

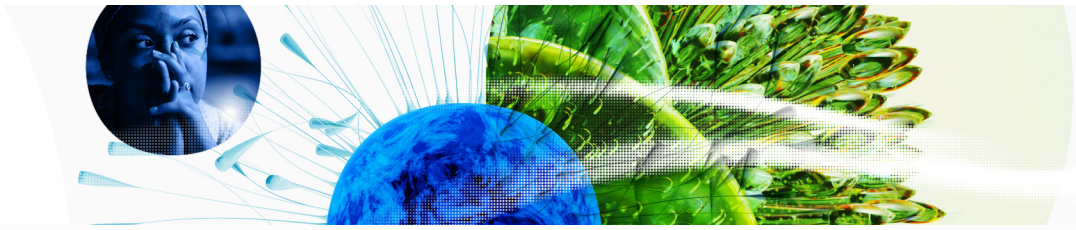
Strengths

Rank	Code	Indicator name
17	2.2.2	Graduates in science and engineering, %
46	5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP
48	6.1.4	Scientific and technical articles/bn PPP$ GDP
50	4.2.3	VC recipients, deals/bn PPP$ GDP
54	3.3.2	Environmental performance
63	7.1.3	Global brand value, top 5,000
63	5.3.2	High-tech imports, % total trade
70	6.2.3	Software spending, % GDP
74	6.3.1	Intellectual property receipts, % total trade

Weaknesses

Rank	Code	Indicator name
131	1.2.1	Regulatory quality
130	1.1.2	Government effectiveness
130	1.2.2	Rule of law
129	4.1.2	Domestic credit to private sector, % GDP
126	7.1.2	Trademarks by origin/bn PPP$ GDP
124	3.3.1	GDP/unit of energy use
95	5.2.5	Patent families/bn PPP$ GDP
71	2.3.4	QS university ranking, top 3
48	6.2.2	Unicorn valuation, % GDP
40	2.3.3	Global corporate R&D investors, top 3, mn US$

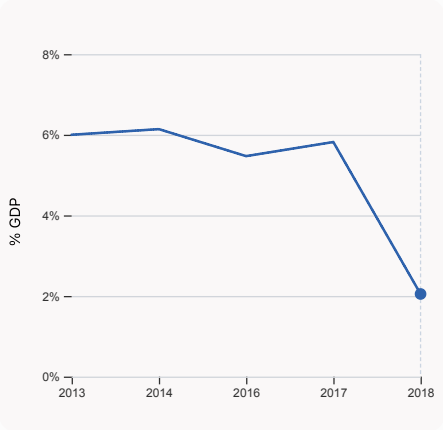
Global Innovation Index 2023



→ Zimbabwe's innovation system

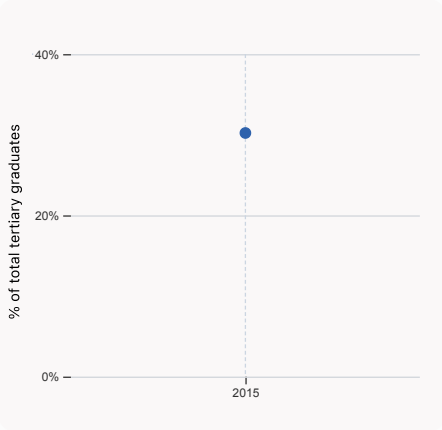
As far as practicable, the plots below present unscaled indicator data.

> Innovation inputs in Zimbabwe



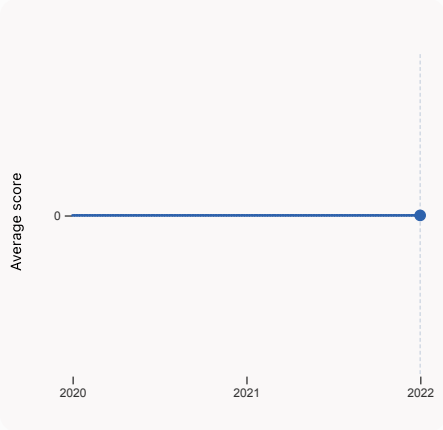
2.1.1 Expenditure on education, % GDP

was equal to 2.05% GDP in 2018, down by 3.77 percentage points from the year prior – and equivalent to an indicator rank of 119.



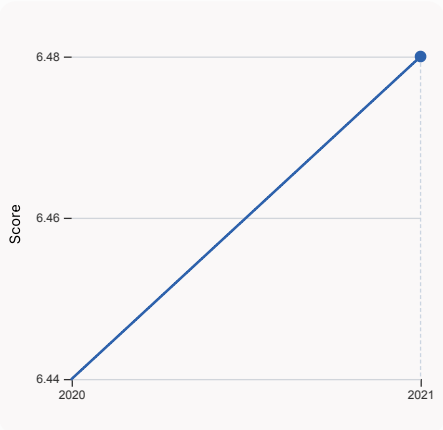
2.2.2 Graduates in science and engineering, %

was equal to 30.22 % of total tertiary graduates in 2015, equivalent to an indicator rank of 17.



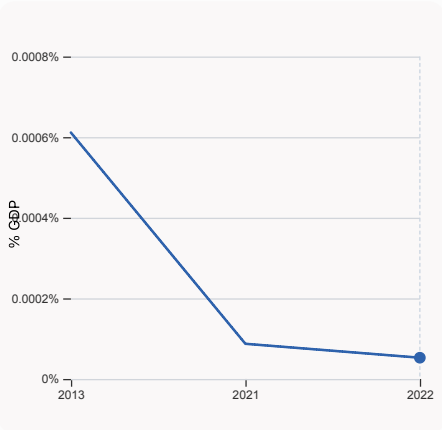
2.3.4 QS university ranking, top 3

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



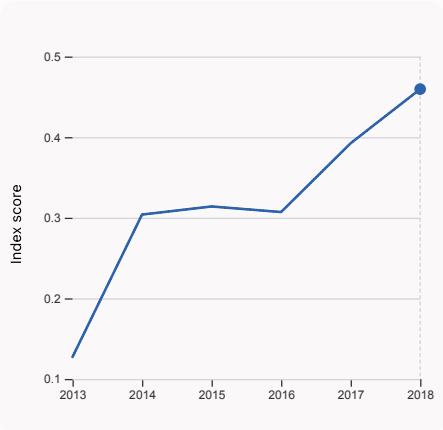
3.1.1 ICT access

was equal to a score of 6.48 in 2021, up by 0.62% from the year prior – and equivalent to an indicator rank of 112.



4.2.4 VC received, value, % GDP

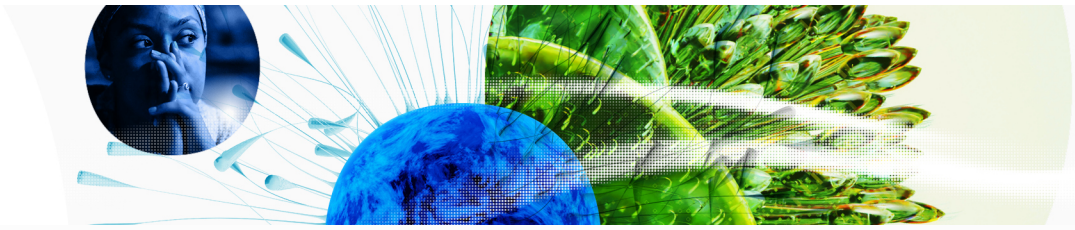
was equal to 0.00005% GDP in 2022, down by 0.000035 percentage points from the year prior – and equivalent to an indicator rank of 88.

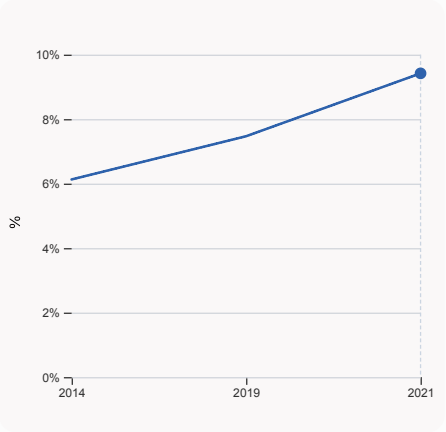


4.3.2 Domestic industry diversification

was equal to an index score of 0.46 in 2018, up by 17.12% from the year prior – and equivalent to an indicator rank of 104.

Global Innovation Index 2023

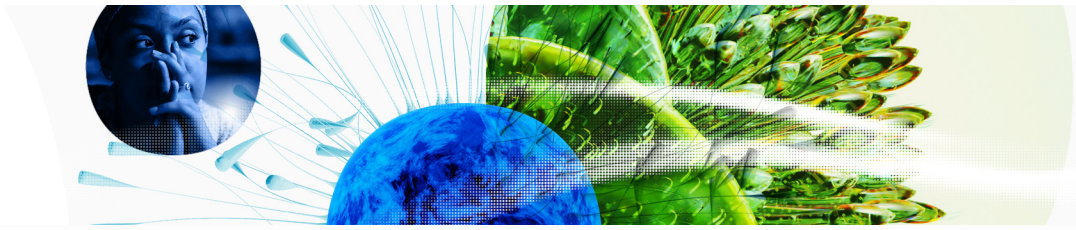




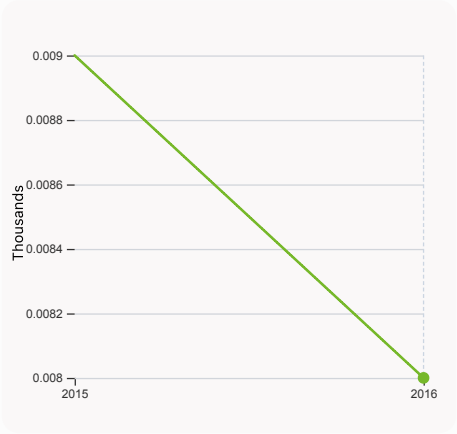
5.1.1 **Knowledge-intensive employment, %**

was equal to 9.42% in 2021, up by 1.95 percentage points from the year prior – and equivalent to an indicator rank of 108.

Global Innovation Index 2023

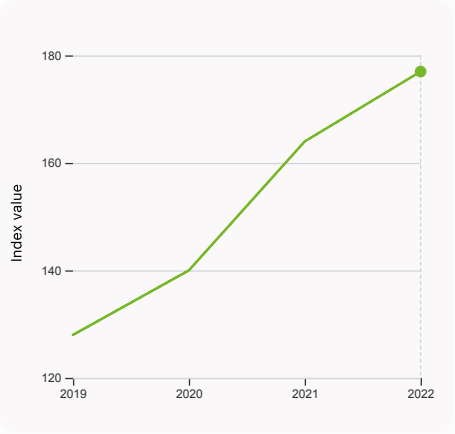


> Innovation outputs in Zimbabwe



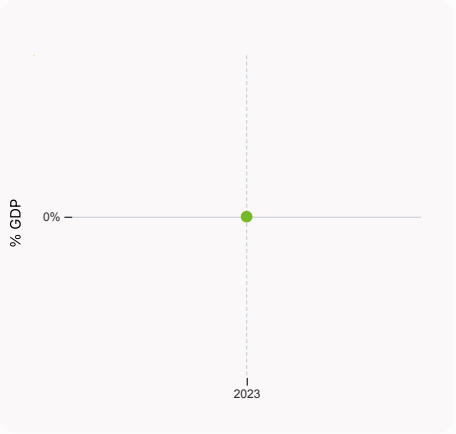
6.1.1 Patents by origin

was equal to 0.008 Thousands in 2016, down by 11.11% from the year prior – and equivalent to an indicator rank of 100.



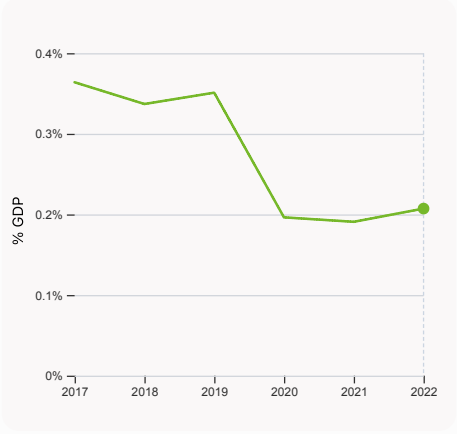
6.1.5 Citable documents H-index

was equal to an index value of 177 in 2022, up by 7.93% from the year prior – and equivalent to an indicator rank of 89.



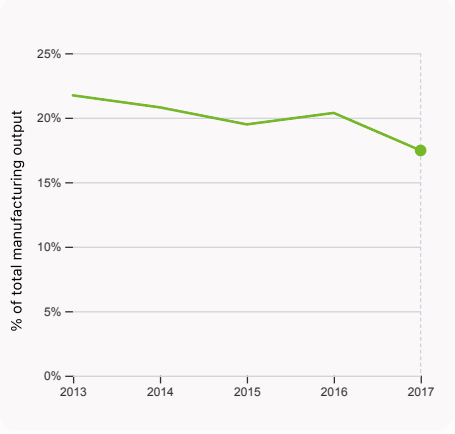
6.2.2 Unicorn valuation, % GDP

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



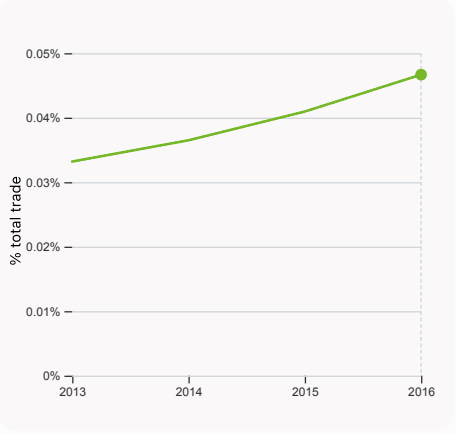
6.2.3 Software spending, % GDP

was equal to 0.207% GDP in 2022, up by 0.016 percentage points from the year prior – and equivalent to an indicator rank of 70.



6.2.4 High-tech manufacturing, %

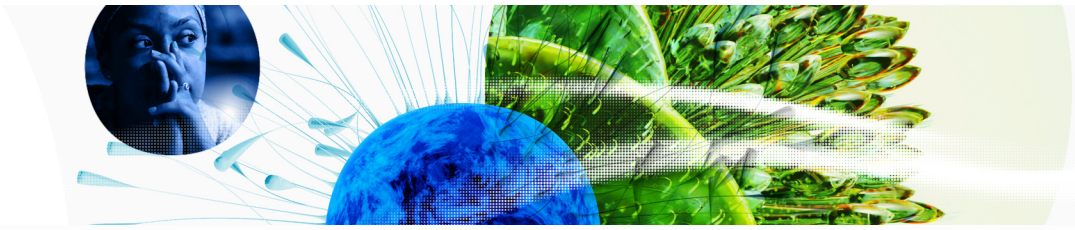
was equal to 17.46% of total manufacturing output in 2017, down by 2.91 percentage points from the year prior – and equivalent to an indicator rank of 70.

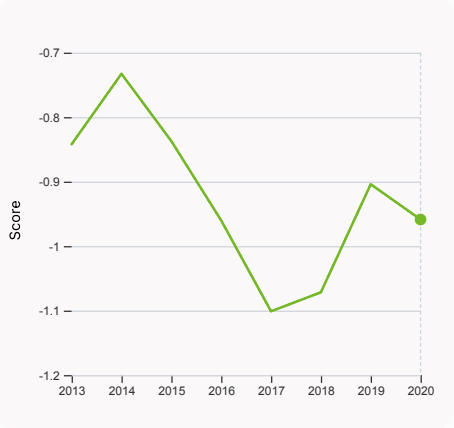


6.3.1 Intellectual property receipts, % total trade

was equal to 0.047% total trade in 2016, up by 0.0057 percentage points from the year prior – and equivalent to an indicator rank of 74.

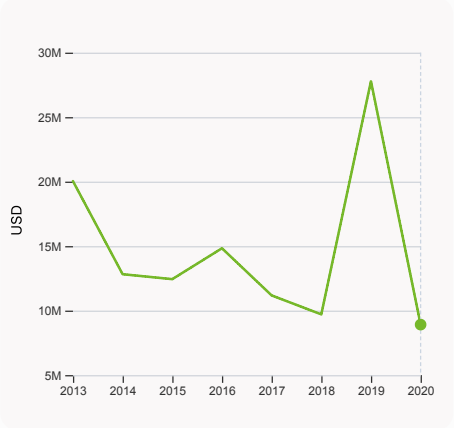
Global Innovation Index 2023





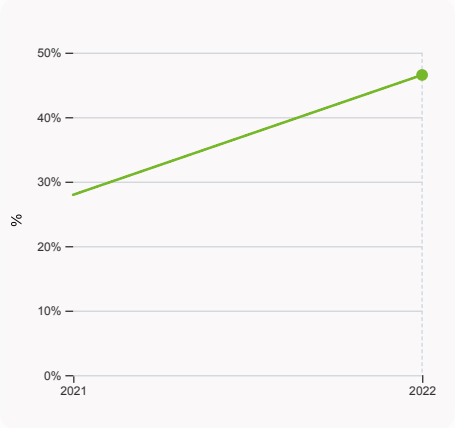
6.3.2 Production and export complexity

was equal to a score of -0.959 in 2020, down by 6.041% from the year prior – and equivalent to an indicator rank of 108.



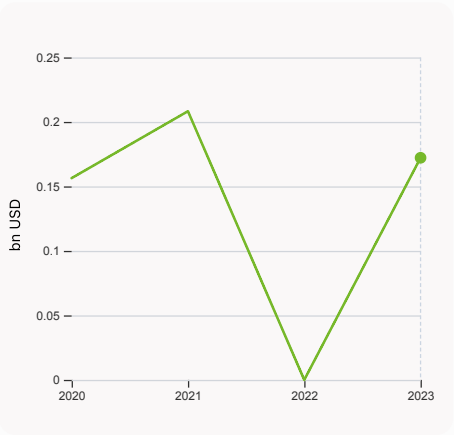
6.3.3 High-tech exports

was equal to 8,914,756 USD in 2020, down by 67.91% from the year prior – and equivalent to an indicator rank of 111.



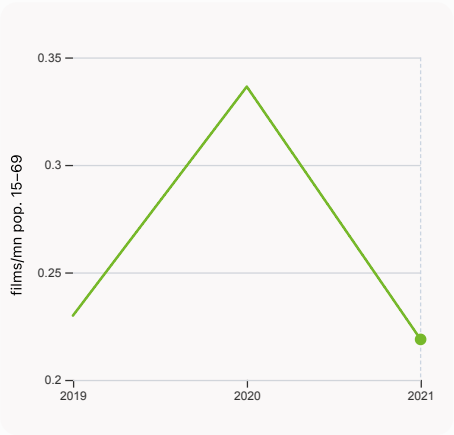
7.1.1 Intangible asset intensity, top 15, %

was equal to 46.54% in 2022, up by 18.58 percentage points from the year prior – and equivalent to an indicator rank of 55.



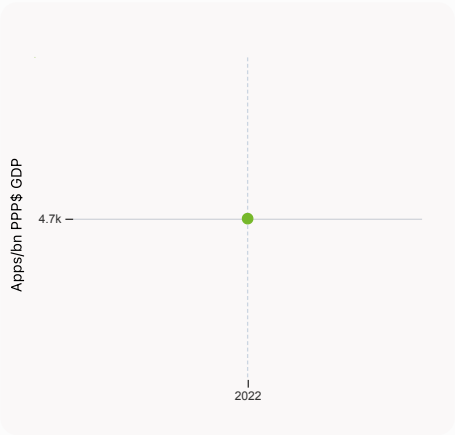
7.1.3 Global brand value, top 5,000

was equal to 0.172 bn USD in 2023 Infinity – and equivalent to an indicator rank of 63.



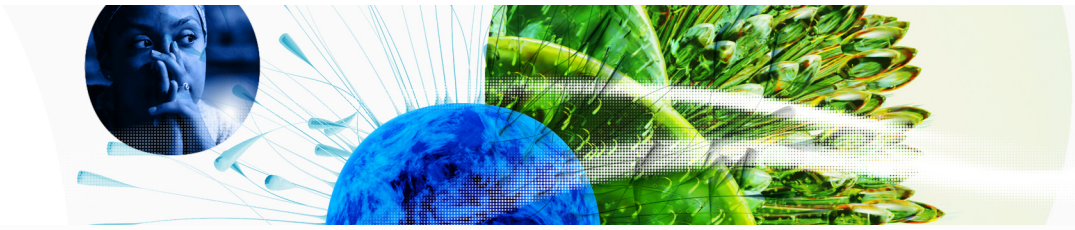
7.2.2 National feature films/mn pop. 15-69

was equal to 0.219 films/mn pop. 15–69 in 2021, down by 34.95% from the year prior – and equivalent to an indicator rank of 78.



7.3.4 Mobile app creation/bn PPP$ GDP

was equal to 4,684.3 Apps/bn PPP$ GDP in 2022 – and equivalent to an indicator rank of 106.



→ Zimbabwe's innovation top performers

> 7.1.1 Top 15 intangible-asset intensive companies in Zimbabwe

Rank	Firm	Intensity, %
1	DELTA CORP LTD/ZIMBABWE	82.60
2	ECOCASH HOLDINGS ZIMBABWE LTD	77.54
3	SIMBISA BRANDS LTD	37.57

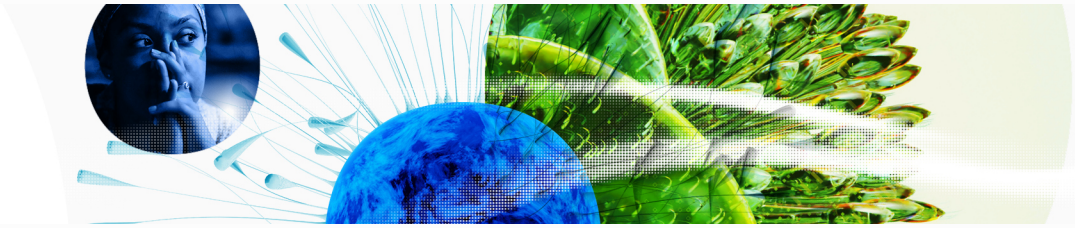
Source: Brand Finance (https://brandirectory.com/reports/gift-2022).
Note: Brand Finance only provides within economy ranks.

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

Rank	Brand	Industry	Brand Value, mn USD
1	ECONET WIRELESS	Telecoms	172.2

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

Global Innovation Index 2023



Zimbabwe

GII 2023 rank
117

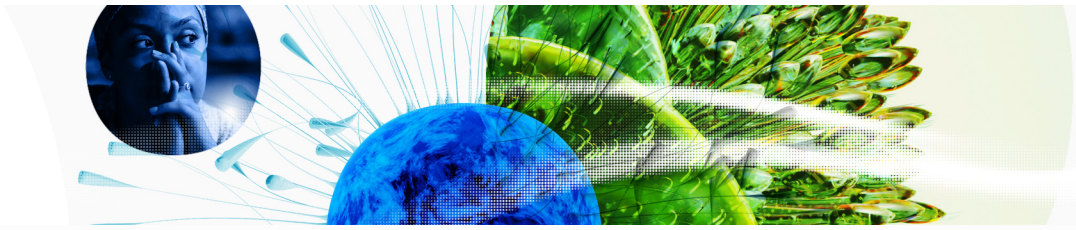
Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
97	127	Lower middle	SSA	16.3	40.4	2,554.7

	Score / Value	Rank	
Institutions	**21.3**	**130**	◇
1.1 Institutional environment	**8.5**	**130**	◇
1.1.1 Operational stability for businesses*	14.6	129	◇
1.1.2 Government effectiveness*	2.4	130	○ ◇
1.2 Regulatory environment	**35.2**	**125**	
1.2.1 Regulatory quality*	6.5	131	○ ◇
1.2.2 Rule of law*	2.8	130	○ ◇
1.2.3 Cost of redundancy dismissal	25.3	106	
1.3 Business environment	**20.2**	**117**	
1.3.1 Policies for doing business†	20.2	119	◇
1.3.2 Entrepreneurship policies and culture†	n/a	n/a	
Human capital and research	**18.5**	**104**	
2.1 Education	**33.6**	**114**	
2.1.1 Expenditure on education, % GDP	2.1	119	◇
2.1.2 Government funding/pupil, secondary, % GDP/cap	22.6	35	
2.1.3 School life expectancy, years	11.4	96	
2.1.4 PISA scales in reading, maths and science	n/a	n/a	
2.1.5 Pupil-teacher ratio, secondary	22.5	106	
2.2 Tertiary education	**21.9**	**86**	
2.2.1 Tertiary enrolment, % gross	8.9	117	◇
2.2.2 Graduates in science and engineering, %	30.2	17	●
2.2.3 Tertiary inbound mobility, %	0.5	100	
2.3 Research and development (R&D)	**0.0**	**119**	
2.3.1 Researchers, FTE/mn pop.	n/a	n/a	
2.3.2 Gross expenditure on R&D, % GDP	n/a	n/a	
2.3.3 Global corporate R&D investors, top 3, mn US$	0.0	40	○ ◇
2.3.4 QS university ranking, top 3*	0.0	71	○ ◇
Infrastructure	**20.4**	**119**	◇
3.1 Information and communication technologies (ICTs)	**33.4**	**118**	◇
3.1.1 ICT access*	46.8	112	
3.1.2 ICT use*	33.9	114	◇
3.1.3 Government's online service*	32.0	120	
3.1.4 E-participation*	20.9	122	
3.2 General infrastructure	**10.2**	**123**	
3.2.1 Electricity output, GWh/mn pop.	451.5	112	
3.2.2 Logistics performance*	18.2	89	
3.2.3 Gross capital formation, % GDP	n/a	n/a	
3.3 Ecological sustainability	**17.6**	**92**	
3.3.1 GDP/unit of energy use	3.5	124	○ ◇
3.3.2 Environmental performance*	46.3	54	●
3.3.3 ISO 14001 environment/bn PPP$ GDP	0.4	93	
Market sophistication	**15.2**	**121**	◇
4.1 Credit	**1.5**	**131**	◇
4.1.1 Finance for startups and scaleups†	n/a	n/a	
4.1.2 Domestic credit to private sector, % GDP	5.4	129	○ ◇
4.1.3 Loans from microfinance institutions, % GDP	0.2	47	
4.2 Investment	**5.4**	**73**	
4.2.1 Market capitalization, % GDP	n/a	n/a	
4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP	n/a	n/a	
4.2.3 VC recipients, deals/bn PPP$ GDP	0.0	50	●
4.2.4 VC received, value, % GDP	0.0	88	
4.3 Trade, diversification, and market scale	**38.5**	**106**	
4.3.1 Applied tariff rate, weighted avg., %	5.0	90	
4.3.2 Domestic industry diversification	47.2	104	◇
4.3.3 Domestic market scale, bn PPP$	40.4	118	

	Score / Value	Rank	
Business sophistication	**19.3**	**112**	
5.1 Knowledge workers	**23.5**	**84**	
5.1.1 Knowledge-intensive employment, %	9.4	108	
5.1.2 Firms offering formal training, %	26.4	63	
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, %	9.8	76	
5.2 Innovation linkages	**7.7**	**125**	◇
5.2.1 University-industry R&D collaboration†	14.5	121	◇
5.2.2 State of cluster development†	5.8	126	◇
5.2.3 GERD financed by abroad, % GDP	n/a	n/a	
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	46	●
5.2.5 Patent families/bn PPP$ GDP	0.0	95	○ ◇
5.3 Knowledge absorption	**26.6**	**98**	
5.3.1 Intellectual property payments, % total trade	0.1	106	
5.3.2 High-tech imports, % total trade	8.3	63	●
5.3.3 ICT services imports, % total trade	1.1	83	
5.3.4 FDI net inflows, % GDP	0.8	103	
5.3.5 Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs	**11.4**	**113**	
6.1 Knowledge creation	**9.1**	**85**	
6.1.1 Patents by origin/bn PPP$ GDP	0.2	100	
6.1.2 PCT patents by origin/bn PPP$ GDP	0.0	75	
6.1.3 Utility models by origin/bn PPP$ GDP	0.1	55	
6.1.4 Scientific and technical articles/bn PPP$ GDP	n/a	n/a	
6.1.5 Citable documents H-index	7.5	89	
6.2 Knowledge impact	**17.0**	**118**	
6.2.1 Labor productivity growth, %	-1.8	122	◇
6.2.2 Unicorn valuation, % GDP	0.0	48	○ ◇
6.2.3 Software spending, % GDP	0.2	70	●
6.2.4 High-tech manufacturing, %	17.5	70	
6.3 Knowledge diffusion	**8.2**	**116**	
6.3.1 Intellectual property receipts, % total trade	0.0	74	●
6.3.2 Production and export complexity	32.4	108	
6.3.3 High-tech exports, % total trade	0.2	111	
6.3.4 ICT services exports, % total trade	0.4	106	
6.3.5 ISO 9001 quality/bn PPP$ GDP	0.4	125	
Creative outputs	**16.9**	**86**	
7.1 Intangible assets	**26.8**	**77**	
7.1.1 Intangible asset intensity, top 15, %	46.5	55	
7.1.2 Trademarks by origin/bn PPP$ GDP	4.1	126	○
7.1.3 Global brand value, top 5,000	0.5	63	●
7.1.4 Industrial designs by origin/bn PPP$ GDP	n/a	n/a	
7.2 Creative goods and services	**1.4**	**111**	
7.2.1 Cultural and creative services exports, % total trade	n/a	n/a	
7.2.2 National feature films/mn pop. 15-69	0.2	78	
7.2.3 Entertainment and media market/th pop. 15-69	n/a	n/a	
7.2.4 Creative goods exports, % total trade	0.2	88	
7.3 Online creativity	**12.3**	**107**	
7.3.1 Generic top-level domains (TLDs)/th pop. 15-69	0.5	113	
7.3.2 Country-code TLDs/th pop. 15-69	1.4	80	
7.3.3 GitHub commits/mn pop. 15-69	0.8	116	
7.3.4 Mobile app creation/bn PPP$ GDP	46.5	106	

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

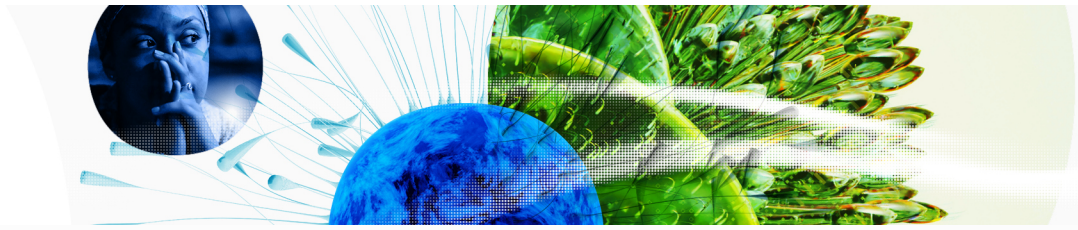
The following tables list indicators that are either missing or outdated for Zimbabwe.

> Zimbabwe has missing data for fifteen indicators and outdated data for twenty one indicators.

> Missing data for Zimbabwe

Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2022	Global Entrepreneurship Monitor
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
2.3.1	Researchers, FTE/mn pop.	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.3	Gross capital formation, % GDP	n/a	2022	International Monetary Fund
4.1.1	Finance for startups and scaleups	n/a	2022	Global Entrepreneurship Monitor
4.2.1	Market capitalization, % GDP	n/a	2020	World Federation of Exchanges; World Bank
4.2.2	Venture capital (VC) investors, deals/bn PPP$ GDP	n/a	2022	Refinitiv; International Monetary Fund
5.1.3	GERD performed by business, % GDP	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	n/a	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.2.3	GERD financed by abroad, % GDP	n/a	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.5	Research talent, % in businesses	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
7.1.4	Industrial designs by origin/bn PPP$ GDP	n/a	2021	World Intellectual Property Organization; International Monetary Fund
7.2.1	Cultural and creative services exports, % total trade	n/a	2021	World Trade Organization and United Nations Conference on Trade and Development
7.2.3	Entertainment and media market/th pop. 15-69	n/a	2022	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund

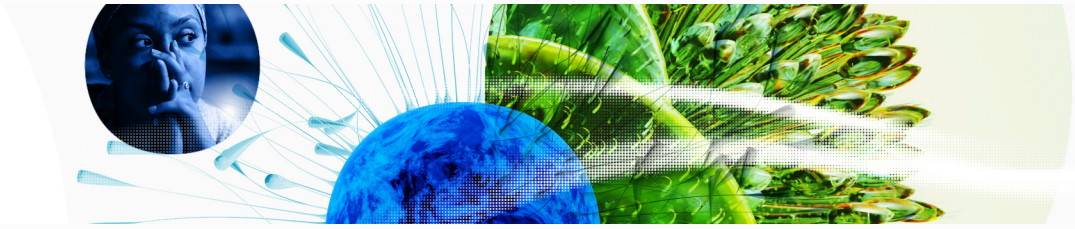
Global Innovation Index 2023



> Outdated data for Zimbabwe

Code	Indicator name	Economy Year	Model Year	Source
1.3.1	Policies for doing business	2019	2022	World Economic Forum, Executive Opinion Survey (EOS)
2.1.1	Expenditure on education, % GDP	2018	2021	UNESCO Institute for Statistics
2.1.2	Government funding/pupil, secondary, % GDP/cap	2013	2019	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2013	2020	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2013	2020	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2017	2020	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2015	2020	UNESCO Institute for Statistics; Eurostat; OECD
2.2.3	Tertiary inbound mobility, %	2015	2020	UNESCO Institute for Statistics
3.2.1	Electricity output, GWh/mn pop.	2020	2021	International Energy Agency
4.3.1	Applied tariff rate, weighted avg., %	2016	2020	World Bank
4.3.2	Domestic industry diversification	2018	2020	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2021	2022	International Labour Organization
5.1.2	Firms offering formal training, %	2016	2019	World Bank Enterprise Surveys
5.1.5	Females employed w/advanced degrees, %	2021	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)
6.1.1	Patents by origin/bn PPP$ GDP	2016	2021	World Intellectual Property Organization; International Monetary Fund
6.2.4	High-tech manufacturing, %	2017	2020	United Nations Industrial Development Organization
6.3.1	Intellectual property receipts, % total trade	2016	2021	World Trade Organization and United Nations Conference on Trade and Development
6.3.3	High-tech exports, % total trade	2020	2021	United Nations Comtrade Database; World Trade Organization and United Nations Conference on Trade and Development; Trade Data Monitor.
7.1.2	Trademarks by origin/bn PPP$ GDP	2016	2021	World Intellectual Property Organization; International Monetary Fund

Global Innovation Index 2023



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, 2023.

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.