Global Innovation Index 2021

ZIMBABWE

113th Zimbabwe ranks 113th among the 132 economies featured in the GII 2021.

The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.

The following table shows the rankings of Zimbabwe 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 Zimbabwe in the GII 2021 is between ranks 108 and 123.

Rankings for Zimbabwe (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	113	116	105
2020	120	123	108
2019	122	123	110

- Zimbabwe performs better in innovation outputs than innovation inputs in 2021.
- This year Zimbabwe ranks 116th in innovation inputs, higher than both 2020 and 2019.
- As for innovation outputs, Zimbabwe ranks 105th. This position is higher than both 2020 and 2019.

24th Zimbabwe ranks 24th among the 34 lower middle-income group economies.

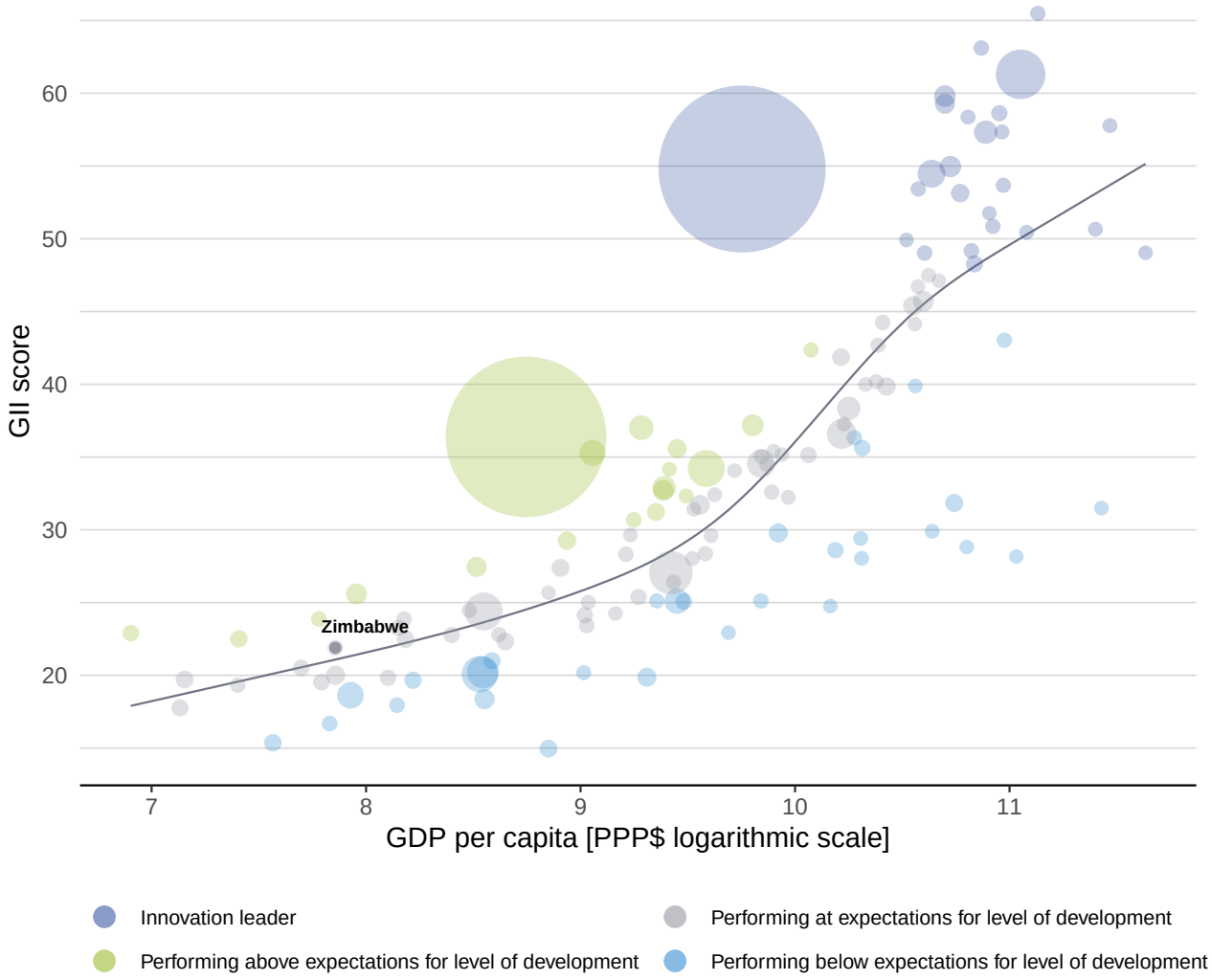
13th Zimbabwe ranks 13th among the 27 economies in Sub-Saharan Africa.

EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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

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

The positive relationship between innovation and development

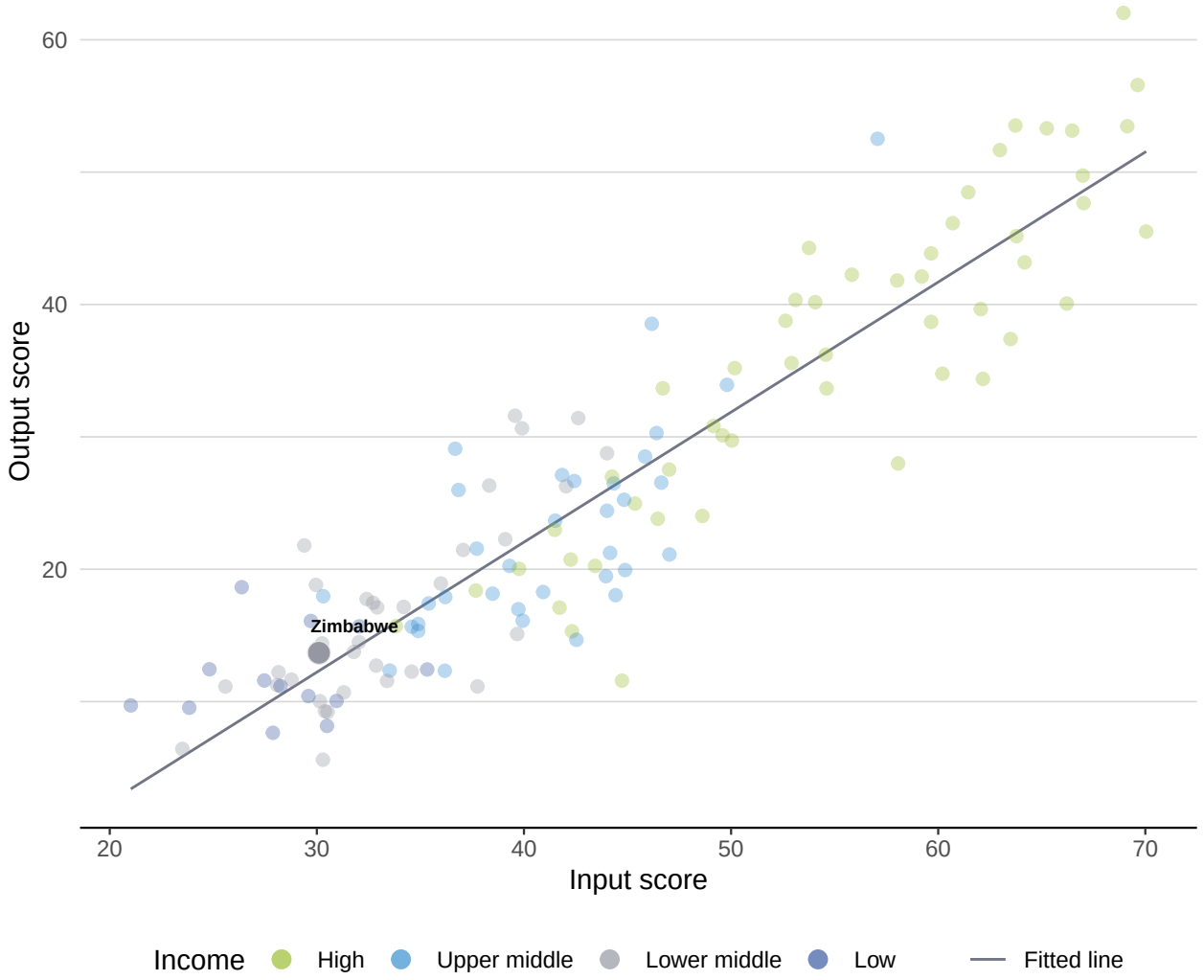


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

Innovation input to output performance



BENCHMARKING AGAINST OTHER LOWER MIDDLE-INCOME GROUP ECONOMIES AND SUB-SAHARAN AFRICA

The seven GII pillar scores for Zimbabwe

Lower middle-income group economies

Zimbabwe performs above the lower middle-income group average in two pillars, namely: Human capital and research; and, Market sophistication.

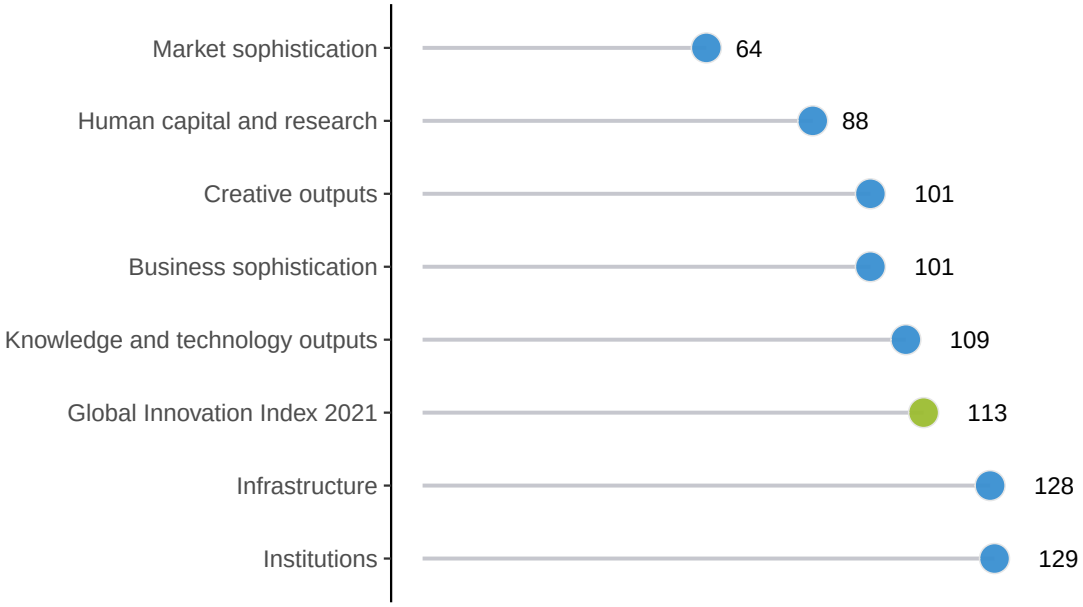
Sub-Saharan Africa

Zimbabwe performs above the regional average in five pillars, namely: Human capital and research; Market sophistication; Business sophistication; Knowledge and technology outputs; and, Creative outputs.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Zimbabwe performs best in Market sophistication and its weakest performance is in Institutions.

The seven GII pillar ranks for Zimbabwe



Note: The highest possible ranking in each pillar is one.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Zimbabwe in the GII 2021.

Strengths and weaknesses for Zimbabwe

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
2.1.1	Expenditure on education, % GDP	17	1.1	Political environment	131
2.1.2	Government funding/pupil, secondary, % GDP/cap	33	1.1.2	Government effectiveness	131
2.2.2	Graduates in science and engineering, %	16	1.2.1	Regulatory quality	131
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	63	1.2.2	Rule of law	131
4.1.2	Domestic credit to private sector, % GDP	64	2.3.3	Global corporate R&D investors, top 3, mn US$	41
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	33	2.3.4	QS university ranking, top 3	74
6.1.4	Scientific and technical articles/bn PPP$ GDP	57	3.2	General infrastructure	131
6.2.2	New businesses/th pop. 15–64	54	3.2.2	Logistics performance	123
7.1.2	Global brand value, top 5,000, % GDP	54	3.3.1	GDP/unit of energy use	122
7.2.5	Creative goods exports, % total trade	15	5.2.5	Patent families/bn PPP$ GDP	100
			7.1.1	Trademarks by origin/bn PPP$ GDP	126
			7.1.4	ICTs and organizational model creation	123

Zimbabwe

GII 2021 rank

113

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$	GII 2020 rank
105	116	Lower middle	SSF	14.9	39.2	2,583	120

		Score/ Value	Rank	
Institutions		**40.7**	**129**	◇
1.1	**Political environment**	**32.0**	**131**	○ ◇
1.1.1	Political and operational stability*	48.2	127	◇
1.1.2	Government effectiveness*	23.9	131	○ ◇
1.2	**Regulatory environment**	**37.6**	**123**	
1.2.1	Regulatory quality*	5.2	131	○ ◇
1.2.2	Rule of law*	13.6	131	○ ◇
1.2.3	Cost of redundancy dismissal	25.3	105	
1.3	**Business environment**	**52.4**	**122**	
1.3.1	Ease of starting a business*	72.0	121	◇
1.3.2	Ease of resolving insolvency*	32.9	115	
Human capital and research		**24.6**	**88**	
2.1	**Education**	**46.8**	**76**	
2.1.1	Expenditure on education, % GDP	5.9	17	● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap ⏲	22.2	33	●
2.1.3	School life expectancy, years ⏲	11.4	98	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil-teacher ratio, secondary ⏲	22.5	103	
2.2	**Tertiary education**	**26.6**	**81**	
2.2.1	Tertiary enrolment, % gross ⏲	10.0	114	
2.2.2	Graduates in science and engineering, % ⏲	30.2	16	●
2.2.3	Tertiary inbound mobility, % ⏲	0.5	98	
2.3	**Research and development (R&D)**	**0.3**	**115**	
2.3.1	Researchers, FTE/mn pop. ⏲	99.5	88	
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	41	○ ◇
2.3.4	QS university ranking, top 3*	0.0	74	○ ◇
Infrastructure		**19.8**	**128**	◇
3.1	**Information and communication technologies (ICTs)**	**40.8**	**108**	
3.1.1	ICT access*	38.4	110	
3.1.2	ICT use*	27.0	106	
3.1.3	Government's online service*	52.3	99	
3.1.4	E-participation*	45.2	108	
3.2	**General infrastructure**	**2.9**	**131**	○ ◇
3.2.1	Electricity output, GWh/mn pop.	652.3	105	
3.2.2	Logistics performance*	3.4	123	○ ◇
3.2.3	Gross capital formation, % GDP	n/a	n/a	
3.3	**Ecological sustainability**	**15.9**	**121**	
3.3.1	GDP/unit of energy use	3.5	122	○ ◇
3.3.2	Environmental performance*	37.0	100	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	1.2	63	● ◆
Market sophistication		**46.7**	**64**	●
4.1	**Credit**	**34.1**	**92**	
4.1.1	Ease of getting credit*	65.0	61	
4.1.2	Domestic credit to private sector, % GDP	51.8	64	●
4.1.3	Microfinance gross loans, % GDP ⏲	0.0	71	
4.2	**Investment**	**54.0**	**[17]**	
4.2.1	Ease of protecting minority investors*	54.0	88	
4.2.2	Market capitalization, % GDP	n/a	n/a	
4.2.3	Venture capital investors, deals/bn PPP$ GDP	n/a	n/a	
4.2.4	Venture capital recipients, deals/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, diversification, and market scale**	**51.9**	**113**	
4.3.1	Applied tariff rate, weighted avg., % ⏲	5.0	86	
4.3.2	Domestic industry diversification ⏲	58.2	104	◇
4.3.3	Domestic market scale, bn PPP$	39.2	111	

		Score/ Value	Rank	
Business sophistication		**18.7**	**101**	
5.1	**Knowledge workers**	**22.3**	**[96]**	
5.1.1	Knowledge-intensive employment, %	12.8	101	
5.1.2	Firms offering formal training, % ⏲	26.4	59	
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, %	7.5	84	
5.2	**Innovation linkages**	**17.5**	**91**	
5.2.1	University-industry R&D collaboration† ⏲	29.0	115	
5.2.2	State of cluster development and depth† ⏲	31.4	121	◇
5.2.3	GERD financed by abroad, % GDP	n/a	n/a	
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.1	33	● ◆
5.2.5	Patent families/bn PPP$ GDP	0.0	100	○ ◇
5.3	**Knowledge absorption**	**16.4**	**108**	
5.3.1	Intellectual property payments, % total trade	0.1	109	
5.3.2	High-tech imports, % total trade	6.7	83	
5.3.3	ICT services imports, % total trade	0.7	94	
5.3.4	FDI net inflows, % GDP	1.8	83	
5.3.5	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**11.7**	**109**	
6.1	**Knowledge creation**	**9.2**	**84**	
6.1.1	Patents by origin/bn PPP$ GDP ⏲	0.2	97	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.1	74	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific and technical articles/bn PPP$ GDP	15.1	57	●
6.1.5	Citable documents H-index	7.5	87	
6.2	**Knowledge impact**	**20.2**	**103**	
6.2.1	Labor productivity growth, %	–4.2	117	◇
6.2.2	New businesses/th pop. 15–64	2.1	54	●
6.2.3	Software spending, % GDP	0.2	69	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	3.7	67	
6.2.5	High-tech manufacturing, % ⏲	21.7	59	
6.3	**Knowledge diffusion**	**5.6**	**117**	
6.3.1	Intellectual property receipts, % total trade ⏲	0.0	77	
6.3.2	Production and export complexity	22.4	106	
6.3.3	High-tech exports, % total trade	0.6	88	
6.3.4	ICT services exports, % total trade	0.3	109	
Creative outputs		**15.7**	**101**	
7.1	**Intangible assets**	**12.0**	**126**	◇
7.1.1	Trademarks by origin/bn PPP$ GDP ⏲	4.0	126	○
7.1.2	Global brand value, top 5,000, % GDP	14.9	54	●
7.1.3	Industrial designs by origin/bn PPP$ GDP	n/a	n/a	
7.1.4	ICTs and organizational model creation†	29.7	123	○ ◇
7.2	**Creative goods and services**	**29.8**	**[24]**	
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a	
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	Printing and other media, % manufacturing ⏲	0.5	82	
7.2.5	Creative goods exports, % total trade	3.5	15	● ◆
7.3	**Online creativity**	**9.0**	**101**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	0.5	111	
7.3.2	Country-code TLDs/th pop. 15–69	0.8	91	
7.3.3	Wikipedia edits/mn pop. 15–69	28.7	108	
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 IV for details, including the year of the data, at http://globalinnovationindex.org. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.

DATA AVAILABILITY

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

Missing data for Zimbabwe

Code	Indicator name	Economy year	Model year	Source
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD Programme for International Student Assessment (PISA)
2.3.2	Gross expenditure on R&D, % GDP	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
3.2.3	Gross capital formation, % GDP	n/a	2020	International Monetary Fund
4.2.2	Market capitalization, % GDP	n/a	2019	World Federation of Exchanges
4.2.3	Venture capital investors, deals/bn PPP$ GDP	n/a	2020	Refinitiv Eikon
4.2.4	Venture capital recipients, deals/bn PPP$ GDP	n/a	2020	Refinitiv Eikon
5.1.3	GERD performed by business, % GDP	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.4	GERD financed by business, %	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.2.3	GERD financed by abroad, % GDP	n/a	2018	UNESCO Institute for Statistics
5.3.5	Research talent, % in businesses	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2019	World Intellectual Property Organization
7.1.3	Industrial designs by origin/bn PPP$ GDP	n/a	2019	World Intellectual Property Organization
7.2.1	Cultural and creative services exports, % total trade	n/a	2019	World Trade Organization
7.2.2	National feature films/mn pop. 15–69	n/a	2017	UNESCO Institute for Statistics
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2020	PwC
7.3.4	Mobile app creation/bn PPP$ GDP	n/a	2020	App Annie

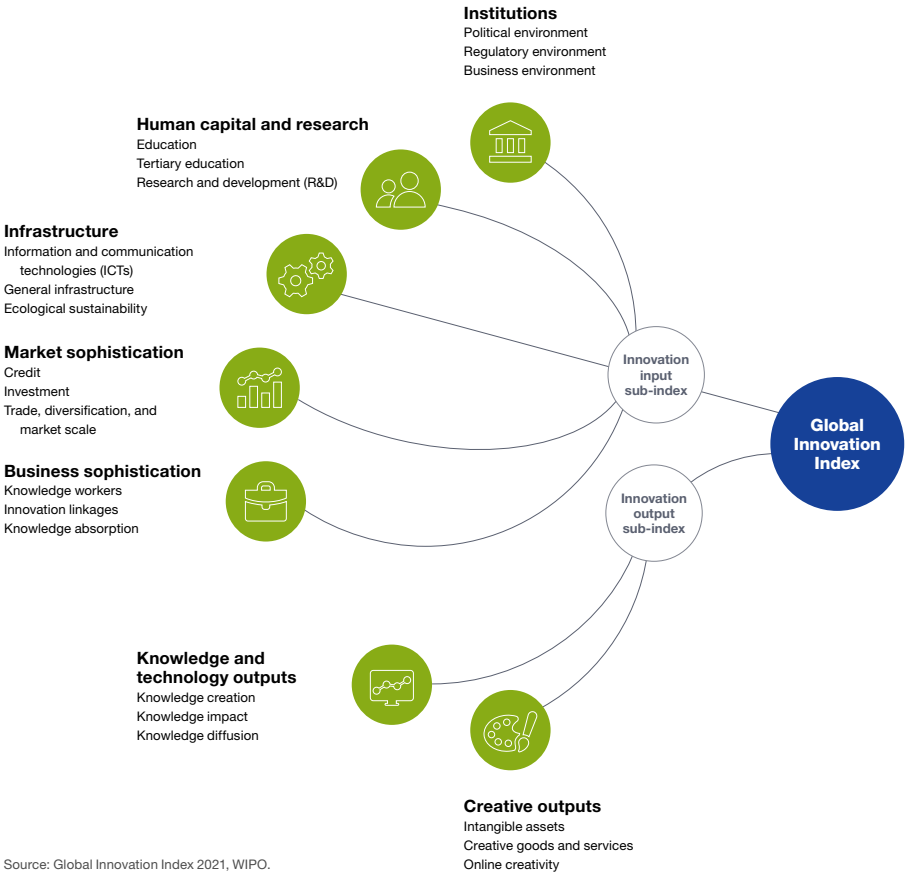
Outdated data for Zimbabwe

Code	Indicator name	Economy year	Model year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	2013	2017	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2013	2018	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2013	2019	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2015	2018	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2015	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.2.3	Tertiary inbound mobility, %	2015	2018	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2012	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
4.1.3	Microfinance gross loans, % GDP	2017	2018	Microfinance Information Exchange
4.3.1	Applied tariff rate, weighted avg., %	2016	2019	World Bank
4.3.2	Domestic industry diversification	2017	2018	United Nations Industrial Development Organization
5.1.2	Firms offering formal training, %	2016	2019	World Bank
5.2.1	University-industry R&D collaboration	2019	2020	World Economic Forum
5.2.2	State of cluster development and depth	2019	2020	World Economic Forum
6.1.1	Patents by origin/bn PPP$ GDP	2016	2019	World Intellectual Property Organization
6.2.5	High-tech manufacturing, %	2017	2018	United Nations Industrial Development Organization
6.3.1	Intellectual property receipts, % total trade	2016	2019	World Trade Organization
7.1.1	Trademarks by origin/bn PPP$ GDP	2016	2019	World Intellectual Property Organization
7.2.4	Printing and other media, % manufacturing	2017	2018	United Nations Industrial Development Organization

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 2021, WIPO.

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.