Global Innovation Index 2025

Guatemala ranking in the Global Innovation Index 2025

Guatemala ranks 123rd among the 139 economies featured in the GII 2025.

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.

Guatemala ranks 36th among the 36 Upper middle-income group economies.

Guatemala ranks 19th among the 21 economies in Latin America and the Caribbean.

Guatemala GII Ranking (2020-2025)

The table shows the rankings of Guatemala over the past six 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 Guatemala in the GII 2025 is between ranks 120 and 124.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	106th	110th	96th
2021	101st	112nd	83rd
2022	110th	117th	96th
2023	122nd	121st	115th
2024	122nd	117th	122nd
2025	123rd	120th	120th

Guatemala performs the same in innovation outputs as in innovation inputs in 2025.

This year **Guatemala ranks 120th in innovation inputs.** This position is lower than last year.

Guatemala ranks 120th in innovation outputs. This position is higher than last year.

Guatemala has no clusters in the world's top innovation clusters of the Global Innovation Index.

Global Innovation Index 2025

> Global Innovation Tracker

The Global Innovation Tracker 2025 shows what is the current state of innovation in Guatemala, how rapidly is technology being embraced and what are the resulting societal impacts.

For Guatemala, 6 indicators have improved in the short-term and 3 indicators have worsened.

Science and innovation investment

	Scientific publications	R&D investments	Venture capital deal numbers	International patent filings
Short term	▲ 3.2 % 2023 - 2024	▼ -90.3 % 2021 - 2022	▼ -42.9 % 2023 - 2024	▲ 200 % 2023 - 2024
Long term (annual growth)	▲ 8.1 % 2014 - 2024	▼ -16.8 % 2013 - 2022	▲ 7.5 % 2020 - 2024	▲ 11.6 % 2014 - 2024

Technology adoption

	Safe sanitation	Connectivity		Robots	Electric vehicles
		Fixed broadband	5G		
Short term	n/a	▲ 2.7% 2022 - 2023	▲ 73.9% 2022 - 2023	n/a	n/a
Long term (annual growth)	n/a	▲ 10.1% 2013 - 2023	n/a	n/a	n/a
Penetration	n/a	5.1 per 100 inhabitants in 2023	40 per 100 inhabitants in 2023	n/a	n/a

Socioeconomic impact

	Labor productivity	Life expectancy	Temperature change
Short term	▲ 1 % 2023 - 2024	▲ 2 % 2022 - 2023	+ 1.9 °C 2024
Long term (annual growth)	0 % 2014 - 2024	▲ 0.2 % 2013 - 2023	+ 0.7 °C 2014
Level	30,466.1 USD in 2024	72.6 years in 2023	n/a

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 countries. from 1951–1980. Figures are rounded.

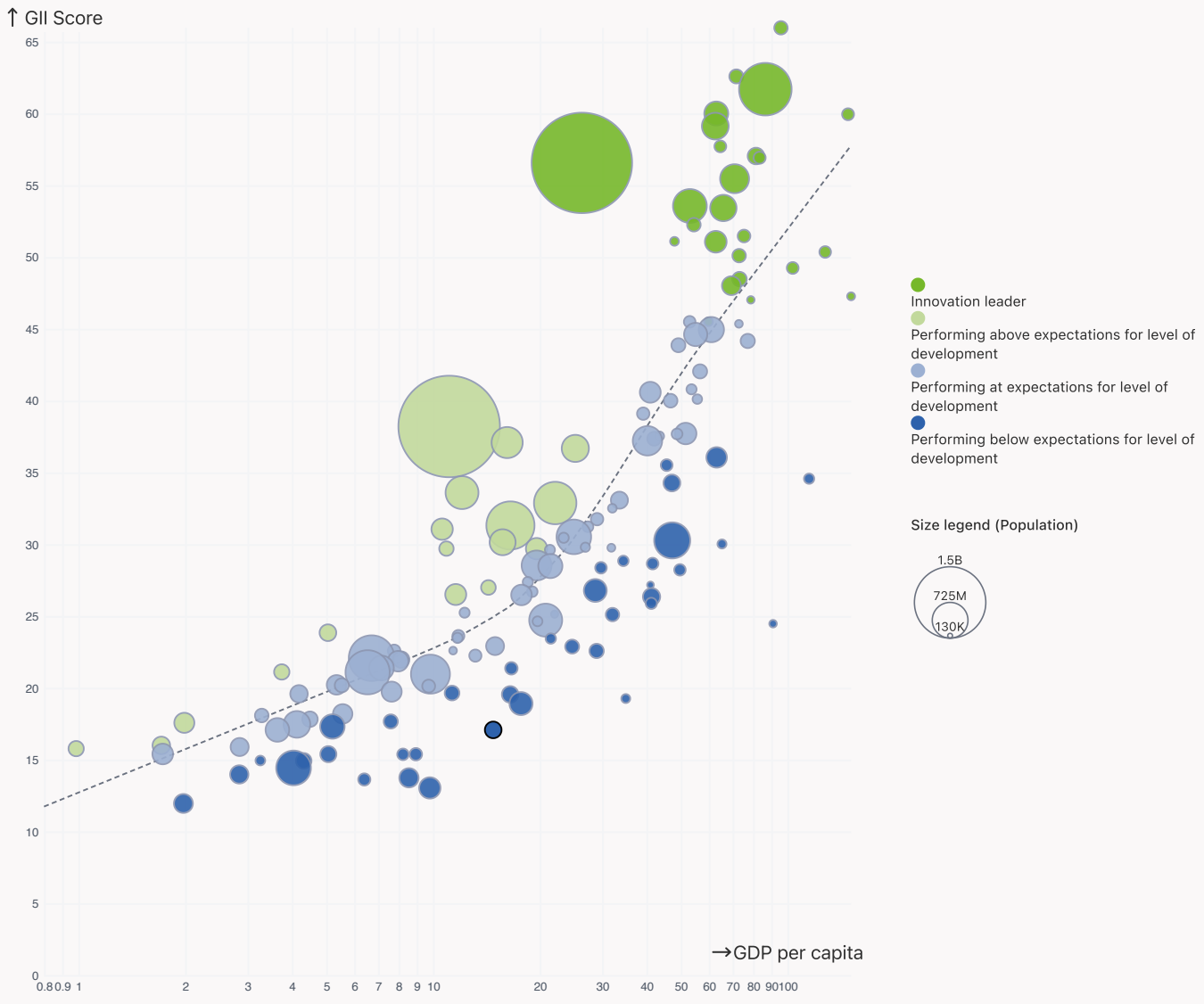
Global Innovation Index 2025

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 Guatemala performs below expectations for its level of development.

> Innovation overperformers relative to their economic development



Global Innovation Index 2025

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.

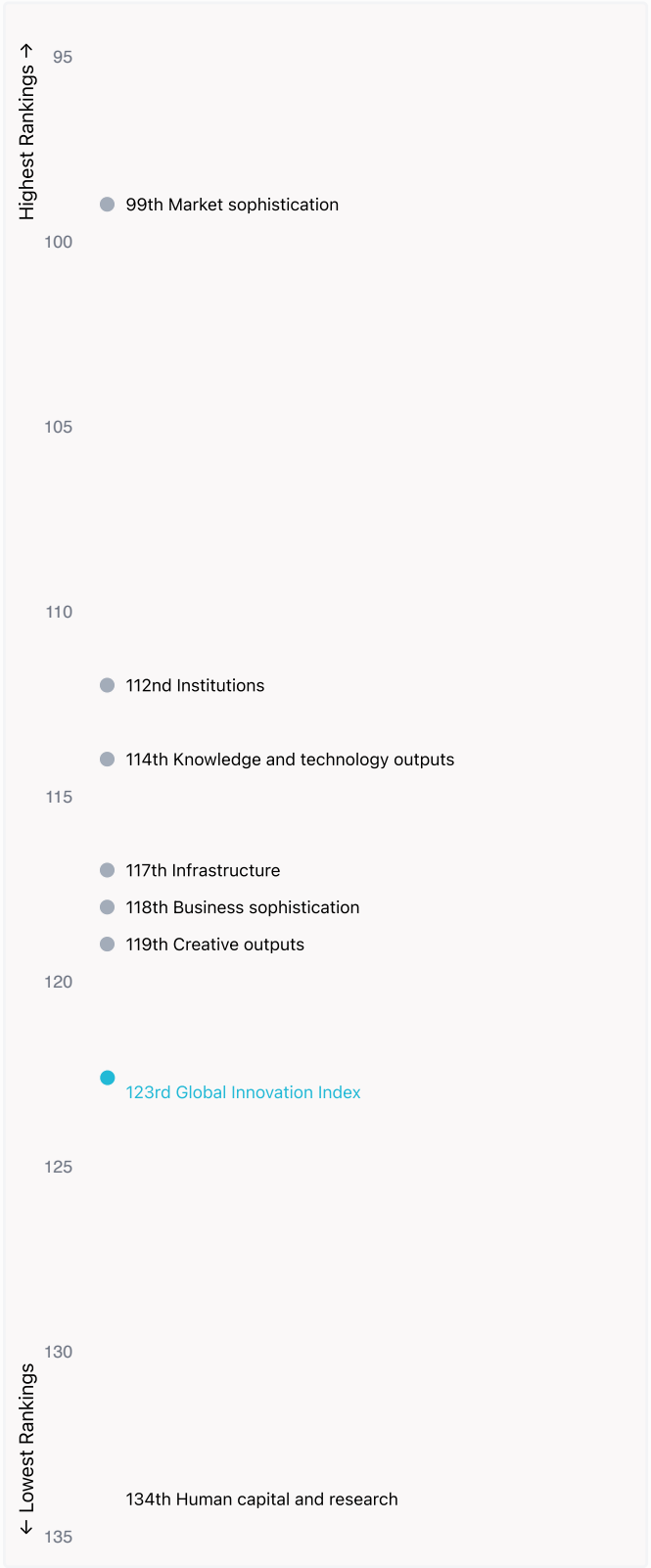
Guatemala produces less innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

Global Innovation Index 2025

Overview of Guatemala's rankings in the seven areas of the GII in 2025

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



Highest Rankings

Guatemala ranks highest in Market sophistication (99th), Institutions (112nd), Knowledge and technology outputs (114th) and Infrastructure (117th).

Lowest Rankings

Guatemala ranks lowest in Human capital and research (134th), Creative outputs (119th) and Business sophistication (118th).

The full WIPO Intellectual Property Statistics profile for Guatemala can be found on https://www.wipo.int/edocs/statistics-country-profile/en/gt.pdf

Global Innovation Index 2025

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

Upper middle-income economies

Guatemala performs below the Upper middle-income group average in all pillars.

Latin America and the Caribbean

Guatemala performs below the regional average in all pillars.

Institutions

- Top 10 | Score: 78.63
- Upper middle-income | Score: 44.7
- LCN | Score: 38.69
- Guatemala | Score: 33.18

Human capital and research

- Top 10 | Score: 59.30
- Upper middle-income | Score: 29.7
- LCN | Score: 26.83
- Guatemala | Score: 12.43

Infrastructure

- Top 10 | Score: 61.36
- Upper middle-income | Score: 41.1
- LCN | Score: 36.36
- Guatemala | Score: 28.24

Market sophistication

- Top 10 | Score: 61.82
- Upper middle-income | Score: 34.8
- LCN | Score: 29.96
- Guatemala | Score: 28.21

Business sophistication

- Top 10 | Score: 59.10
- Upper middle-income | Score: 27.7
- LCN | Score: 25.00
- Guatemala | Score: 21.73

Knowledge and technology outputs

- Top 10 | Score: 54.93
- Upper middle-income | Score: 20.0
- LCN | Score: 15.29
- Guatemala | Score: 10.94

Creative outputs

- Top 10 | Score: 55.98
- Upper middle-income | Score: 22.6
- LCN | Score: 17.22
- Guatemala | Score: 7.82

Global Innovation Index 2025

Innovation strengths and weaknesses in Guatemala

The table below gives an overview of the indicator strengths and weaknesses of Guatemala in the GII 2025.

Guatemala's best-ranked innovation strengths are **Intellectual property payments, % total trade** (rank 18), **Youth demographic dividend, %** (rank 30) and **High-tech imports, % total trade** (rank 42).

Strengths

Rank	Code	Indicator name
18	5.3.1	Intellectual property payments, % total trade
30	5.1.3	Youth demographic dividend, %
42	5.3.2	High-tech imports, % total trade
50	2.1.5	Pupil–teacher ratio, secondary
55	6.3.4	ICT services exports, % total trade
56	3.3.2	Low-carbon energy use, %
68	6.3.1	Intellectual property receipts, % total trade
69	4.3.1	Applied tariff rate, weighted avg., %
69	4.3.3	Domestic market scale, bn PPP$
69	6.3.3	High-tech exports, % total trade

Weaknesses

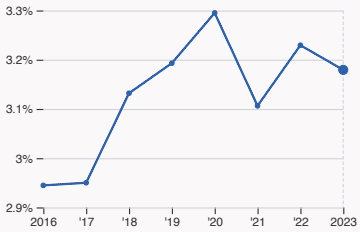
Rank	Code	Indicator name
137	6.1.4	Scientific and technical articles/bn PPP$ GDP
133	6.2.3	Software spending, % GDP
115	2.3.2	Gross expenditure on R&D, % GDP
109	2.3.1	Researchers, FTE/mn pop.
90	2.1.2	Government funding/pupil, secondary, % GDP/cap
87	5.1.4	GERD performed by business, % GDP
80	2.3.4	QS university ranking, top 3*
53	6.2.2	Unicorn valuation, % GDP
44	2.3.3	Global corporate R&D investors, top 3, mn USD

Global Innovation Index 2025

Guatemala's innovation system

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

Innovation inputs in Guatemala

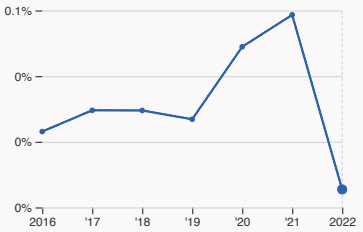


2.1.1 Expenditure on education

was equal to 3.18 % GDP in 2023, down by 0.05 percentage points from the year prior – and equivalent to an indicator rank of 104.

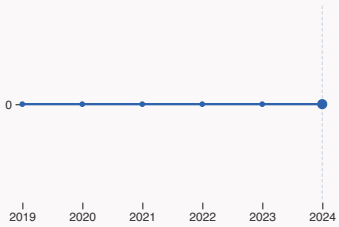
2.3.1 Researchers

was equal to 4.5 FTE per million population in 2022, down by 69.73% from the year prior – and equivalent to an indicator rank of 109.



2.3.2 Gross expenditure on R&D

was equal to 0.005 % GDP in 2022, down by 0.05 percentage points from the year prior – and equivalent to an indicator rank of 115.



2.3.4 QS university ranking

The country does not have any universities in the QS world universities ranking in 2024.

5.1.1 Knowledge-intensive employment

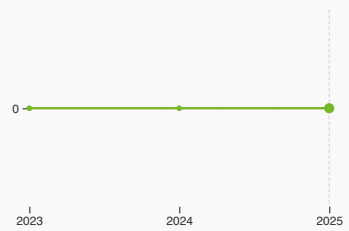
was equal to 7.82 % of total workforce in 2023, down by 3.1 percentage points from the year prior – and equivalent to an indicator rank of 107.

Global Innovation Index 2025

Innovation outputs in Guatemala

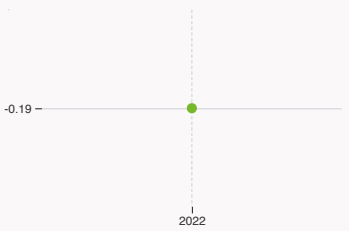
6.1.1 Patents by origin

was equal to 4 patents in 2023, down by 42.86% from the year prior – and equivalent to an indicator rank of 129.



6.2.2 Unicorn valuation

The country does not have unicorns in 2025.



6.3.2 Production and export complexity

was equal to a score of -0.19 in 2022 – and equivalent to an indicator rank of 72.

6.3.3 High-tech exports

was equal to 378.78 million USD in 2023, up by 1.72% from the year prior – and equivalent to an indicator rank of 69.

7.3.3 Mobile app creation

was equal to 408.89 thousand global downloads of mobile apps in 2024, up by 0.98% from the year prior – and equivalent to an indicator rank of 121.

Guatemala

GII 2025 rank **123**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
120	120	Upper middle	Latin America and the Caribbean	18.4	264	14,791.4

	Score / Value	Rank	
Institutions	**33.2**	**112**	
1.1 Institutional environment	**37.2**	**107**	
1.1.1 Operational stability for businesses*	53.3	92	
1.1.2 Government effectiveness*	21	123	◇
1.2 Regulatory environment	**33.1**	**108**	
1.2.1 Regulatory quality*	40	89	
1.2.2 Rule of law*	26.1	125	◇
1.3 Business environment	**29.3**	**100**	
1.3.1 Policy stability for doing business†	41.1	79	
1.3.2 Entrepreneurship policies and culture†	17.4	82	
Human capital and research	**12.4**	**134**	◇
2.1 Education	**31.7**	**127**	◇
2.1.1 Expenditure on education, % GDP	3.2	104	
2.1.2 Government funding/pupil, secondary, % GDP/cap	6.5	90	○ ◇
2.1.3 School life expectancy, years	10.6	109	◇
2.1.4 PISA scales in reading, maths and science	363.8	77	
2.1.5 Pupil–teacher ratio, secondary	11.6	50	●
2.2 Tertiary education	**5.6**	**123**	◇
2.2.1 Tertiary enrolment, % gross	27.3	93	◇
2.2.2 Graduates in science and engineering, %	9.8	118	
2.2.3 Tertiary inbound mobility, %	0.4	102	
2.3 Research and development (R&D)	**0**	**124**	◇
2.3.1 Researchers, FTE/mn pop.	4.5	109	○ ◇
2.3.2 Gross expenditure on R&D, % GDP	0.005	115	○ ◇
2.3.3 Global corporate R&D investors, top 3, mn USD	0	44	○ ◇
2.3.4 QS university ranking, top 3*	0	80	○ ◇
Infrastructure	**28.2**	**117**	◇
3.1 Information and communication technologies (ICTs)	**54.4**	**110**	◇
3.1.1 ICT access*	52.5	113	◇
3.1.2 ICT use*	52.3	111	◇
3.1.3 Government's online service*	58.3	82	
3.2 General infrastructure	**13.5**	**127**	◇
3.2.1 Electricity output, GWh/mn pop.	765.3	105	◇
3.2.2 Logistics performance*	22.7	82	
3.2.3 Gross capital formation, % GDP	16.4	119	◇
3.3 Ecological sustainability	**16.8**	**88**	
3.3.1 GDP/unit of energy use	10	75	
3.3.2 Low-carbon energy use, %	23.3	56	●
3.3.3 ISO 14001 environment/bn PPP$ GDP	0.3	109	
Market sophistication	**28.2**	**99**	
4.1 Credit	**15.4**	**101**	
4.1.1 Finance for startups and scaleups†	18.7	88	◇
4.1.2 Domestic credit to private sector, % GDP	37.1	81	
4.1.3 Loans from microfinance institutions, % GDP	n/a	n/a	
4.2 Investment	**1.7**	**104**	
4.2.1 Market capitalization, % GDP	n/a	n/a	
4.2.2 Venture capital (VC) received, deal count/bn PPP$ GDP	0.03	99	
4.2.3 Late-stage VC deal count, % global VC	0.005	83	
4.2.4 VC investors, deal count/bn PPP$ GDP	0.08	76	
4.2.5 VC investor co-participation/bn PPP$ GDP	0.02	80	
4.3 Trade, diversification and market scale	**67.6**	**76**	
4.3.1 Applied tariff rate, weighted avg., %	2.3	69	●
4.3.2 Domestic industry diversification	n/a	n/a	
4.3.3 Domestic market scale, bn PPP$	264	69	●

	Score / Value	Rank	
Business sophistication	**21.7**	**118**	
5.1 Knowledge workers	**19.5**	**135**	◇
5.1.1 Knowledge-intensive employment, %	7.8	107	◇
5.1.2 Females employed w/advanced degrees, %	2.3	105	◇
5.1.3 Youth demographic dividend, %	51.1	30	● ◆
5.1.4 GERD performed by business, % GDP	0.003	87	○
5.1.5 GERD financed by business, %	11.1	72	
5.2 Innovation linkages	**20.7**	**89**	
5.2.1 Public research–industry co-publications, %	0.9	99	
5.2.2 University–industry R&D collaboration†	30.8	80	
5.2.3 University industry & international engagement, top 5*	n/a	n/a	
5.2.4 State of cluster development†	44.4	70	
5.2.5 Patent families/bn PPP$ GDP	0.005	93	
5.3 Knowledge absorption	**24.9**	**76**	
5.3.1 Intellectual property payments, % total trade	1.7	18	● ◆
5.3.2 High-tech imports, % total trade	9.9	42	●
5.3.3 ICT services imports, % total trade	1.2	78	
5.3.4 FDI net inflows, % GDP	2.4	76	
5.3.5 Research talent, % in businesses	3.5	74	
Knowledge and technology outputs	**10.9**	**114**	
6.1 Knowledge creation	**1.3**	**135**	◇
6.1.1 Patents by origin/bn PPP$ GDP	0.02	129	
6.1.2 PCT patents by inventor origin/bn PPP$ GDP	0.004	101	
6.1.3 Utility models by origin/bn PPP$ GDP	0.03	65	
6.1.4 Scientific and technical articles/bn PPP$ GDP	1	137	○ ◇
6.1.5 Citable documents H-index	4	117	
6.2 Knowledge impact	**16.7**	**114**	
6.2.1 Labor productivity growth, %	0.8	73	
6.2.2 Unicorn valuation, % GDP	0	53	○ ◇
6.2.3 Software spending, % GDP	0.01	133	○ ◇
6.2.4 High-tech manufacturing, %	n/a	n/a	
6.3 Knowledge diffusion	**14.8**	**83**	
6.3.1 Intellectual property receipts, % total trade	0.07	68	●
6.3.2 Production and export complexity	44.7	72	
6.3.3 High-tech exports, % total trade	1.5	69	●
6.3.4 ICT services exports, % total trade	2.4	55	●
6.3.5 ISO 9001 quality/bn PPP$ GDP	1.1	108	
Creative outputs	**7.8**	**[119]**	
7.1 Intangible assets	**7**	**[109]**	
7.1.1 Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2 Trademarks by origin/bn PPP$ GDP	26.4	77	
7.1.3 Global brand value, top 5,000, % GDP	n/a	n/a	
7.1.4 Industrial designs by origin/bn PPP$ GDP	0.03	124	◇
7.2 Creative goods and services	**2.3**	**[109]**	
7.2.1 Cultural and creative services exports, % total trade	0.1	99	
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	0.2	83	
7.3 Online creativity	**15**	**116**	◇
7.3.1 Top-level domains (TLDs)/th pop. 15–69	2.2	83	
7.3.2 GitHub commits/mn pop. 15–69	2.7	102	
7.3.3 Mobile app creation/bn PPP$ GDP	40	121	◇

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.

Global Innovation Index 2025

Data Availability

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

Guatemala has missing data for nine indicators and outdated data for eight indicators.

Missing data for Guatemala

Code	Indicator name	Economy year	Model year*	Source
4.1.3	Loans from microfinance institutions, % GDP	n/a	2023	International Monetary Fund, Financial Access Survey (FAS)
4.2.1	Market capitalization, % GDP	n/a	2022	World Federation of Exchanges; World Bank
4.3.2	Domestic industry diversification	n/a	2022	United Nations Industrial Development Organization (UNIDO)
5.2.3	University industry & international engagement, top 5*	n/a	2025	Times Higher Education, World University Rankings 2025
6.2.4	High-tech manufacturing, %	n/a	2022	United Nations Industrial Development Organization (UNIDO)
7.1.1	Intangible asset intensity, top 15, %	n/a	2024	Brand Finance
7.1.3	Global brand value, top 5,000, % GDP	n/a	2025	Brand Finance; International Monetary Fund
7.2.2	National feature films/mn pop. 15–69	n/a	2023	OMDIA; United Nations, World Population Prospects
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2024	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund

*Model year corresponds to the most frequent data year (the year that appears most often across all economies in the GII).

Outdated data for Guatemala

Code	Indicator name	Economy year	Model year*	Source
2.2.2	Graduates in science and engineering, %	2015	2022	UNESCO Institute for Statistics; Eurostat; OECD
2.3.1	Researchers, FTE/mn pop.	2022	2023	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	2022	2023	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.1	Knowledge-intensive employment, %	2023	2024	International Labour Organization
5.1.2	Females employed w/advanced degrees, %	2023	2024	International Labour Organization
5.1.4	GERD performed by business, % GDP	2019	2023	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.5	GERD financed by business, %	2019	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.5	Research talent, % in businesses	2019	2023	UNESCO Institute for Statistics; Eurostat; OECD; RICYT

Global Innovation Index 2025

*Model year corresponds to the most frequent data year (the year that appears most often across all economies in the GII).

Global Innovation Index 2025

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 140 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.