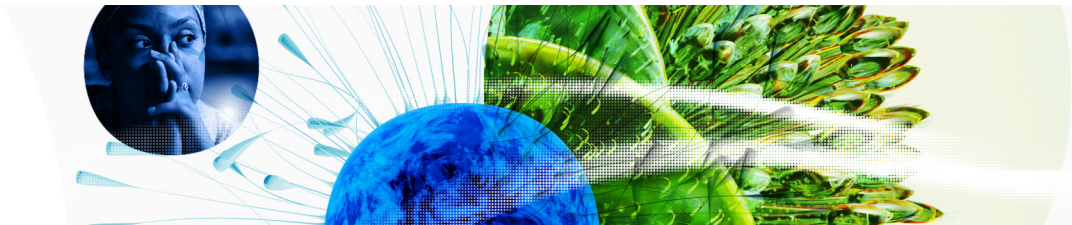# Global Innovation Index 2023

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**.
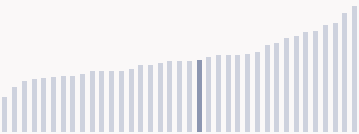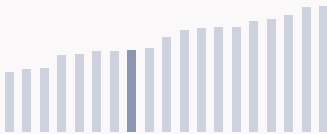
El Salvador ranking in the Global Innovation Index 2023

> El Salvador ranks **95th** among the 132 economies featured in the GII 2023.
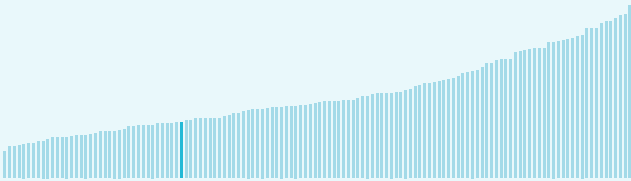
> El Salvador ranks **17th** among the 37 lower-middle-income group economies.

> El Salvador ranks **12th** among the 19 economies in Latin America and the Caribbean.

> ### El Salvador GII Ranking (2020-2023)

The table shows the rankings of El Salvador 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 El Salvador in the GII 2023 is between ranks 89 and 98.

	GII Position	Innovation Inputs	Innovation Outputs
2020	92nd	95th	87th
2021	96th	100th	89th
2022	100th	101st	95th
2023	95th	102nd	90th

El Salvador performs better in **innovation outputs** than innovation inputs in 2023.

This year **El Salvador ranks 102nd in innovation inputs**. This position is lower than last year.

El Salvador ranks 90th in innovation outputs. This position is higher than last year.

Global Innovation Index 2023
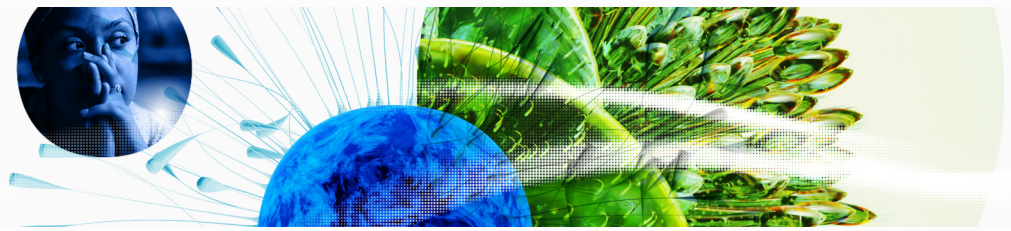
→ Expected vs. observed innovation performance

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, El Salvador's performance is at expectations for its level of development.

> Innovation overperformers relative to their economic development

↑ GII Score
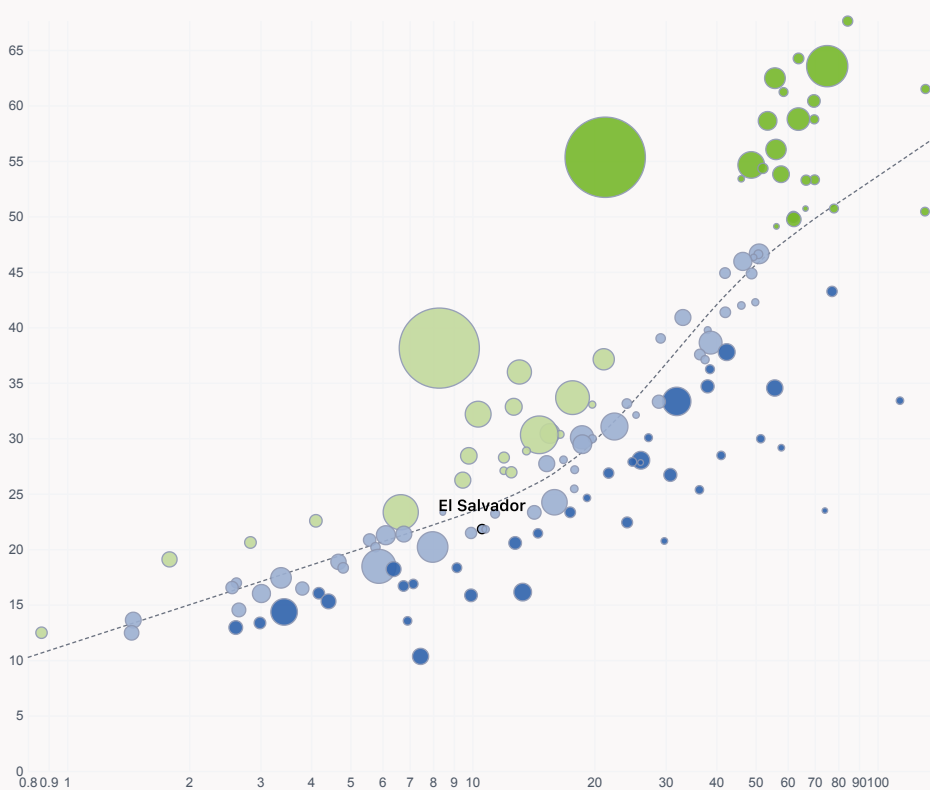
- ● Innovation leader
- ● Performing above expectations for level of development
- ● Performing at expectations for level of development
- ● Performing below expectations for level of development

Size legend (Population)
1.4B
713M
373K

El Salvador

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

Global Innovation Index 2023

→ **Effectively translating innovation investments into innovation outputs**

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

> 💡 > El Salvador produces more innovation outputs relative to its level of innovation investments.

> **Relationship between innovation inputs and outputs**

↑ Output score

- High income
- Upper middle
- Lower middle
- Low income
- ----------------------------
- Fitted line

El Salvador

→Input score
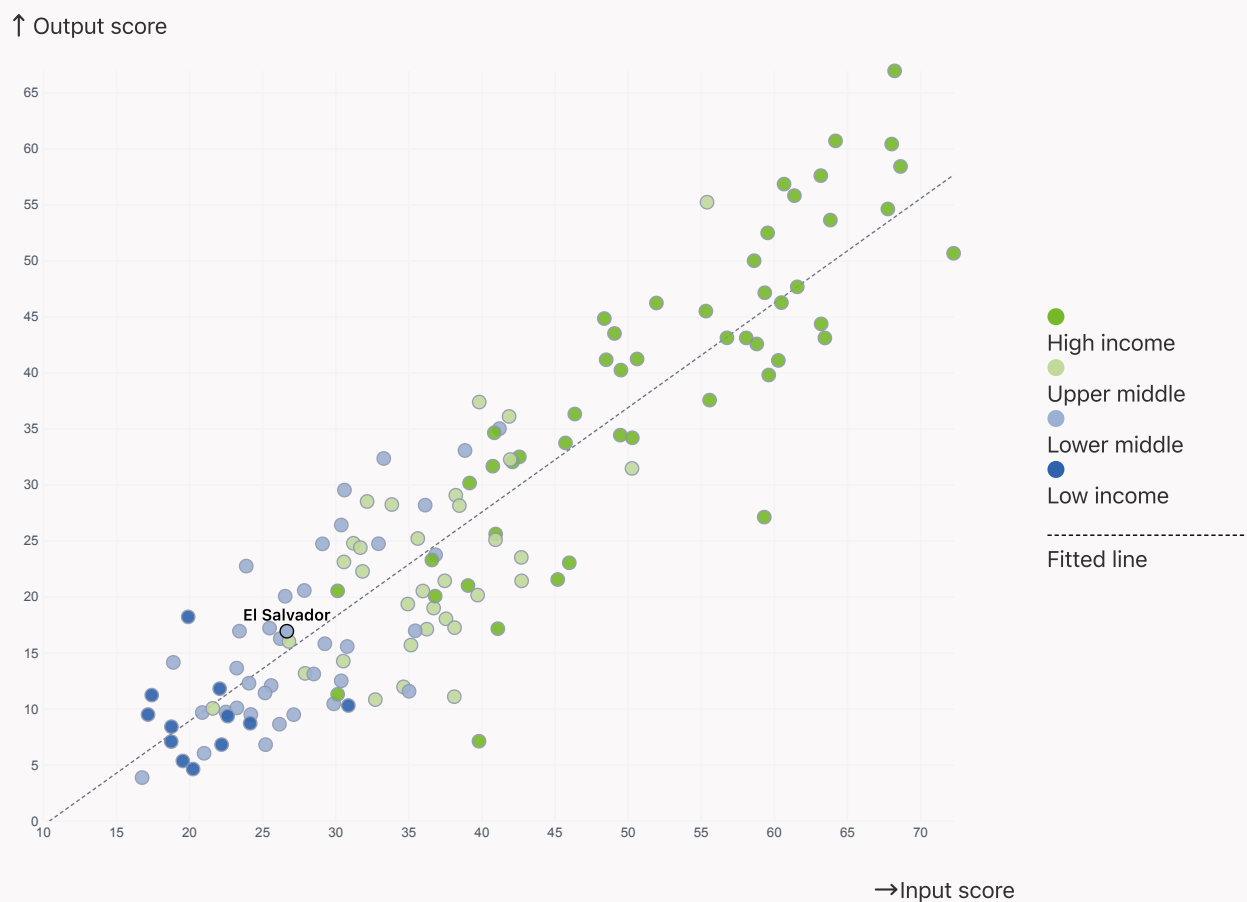
Global Innovation Index 2023

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

Highest rankings →

- 77th Creative outputs

- 85th Business sophistication

- 94th Knowledge and technology outputs
- 95th 1 pillar and the Global Innovation Index *

- 99th Infrastructure

- 101st Institutions

← Lowest rankings

- 106th Human capital and research

* Market sophistication

> Highest rankings

El Salvador ranks highest in Creative outputs (77th), Business sophistication (85th), Knowledge and technology outputs (94th) and Market sophistication (95th).

> Lowest rankings

El Salvador ranks lowest in Human capital and research (106th), Institutions (101st) and Infrastructure (99th).

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

Global Innovation Index 2023

→ **Benchmark of El Salvador against other country groupings for each of the seven areas of the GII Index**

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

> Lower-Middle-Income economies

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

> Latin America And The Caribbean

El Salvador performs below the regional average in Knowledge and technology outputs, Business sophistication, Market sophistication, Human capital and research, Infrastructure, Institutions.

Knowledge and technology outputs

Top 10 | Score: 58.96

Lower middle income | Score: 17.21

LCN | Score: 17.14

El Salvador | Score: 14.58

Creative outputs

Top 10 | 56.09

El Salvador | 19.23

LCN | 18.91

Lower middle income | 16.35

Business sophistication

Top 10 | 64.39

LCN | 26.15

El Salvador | 23.85

Lower middle income | 22.71

Market sophistication

Top 10 | 61.93

LCN | 29.74

Lower middle income | 28.01

El Salvador | 24.77

Human capital and research

Top 10 | 60.28

LCN | 24.92

Lower middle income | 21.73

El Salvador | 18.25

Infrastructure

Top 10 | 62.83

LCN | 35.88

El Salvador | 28.82

Lower middle income | 27.83

Institutions

Top 10 | 79.85

LCN | 41.12

Lower middle income | 39.43

El Salvador | 37.78

→ Innovation strengths and weaknesses in El Salvador

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

> El Salvador's main innovation strengths are **Firms offering formal training, %** (rank 15), **Trademarks by origin/bn PPP$ GDP** (rank 20) and **High-tech imports, % total trade** (rank 30).

Strengths

Rank	Code	Indicator name
15	5.1.2	Firms offering formal training, %
20	7.1.2	Trademarks by origin/bn PPP$ GDP
30	5.3.2	High-tech imports, % total trade
38	5.3.1	Intellectual property payments, % total trade
47	6.3.3	High-tech exports, % total trade
48	6.3.4	ICT services exports, % total trade
50	3.3.1	GDP/unit of energy use
51	2.1.1	Expenditure on education, % GDP
54	7.2.4	Creative goods exports, % total trade
55	4.1.2	Domestic credit to private sector, % GDP

Weaknesses

Rank	Code	Indicator name
128	6.1.4	Scientific and technical articles/bn PPP$ GDP
126	6.1.5	Citable documents H-index
125	6.1.1	Patents by origin/bn PPP$ GDP
122	1.3.1	Policies for doing business
122	5.2.2	State of cluster development
105	7.2.1	Cultural and creative services exports, % total trade
101	6.1.2	PCT patents by origin/bn PPP$ GDP
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$

→ El Salvador's innovation system

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

> Innovation inputs in El Salvador
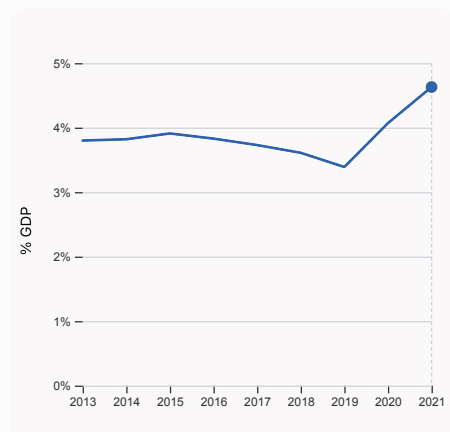
2.1.1 Expenditure on education, % GDP

was equal to 4.63% GDP in 2021, up by 0.56 percentage points from the year prior – and equivalent to an indicator rank of 51.
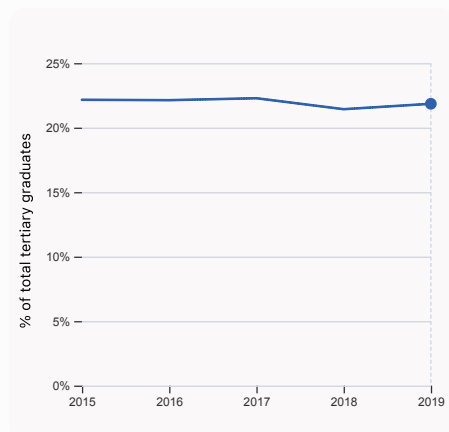
2.2.2 Graduates in science and engineering, %

was equal to 21.85% of total tertiary graduates in 2019, up by 0.42 percentage points from the year prior – and equivalent to an indicator rank of 62.
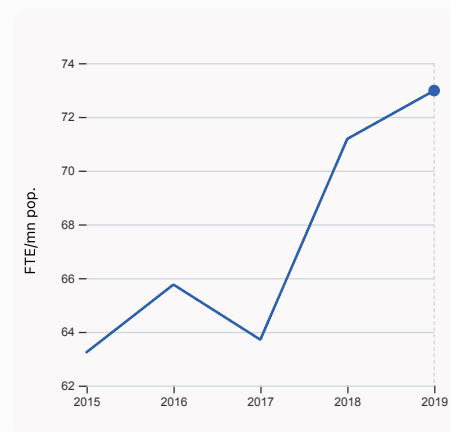
2.3.1 Researchers, FTE/mn pop.

was equal to 72.98 FTE/mn pop. in 2019, up by 2.53% from the year prior – and equivalent to an indicator rank of 93.
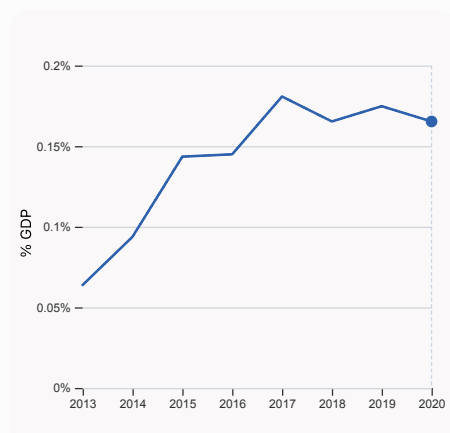
2.3.2 Gross expenditure on R&D, % GDP

was equal to 0.165% GDP in 2020, down by 0.0095 percentage points from the year prior – and equivalent to an indicator rank of 94.
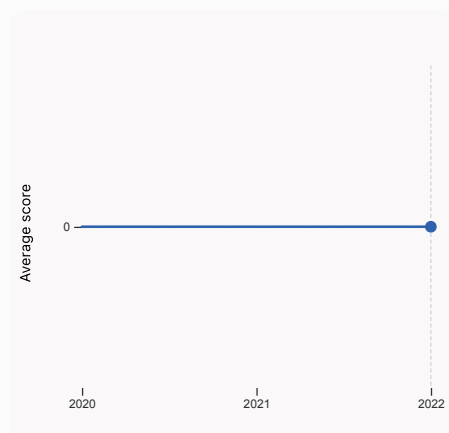
2.3.4 QS university ranking, top 3

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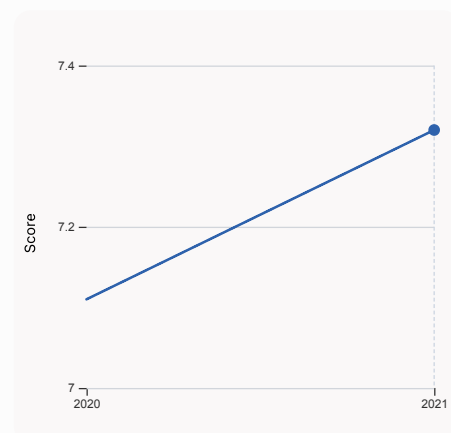
3.1.1 ICT access

was equal to a score of 7.32 in 2021, up by 2.95% from the year prior – and equivalent to an indicator rank of 98.

Global Innovation Index 2023
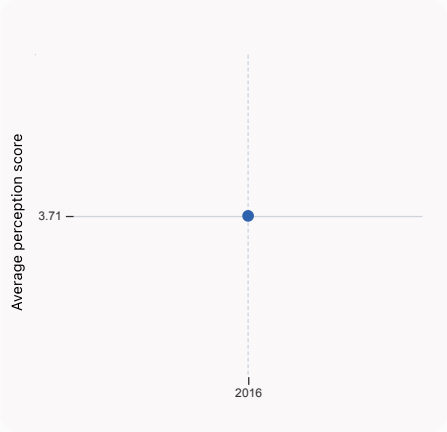
4.1.1 Finance for startups and scaleups

was equal to an average perception score of 3.71 in 2016, equivalent to an indicator rank of 67.
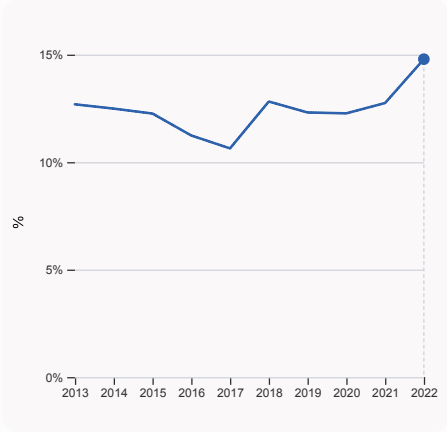
5.1.1 Knowledge-intensive employment, %

was equal to 14.79% in 2022, up by 2.04 percentage points from the year prior – and equivalent to an indicator rank of 90.

> Innovation outputs in El Salvador
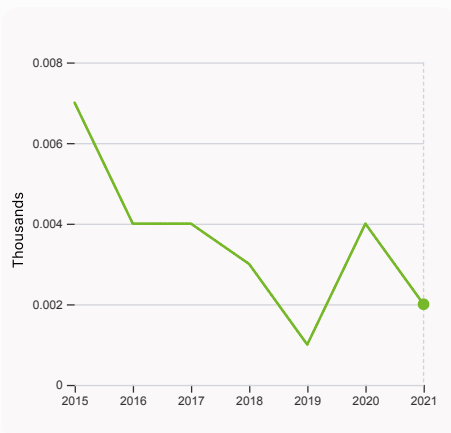
6.1.1 Patents by origin

was equal to 0.002 Thousands in 2021, down by 50% from the year prior – and equivalent to an indicator rank of 125.
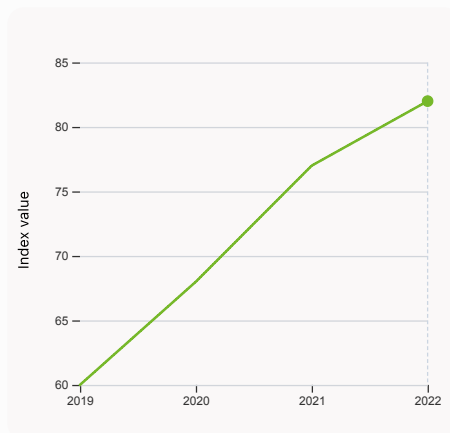
6.1.5 Citable documents H-index

was equal to an index value of 82 in 2022, up by 6.49% from the year prior – and equivalent to an indicator rank of 126.
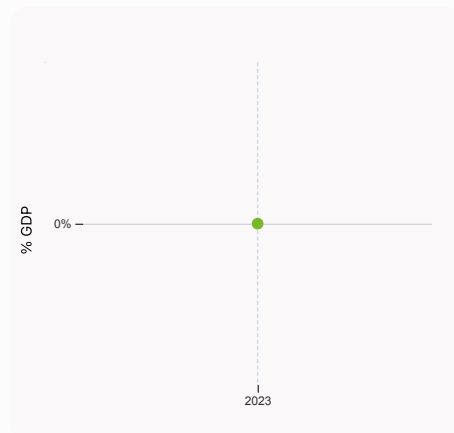
6.2.2 Unicorn valuation, % GDP

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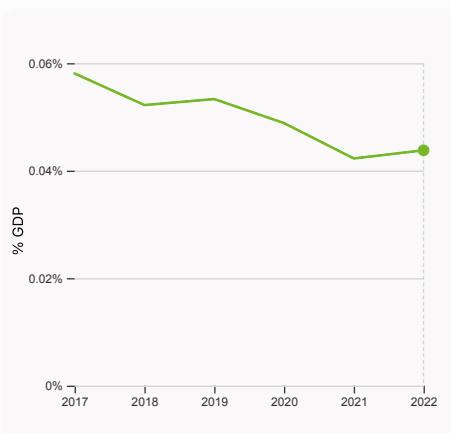
6.2.3 Software spending, % GDP

was equal to 0.044% GDP in 2022, up by 0.0015 percentage points from the year prior – and equivalent to an indicator rank of 107.
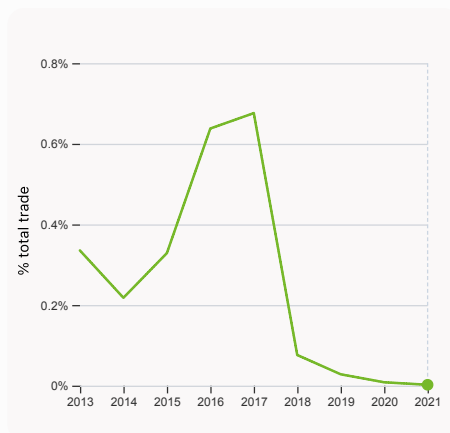
6.3.1 Intellectual property receipts, % total trade

was equal to 0.002% total trade in 2021, down by 0.0062 percentage points from the year prior – and equivalent to an indicator rank of 93.

6.3.2 Production and export complexity

was equal to a score of 0.022 in 2020, down by 58.62% from the year prior – and equivalent to an indicator rank of 60.

Global Innovation Index 2023
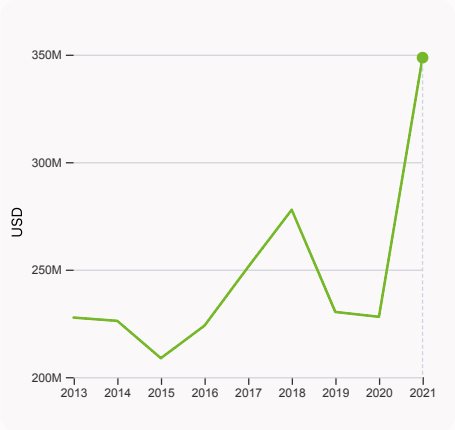
6.3.3 High-tech exports

was equal to 348,603,259 USD in 2021, up by 52.86% from the year prior – and equivalent to an indicator rank of 47.
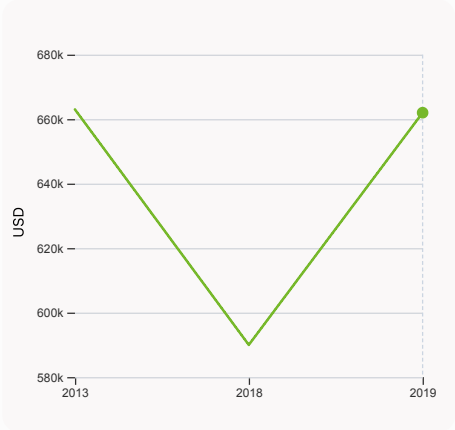
7.2.1 Cultural and creative services exports

was equal to 662,000 USD in 2019, up by 12.2% from the year prior – and equivalent to an indicator rank of 105.
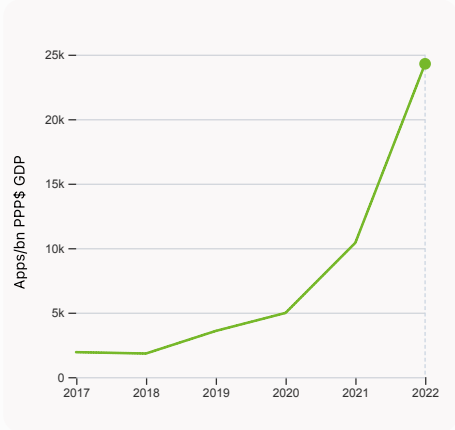
7.3.4 Mobile app creation/bn PPP$ GDP

was equal to 24,288.88 Apps/bn PPP$ GDP in 2022, up by 133.31% from the year prior – and equivalent to an indicator rank of 98.

Global Innovation Index 2023

El Salvador

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
90	**102**	**Lower middle**	**LCN**	**6.3**	**69.3**	**10,576.1**

	Score / Value	Rank	
🏛 **Institutions**	**37.8**	**101**	
1.1 Institutional environment	**37.7**	**83**	
1.1.1 Operational stability for businesses*	47.2	75	
1.1.2 Government effectiveness*	28.1	90	
1.2 Regulatory environment	**47.3**	**107**	
1.2.1 Regulatory quality*	33.2	91	
1.2.2 Rule of law*	14.9	111	
1.2.3 Cost of redundancy dismissal	22.9	99	
1.3 Business environment	**28.4**	**104**	
1.3.1 Policies for doing business†	17.9	122	○◇
1.3.2 Entrepreneurship policies and culture†	🕐 38.8	49	
👥 **Human capital and research**	**18.3**	**106**	
2.1 Education	**35.4**	**111**	
2.1.1 Expenditure on education, % GDP	4.6	51	●
2.1.2 Government funding/pupil, secondary, % GDP/cap	13.1	82	
2.1.3 School life expectancy, years	🕐 12.5	89	
2.1.4 PISA scales in reading, maths and science	n/a	n/a	
2.1.5 Pupil-teacher ratio, secondary	🕐 27.6	117	◇
2.2 Tertiary education	**18.5**	**94**	
2.2.1 Tertiary enrolment, % gross	🕐 29.9	88	
2.2.2 Graduates in science and engineering, %	🕐 21.8	62	
2.2.3 Tertiary inbound mobility, %	🕐 0.4	102	
2.3 Research and development (R&D)	**0.9**	**102**	
2.3.1 Researchers, FTE/mn pop.	🕐 73.0	93	
2.3.2 Gross expenditure on R&D, % GDP	🕐 0.2	94	
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**	**28.8**	**99**	
3.1 Information and communication technologies (ICTs)	**47.7**	**103**	
3.1.1 ICT access*	59.7	98	
3.1.2 ICT use*	56.1	97	
3.1.3 Government's online service*	41.1	108	
3.1.4 E-participation*	33.7	97	
3.2 General infrastructure	**16.5**	**104**	
3.2.1 Electricity output, GWh/mn pop.	🕐 974.4	97	
3.2.2 Logistics performance*	27.3	76	
3.2.3 Gross capital formation, % GDP	22.6	77	
3.3 Ecological sustainability	**22.3**	**72**	
3.3.1 GDP/unit of energy use	11.7	50	●
3.3.2 Environmental performance*	37.1	71	
3.3.3 ISO 14001 environment/bn PPP$ GDP	0.3	102	
📊 **Market sophistication**	**24.8**	**95**	
4.1 Credit	**27.8**	**69**	
4.1.1 Finance for startups and scaleups†	🕐 31.6	67	
4.1.2 Domestic credit to private sector, % GDP	66.3	55	●
4.1.3 Loans from microfinance institutions, % GDP	n/a	n/a	
4.2 Investment	**2.0**	**103**	
4.2.1 Market capitalization, % GDP	n/a	n/a	
4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP	0.0	72	
4.2.3 VC recipients, deals/bn PPP$ GDP	n/a	n/a	
4.2.4 VC received, value, % GDP	n/a	n/a	
4.3 Trade, diversification, and market scale	**44.5**	**98**	
4.3.1 Applied tariff rate, weighted avg., %	1.9	59	
4.3.2 Domestic industry diversification	n/a	n/a	
4.3.3 Domestic market scale, bn PPP$	69.3	98	

	Score / Value	Rank	
💼 **Business sophistication**	**23.8**	**85**	
5.1 Knowledge workers	**29.9**	**69**	
5.1.1 Knowledge-intensive employment, %	14.8	90	
5.1.2 Firms offering formal training, %	🕐 53.8	15	●
5.1.3 GERD performed by business, % GDP	🕐 0.1	70	
5.1.4 GERD financed by business, %	35.1	54	
5.1.5 Females employed w/advanced degrees, %	4.9	94	
5.2 Innovation linkages	**8.4**	**122**	◇
5.2.1 University-industry R&D collaboration†	22.5	112	
5.2.2 State of cluster development†	13.8	122	○◇
5.2.3 GERD financed by abroad, % GDP	🕐 0.0	70	
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	🕐 0.0	91	
5.2.5 Patent families/bn PPP$ GDP	0.0	95	○◇
5.3 Knowledge absorption	**33.3**	**65**	
5.3.1 Intellectual property payments, % total trade	1.0	38	●
5.3.2 High-tech imports, % total trade	10.8	30	●
5.3.3 ICT services imports, % total trade	0.7	98	
5.3.4 FDI net inflows, % GDP	2.3	67	
5.3.5 Research talent, % in businesses	n/a	n/a	
🧭 **Knowledge and technology outputs**	**14.6**	**94**	
6.1 Knowledge creation	**1.3**	**128**	◇
6.1.1 Patents by origin/bn PPP$ GDP	0.0	125	○
6.1.2 PCT patents by origin/bn PPP$ GDP	0.0	101	○◇
6.1.3 Utility models by origin/bn PPP$ GDP	🕐 0.1	58	
6.1.4 Scientific and technical articles/bn PPP$ GDP	n/a	n/a	
6.1.5 Citable documents H-index	2.2	126	○
6.2 Knowledge impact	**19.1**	**109**	
6.2.1 Labor productivity growth, %	1.0	65	
6.2.2 Unicorn valuation, % GDP	0.0	48	○◇
6.2.3 Software spending, % GDP	0.0	107	
6.2.4 High-tech manufacturing, %	n/a	n/a	
6.3 Knowledge diffusion	**23.4**	**62**	
6.3.1 Intellectual property receipts, % total trade	0.0	93	
6.3.2 Production and export complexity	53.0	60	
6.3.3 High-tech exports, % total trade	2.9	47	●
6.3.4 ICT services exports, % total trade	2.7	48	●
6.3.5 ISO 9001 quality/bn PPP$ GDP	2.9	75	
🎨 **Creative outputs**	**19.2**	**77**	
7.1 Intangible assets	**28.8**	**69**	
7.1.1 Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2 Trademarks by origin/bn PPP$ GDP	77.5	20	●
7.1.3 Global brand value, top 5,000	n/a	n/a	
7.1.4 Industrial designs by origin/bn PPP$ GDP	0.3	100	
7.2 Creative goods and services	**4.0**	**91**	
7.2.1 Cultural and creative services exports, % total trade	🕐 0.0	105	○
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	0.7	54	●
7.3 Online creativity	**15.2**	**97**	
7.3.1 Generic top-level domains (TLDs)/th pop. 15–69	2.8	75	
7.3.2 Country-code TLDs/th pop. 15–69	0.6	97	
7.3.3 GitHub commits/mn pop. 15–69	3.8	82	
7.3.4 Mobile app creation/bn PPP$ GDP	53.7	98	

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 El Salvador.

> El Salvador has missing data for twelve indicators and outdated data for sixteen indicators.

> Missing data for El Salvador

Code	Indicator name	Economy Year	Model Year	Source
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
4.1.3	Loans from microfinance institutions, % GDP	n/a	2021	International Monetary Fund, Financial Access Survey (FAS)
4.2.1	Market capitalization, % GDP	n/a	2020	World Federation of Exchanges; World Bank
4.2.3	VC recipients, deals/bn PPP$ GDP	n/a	2022	Refinitiv; International Monetary Fund
4.2.4	VC received, value, % GDP	n/a	2022	Refinitiv; International Monetary Fund
4.3.2	Domestic industry diversification	n/a	2020	United Nations Industrial Development Organization
5.3.5	Research talent, % in businesses	n/a	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.2.4	High-tech manufacturing, %	n/a	2020	United Nations Industrial Development Organization
7.1.1	Intangible asset intensity, top 15, %	n/a	2022	Brand Finance
7.1.3	Global brand value, top 5,000	n/a	2023	Brand Finance; International Monetary Fund
7.2.2	National feature films/mn pop. 15-69	n/a	2021	OMDIA; United Nations, World Population Prospects
7.2.3	Entertainment and media market/th pop. 15-69	n/a	2022	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund

> Outdated data for El Salvador

Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture	2016	2022	Global Entrepreneurship Monitor
2.1.3	School life expectancy, years	2014	2020	UNESCO Institute for Statistics

Global Innovation Index 2023
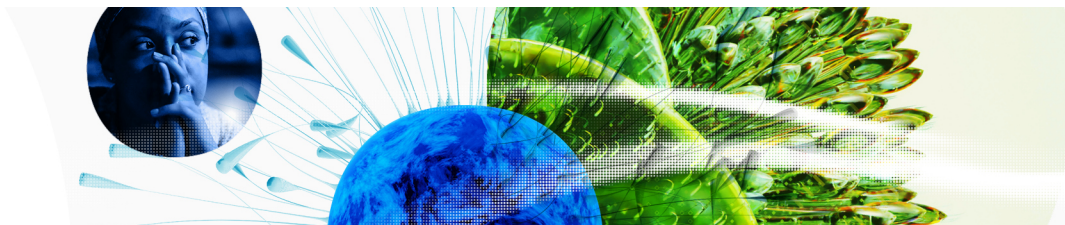
Code	Indicator name	Economy Year	Model Year	Source
2.1.5	Pupil-teacher ratio, secondary	2018	2020	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2019	2020	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2019	2020	UNESCO Institute for Statistics; Eurostat; OECD
2.2.3	Tertiary inbound mobility, %	2019	2020	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2019	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	2020	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.1	Electricity output, GWh/mn pop.	2020	2021	International Energy Agency
4.1.1	Finance for startups and scaleups	2016	2022	Global Entrepreneurship Monitor
5.1.2	Firms offering formal training, %	2016	2019	World Bank Enterprise Surveys
5.1.3	GERD performed by business, % GDP	2019	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.2.3	GERD financed by abroad, % GDP	2019	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	2020	2022	Refinitiv; International Monetary Fund
6.1.3	Utility models by origin/bn PPP$ GDP	2020	2021	World Intellectual Property Organization; International Monetary Fund
7.2.1	Cultural and creative services exports, % total trade	2019	2021	World Trade Organization and United Nations Conference on Trade and Development

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.

Human capital and research
Education /
Tertiary education /
Research and
development (R&D)

Infrastructure
Information and
communication
technologies (ICTs) /
General infrastructure /
Ecological sustainability

Market sophistication
Credit / Investment /
Trade, diversification,
and market scale

Business sophistication
Knowledge workers /
Innovation linkages /
Knowledge absorption

Institutions
Institutional environment /
Regulatory environment /
Business environment

Innovation Input Sub-Index

Global Innovation Index

Innovation Output Sub-Index

Knowledge and technology outputs
Knowledge creation /
Knowledge impact /
Knowledge diffusion

Creative outputs
Intangible assets /
Creative goods and services /
Online creativity

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.