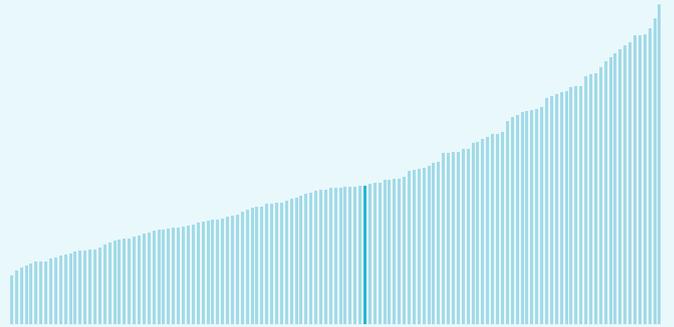


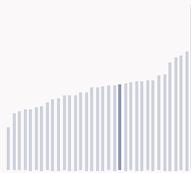
Colombia ranking in the Global Innovation Index 2024

Colombia ranks **61st** among the 133 economies featured in the GII 2024.

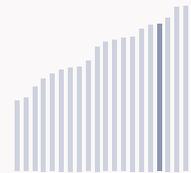
The Global Innovation Index (GII) ranks world economies according to their innovation capabilities. Consisting of roughly 80 indicators, grouped into innovation inputs and outputs, the GII aims to capture the multi-dimensional facets of innovation.



Colombia ranks **14th** among the 34 upper-middle-income group economies.



Colombia ranks **4th** among the 20 economies in Latin America and the Caribbean.



> Colombia GII Ranking (2020-2024)

The table shows the rankings of Colombia 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 Colombia in the GII 2024 is between ranks 58 and 68.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	68th	56th	74th
2021	67th	58th	75th
2022	63rd	63rd	70th
2023	66th	63rd	71st
2024	61st	65th	62nd

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

This year Colombia ranks **65th in innovation inputs**. This position is lower than last year.

Colombia ranks **62nd in innovation outputs**. This position is higher than last year.

Colombia 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 Colombia, how rapidly is technology being embraced and what are the resulting societal impacts.



For Colombia, 4 indicators have improved in the short-term and 7 indicators have worsened.

Science and innovation investment

Scientific publications	R&D investments	Venture capital		International patent filings
		Deal numbers	Deal values	
▼ -1.4% 2022 - 2023	▼ -23.5% 2020 - 2021	▼ -14% 2022 - 2023	▼ -80.3% 2022 - 2023	▼ -1.7% 2022 - 2023
▲ 8% 2013 - 2023	▲ 2.9% 2011 - 2021	▲ 28.5% 2013 - 2023	n/a	▲ 3.3% 2013 - 2023

Technology adoption

Safe sanitation	Connectivity		Robots	Electric vehicles
	Fixed broadband	5G		
▲ 0.7% 2021 - 2022	▲ 3.6% 2021 - 2022	n/a	▲ 23.2% 2021 - 2022	n/a
▲ 0.8% 2012 - 2022	▲ 7% 2012 - 2022		▲ 27.5% 2012 - 2022	n/a
18.4 per 100 inhabitants in 2022	17 per 100 inhabitants in 2022	n/a		n/a

Socioeconomic impact

Labor productivity	Life expectancy	Temperature change
▼ -0.1% 2022 - 2023	▲ 1.1% 2021 - 2022	▲ 1.3°C 2023
▲ 1.3% 2013 - 2023	▼ -0.3% 2012 - 2022	n/a
44,538 USD in 2023	73.7 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.



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

> Innovation overperformers relative to their economic development





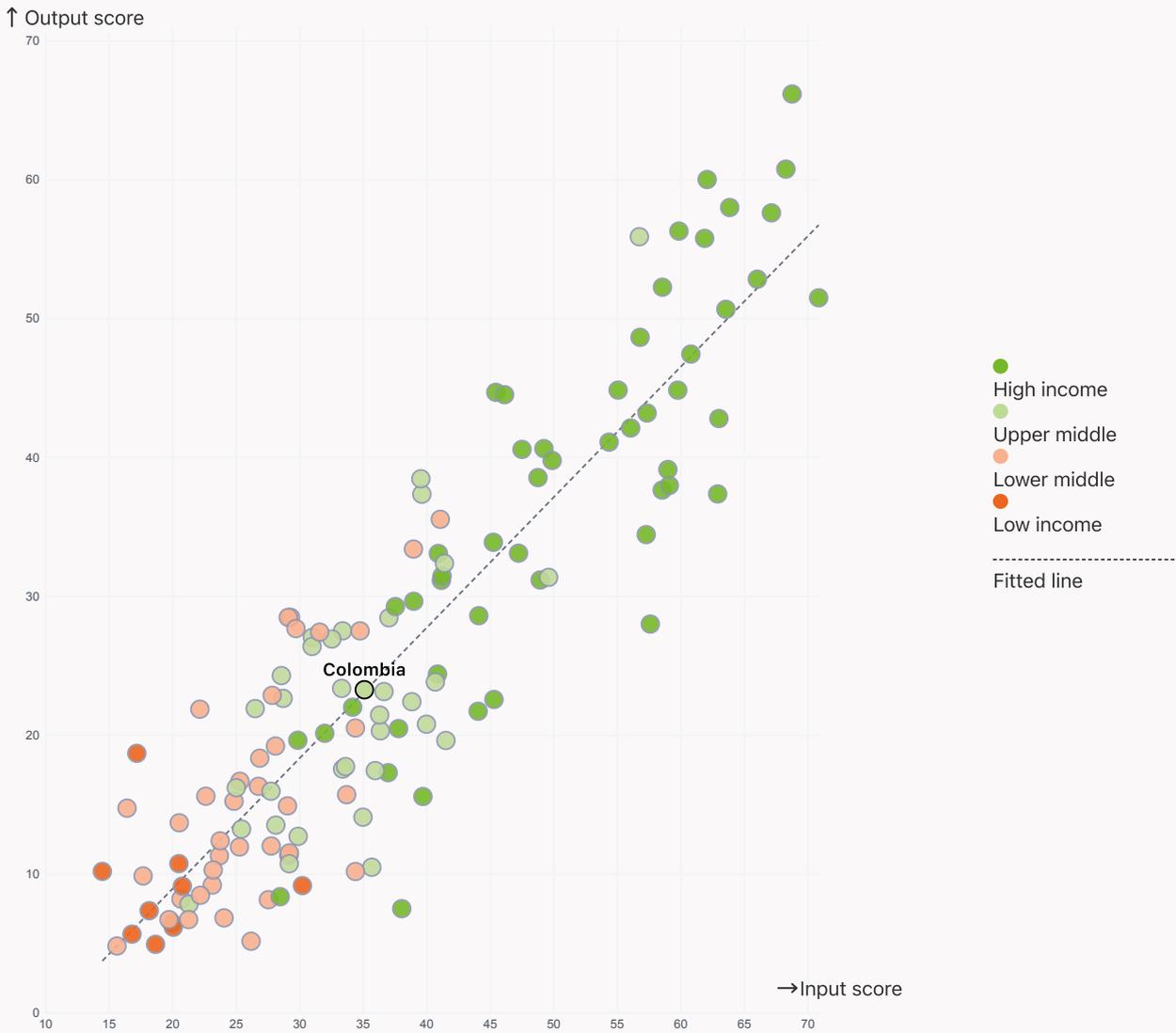
Effectively translating innovation investments into innovation outputs

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.



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

> Relationship between innovation inputs and outputs

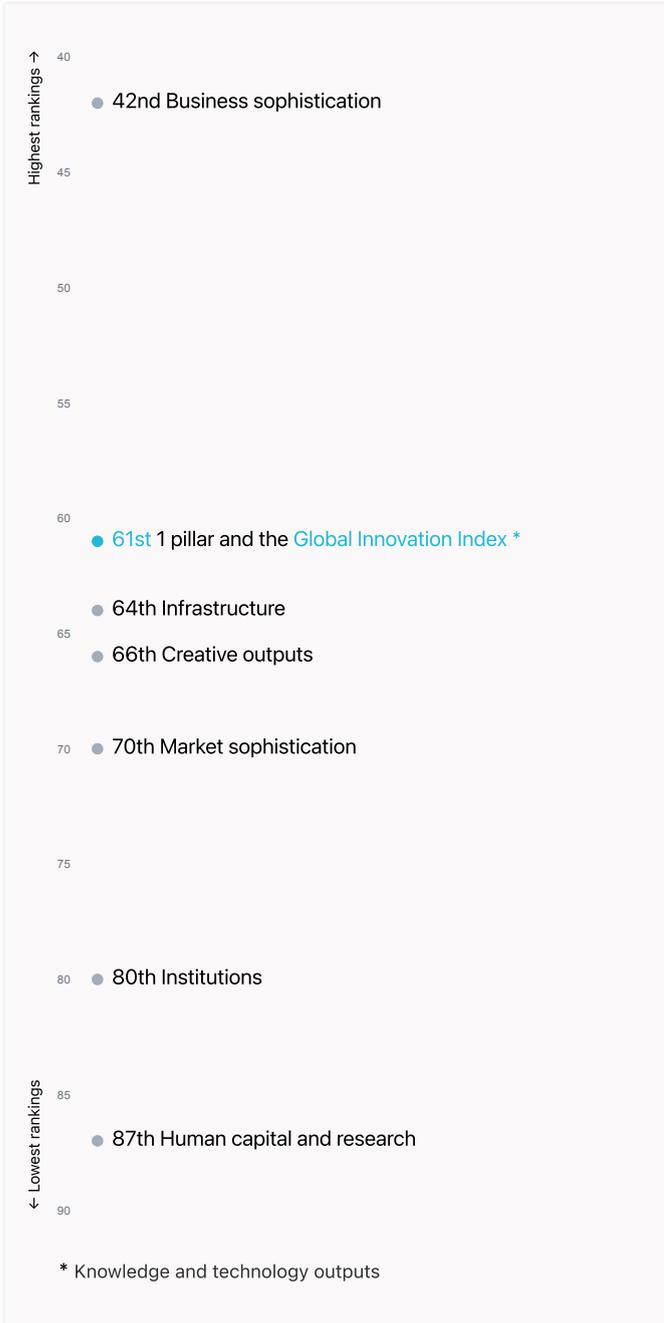


Global Innovation Index 2024



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



Highest rankings



Colombia ranks highest in Business sophistication (42nd) and Knowledge and technology outputs (61st).

Lowest rankings



Colombia ranks lowest in Human capital and research (87th), Institutions (80th) and Market sophistication (70th).

The full WIPO Intellectual Property Statistics profile for Colombia can be found on [this link](#).



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

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



Upper-Middle-Income economies

Colombia performs above the upper-middle-income group average in Infrastructure, Business sophistication, Knowledge and technology outputs, Creative outputs.



Latin America And The Caribbean

Colombia performs above the regional average in Institutions, Infrastructure, Market sophistication, Business sophistication, Knowledge and technology outputs, Creative outputs.

Institutions

Top 10 | Score: 80.81

Upper middle income | Score: 43.0

Colombia | Score: 42.46

LCN | Score: 38.36

Human capital and research

Top 10 | Score: 61.30

Upper middle income | Score: 29.5

LCN | Score: 26.04

Colombia | Score: 25.58

Infrastructure

Top 10 | Score: 58.57

Colombia | Score: 41.99

Upper middle income | Score: 39.8

LCN | Score: 35.16

Market sophistication

Top 10 | Score: 62.12

Upper middle income | Score: 32.9

Colombia | Score: 32.11

LCN | Score: 27.03

Business sophistication

Top 10 | Score: 63.64

Colombia | Score: 33.63

Upper middle income | Score: 27.6

LCN | Score: 24.99

Knowledge and technology outputs

Top 10 | Score: 57.29

Colombia | Score: 21.71

Upper middle income | Score: 20.6

LCN | Score: 15.72

Creative outputs

Top 10 | Score: 56.54

Colombia | Score: 24.71

Upper middle income | Score: 24.3

LCN | Score: 19.36



Innovation strengths and weaknesses in Colombia

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



Colombia's main innovation strengths are **Intellectual property payments, % total trade (rank 11)**, **High-tech imports, % total trade (rank 15)** and **GDP/unit of energy use (rank 16)**.

Strengths

Weaknesses

Rank	Code	Indicator name	Rank	Code	Indicator name
11	5.3.1	Intellectual property payments, % total trade	109	2.1.5	Pupil-teacher ratio, secondary
15	5.3.2	High-tech imports, % total trade	109	2.2.3	Tertiary inbound mobility, %
16	3.3.1	GDP/unit of energy use	104	3.2.3	Gross capital formation, % GDP
18	6.2.2	Unicorn valuation, % GDP	97	5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP
20	6.3.5	ISO 9001 quality/bn PPP\$ GDP	94	2.3.1	Researchers, FTE/mn pop.
23	5.1.4	GERD financed by business, %	86	2.3.2	Gross expenditure on R&D, % GDP
26	3.3.3	ISO 14001 environment/bn PPP\$ GDP	80	4.2.2	Venture capital (VC) investors, deals/bn PPP\$ GDP
31	4.3.3	Domestic market scale, bn PPP\$	78	5.3.5	Research talent, % in businesses
32	5.3.3	ICT services imports, % total trade	72	4.1.1	Finance for startups and scaleups [†]
32	2.3.4	QS university ranking, top 3*	41	2.3.3	Global corporate R&D investors, top 3, mn USD

Global Innovation Index 2024



Colombia's innovation system

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

> Innovation inputs in Colombia



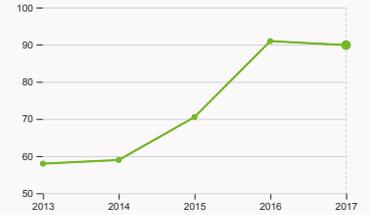
2.1.1 Expenditure on education

was equal to 3.92 % GDP in 2021, down by 1.35 percentage points from the year prior – and equivalent to an indicator rank of 76.



2.2.2 Graduates in science and engineering

was equal to 23.91 % of total graduates in 2021, up by 0.39 percentage points from the year prior – and equivalent to an indicator rank of 53.



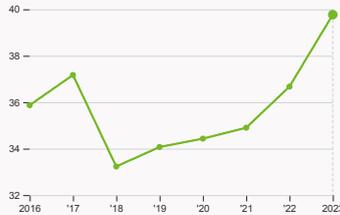
2.3.1 Researchers

was equal to 89.86 FTE per million population in 2017, down by 1.17% from the year prior – and equivalent to an indicator rank of 94.



2.3.2 Gross expenditure on R&D

was equal to 0.2 % GDP in 2021, up by 0.004 percentage points from the year prior – and equivalent to an indicator rank of 86.



2.3.4 QS university ranking

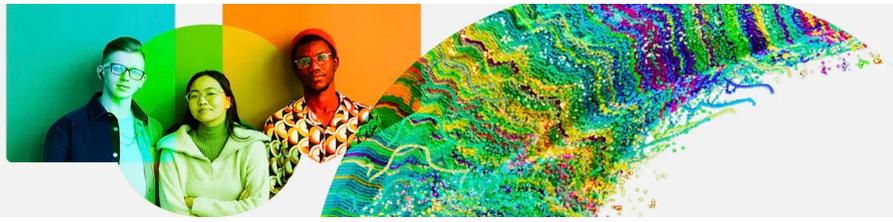
was equal to an average score of 39.77 for the top three universities in 2023, up by 8.45% from the year prior – and equivalent to an indicator rank of 32.



4.2.4 VC received, value

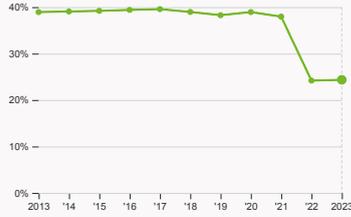
was equal to 176.46 thousand USD in 2023, down by 80.34% from the year prior – and equivalent to an indicator rank of 29.

Global Innovation Index 2024



4.3.2 Domestic industry diversification

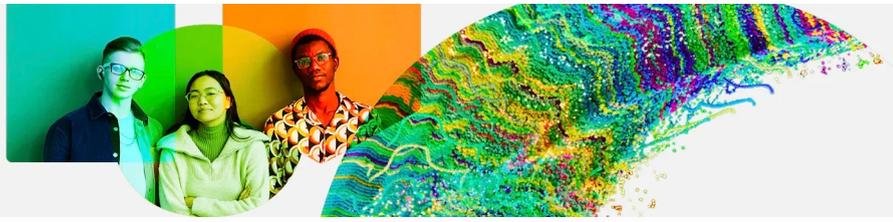
was equal to an index score of 0.14 in 2021, down by 6.16% from the year prior – and equivalent to an indicator rank of 56.



5.1.1 Knowledge-intensive employment

was equal to 24.35 % in 2023, up by 0.17 percentage points from the year prior – and equivalent to an indicator rank of 61.

Global Innovation Index 2024

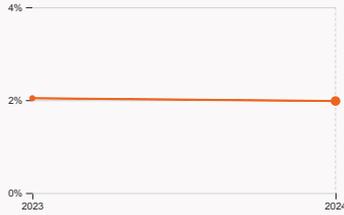


› Innovation outputs in Colombia



6.1.1 Patents by origin

was equal to 1.1 thousand patents in 2022, up by 155.81% from the year prior – and equivalent to an indicator rank of 54.



6.2.2 Unicorn valuation

was equal to 1.98 % GDP in 2024, down by 0.06 percentage points from the year prior – and equivalent to an indicator rank of 18.



6.2.4 High-tech manufacturing

was equal to 21.13 % of total manufacturing output in 2021, down by 0.03 percentage points from the year prior – and equivalent to an indicator rank of 58.



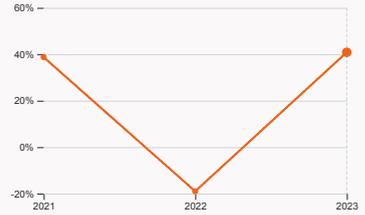
6.3.2 Production and export complexity

was equal to a score of -0.13 in 2021, down by 116.67% from the year prior – and equivalent to an indicator rank of 65.



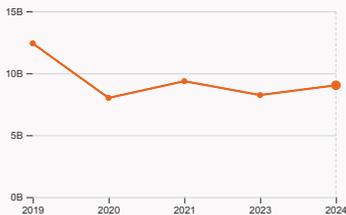
6.3.3 High-tech exports

was equal to 925.47 million USD in 2022, up by 20.51% from the year prior – and equivalent to an indicator rank of 72.



7.1.1 Intangible asset intensity

was equal to 40.83 % for the top 15 companies in 2023, up by 59.86 percentage points from the year prior – and equivalent to an indicator rank of 58.



7.1.3 Global brand value

was equal to 9.03 billion USD for the brands in the top 5,000 in 2024, up by 9.59% from the year prior – and equivalent to an indicator rank of 44.



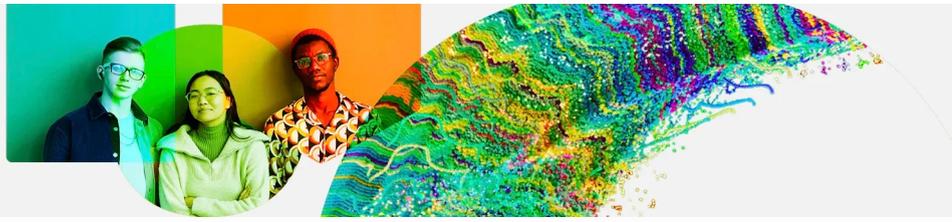
7.2.2 National feature films

was equal to 57 films in 2022, up by 90% from the year prior – and equivalent to an indicator rank of 61.



7.3.3 Mobile app creation

was equal to 105.76 million global downloads of mobile apps in 2023, down by 4.08% from the year prior – and equivalent to an indicator rank of 74.



Colombia's innovation top performers

2.3.4 QS university ranking of Colombia's top universities

Rank	University	Score
198	UNIVERSIDAD DE LOS ANDES	46.00
226	UNIVERSIDAD NACIONAL DE COLOMBIA	41.90
347	PONTIFICIA UNIVERSIDAD JAVERIANA	31.40

Source: QS Quacquarelli Symonds Ltd (<https://www.topuniversities.com/university-rankings/world-university-rankings/2023>).
 Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100].
 Ranks can represent a single value "x", a tie "x=" or a range "x-y".

6.2.2 Top Unicorn Companies in Colombia

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	RAPPI	Consumer & Retail	Bogota	5
2	LIFEMILES	Consumer & Retail	Bogota	1
3	HABI	Financial Services	Bogota	1

Source: CBInsights, Tracker – The Complete List of Unicorn Companies: <https://www.cbinsights.com/research-unicorn-companies>

7.1.1 Top 15 intangible-asset intensive companies in Colombia

Rank	Firm	Intensity, %
1	ECOPETROL S.A.	21.08
2	GRUPO NUTRESA S. A.	63.46
3	GRUPO AVAL ACCIONES Y VALORES S.A.	71.15

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 Colombia with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	ECOPETROL	Oil & Gas	3,099.6
2	BANCOLOMBIA	Banking	1,799.6
3	DAVIVIENDA	Banking	767.9

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

Global Innovation Index 2024

Colombia

GII 2024 rank

61

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
62	65	Upper middle	LCN	52.3	1,016.1	19,482.3
			Score / Value Rank			
Institutions			42.5 80	Business sophistication 33.6 42		
1.1 Institutional environment			50.5 76	5.1 Knowledge workers 42.3 45		
1.1.1 Operational stability for businesses*			56.7 81	5.1.1 Knowledge-intensive employment, % 24.4 61		
1.1.2 Government effectiveness*			44.4 67	5.1.2 Firms offering formal training, % 42.1 34		
1.2 Regulatory environment			38.6 76	5.1.3 GERD performed by business, % GDP 40.7 64		
1.2.1 Regulatory quality*			45.5 66	5.1.4 GERD financed by business, % 53.4 23		
1.2.2 Rule of law*			31.6 87	5.1.5 Females employed w/advanced degrees, % 16.5 43		
1.3 Business environment			38.3 83	5.2 Innovation linkages 21.6 77		
1.3.1 Policy stability for doing business*			41.2 85	5.2.1 Public Research-Industry co-publications, % 1.6 59		
1.3.2 Entrepreneurship policies and culture*			35.4 48	5.2.2 University-industry R&D collaboration+ 48.7 56		
Human capital and research			25.6 87	5.2.3 State of cluster development+ 38 86		
2.1 Education			37 111	5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP 0.007 97		
2.1.1 Expenditure on education, % GDP 3.9 76			3.9 76	5.2.5 Patent families/bn PPP\$ GDP 0.07 61		
2.1.2 Government funding/pupil, secondary, % GDP/cap 15.5 68			15.5 68	5.3 Knowledge absorption 37 35		
2.1.3 School life expectancy, years 14.3 64			14.3 64	5.3.1 Intellectual property payments, % total trade 2.2 11		
2.1.4 PISA scales in reading, maths and science 400.8 63			400.8 63	5.3.2 High-tech imports, % total trade 16.2 15		
2.1.5 Pupil-teacher ratio, secondary 25.4 109			25.4 109	5.3.3 ICT services imports, % total trade 2 32		
2.2 Tertiary education			28.7 77	5.3.4 FDI net inflows, % GDP 3.6 40		
2.2.1 Tertiary enrolment, % gross 59.3 57			59.3 57	5.3.5 Research talent, % in businesses 2.5 78		
2.2.2 Graduates in science and engineering, % 23.9 53			23.9 53	Knowledge and technology outputs 21.7 61		
2.2.3 Tertiary inbound mobility, % 0.2 109			0.2 109	6.1 Knowledge creation 11.6 75		
2.3 Research and development (R&D)			11 59	6.1.1 Patents by origin/bn PPP\$ GDP 1.1 54		
2.3.1 Researchers, FTE/mn pop. 89.9 94			89.9 94	6.1.2 PCT patents by origin/bn PPP\$ GDP 0.1 60		
2.3.2 Gross expenditure on R&D, % GDP 0.2 86			0.2 86	6.1.3 Utility models by origin/bn PPP\$ GDP 0.2 41		
2.3.3 Global corporate R&D investors, top 3, mn USD 0 41			0 41	6.1.4 Scientific and technical articles/bn PPP\$ GDP 6.8 92		
2.3.4 QS university ranking, top 3* 40.2 32			40.2 32	6.1.5 Citable documents H-index 19 46		
Infrastructure			42 64	6.2 Knowledge impact 34.4 42		
3.1 Information and communication technologies (ICTs)			70.5 73	6.2.1 Labor productivity growth, % 1.6 39		
3.1.1 ICT access* 73.1 90			73.1 90	6.2.2 Unicorn valuation, % GDP 2 18		
3.1.2 ICT use* 66.7 91			66.7 91	6.2.3 Software spending, % GDP 0.2 81		
3.1.3 Government's online service* 71.5 59			71.5 59	6.2.4 High-tech manufacturing, % 21.1 58		
3.1.4 E-participation* 70.9 37			70.9 37	6.3 Knowledge diffusion 19.2 60		
3.2 General infrastructure			19.6 100	6.3.1 Intellectual property receipts, % total trade 0.2 45		
3.2.1 Electricity output, GWh/mn pop. 1,672 89			1,672 89	6.3.2 Production and export complexity 39.7 65		
3.2.2 Logistics performance* 36.4 65			36.4 65	6.3.3 High-tech exports, % total trade 1.2 72		
3.2.3 Gross capital formation, % GDP 19.1 104			19.1 104	6.3.4 ICT services exports, % total trade 1.4 68		
3.3 Ecological sustainability			35.9 27	6.3.5 ISO 9001 quality/bn PPP\$ GDP 11.8 20		
3.3.1 GDP/unit of energy use 17.9 16			17.9 16	Creative outputs 24.7 66		
3.3.2 Low-carbon energy use, % 29.3 35			29.3 35	7.1 Intangible assets 31.6 58		
3.3.3 ISO 14001 environment/bn PPP\$ GDP 4 26			4 26	7.1.1 Intangible asset intensity, top 15, % 40.8 58		
Market sophistication			32.1 70	7.1.2 Trademarks by origin/bn PPP\$ GDP 51.9 33		
4.1 Credit			20 86	7.1.3 Global brand value, top 5,000, % GDP 2.4 44		
4.1.1 Finance for startups and scaleups+ 26.1 72			26.1 72	7.1.4 Industrial designs by origin/bn PPP\$ GDP 0.5 77		
4.1.2 Domestic credit to private sector, % GDP 44.2 76			44.2 76	7.2 Creative goods and services 7.4 84		
4.1.3 Loans from microfinance institutions, % GDP n/a n/a			n/a n/a	7.2.1 Cultural and creative services exports, % total trade 0.4 58		
4.2 Investment			13.2 51	7.2.2 National feature films/mn pop. 15-69 1.5 61		
4.2.1 Market capitalization, % GDP 29.2 48			29.2 48	7.2.3 Entertainment and media market/th pop. 15-69 5.7 45		
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP 0.03 80			0.03 80	7.2.4 Creative goods exports, % total trade 0.2 80		
4.2.3 VC recipients, deals/bn PPP\$ GDP 0.05 56			0.05 56	7.3 Online creativity 28.2 57		
4.2.4 VC received, value, % GDP 0.002 29			0.002 29	7.3.1 Top-level domains (TLDs)/th pop. 15-69 12.5 40		
4.3 Trade, diversification and market scale			63.1 36	7.3.2 GitHub commits/mn pop. 15-69 8.9 59		
4.3.1 Applied tariff rate, weighted avg., % 2 66			2 66	7.3.3 Mobile app creation/bn PPP\$ GDP 63.3 74		
4.3.2 Domestic industry diversification 84.9 56			84.9 56			
4.3.3 Domestic market scale, bn PPP\$ 1,016.1 31			1,016.1 31			

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 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 Colombia.



Colombia has missing data for one indicator and outdated data for seven indicators.

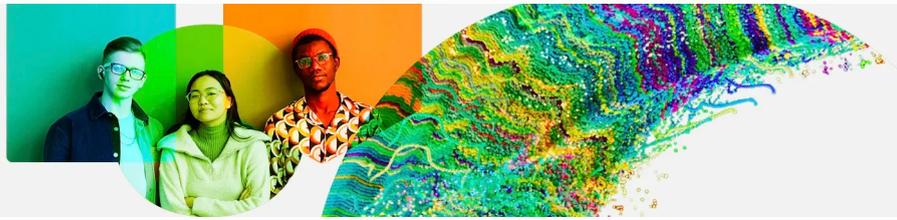
Missing data for Colombia

Code	Indicator name	Economy Year	Model Year	Source
4.1.3	Loans from microfinance institutions, % GDP	n/a	2022	International Monetary Fund, Financial Access Survey (FAS)

Outdated data for Colombia

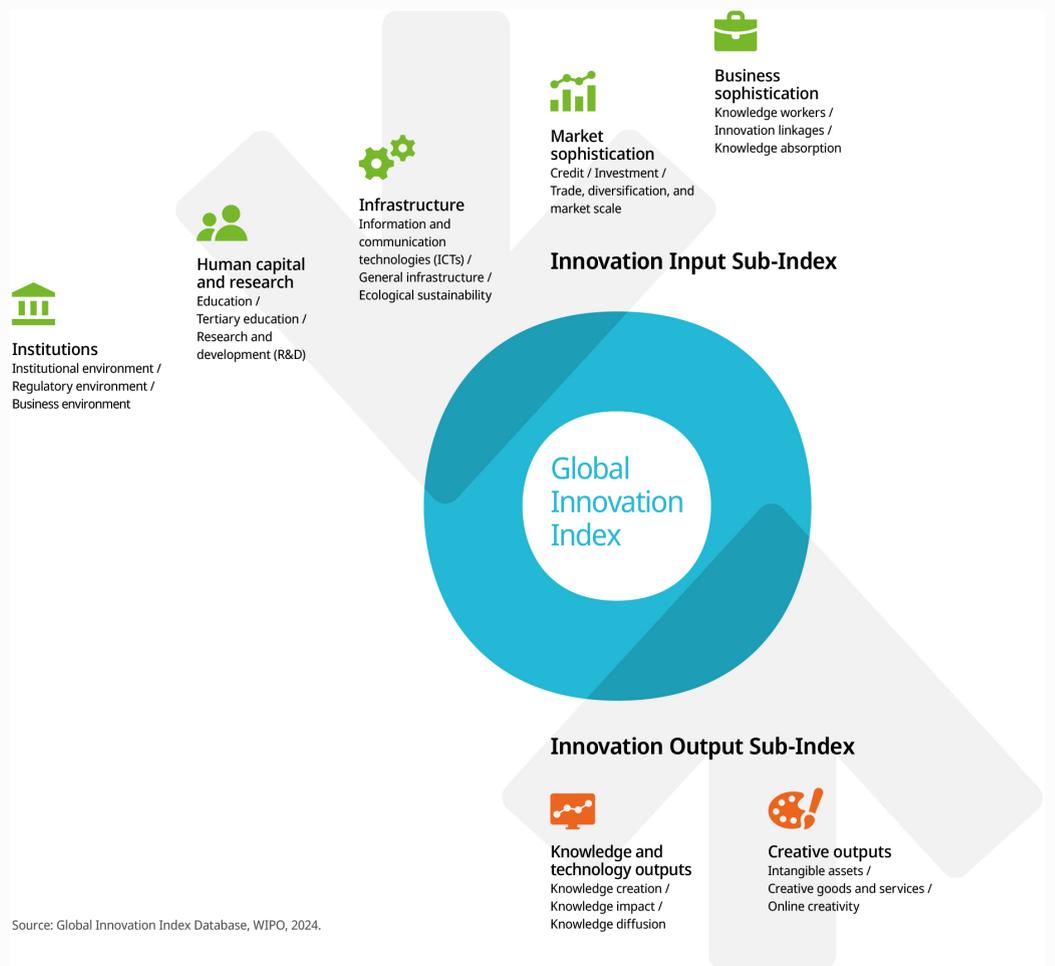
Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2021	2022	UNESCO Institute for Statistics
2.1.2	Government funding/pupil, secondary, % GDP/cap	2016	2020	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2017	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	2021	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.3	GERD performed by business, % GDP	2021	2022	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	2020	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
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.



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.