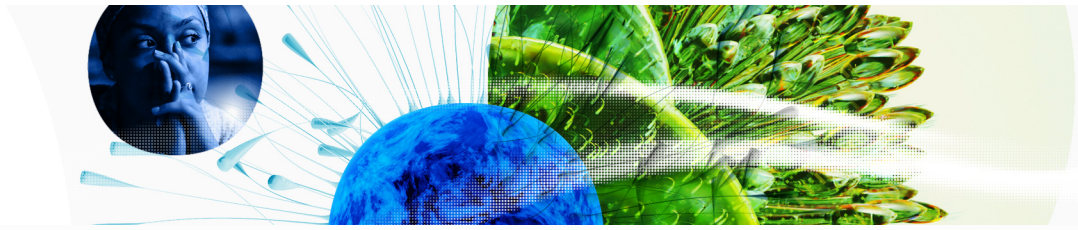
Global Innovation Index 2023



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**.

Chile ranking in the Global Innovation Index 2023

> Chile ranks 52nd among the 132 economies featured in the GII 2023.

> Chile ranks 43rd among the 50 high-income group economies.

> Chile ranks 2nd among the 19 economies in Latin America and the Caribbean.

> Chile GII Ranking (2020-2023)

The table shows the rankings of Chile 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 Chile in the GII 2023 is between ranks 49 and 53.

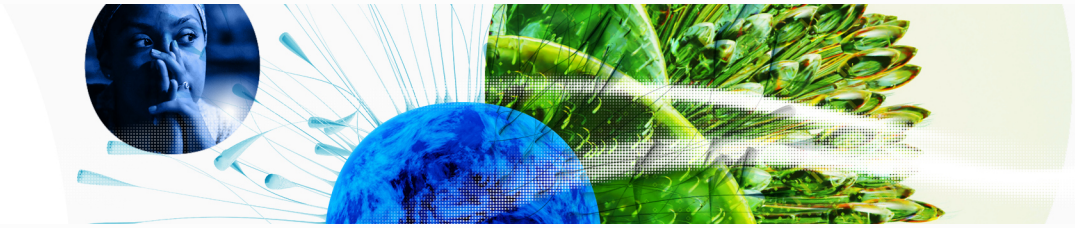
	GII Position	Innovation Inputs	Innovation Outputs
2020	54th	41st	66th
2021	53rd	44th	61st
2022	50th	43rd	57th
2023	52nd	48th	56th

Chile performs worse in innovation outputs than innovation inputs in 2023.

This year Chile ranks 48th in innovation inputs. This position is lower than last year.

Chile ranks 56th in innovation outputs. This position is higher than last year.

Global Innovation Index 2023

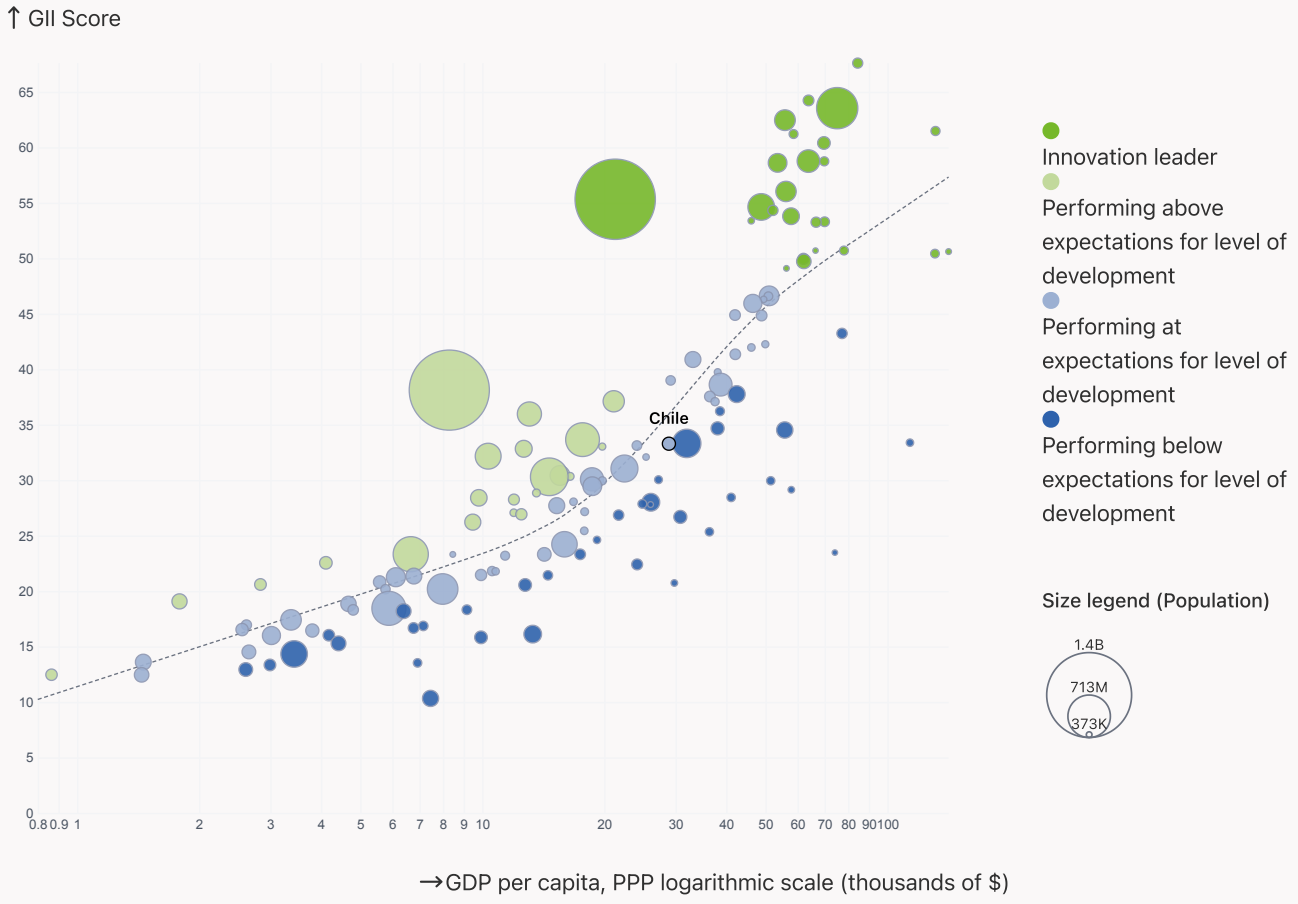


→ Expected vs. observed innovation performance

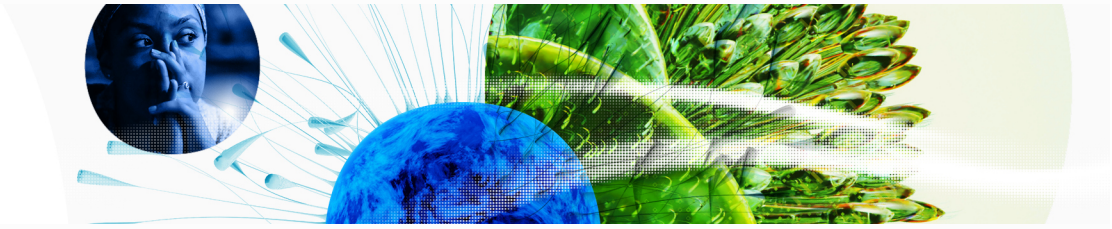
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected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

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

> Innovation overperformers relative to their economic development



Global Innovation Index 2023

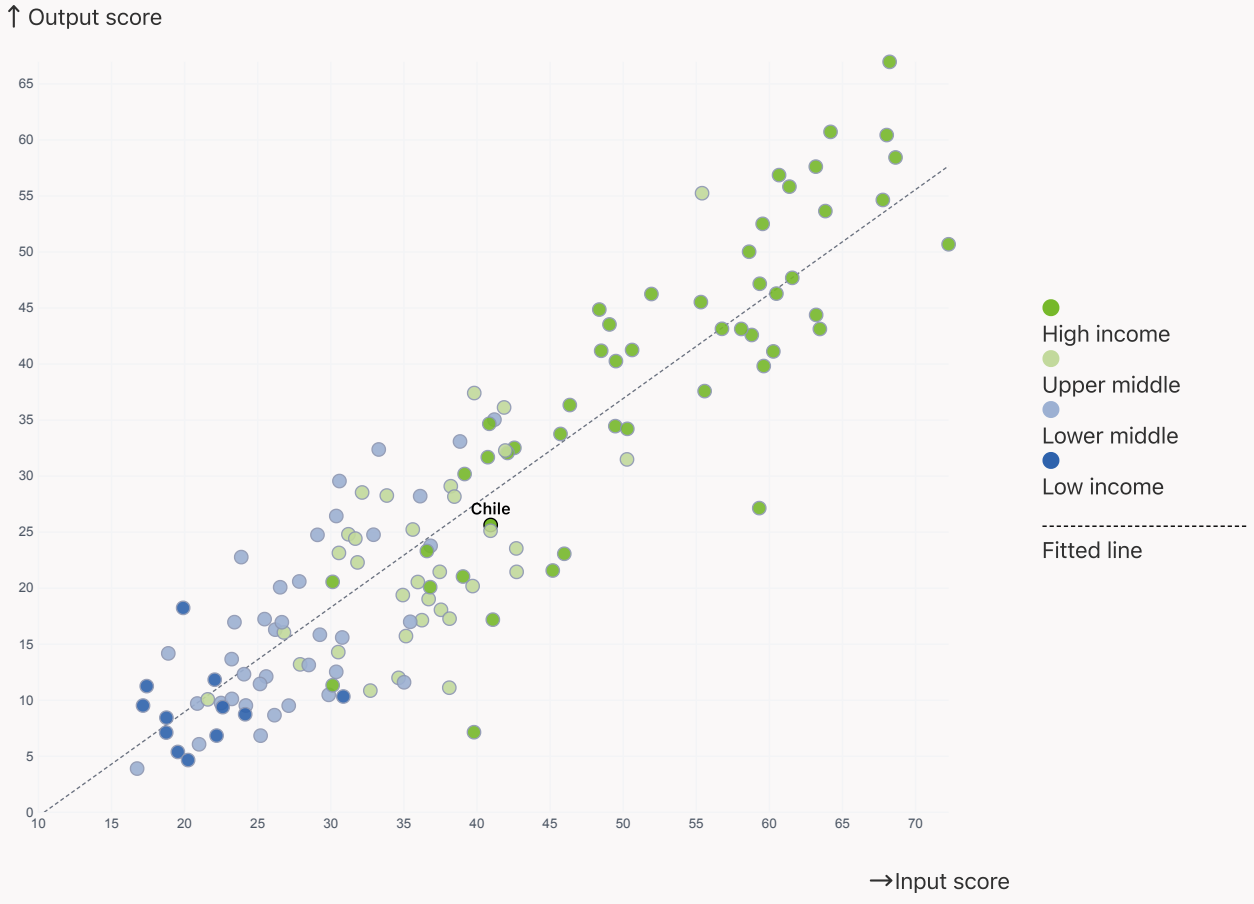


→ Effectively translating innovation investments into innovation outputs

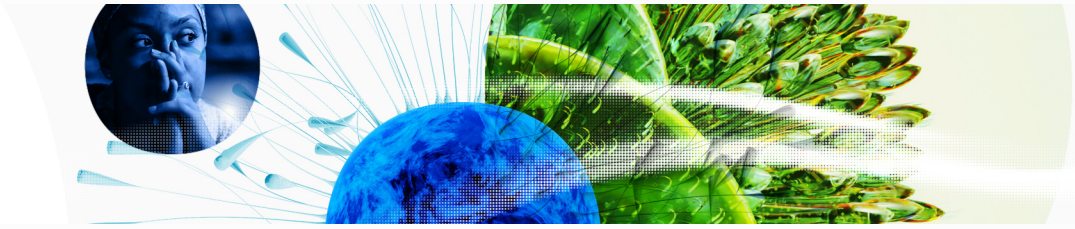
The chart below shows the relationship between innovation inputs and innovation outputs. Economies above the line are effectively translating costly innovation investments into more and higher-quality outputs.

> Chile produces less innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

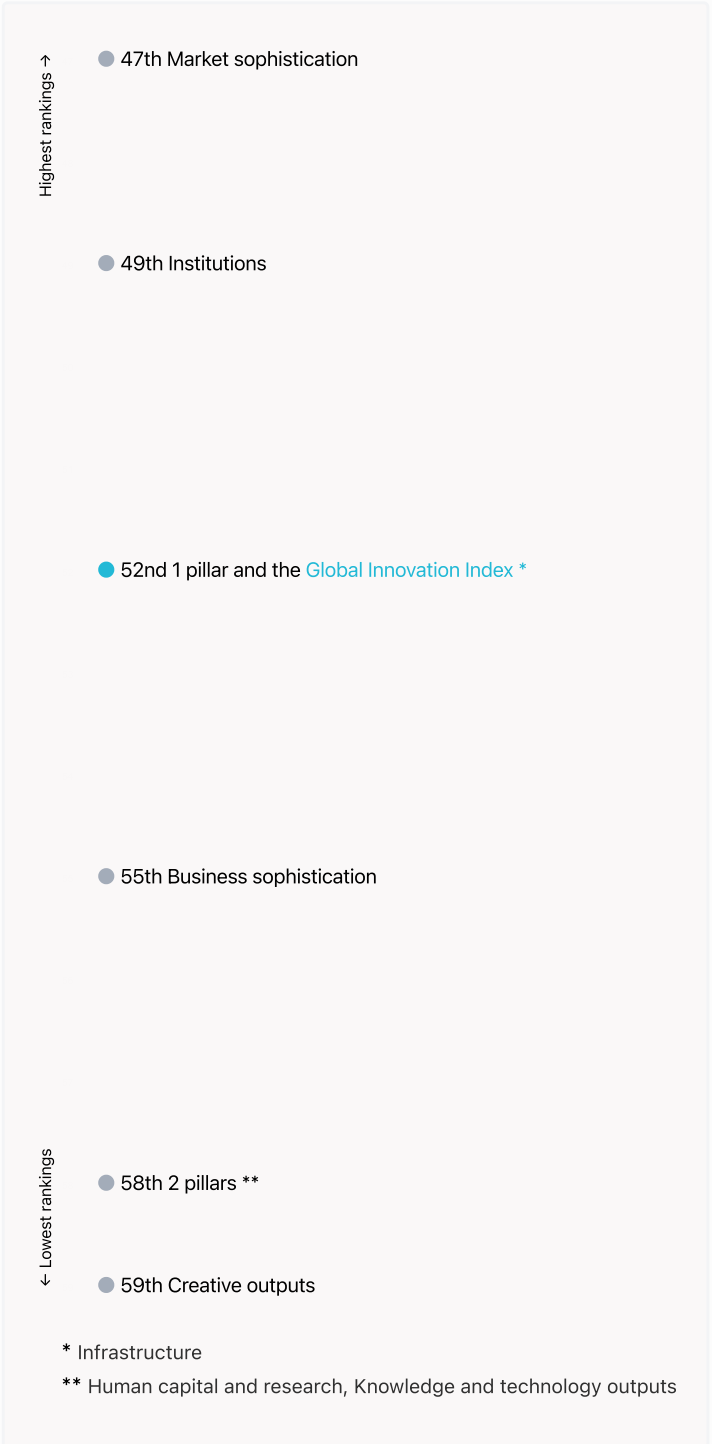


Global Innovation Index 2023



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



> Highest rankings

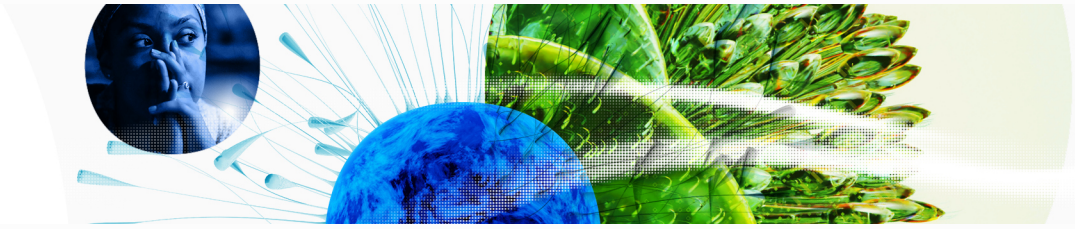
Chile ranks highest in Market sophistication (47th), Institutions (49th) and Infrastructure (52nd).

> Lowest rankings

Chile ranks lowest in Creative outputs (59th), Human capital and research, Knowledge and technology outputs (58th) and Business sophistication (55th).

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

Global Innovation Index 2023



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

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

> High-Income economies

Chile performs below the high-income group average in all the pillars.

> Latin America And The Caribbean

Chile performs above the regional average in all the pillars.

Knowledge and technology outputs

- Top 10 | Score: 58.96
- High income | Score: 38.62
- Chile | Score: 24.31
- LCN | Score: 17.14

Creative outputs

- Top 10 | 56.09
- High income | 40.27
- Chile | 26.84
- LCN | 18.91

Business sophistication

- Top 10 | 64.39
- High income | 46.38
- Chile | 29.81
- LCN | 26.15

Market sophistication

- Top 10 | 61.93
- High income | 46.42
- Chile | 38.94
- LCN | 29.74

Human capital and research

- Top 10 | 60.28
- High income | 46.30
- Chile | 33.04
- LCN | 24.92

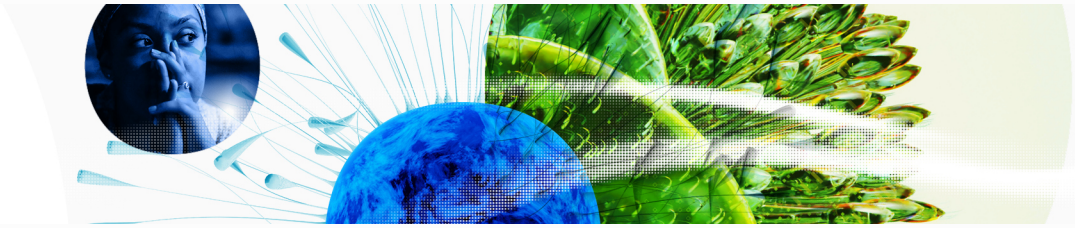
Infrastructure

- Top 10 | 62.83
- High income | 55.85
- Chile | 46.43
- LCN | 35.88

Institutions

- Top 10 | 79.85
- High income | 68.16
- Chile | 56.68
- LCN | 41.12

Global Innovation Index 2023



→ Innovation strengths and weaknesses in Chile

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

> Chile's main innovation strengths are **Applied tariff rate, weighted avg., %** (rank 5), **Trademarks by origin/bn PPP$ GDP** (rank 10) and **Tertiary enrolment, % gross** (rank 12).

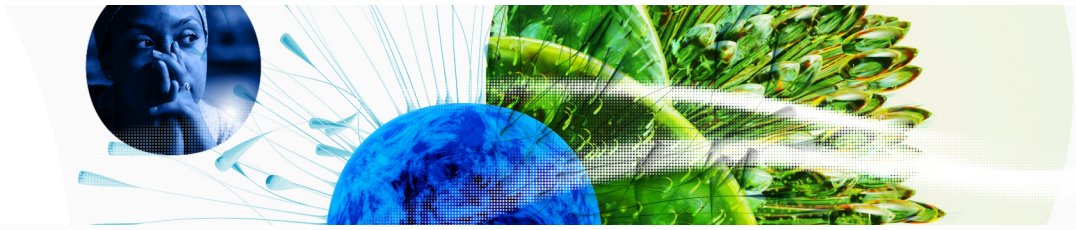
Strengths

Rank	Code	Indicator name
5	4.3.1	Applied tariff rate, weighted avg., %
10	7.1.2	Trademarks by origin/bn PPP$ GDP
12	2.2.1	Tertiary enrolment, % gross
14	5.3.1	Intellectual property payments, % total trade
19	4.1.2	Domestic credit to private sector, % GDP
21	6.2.3	Software spending, % GDP
22	2.1.1	Expenditure on education, % GDP
24	2.1.3	School life expectancy, years
25	5.3.4	FDI net inflows, % GDP
30	3.1.3	Government's online service

Weaknesses

Rank	Code	Indicator name
115	7.1.4	Industrial designs by origin/bn PPP$ GDP
111	1.2.3	Cost of redundancy dismissal
99	6.3.4	ICT services exports, % total trade
90	2.1.5	Pupil-teacher ratio, secondary
87	2.2.3	Tertiary inbound mobility, %
80	4.3.2	Domestic industry diversification
78	5.2.3	GERD financed by abroad, % GDP
64	4.1.1	Finance for startups and scaleups
60	7.1.1	Intangible asset intensity, top 15, %
40	2.3.3	Global corporate R&D investors, top 3, mn US$

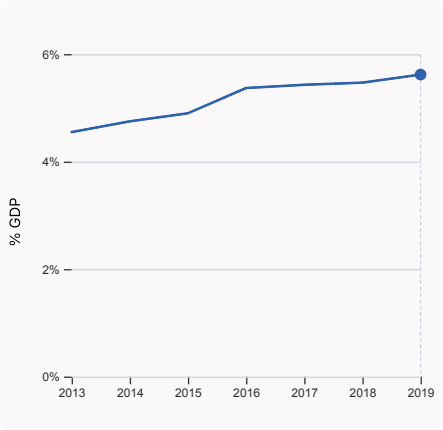
Global Innovation Index 2023



→ Chile's innovation system

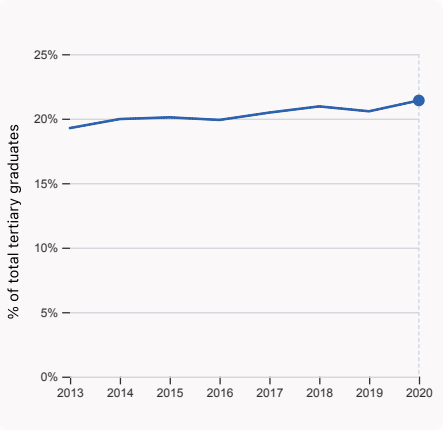
As far as practicable, the plots below present unscaled indicator data.

> Innovation inputs in Chile



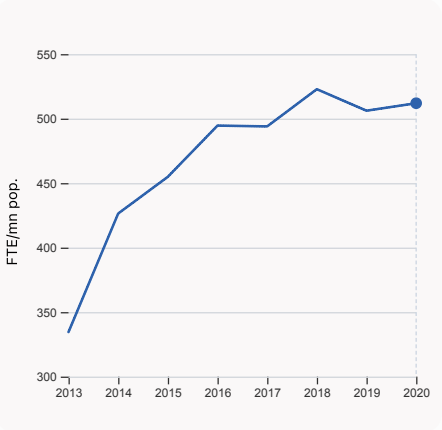
2.1.1 Expenditure on education, % GDP

was equal to 5.62% GDP in 2019, up by 0.15 percentage points from the year prior – and equivalent to an indicator rank of 22.



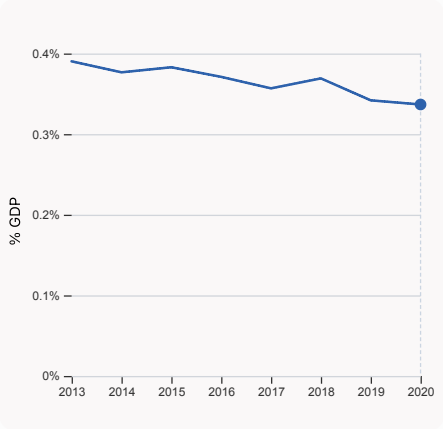
2.2.2 Graduates in science and engineering, %

was equal to 21.41% of total tertiary graduates in 2020, up by 0.84 percentage points from the year prior – and equivalent to an indicator rank of 63.



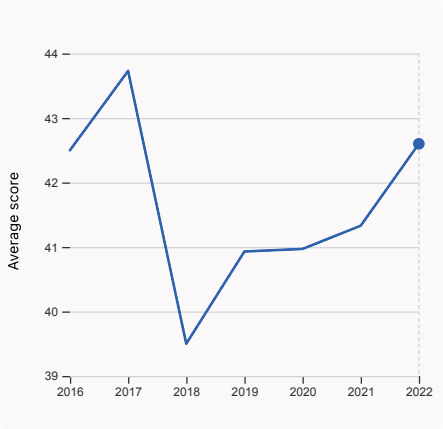
2.3.1 Researchers, FTE/mn pop.

was equal to 511.96 FTE/mn pop. in 2020, up by 1.15% from the year prior – and equivalent to an indicator rank of 70.



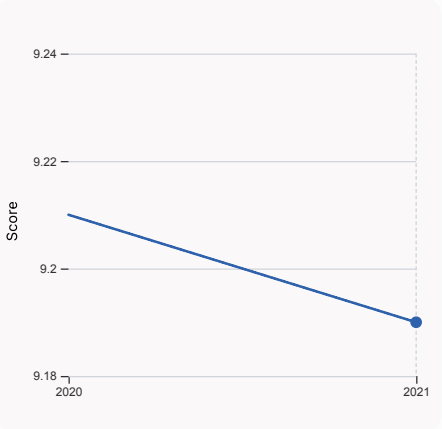
2.3.2 Gross expenditure on R&D, % GDP

was equal to 0.337% GDP in 2020, down by 0.0052 percentage points from the year prior – and equivalent to an indicator rank of 72.



2.3.4 QS university ranking, top 3

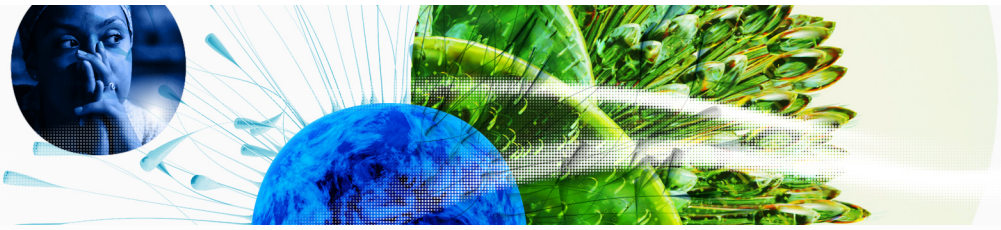
was equal to an average score of 42.6 for the top 3 universities in 2022, up by 3.073% from the year prior – and equivalent to an indicator rank of 31.

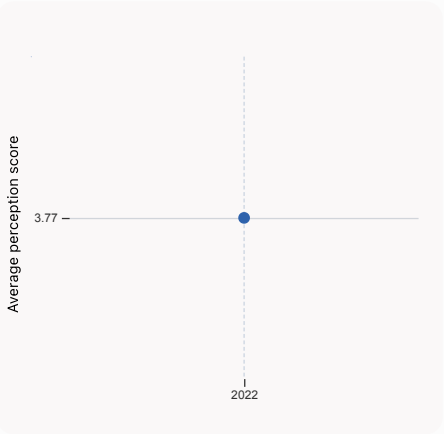


3.1.1 ICT access

was equal to a score of 9.19 in 2021, down by 0.22% from the year prior – and equivalent to an indicator rank of 33.

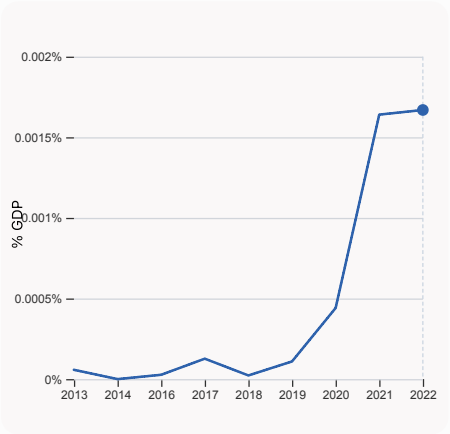
Global Innovation Index 2023





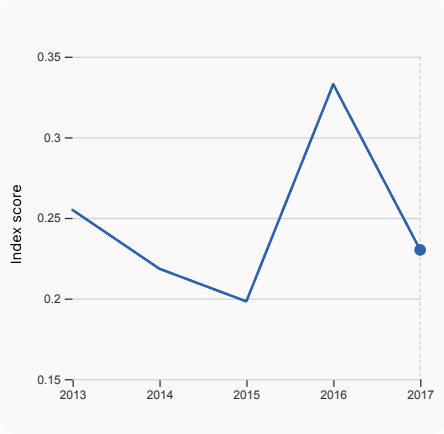
4.1.1 Finance for startups and scaleups

was equal to an average perception score of 3.77 in 2022, equivalent to an indicator rank of 64.



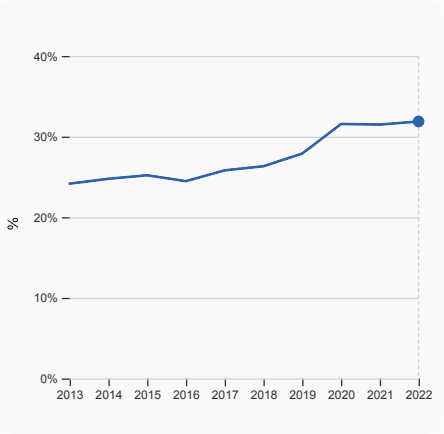
4.2.4 VC received, value, % GDP

was equal to 0.00167% GDP in 2022, up by 0.000029 percentage points from the year prior – and equivalent to an indicator rank of 44.



4.3.2 Domestic industry diversification

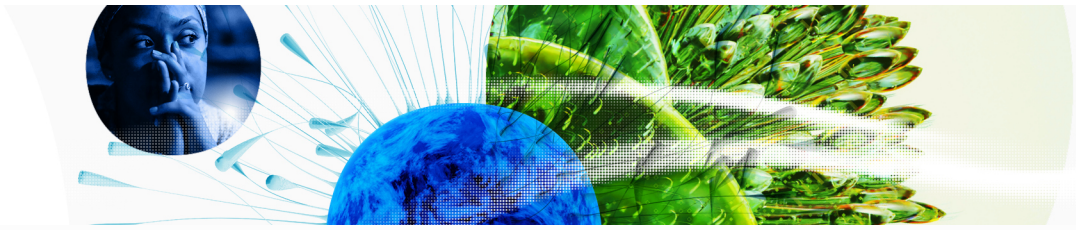
was equal to an index score of 0.23 in 2017, down by 30.87% from the year prior – and equivalent to an indicator rank of 80.



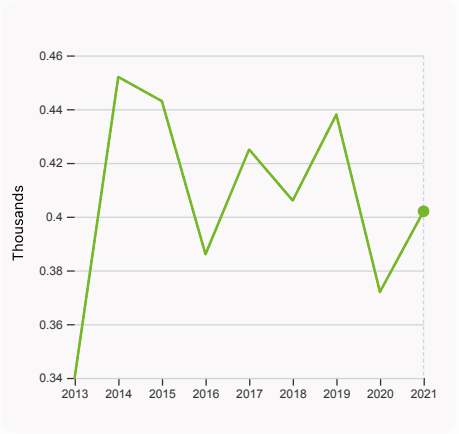
5.1.1 Knowledge-intensive employment, %

was equal to 31.88% in 2022, up by 0.38 percentage points from the year prior – and equivalent to an indicator rank of 48.

Global Innovation Index 2023

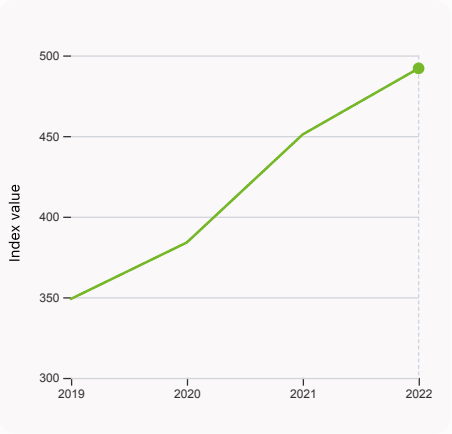


> Innovation outputs in Chile



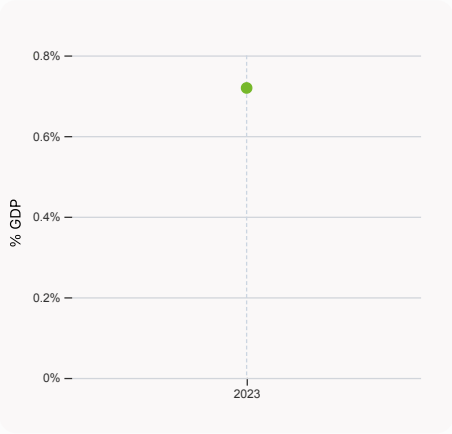
6.1.1 Patents by origin

was equal to 0.4 Thousands in 2021, up by 8.065% from the year prior – and equivalent to an indicator rank of 68.



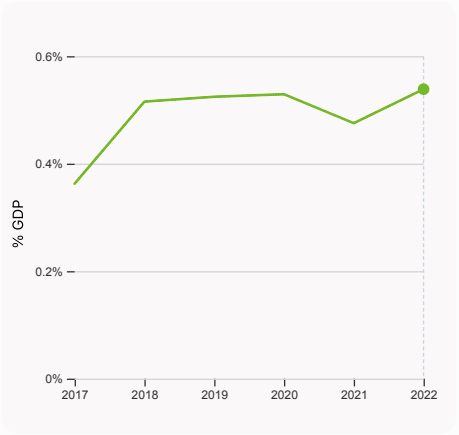
6.1.5 Citable documents H-index

was equal to an index value of 492 in 2022, up by 9.091% from the year prior – and equivalent to an indicator rank of 38.



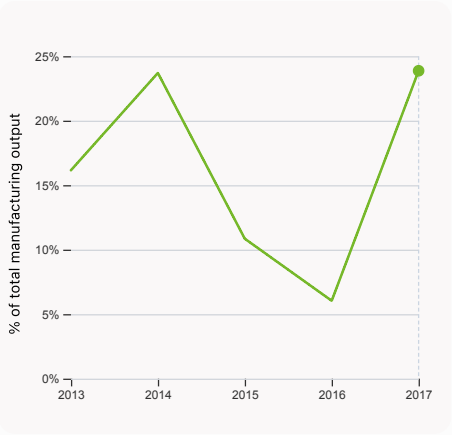
6.2.2 Unicorn valuation, % GDP

was equal to 0.719 % GDP in 2023 – and equivalent to an indicator rank of 36.



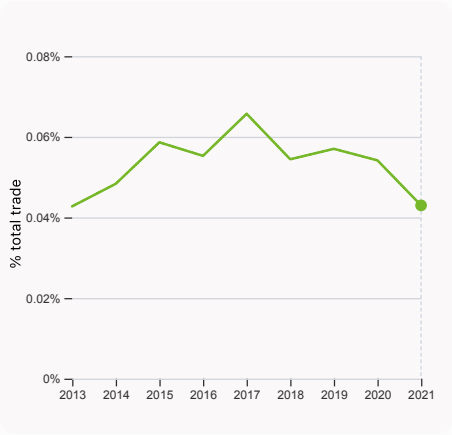
6.2.3 Software spending, % GDP

was equal to 0.539% GDP in 2022, up by 0.063 percentage points from the year prior – and equivalent to an indicator rank of 21.



6.2.4 High-tech manufacturing, %

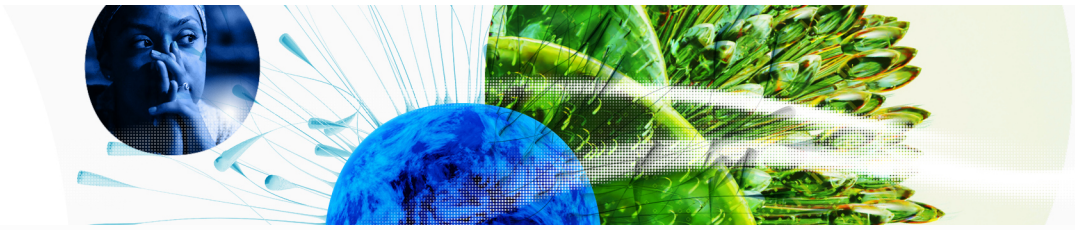
was equal to 23.87% of total manufacturing output in 2017, up by 17.83 percentage points from the year prior – and equivalent to an indicator rank of 55.

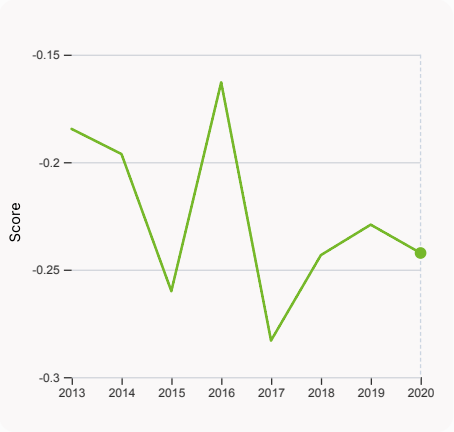


6.3.1 Intellectual property receipts, % total trade

was equal to 0.043% total trade in 2021, down by 0.011 percentage points from the year prior – and equivalent to an indicator rank of 70.

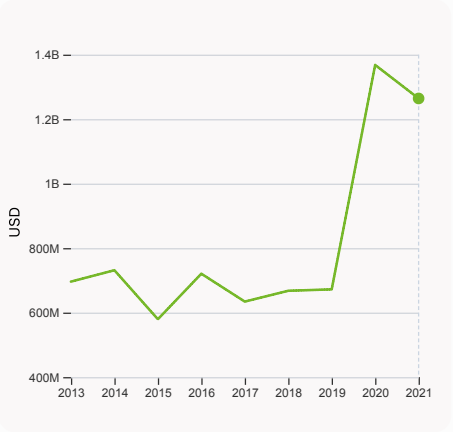
Global Innovation Index 2023





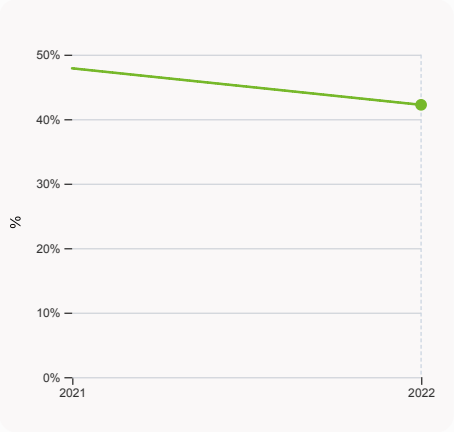
6.3.2 Production and export complexity

was equal to a score of -0.242 in 2020, down by 5.75% from the year prior – and equivalent to an indicator rank of 75.



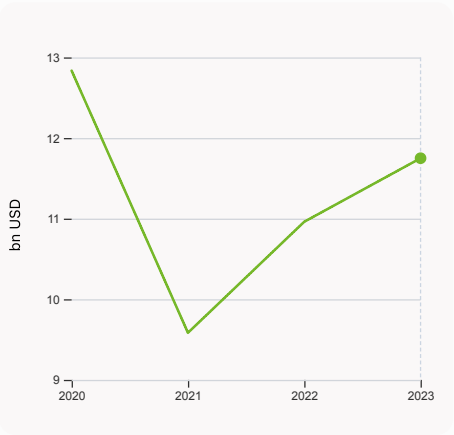
6.3.3 High-tech exports

was equal to 1,264,181,333 USD in 2021, down by 7.59% from the year prior – and equivalent to an indicator rank of 70.



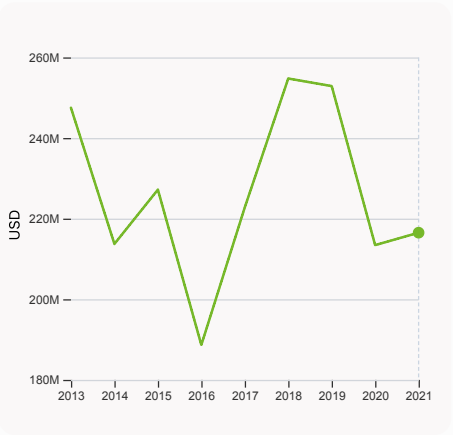
7.1.1 Intangible asset intensity, top 15, %

was equal to 42.22% in 2022, down by 5.66 percentage points from the year prior – and equivalent to an indicator rank of 60.



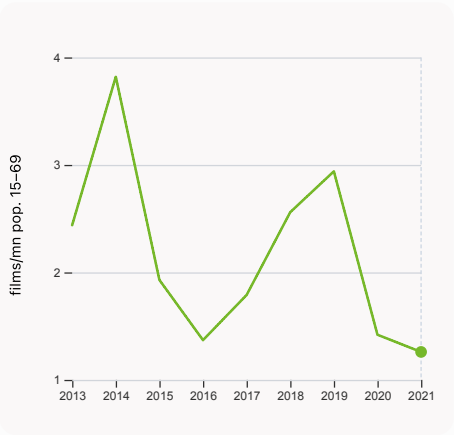
7.1.3 Global brand value, top 5,000

was equal to 11.75 bn USD in 2023, up by 7.19% from the year prior – and equivalent to an indicator rank of 41.



7.2.1 Cultural and creative services exports

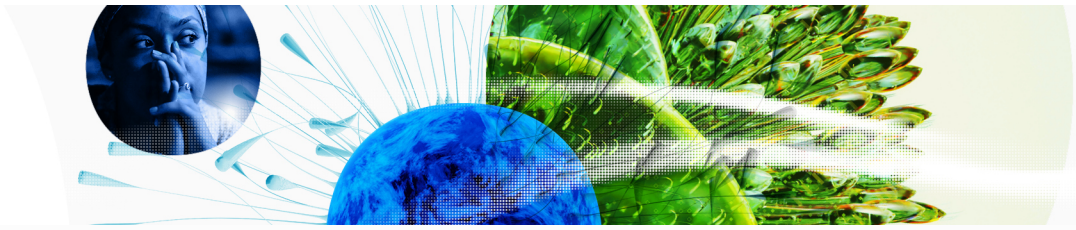
was equal to 216,520,000 USD in 2021, up by 1.44% from the year prior – and equivalent to an indicator rank of 70.

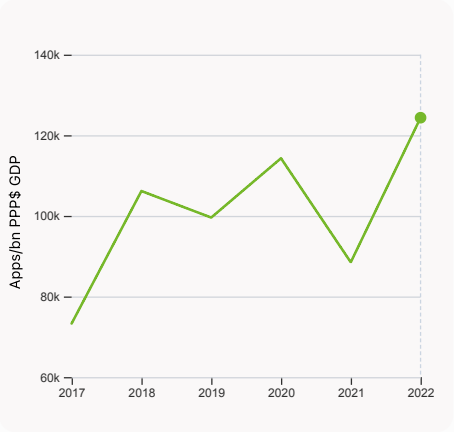


7.2.2 National feature films/mn pop. 15-69

was equal to 1.26 films/mn pop. 15–69 in 2021, down by 11.27% from the year prior – and equivalent to an indicator rank of 57.

Global Innovation Index 2023

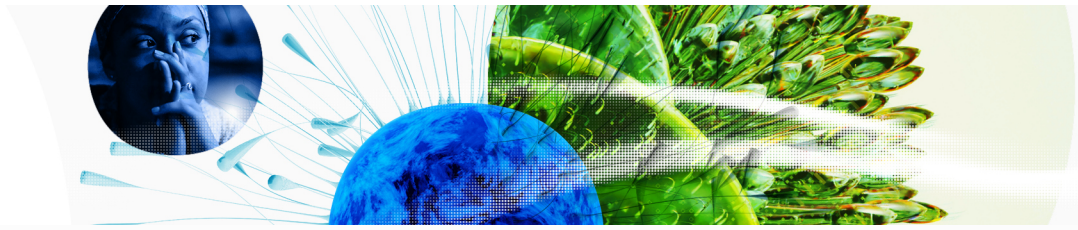




7.3.4 Mobile app creation/bn PPP$ GDP

was equal to 124,357.9 Apps/bn PPP$ GDP in 2022, up by 40.52% from the year prior – and equivalent to an indicator rank of 71.

Global Innovation Index 2023



→ Chile's innovation top performers

> 2.3.4 QS university ranking of Chile's top universities

Rank	University	Score
121	PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE (UC)	54.90
167	UNIVERSIDAD DE CHILE	47.50
465	UNIVERSIDAD DE SANTIAGO DE CHILE (USACH)	25.40

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 Chile

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	NOTCO	Consumer & retail	Santiago	2
2	BETTERFLY	Artificial intelligence	Santiago	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 Chile

Rank	Firm	Intensity, %
1	SOCIEDAD QUIMICA Y MINERA DE CHILE SA	88.11
2	ANTOFAGASTA PLC	32.62
3	BANCO DE CHILE	38.44

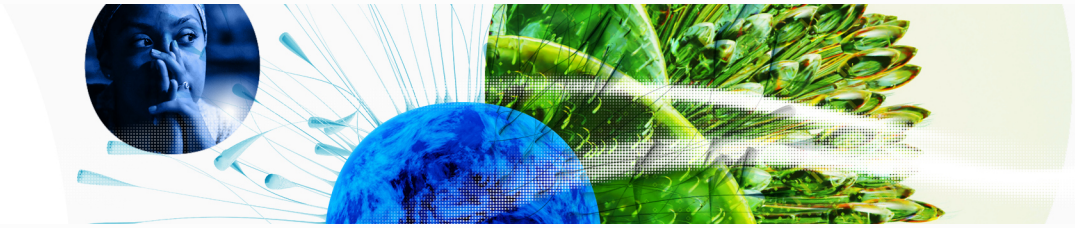
Source: Brand Finance (https://brandirectory.com/reports/gift-2022).
Note: Brand Finance only provides within economy ranks.

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

Rank	Brand	Industry	Brand Value, mn USD
1	EMPRESAS COPEC	Oil & Gas	1,481.5
2	BANCO DE CHILE	Banking	1,331.3
3	ENTEL	Telecoms	1,023.3

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

Global Innovation Index 2023



Chile

GII 2023 rank

52

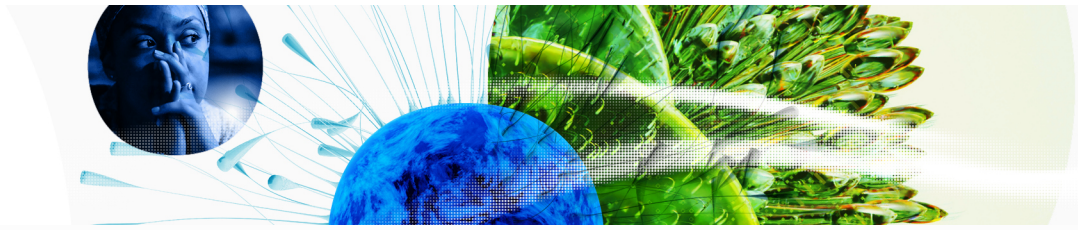
Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
56	48	High	LCN	19.6	575.5	28,887.5

	Score / Value	Rank	
Institutions	**56.7**	**49**	
1.1 Institutional environment	**56.5**	**43**	
1.1.1 Operational stability for businesses*	59.0	48	
1.1.2 Government effectiveness*	54.0	43	
1.2 Regulatory environment	**64.1**	**62**	◇
1.2.1 Regulatory quality*	66.8	32	
1.2.2 Rule of law*	66.5	31	
1.2.3 Cost of redundancy dismissal	27.4	111	○ ◇
1.3 Business environment	**49.4**	**55**	
1.3.1 Policies for doing business†	46.8	65	
1.3.2 Entrepreneurship policies and culture†	51.9	31	
Human capital and research	**33.0**	**58**	◇
2.1 Education	**52.8**	**62**	
2.1.1 Expenditure on education, % GDP	5.6	22	●
2.1.2 Government funding/pupil, secondary, % GDP/cap	19.9	55	
2.1.3 School life expectancy, years	16.6	24	●
2.1.4 PISA scales in reading, maths and science	437.8	46	◇
2.1.5 Pupil-teacher ratio, secondary	17.7	90	○ ◇
2.2 Tertiary education	**32.7**	**59**	
2.2.1 Tertiary enrolment, % gross	91.7	12	●
2.2.2 Graduates in science and engineering, %	21.4	63	
2.2.3 Tertiary inbound mobility, %	1.1	87	○ ◇
2.3 Research and development (R&D)	**13.6**	**51**	◇
2.3.1 Researchers, FTE/mn pop.	512.0	70	◇
2.3.2 Gross expenditure on R&D, % GDP	0.3	72	◇
2.3.3 Global corporate R&D investors, top 3, mn US$	0.0	40	○ ◇
2.3.4 QS university ranking, top 3*	43.2	31	
Infrastructure	**46.4**	**52**	◇
3.1 Information and communication technologies (ICTs)	**80.9**	**38**	
3.1.1 ICT access*	88.0	33	
3.1.2 ICT use*	85.8	36	
3.1.3 Government's online service*	81.0	30	●
3.1.4 E-participation*	68.6	43	
3.2 General infrastructure	**28.2**	**59**	◇
3.2.1 Electricity output, GWh/mn pop.	4,372.6	52	
3.2.2 Logistics performance*	40.9	60	◇
3.2.3 Gross capital formation, % GDP	25.1	53	
3.3 Ecological sustainability	**30.2**	**54**	
3.3.1 GDP/unit of energy use	12.2	45	
3.3.2 Environmental performance*	47.1	51	
3.3.3 ISO 14001 environment/bn PPP$ GDP	1.9	51	
Market sophistication	**38.9**	**47**	
4.1 Credit	**40.0**	**41**	
4.1.1 Finance for startups and scaleups†	33.0	64	○ ◇
4.1.2 Domestic credit to private sector, % GDP	124.6	19	●
4.1.3 Loans from microfinance institutions, % GDP	n/a	n/a	
4.2 Investment	**13.9**	**47**	
4.2.1 Market capitalization, % GDP	77.0	21	
4.2.2 Venture capital (VC) investors, deals/bn PPP$ GDP	0.1	49	
4.2.3 VC recipients, deals/bn PPP$ GDP	0.0	55	
4.2.4 VC received, value, % GDP	0.0	44	
4.3 Trade, diversification, and market scale	**62.9**	**47**	
4.3.1 Applied tariff rate, weighted avg., %	0.4	5	●
4.3.2 Domestic industry diversification	79.1	80	○
4.3.3 Domestic market scale, bn PPP$	575.5	44	

	Score / Value	Rank	
Business sophistication	**29.8**	**55**	◇
5.1 Knowledge workers	**33.2**	**64**	◇
5.1.1 Knowledge-intensive employment, %	31.9	48	
5.1.2 Firms offering formal training, %	n/a	n/a	
5.1.3 GERD performed by business, % GDP	0.1	61	◇
5.1.4 GERD financed by business, %	34.7	55	
5.1.5 Females employed w/advanced degrees, %	12.4	61	◇
5.2 Innovation linkages	**17.5**	**88**	◇
5.2.1 University-industry R&D collaboration†	35.7	83	◇
5.2.2 State of cluster development†	37.8	80	◇
5.2.3 GERD financed by abroad, % GDP	0.0	78	○ ◇
5.2.4 Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	53	
5.2.5 Patent families/bn PPP$ GDP	0.2	43	
5.3 Knowledge absorption	**38.7**	**48**	
5.3.1 Intellectual property payments, % total trade	2.0	14	●
5.3.2 High-tech imports, % total trade	10.0	38	
5.3.3 ICT services imports, % total trade	0.9	90	
5.3.4 FDI net inflows, % GDP	4.4	25	●
5.3.5 Research talent, % in businesses	26.6	48	
Knowledge and technology outputs	**24.3**	**58**	◇
6.1 Knowledge creation	**16.6**	**61**	
6.1.1 Patents by origin/bn PPP$ GDP	0.8	68	
6.1.2 PCT patents by origin/bn PPP$ GDP	0.3	36	
6.1.3 Utility models by origin/bn PPP$ GDP	0.2	47	
6.1.4 Scientific and technical articles/bn PPP$ GDP	n/a	n/a	
6.1.5 Citable documents H-index	25.0	38	
6.2 Knowledge impact	**38.6**	**33**	
6.2.1 Labor productivity growth, %	1.9	37	
6.2.2 Unicorn valuation, % GDP	0.7	36	
6.2.3 Software spending, % GDP	0.5	21	●
6.2.4 High-tech manufacturing, %	23.9	55	
6.3 Knowledge diffusion	**17.7**	**84**	◇
6.3.1 Intellectual property receipts, % total trade	0.1	70	
6.3.2 Production and export complexity	47.4	75	◇
6.3.3 High-tech exports, % total trade	1.3	70	◇
6.3.4 ICT services exports, % total trade	0.6	99	○
6.3.5 ISO 9001 quality/bn PPP$ GDP	5.5	52	
Creative outputs	**26.8**	**59**	
7.1 Intangible assets	**39.2**	**46**	
7.1.1 Intangible asset intensity, top 15, %	42.2	60	○
7.1.2 Trademarks by origin/bn PPP$ GDP	101.6	10	●
7.1.3 Global brand value, top 5,000	3.4	41	
7.1.4 Industrial designs by origin/bn PPP$ GDP	0.1	115	○ ◇
7.2 Creative goods and services	**6.6**	**80**	◇
7.2.1 Cultural and creative services exports, % total trade	0.2	70	
7.2.2 National feature films/mn pop. 15-69	1.3	57	◇
7.2.3 Entertainment and media market/th pop. 15-69	12.6	30	◇
7.2.4 Creative goods exports, % total trade	0.1	90	
7.3 Online creativity	**22.3**	**59**	◇
7.3.1 Generic top-level domains (TLDs)/th pop. 15-69	2.3	77	◇
7.3.2 Country-code TLDs/th pop. 15-69	14.8	32	
7.3.3 GitHub commits/mn pop. 15-69	8.2	57	◇
7.3.4 Mobile app creation/bn PPP$ GDP	63.7	71	

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 Chile.

> Chile has missing data for two indicators and outdated data for seven indicators.

> Missing data for Chile

Code	Indicator name	Economy Year	Model Year	Source
4.1.3	Loans from microfinance institutions, % GDP	n/a	2021	International Monetary Fund, Financial Access Survey (FAS)
5.1.2	Firms offering formal training, %	n/a	2019	World Bank Enterprise Surveys

> Outdated data for Chile

Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2019	2021	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2020	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
4.3.2	Domestic industry diversification	2017	2020	United Nations Industrial Development Organization
5.1.3	GERD performed by business, % GDP	2020	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.5	Research talent, % in businesses	2020	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.2.4	High-tech manufacturing, %	2017	2020	United Nations Industrial Development Organization

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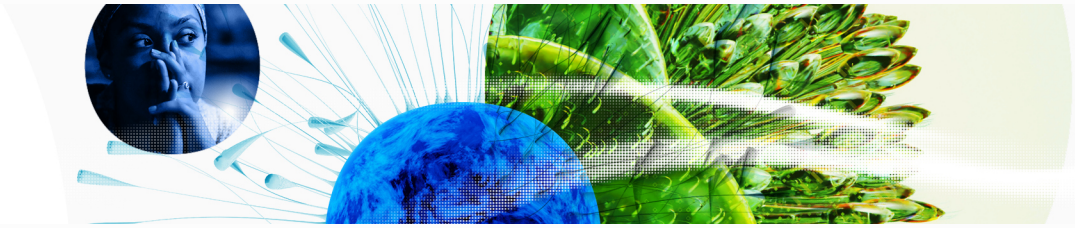
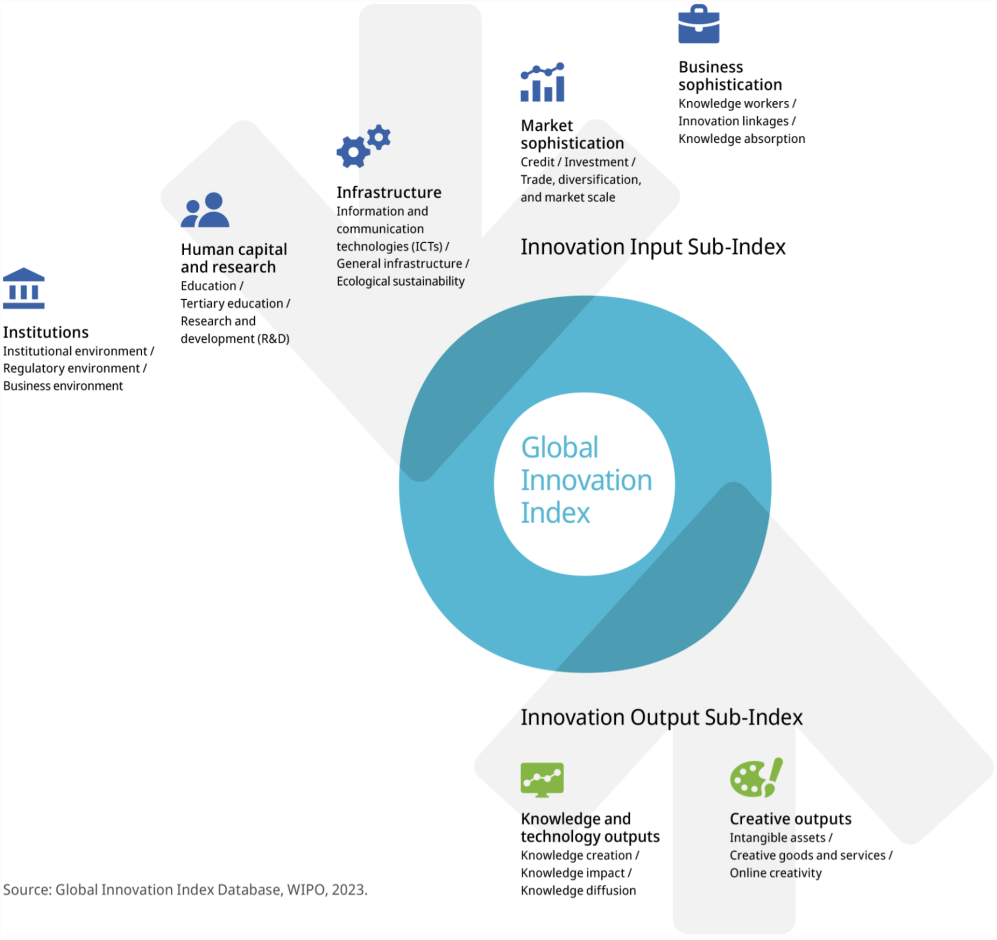


About the Global Innovation Index

- 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.