GLOBAL INNOVATION INDEX 2020

CHILE

54th Chile ranks 54th among the 131 economies featured in the GII 2020.

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

The following table shows the rankings of Chile over the past three years, noting that data availability and changes to the GII model framework influence year-on-year comparisons of the GII rankings. The statistical confidence interval for the ranking of Chile in the GII 2020 is between ranks 53 and 60.

Rankings of Chile (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	54	41	66
2019	51	43	62
2018	47	45	53

- Chile performs better in innovation inputs than innovation outputs in 2020.
- This year Chile ranks 41st in innovation inputs, higher than last year and higher compared to 2018.
- As for innovation outputs, Chile ranks 66th. This position is lower than last year and lower compared to 2018.

40th Chile ranks 40th among the 49 high-income group economies.

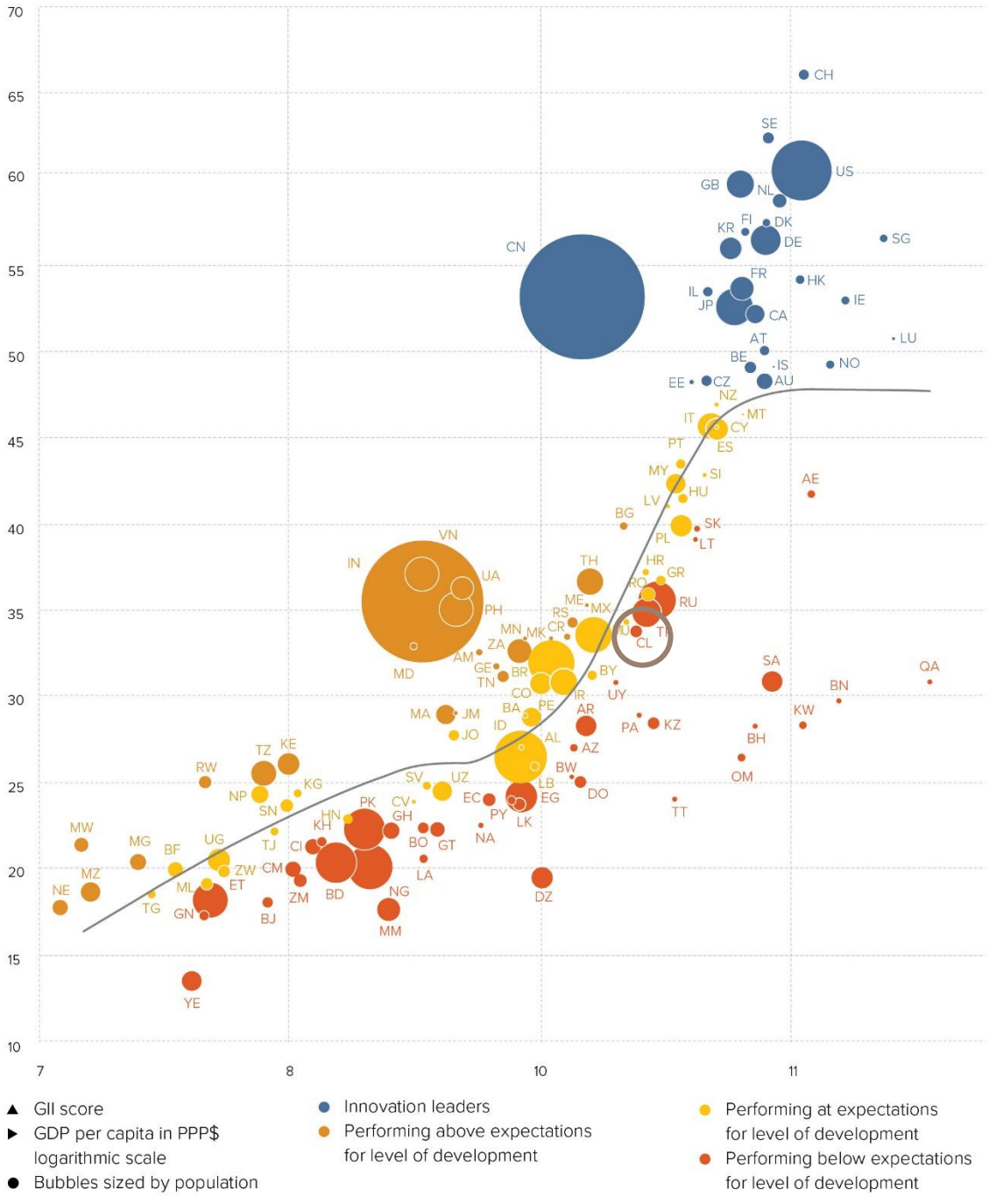
1st Chile ranks 1st among the 18 economies in Latin America and the Caribbean.

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 is performing below expectations for its level of development.

The positive relationship between innovation and development

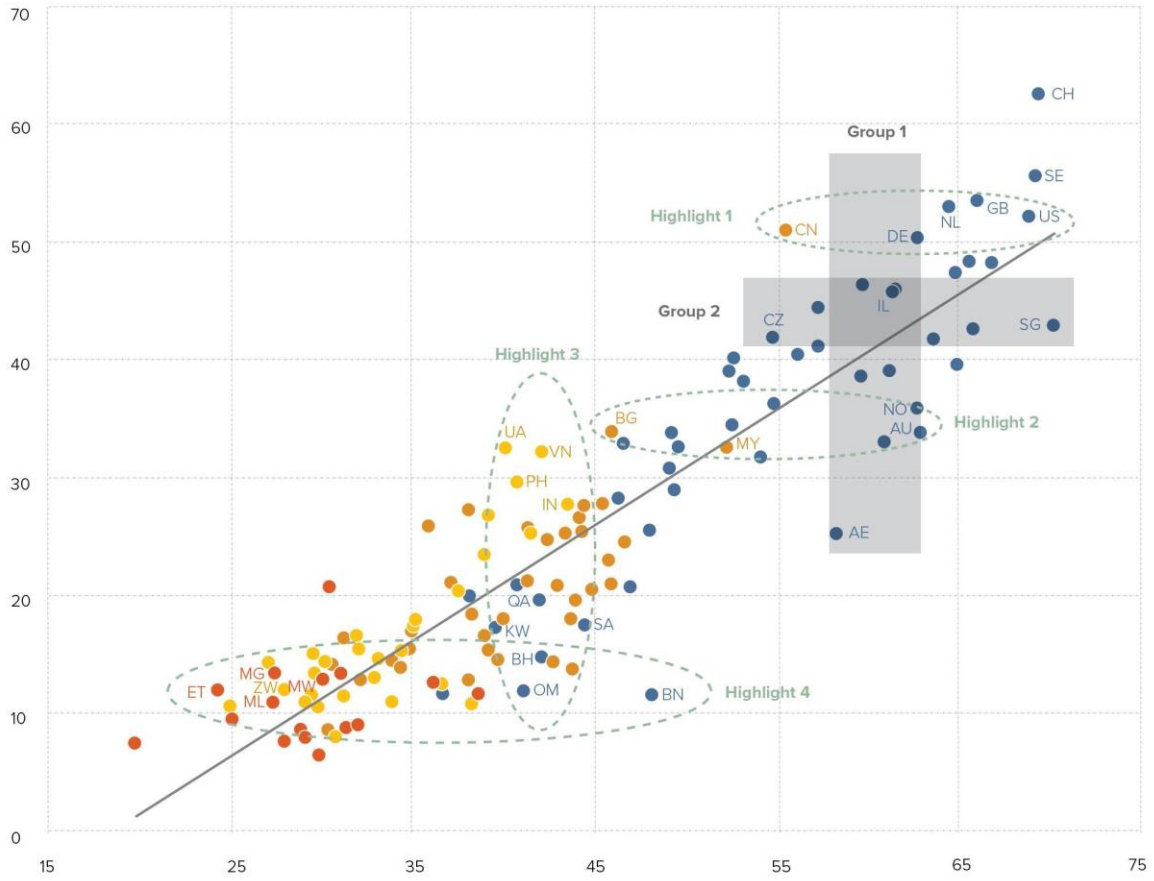


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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

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

Innovation input to output performance, 2020



▲ Output score
► Input score

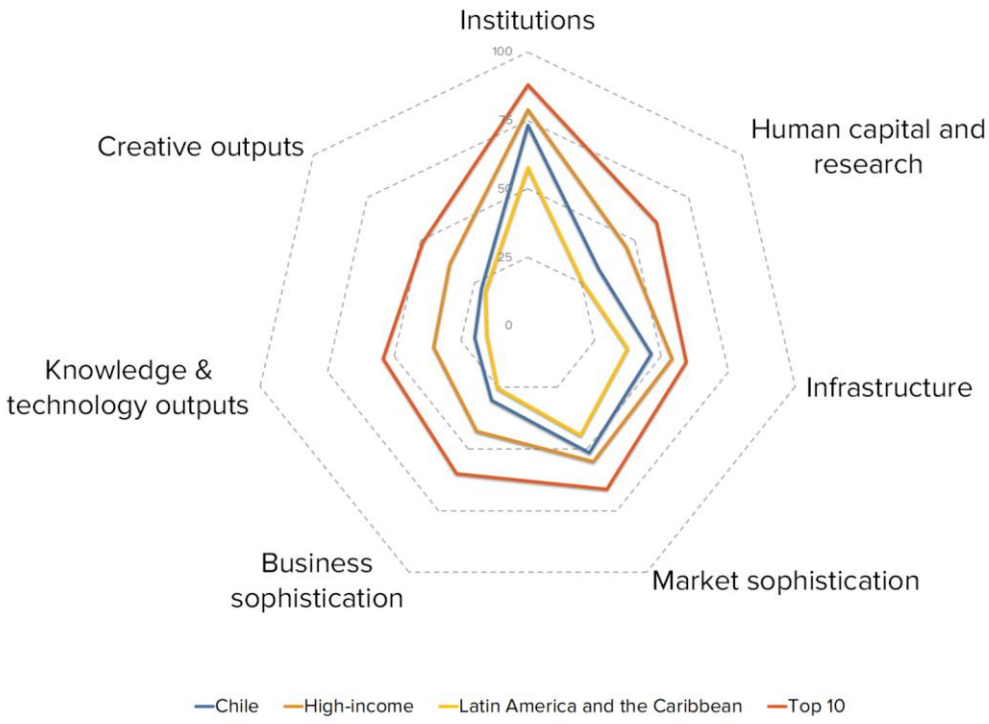
● High income group
● Upper middle-income group
● Lower middle-income group
● Low income group

— Fitted values

AU	Australia	IN	India	NL	Netherlands	CH	Switzerland
BH	Bahrain	IL	Israel	NO	Norway	UA	Ukraine
BN	Brunei Darussalam	KW	Kuwait	OM	Oman	AE	United Arab Emirates
BG	Bulgaria	MG	Madagascar	PH	Philippines	GB	United Kingdom
CN	China	MW	Malawi	QA	Qatar	US	United States of America
CZ	Czech Republic	ML	Mali	SA	Saudi Arabia	VN	Viet Nam
ET	Ethiopia	MY	Malaysia	SG	Singapore	ZW	Zimbabwe
DE	Germany			SE	Sweden		

BENCHMARKING CHILE AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND LATIN AMERICA AND THE CARIBBEAN

Chile's scores in the seven GII pillars



High-income group economies

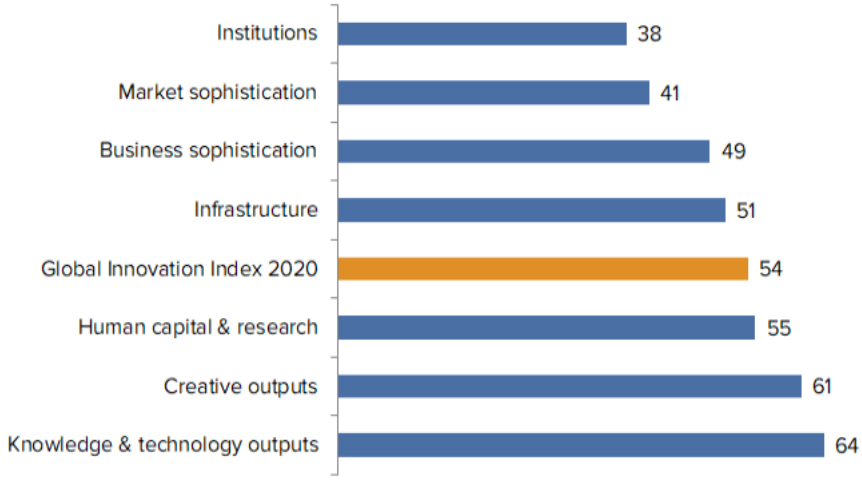
Chile scores below average for its income group in all seven of the GII pillars.

Latin America and the Caribbean

Compared to other economies in Latin America and the Caribbean, Chile performs above average in all seven of the GII pillars.

OVERVIEW OF CHILE RANKINGS IN THE SEVEN GII AREAS

Chile performs best in Institutions and its weakest performance is in Knowledge & technology outputs.



*The highest possible ranking in each pillar is 1.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Chile in the GII 2020.

Strengths

Code	Indicator name	Rank
1.2.1	Regulatory quality*	20
1.2.2	Rule of law*	25
2.1.3	School life expectancy, years	24
2.2.1	Tertiary enrolment, % gross	6
4.1.2	Domestic credit to private sector, % GDP	19
4.2.2	Market capitalization, % GDP	15
4.3	Trade, competition, and market scale	23
4.3.1	Applied tariff rate, weighted avg., %	5
5.1.2	Firms offering formal training, %	8
5.3.1	Intellectual property payments, % total trade	12
6.2.2	New businesses/th pop. 15–64	12

Weaknesses

Code	Indicator name	Rank
1.2.3	Cost of redundancy dismissal, salary weeks	109
2.1.5	Pupil-teacher ratio, secondary	89
2.2.3	Tertiary inbound mobility, %	102
2.3.3	Global R&D companies, top 3, mn US$	42
4.1.1	Ease of getting credit*	88
4.2.3	Venture capital deals/bn PPP$ GDP	65
5.3.3	ICT services imports, % total trade	95
6.3	Knowledge diffusion	98
6.3.3	ICT services exports, % total trade	100
7.1.3	Industrial designs by origin/bn PPP$ GDP	109
7.2.4	Printing & other media, % manufacturing	79

STRENGTHS

GII strengths for Chile are found in five of the seven GII pillars.

- Institutions (38): exhibits strengths in the indicators Regulatory quality (20) and Rule of law (25).
- Human capital & research (55): shows strengths in the indicators School life expectancy (24) and Tertiary enrolment (6).
- Market sophistication (41): demonstrates strengths in the sub-pillar Trade, competition, and market scale (23) and in the indicators Domestic credit to private sector (19), Market capitalization (15) and Applied tariff rate (5).
- Business sophistication (49): displays strengths in the indicators Firms offering formal training (8) and Intellectual property payments (12).
- Knowledge & technology outputs (64): the indicator New businesses (12) is a strength.

WEAKNESSES

GII weaknesses for Chile are found in six of the seven GII pillars.

- Institutions (38): the indicator Cost of redundancy dismissal (109) demonstrates a weakness.
- Human capital & research (55): shows weaknesses in the indicators Pupil–teacher ratio (89), Tertiary inbound mobility (102) and Global R&D companies (42).
- Market sophistication (41): exhibits weaknesses in the indicators Ease of getting credit (88) and Venture capital deals (65).
- Business sophistication (49): the indicator ICT services imports (95) reveals a weakness.
- Knowledge & technology outputs (64): displays weaknesses in the sub-pillar Knowledge diffusion (98) and in the indicator ICT services exports (100).
- Creative outputs (61): exhibits weaknesses in the indicators Industrial designs by origin (109) and Printing & other media (79).

CHILE

GII 2020 rank

54

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2019 rank
66	41	High	LCN	19.0	502.8	22,975.6	51

		Score/Value	Rank	
INSTITUTIONS		**73.3**	**38**	
1.1	**Political environment**	**75.2**	**34**	
1.1.1	Political and operational stability*	76.8	43	
1.1.2	Government effectiveness*	74.4	29	
1.2	**Regulatory environment**	**69.0**	**50**	
1.2.1	Regulatory quality*	77.2	20	●
1.2.2	Rule of law*	75.7	25	●
1.2.3	Cost of redundancy dismissal, salary weeks	27.4	109	○ ◇
1.3	**Business environment**	**75.7**	**46**	
1.3.1	Ease of starting a business*	91.4	50	
1.3.2	Ease of resolving insolvency*	60.1	48	
HUMAN CAPITAL & RESEARCH		**33.1**	**55**	◇
2.1	**Education**	**47.9**	**61**	
2.1.1	Expenditure on education, % GDP 🕘	5.4	28	
2.1.2	Government funding/pupil, secondary, % GDP/cap	18.7	56	
2.1.3	School life expectancy, years	16.4	24	●
2.1.4	PISA scales in reading, maths, & science	437.8	46	
2.1.5	Pupil-teacher ratio, secondary 🕘	18.4	89	○ ◇
2.2	**Tertiary education**	**38.0**	**50**	
2.2.1	Tertiary enrolment, % gross	88.5	6	●
2.2.2	Graduates in science & engineering, %	20.5	71	
2.2.3	Tertiary inbound mobility, %	0.4	102	○ ◇
2.3	**Research & development (R&D)**	**13.4**	**50**	◇
2.3.1	Researchers, FTE/mn pop. 🕘	493.3	68	◇
2.3.2	Gross expenditure on R&D, % GDP 🕘	0.4	75	◇
2.3.3	Global R&D companies, avg. exp. top 3, mn $US	0.0	42	○ ◇
2.3.4	QS university ranking, average score top 3*	40.9	32	
INFRASTRUCTURE		**46.4**	**51**	◇
3.1	**Information & communication technologies (ICTs)**	**76.2**	**43**	
3.1.1	ICT access*	72.0	55	◇
3.1.2	ICT use*	67.6	47	◇
3.1.3	Government's online service*	83.3	37	
3.1.4	E-participation*	82.0	46	
3.2	**General infrastructure**	**29.6**	**53**	
3.2.1	Electricity output, kWh/mn pop	4,324.2	50	
3.2.2	Logistics performance*	58.5	33	
3.2.3	Gross capital formation, % GDP	23.2	68	
3.3	**Ecological sustainability**	**33.3**	**52**	
3.3.1	GDP/unit of energy use	10.2	52	
3.3.2	Environmental performance*	55.3	42	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	1.8	50	
MARKET SOPHISTICATION		**51.7**	**41**	
4.1	**Credit**	**45.1**	**52**	
4.1.1	Ease of getting credit*	55.0	88	○
4.1.2	Domestic credit to private sector, % GDP	116.6	19	●
4.1.3	Microfinance gross loans, % GDP	0.8	26	◆
4.2	**Investment**	**36.4**	**68**	
4.2.1	Ease of protecting minority investors*	66.0	50	
4.2.2	Market capitalization, % GDP	91.7	15	●
4.2.3	Venture capital deals/bn PPP$ GDP	0.0	65	○
4.3	**Trade, competition, and market scale**	**73.5**	**23**	●
4.3.1	Applied tariff rate, weighted avg., %	0.5	5	● ◆
4.3.2	Intensity of local competition+	74.5	30	
4.3.3	Domestic market scale, bn PPP$	502.8	41	

		Score/Value	Rank	
BUSINESS SOPHISTICATION		**30.4**	**49**	
5.1	**Knowledge workers**	**37.1**	**54**	
5.1.1	Knowledge-intensive employment, %	26.4	55	◇
5.1.2	Firms offering formal training, % 🕘	57.5	8	● ◆
5.1.3	GERD performed by business, % GDP 🕘	0.1	57	◇
5.1.4	GERD financed by business, %	31.4	55	
5.1.5	Females employed w/advanced degrees, %	8.8	76	◇
5.2	**Innovation linkages**	**17.4**	**92**	◇
5.2.1	University/industry research collaboration+	41.2	66	
5.2.2	State of cluster development+	45.6	75	
5.2.3	GERD financed by abroad, % GDP	0.0	68	◇
5.2.4	JV-strategic alliance deals/bn PPP$ GDP	0.0	72	
5.2.5	Patent families 2+ offices/bn PPP$ GDP	0.2	44	
5.3	**Knowledge absorption**	**36.7**	**37**	
5.3.1	Intellectual property payments, % total trade	2.1	12	●
5.3.2	High-tech imports, % total trade	8.5	53	
5.3.3	ICT services imports, % total trade	0.7	95	○
5.3.4	FDI net inflows, % GDP	3.0	54	
5.3.5	Research talent, % in business enterprise 🕘	29.0	43	
KNOWLEDGE & TECHNOLOGY OUTPUTS		**19.9**	**64**	◇
6.1	**Knowledge creation**	**17.4**	**57**	
6.1.1	Patents by origin/bn PPP$ GDP	0.8	69	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.5	34	
6.1.3	Utility models by origin/bn PPP$ GDP	0.2	43	
6.1.4	Scientific & technical articles/bn PPP$ GDP	14.0	38	
6.1.5	Citable documents H-index	24.0	37	
6.2	**Knowledge impact**	**27.6**	**52**	
6.2.1	Growth rate of PPP$ GDP/worker, %	0.6	74	
6.2.2	New businesses/th pop. 15-64	10.3	12	●
6.2.3	Computer software spending, % GDP	0.0	44	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	7.6	34	
6.2.5	High- and medium-high-tech manufacturing, %	21.4	53	
6.3	**Knowledge diffusion**	**14.6**	**98**	○ ◇
6.3.1	Intellectual property receipts, % total trade	0.1	65	
6.3.2	High-tech net exports, % total trade	0.8	71	
6.3.3	ICT services exports, % total trade	0.5	100	○
6.3.4	FDI net outflows, % GDP	1.8	41	
CREATIVE OUTPUTS		**21.6**	**61**	◇
7.1	**Intangible assets**	**29.6**	**53**	
7.1.1	Trademarks by origin/bn PPP$ GDP	68.3	29	
7.1.2	Global brand value, top 5,000, % GDP	43.6	37	
7.1.3	Industrial designs by origin/bn PPP$ GDP	0.1	109	○
7.1.4	ICTs & organizational model creation+	57.8	54	
7.2	**Creative goods and services**	**8.1**	**88**	◇
7.2.1	Cultural & creative services exports, % total trade	0.3	64	
7.2.2	National feature films/mn pop. 15-69	3.7	51	
7.2.3	Entertainment & Media market/th pop. 15-69	14.5	32	◇
7.2.4	Printing and other media, % manufacturing	0.7	79	○
7.2.5	Creative goods exports, % total trade	0.1	88	
7.3	**Online creativity**	**19.2**	**56**	◇
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	2.0	77	◇
7.3.2	Country-code TLDs/th pop. 15-69	13.2	36	
7.3.3	Wikipedia edits/mn pop. 15-69	61.5	51	
7.3.4	Mobile app creation/bn PPP$ GDP	2.2	64	

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; + a survey question. 🕘 indicates that the economy's data are older than the base year; see Appendix II for details, including the year of the data, at http://globalinnovationindex.org. Square brackets [ ] indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level.

DATA AVAILABILITY

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

Missing data

Chile has complete data coverage in the GII 2020.

Outdated data

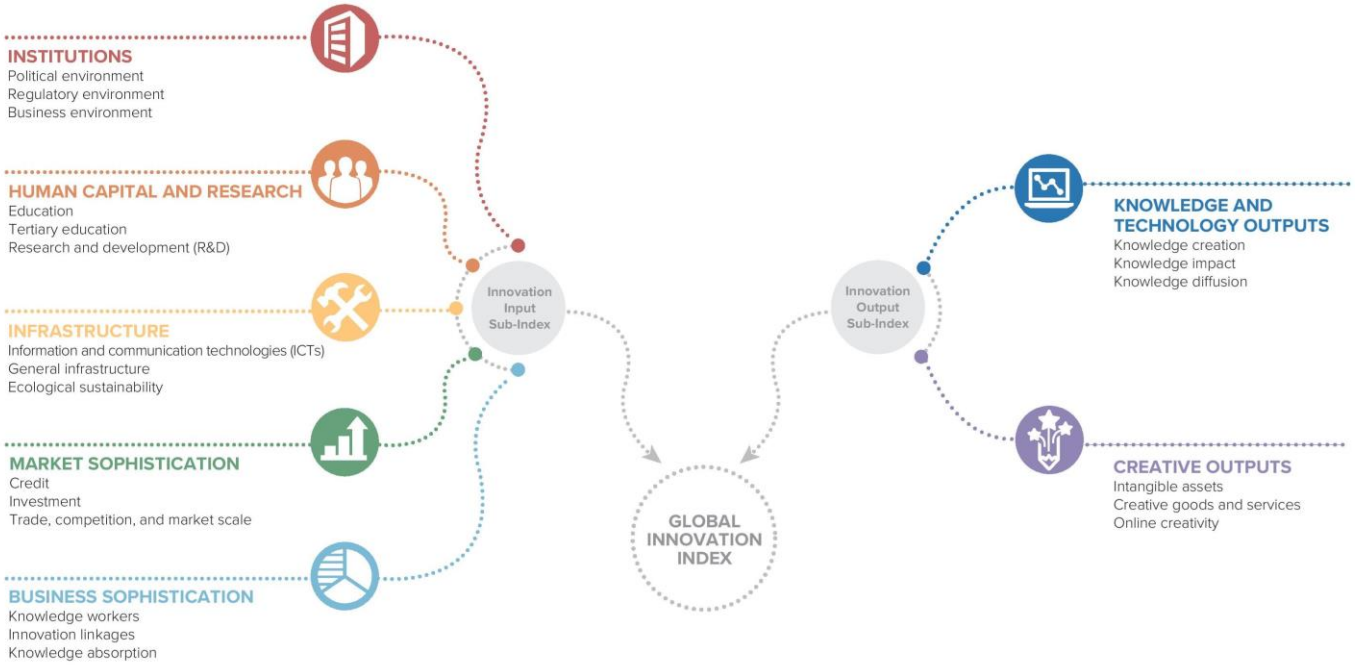
Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	2017	2018	UNESCO Institute for Statistics
2.1.5	Pupil–teacher ratio, secondary	2017	2018	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.1.2	Firms offering formal training, %	2009	2018	World Bank
5.1.3	GERD performed by business, % GDP	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.3.5	Research talent, % in business enterprise	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators

ABOUT THE GLOBAL INNOVATION INDEX

The Global Innovation Index (GII) is co-published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations. In 2020, the GII presents its 13th edition devoted to the theme *Who Will Finance Innovation?*

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.

Framework of the Global Innovation Index 2020



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.