GLOBAL INNOVATION INDEX 2020

SLOVENIA

32nd Slovenia ranks 32nd 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 Slovenia 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 Slovenia in the GII 2020 is between ranks 32 and 33.

Rankings of Slovenia (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	32	29	39
2019	31	33	30
2018	30	31	29

- Slovenia performs better in innovation inputs than innovation outputs in 2020.
- This year Slovenia ranks 29th in innovation inputs, higher than last year and higher compared to 2018.
- As for innovation outputs, Slovenia ranks 39th. This position is lower than last year and lower compared to 2018.

31st Slovenia ranks 31st among the 49 high-income group economies.

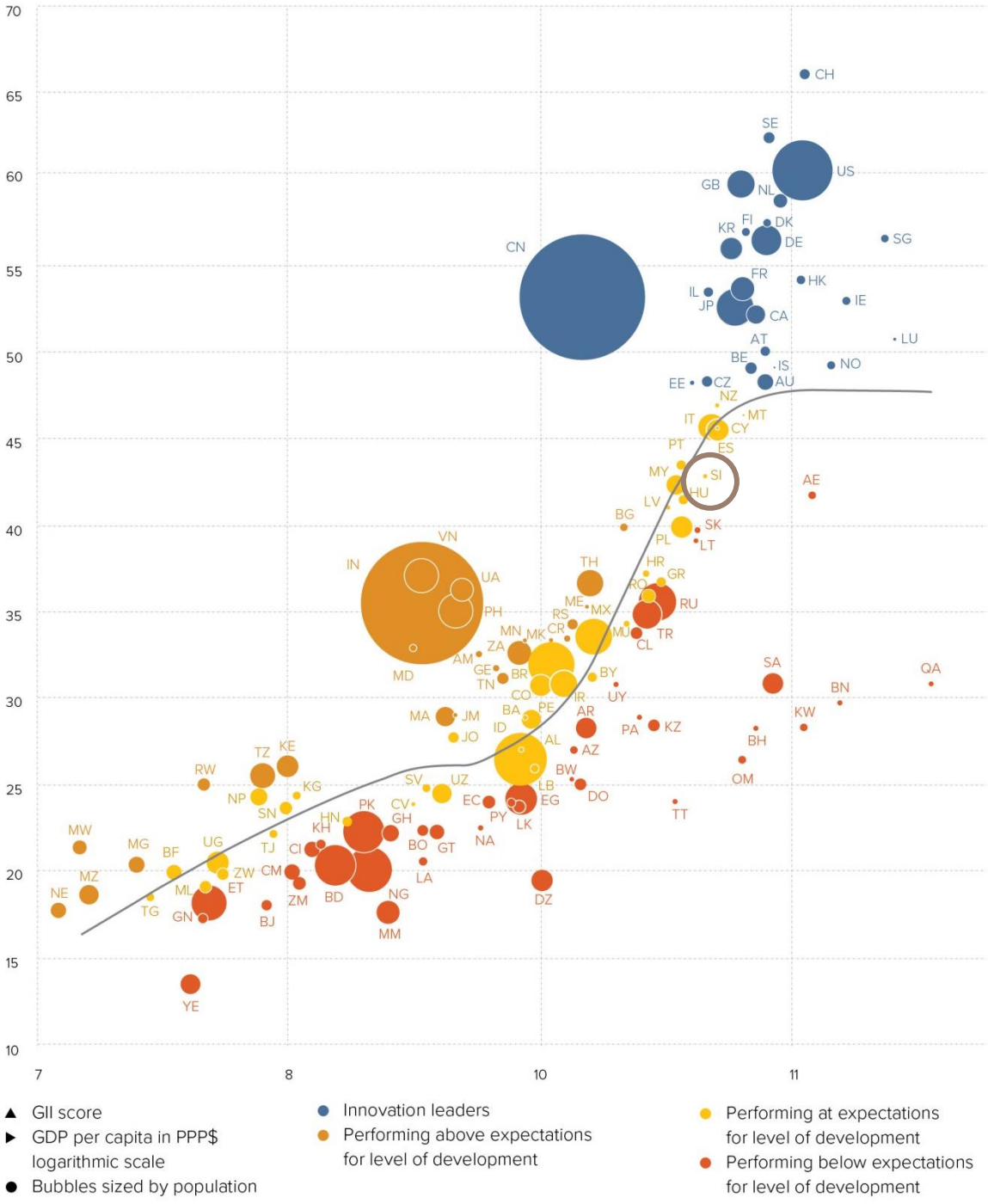
21st Slovenia ranks 21st among the 39 economies in Europe.

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, Slovenia's performance matches expectations for its level of development.

The positive relationship between innovation and development

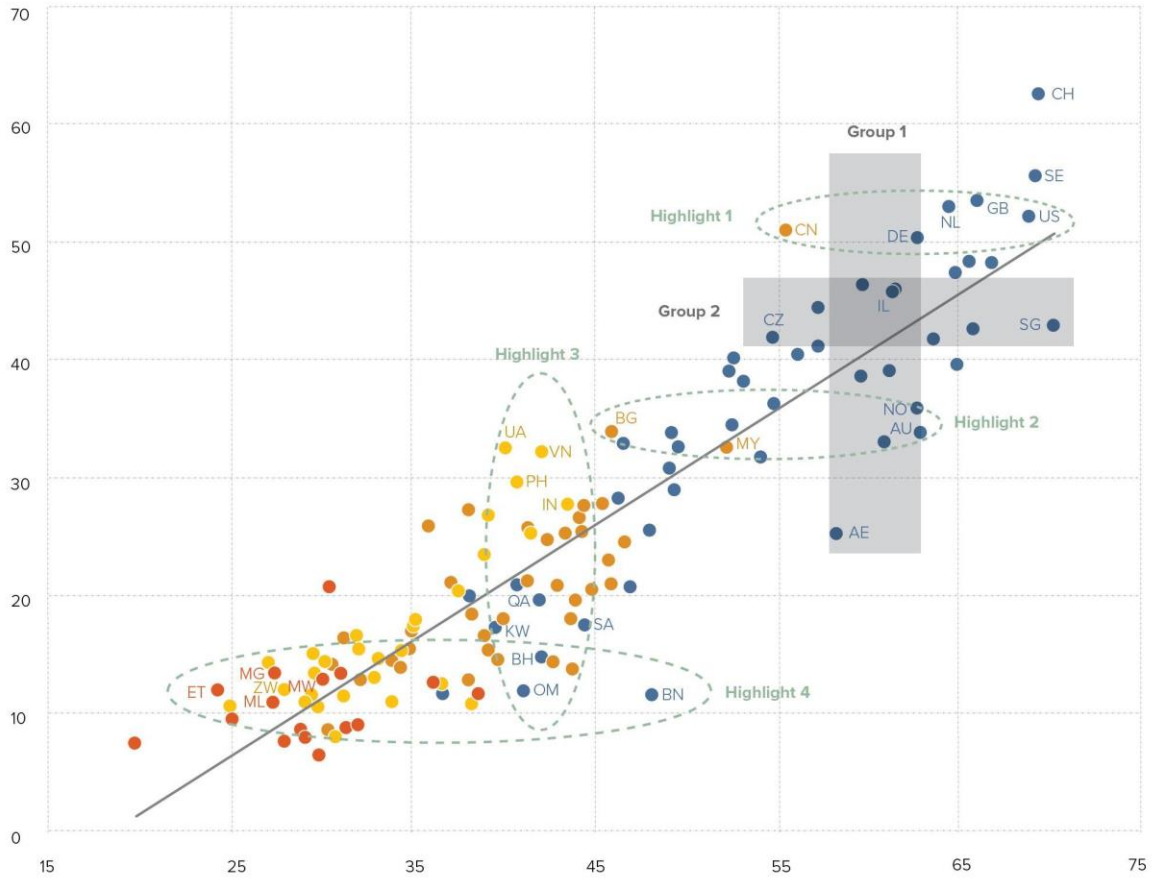


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

Innovation input to output performance, 2020



▲ Output score
► Input score

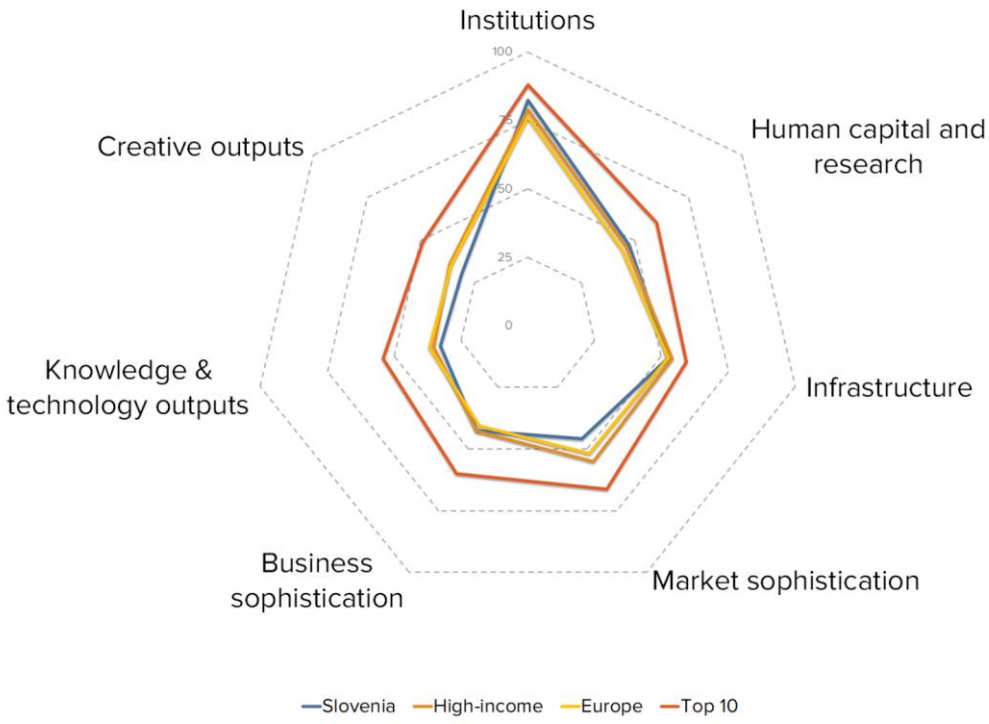
● High income group
● Upper middle-income group
● Lower middle-income group
● Low income group

— 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 SLOVENIA AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND EUROPE

Slovenia's scores in the seven GII pillars



High-income group economies

Slovenia has high scores in two out of the seven GII pillars: Institutions and Human capital & research, which are above average for the high-income group.

Conversely, Slovenia scores below average for its income group in five GII pillars: Infrastructure, Market sophistication, Business sophistication, Knowledge & technology outputs and Creative outputs.

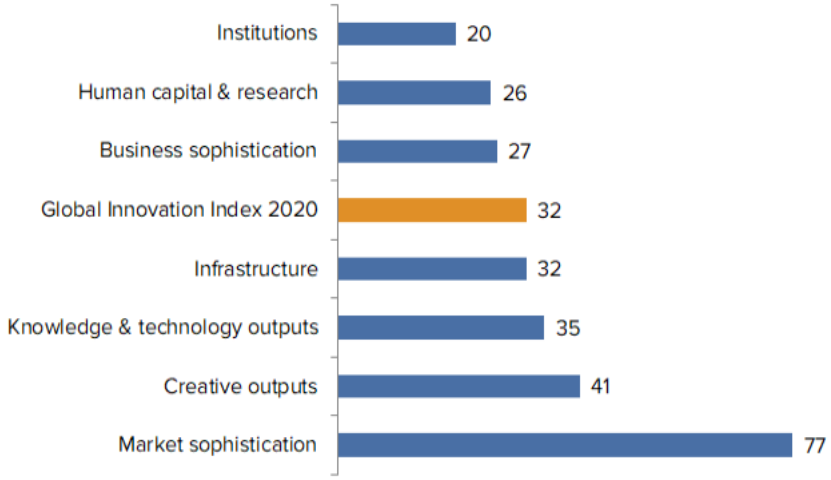
Europe

Compared to other economies in Europe, Slovenia performs:

- above average in four out of the seven GII pillars: Institutions, Human capital & research, Infrastructure and Business sophistication; and
- below average in three out of the seven GII pillars: Market sophistication, Knowledge & technology outputs and Creative outputs.

OVERVIEW OF SLOVENIA RANKINGS IN THE SEVEN GII AREAS

Slovenia performs best in Institutions and its weakest performance is in Market sophistication.



*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 Slovenia in the GII 2020.

Strengths

Code	Indicator name	Rank
1.3	Business environment	7
1.3.2	Ease of resolving insolvency*	8
2.1.3	School life expectancy, years	15
2.1.4	PISA scales in reading, maths, & science	11
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	18
5.1	Knowledge workers	18
5.1.4	GERD financed by business, %	10
5.2.3	GERD financed by abroad, % GDP	13
5.3.5	Research talent, % in business enterprise	11
6.1.4	Scientific & technical articles/bn PPP$ GDP	2
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	8
7.2.2	National feature films/mn pop. 15–69	9

Weaknesses

Code	Indicator name	Rank
3.2.3	Gross capital formation, % GDP	83
4	Market sophistication	77
4.1	Credit	103
4.1.1	Ease of getting credit*	101
4.1.2	Domestic credit to private sector, % GDP	76
4.2.2	Market capitalization, % GDP	64
4.3.3	Domestic market scale, bn PPP$	89
5.2.2	State of cluster development†	73
5.3.2	High-tech imports, % total trade	97
6.1.3	Utility models by origin/bn PPP$ GDP	52
6.2.3	Computer software spending, % GDP	89
7.1.2	Global brand value, top 5000, % GDP	65

STRENGTHS

GII strengths for Slovenia are found in six of the seven GII pillars.

- Institutions (20): exhibits strengths in the sub-pillar Business environment (7), and in the indicator Ease of resolving insolvency (8).
- Human capital & research (26): shows strengths in the indicators School life expectancy (15) and PISA scales in reading, maths, & science (11).
- Infrastructure (32): demonstrates strengths in the indicator ISO 14001 environmental certificates (18).
- Business sophistication (27): displays strengths in the sub-pillar Knowledge workers (18) and in the indicators GERD financed by business (10), GERD financed by abroad (13) and Research talent (11).
- Knowledge & technology outputs (35): reveals strengths in the indicators Scientific & technical articles (2) and ISO 9001 quality certificates (8).
- Creative outputs (41): exhibits strengths in the indicator National feature films (9).

WEAKNESSES

GII weaknesses for Slovenia are found in five of the seven GII pillars.

- Infrastructure (32): displays weaknesses in the indicator Gross capital formation (83).
- Market sophistication (77): shows weaknesses in the sub-pillar Credit (103) and in the indicators Ease of getting credit (101), Domestic credit to private sector (76), Market capitalization (64) and Domestic market scale (89).
- Business sophistication (27): demonstrates weaknesses in the indicators State of cluster development (73) and High-tech imports (97).
- Knowledge & technology outputs (35): reveals weaknesses in the indicators Utility models by origin (52) and Computer software spending (89).
- Creative outputs (41): exhibits weaknesses in the indicator Global brand value (65).

SLOVENIA

GII 2020 rank

32

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2019 rank
39	29	High	EUR	2.1	79.6	33,578.8	31

		Score/Value	Rank	
INSTITUTIONS		**82.4**	**20**	
1.1	**Political environment**	**77.6**	**27**	
1.1.1	Political and operational stability*	82.1	29	
1.1.2	Government effectiveness*	75.3	28	
1.2	**Regulatory environment**	**80.9**	**27**	
1.2.1	Regulatory quality*	60.1	38	
1.2.2	Rule of law*	74.3	26	
1.2.3	Cost of redundancy dismissal, salary weeks	10.7	34	
1.3	**Business environment**	**88.7**	**7**	● ◆
1.3.1	Ease of starting a business*	93.0	39	
1.3.2	Ease of resolving insolvency*	84.4	8	●
HUMAN CAPITAL & RESEARCH		**47.2**	**26**	
2.1	**Education**	**56.6**	**25**	
2.1.1	Expenditure on education, % GDP ⏲	4.8	49	
2.1.2	Government funding/pupil, secondary, % GDP/cap	22.9	29	
2.1.3	School life expectancy, years	17.6	15	●
2.1.4	PISA scales in reading, maths, & science	503.7	11	●
2.1.5	Pupil-teacher ratio, secondary ⏲	9.7	29	
2.2	**Tertiary education**	**44.9**	**29**	
2.2.1	Tertiary enrolment, % gross	78.6	20	
2.2.2	Graduates in science & engineering, %	26.6	29	
2.2.3	Tertiary inbound mobility, %	3.9	60	
2.3	**Research & development (R&D)**	**40.0**	**25**	
2.3.1	Researchers, FTE/mn pop	4,854.6	18	
2.3.2	Gross expenditure on R&D, % GDP	1.9	18	
2.3.3	Global R&D companies, avg. exp. top 3, mn $US	51.3	28	
2.3.4	QS university ranking, average score top 3*	11.6	63	
INFRASTRUCTURE		**52.5**	**32**	
3.1	**Information & communication technologies (ICTs)**	**77.9**	**37**	
3.1.1	ICT access*	81.5	22	
3.1.2	ICT use*	68.9	43	
3.1.3	Government's online service*	79.9	45	
3.1.4	E-participation*	81.5	48	
3.2	**General infrastructure**	**31.4**	**44**	
3.2.1	Electricity output, kWh/mn pop	7,784.0	24	
3.2.2	Logistics performance*	58.4	34	
3.2.3	Gross capital formation, % GDP	21.4	83	○
3.3	**Ecological sustainability**	**48.3**	**21**	
3.3.1	GDP/unit of energy use	9.5	63	
3.3.2	Environmental performance*	72.0	18	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	5.7	18	●
MARKET SOPHISTICATION		**45.7**	**77**	○
4.1	**Credit**	**31.3**	**103**	○ ◇
4.1.1	Ease of getting credit*	45.0	101	○ ◇
4.1.2	Domestic credit to private sector, % GDP	43.2	76	○ ◇
4.1.3	Microfinance gross loans, % GDP	n/a	n/a	
4.2	**Investment**	**41.8**	**55**	
4.2.1	Ease of protecting minority investors*	78.0	18	
4.2.2	Market capitalization, % GDP	12.8	64	○
4.2.3	Venture capital deals/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, competition, and market scale**	**64.0**	**60**	
4.3.1	Applied tariff rate, weighted avg., %	1.7	22	
4.3.2	Intensity of local competition+	73.0	38	
4.3.3	Domestic market scale, bn PPP$	79.6	89	○

		Score/Value	Rank	
BUSINESS SOPHISTICATION		**42.6**	**27**	
5.1	**Knowledge workers**	**59.0**	**18**	●
5.1.1	Knowledge-intensive employment, %	42.6	22	
5.1.2	Firms offering formal training, %	44.0	22	
5.1.3	GERD performed by business, % GDP	1.4	14	
5.1.4	GERD financed by business, %	63.1	10	●
5.1.5	Females employed w/advanced degrees, %	21.1	26	
5.2	**Innovation linkages**	**31.7**	**32**	
5.2.1	University/industry research collaboration+	49.1	42	
5.2.2	State of cluster development+	45.9	73	○
5.2.3	GERD financed by abroad, % GDP	0.2	13	●
5.2.4	JV-strategic alliance deals/bn PPP$ GDP	0.0	46	
5.2.5	Patent families 2+ offices/bn PPP$ GDP	1.3	25	
5.3	**Knowledge absorption**	**37.2**	**36**	
5.3.1	Intellectual property payments, % total trade	0.6	60	
5.3.2	High-tech imports, % total trade	6.0	97	○
5.3.3	ICT services imports, % total trade	1.4	48	
5.3.4	FDI net inflows, % GDP	2.8	60	
5.3.5	Research talent, % in business enterprise	62.1	11	●
KNOWLEDGE & TECHNOLOGY OUTPUTS		**32.7**	**35**	
6.1	**Knowledge creation**	**37.9**	**26**	
6.1.1	Patents by origin/bn PPP$ GDP	4.7	23	
6.1.2	PCT patents by origin/bn PPP$ GDP	1.1	27	
6.1.3	Utility models by origin/bn PPP$ GDP ⏲	0.2	52	○
6.1.4	Scientific & technical articles/bn PPP$ GDP	38.0	2	● ◆
6.1.5	Citable documents H-index	18.7	43	
6.2	**Knowledge impact**	**31.6**	**37**	
6.2.1	Growth rate of PPP$ GDP/worker, %	0.9	63	
6.2.2	New businesses/th pop. 15-64	3.1	45	
6.2.3	Computer software spending, % GDP	0.0	89	○ ◇
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	22.5	8	● ◆
6.2.5	High- and medium-high-tech manufacturing, %	25.1	45	
6.3	**Knowledge diffusion**	**28.7**	**45**	
6.3.1	Intellectual property receipts, % total trade	0.2	41	
6.3.2	High-tech net exports, % total trade	4.8	35	
6.3.3	ICT services exports, % total trade	1.5	71	
6.3.4	FDI net outflows, % GDP	1.1	53	
CREATIVE OUTPUTS		**30.7**	**41**	
7.1	**Intangible assets**	**29.6**	**54**	
7.1.1	Trademarks by origin/bn PPP$ GDP	72.7	28	
7.1.2	Global brand value, top 5,000, % GDP	6.4	65	○ ◇
7.1.3	Industrial designs by origin/bn PPP$ GDP	2.8	40	
7.1.4	ICTs & organizational model creation+	61.9	38	
7.2	**Creative goods and services**	**23.5**	**42**	
7.2.1	Cultural & creative services exports, % total trade	0.8	36	
7.2.2	National feature films/mn pop. 15-69	14.1	9	●
7.2.3	Entertainment & Media market/th pop. 15-69	n/a	n/a	
7.2.4	Printing and other media, % manufacturing	1.5	29	
7.2.5	Creative goods exports, % total trade	0.8	53	
7.3	**Online creativity**	**40.3**	**29**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	20.4	28	
7.3.2	Country-code TLDs/th pop. 15-69	27.8	24	
7.3.3	Wikipedia edits/mn pop. 15-69	82.9	19	
7.3.4	Mobile app creation/bn PPP$ GDP	30.9	18	

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 Slovenia.

Missing data

Code	Indicator name	Country year	Model year	Source
4.1.3	Microfinance gross loans, % GDP	n/a	2018	Microfinance Information Exchange
4.2.3	Venture capital deals/bn PPP$ GDP	n/a	2019	Thomson Reuters
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2018	PwC

Outdated data

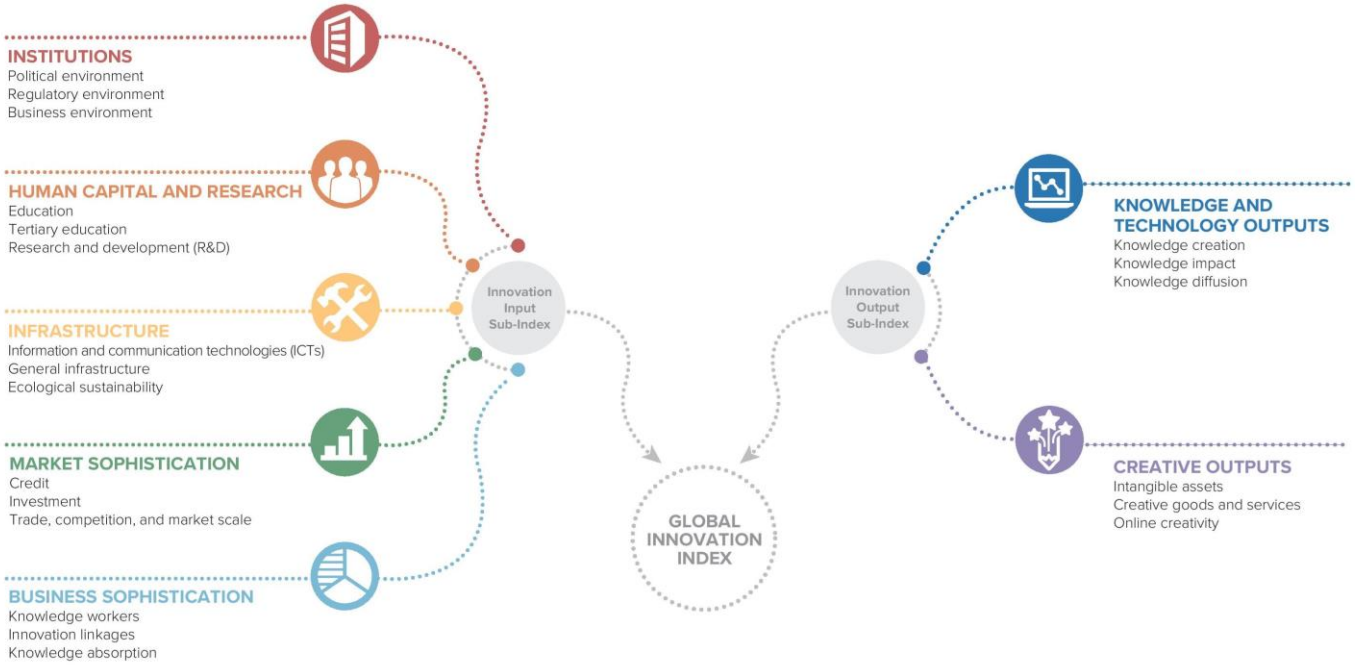
Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	2016	2018	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2016	2018	UNESCO Institute for Statistics
6.1.3	Utility models by origin/bn PPP$ GDP	2010	2018	World Intellectual Property Organization

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.