



Global Innovation Index 2021



SWEDEN

2nd

Sweden ranks 2nd among the 132 economies featured in the GII 2021.

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 Sweden 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 Sweden in the GII 2021 is between ranks 2 and 2.

Rankings for Sweden (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	2	2	2
2020	2	3	2
2019	2	4	3

- Sweden performs equally in innovation inputs and outputs in 2021.
- This year Sweden ranks 2nd in innovation inputs, higher than both 2020 and 2019.
- As for innovation outputs, Sweden ranks 2nd. This position is the same as last year but higher than 2019.

2nd

Sweden ranks 2nd among the 51 high-income group economies.

2nd

Sweden ranks 2nd among the 39 economies in Europe.

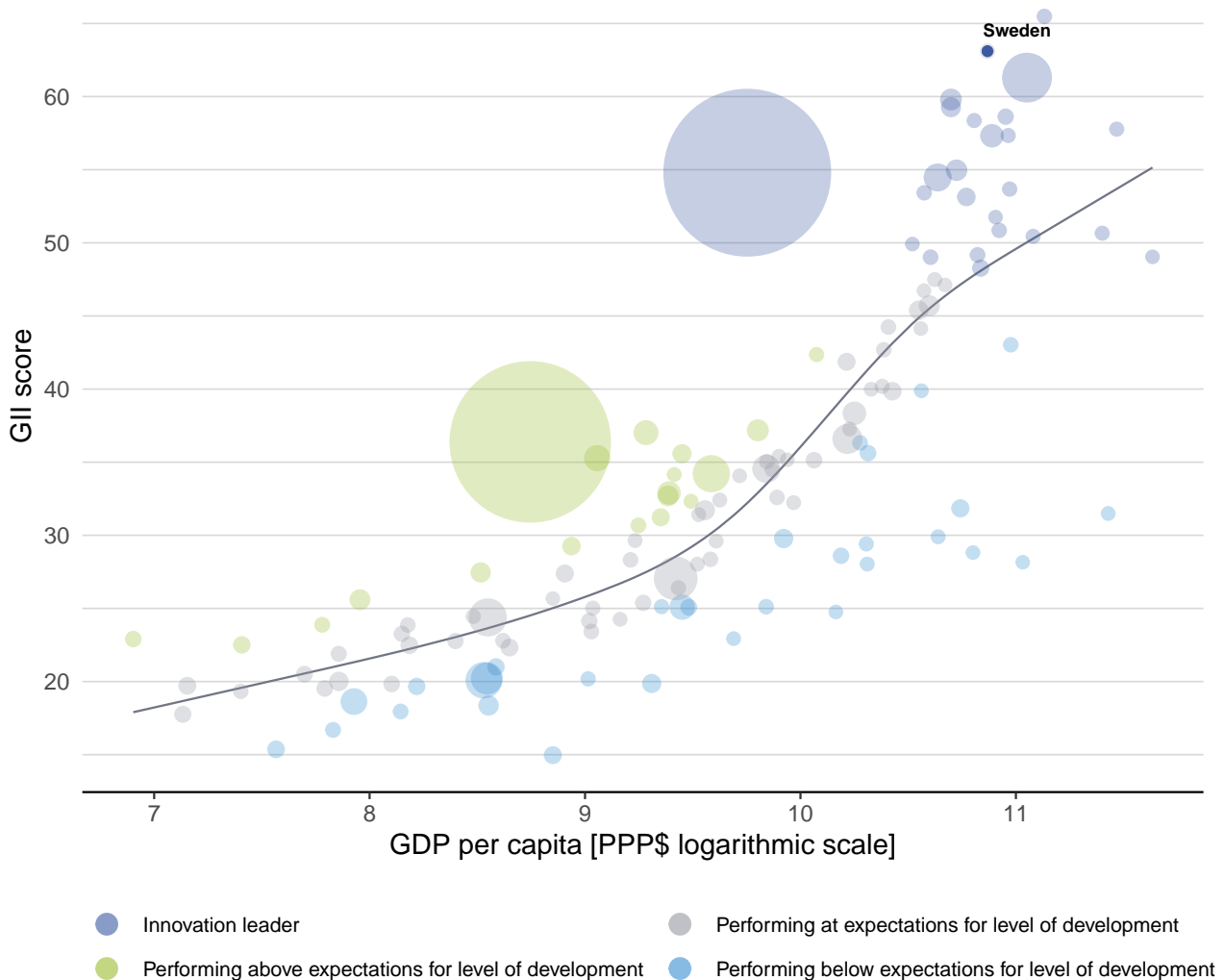


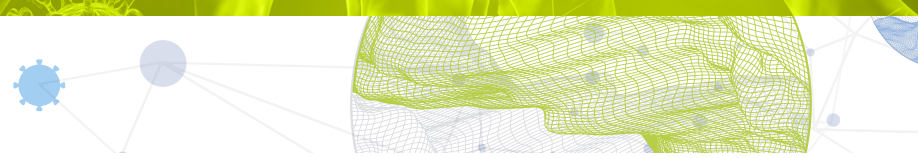
EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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, Sweden's performance is above expectations for its level of development.

The positive relationship between innovation and development



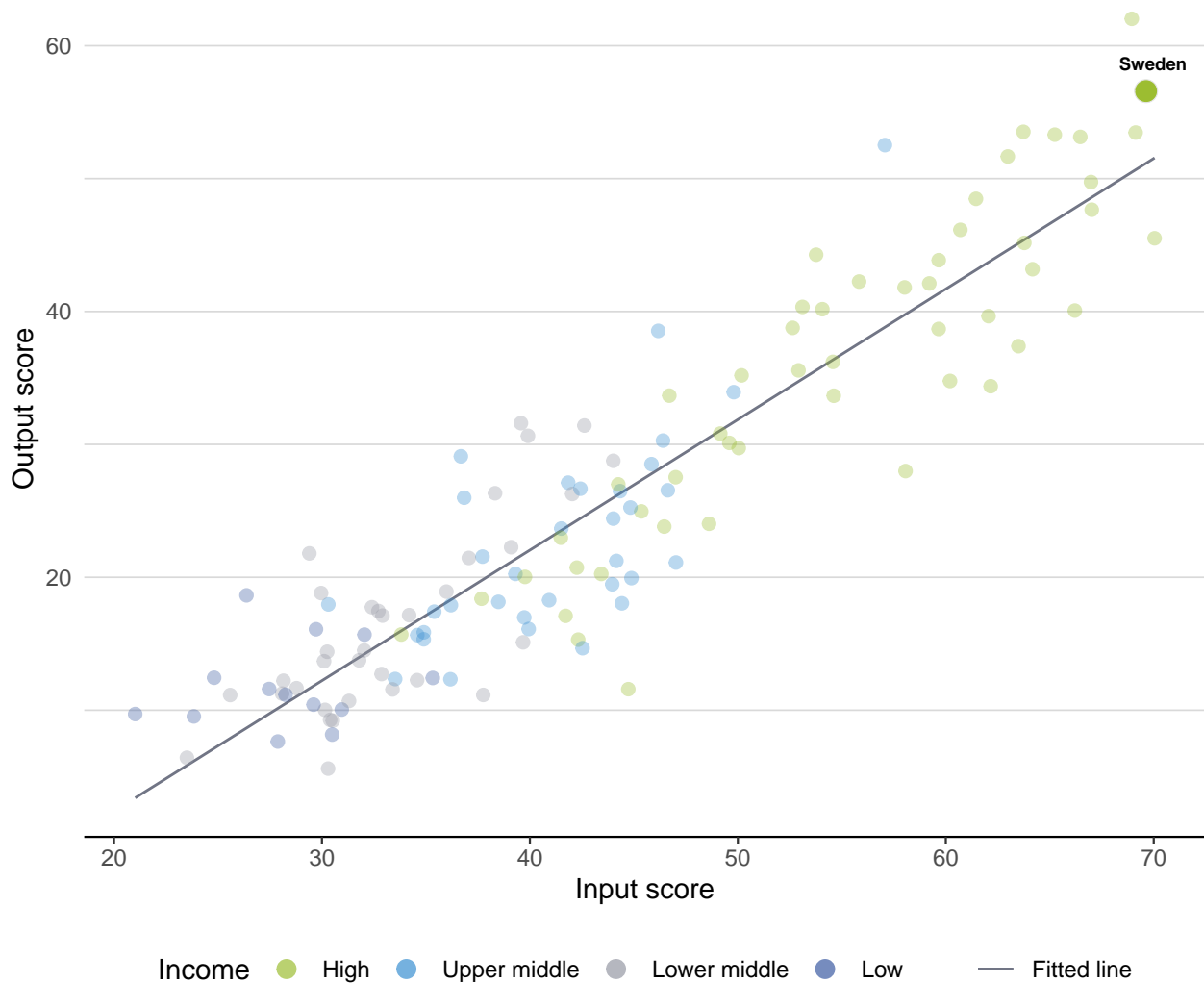


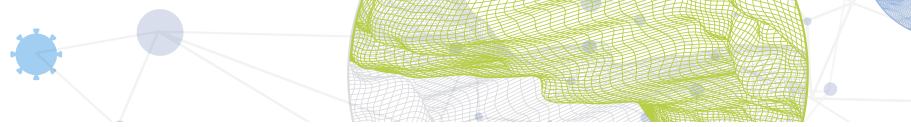
EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

Innovation input to output performance





BENCHMARKING AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND EUROPE

The seven GII pillar scores for Sweden

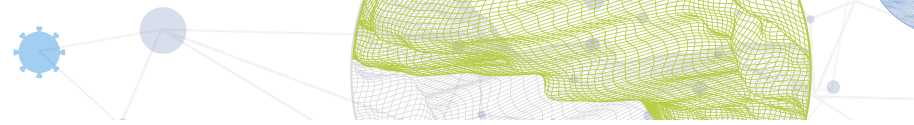


High-income group economies

Sweden performs above the high-income group average in all GII pillars.

Europe

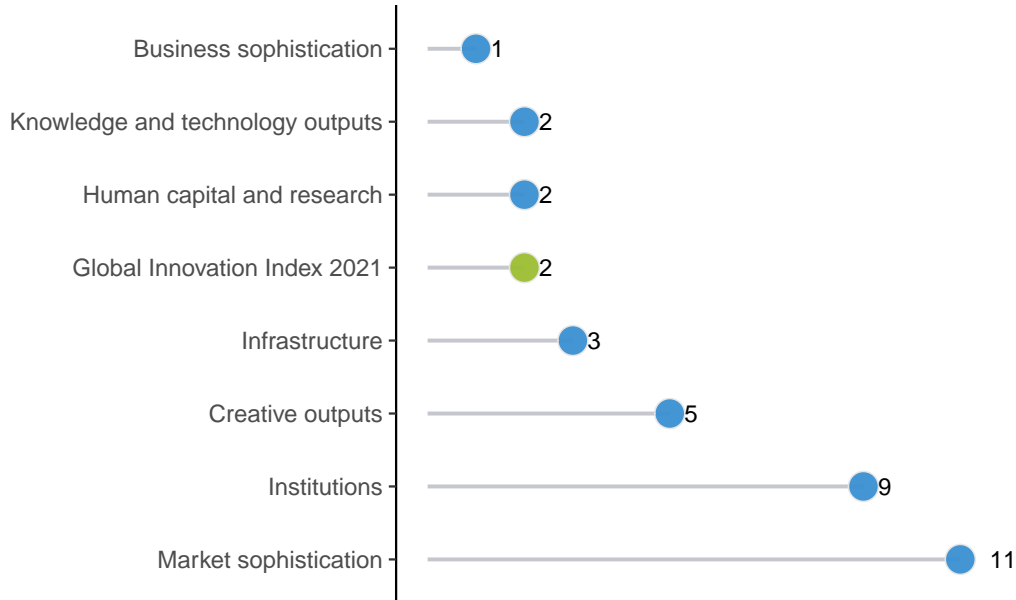
Sweden performs above the regional average in all GII pillars.



OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Sweden performs best in Business sophistication and its weakest performance is in Market sophistication.

The seven GII pillar ranks for Sweden



Note: The highest possible ranking in each pillar is one.




INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Sweden in the GII 2021.

Strengths and weaknesses for Sweden

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
1.2.2	Rule of law	4	1.2.3	Cost of redundancy dismissal	55
2.1	Education	4	2.1.5	Pupil-teacher ratio, secondary	52
2.1.3	School life expectancy, years	3	3.2.3	Gross capital formation, % GDP	52
2.3.1	Researchers, FTE/mn pop.	3	3.3.1	GDP/unit of energy use	58
2.3.2	Gross expenditure on R&D, % GDP	3	4.1.1	Ease of getting credit	74
3.2.2	Logistics performance	2	4.3.1	Applied tariff rate, weighted avg., %	25
5.1	Knowledge workers	3	5.3.2	High-tech imports, % total trade	57
5.1.1	Knowledge-intensive employment, %	3	6.2.1	Labor productivity growth, %	70
5.1.2	Firms offering formal training, %	3	7.1.1	Trademarks by origin/bn PPP\$ GDP	53
5.2	Innovation linkages	2	7.2.4	Printing and other media, % manufacturing	61
5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	4			
5.2.5	Patent families/bn PPP\$ GDP	1			
6.1	Knowledge creation	2			
6.1.2	PCT patents by origin/bn PPP\$ GDP	1			
7.1.2	Global brand value, top 5,000, % GDP	3			
7.1.4	ICTs and organizational model creation	2			

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$	GII 2020 rank
2	2	High	EUR	10.1	551.5	52,477	2

	Score/ Value	Rank		Score/ Value	Rank
 Institutions	88.8	9	 Business sophistication	68.1	1
1.1 Political environment	89.4	8	5.1 Knowledge workers	77.3	3
1.1.1 Political and operational stability*	85.7	11	5.1.1 Knowledge-intensive employment, %	54.4	3
1.1.2 Government effectiveness*	91.3	6	5.1.2 Firms offering formal training, %	70.3	3
1.2 Regulatory environment	90.5	13	5.1.3 GERD performed by business, % GDP	2.4	4
1.2.1 Regulatory quality*	90.6	8	5.1.4 GERD financed by business, %	60.8	12
1.2.2 Rule of law*	97.0	4	5.1.5 Females employed w/advanced degrees, %	26.4	8
1.2.3 Cost of redundancy dismissal	14.4	55	5.2 Innovation linkages	70.3	2
1.3 Business environment	86.3	16	5.2.1 University-industry R&D collaboration†	67.1	11
1.3.1 Ease of starting a business*	93.1	37	5.2.2 State of cluster development and depth†	60.2	25
1.3.2 Ease of resolving insolvency*	79.5	16	5.2.3 GERD financed by abroad, % GDP	0.3	8
Human capital and research	64.1	2	5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP	0.3	4
2.1 Education	74.3	4	5.2.5 Patent families/bn PPP\$ GDP	6.7	1
2.1.1 Expenditure on education, % GDP	7.6	5	5.3 Knowledge absorption	56.6	6
2.1.2 Government funding/pupil, secondary, % GDP/cap	23.4	24	5.3.1 Intellectual property payments, % total trade	2.4	11
2.1.3 School life expectancy, years	19.7	3	5.3.2 High-tech imports, % total trade	8.2	57
2.1.4 PISA scales in reading, maths and science	502.5	14	5.3.3 ICT services imports, % total trade	3.4	5
2.1.5 Pupil-teacher ratio, secondary	12.6	52	5.3.4 FDI net inflows, % GDP	3.0	48
2.2 Tertiary education	43.9	25	5.3.5 Research talent, % in businesses	71.5	5
2.2.1 Tertiary enrolment, % gross	72.5	27	Knowledge and technology outputs	60.3	2
2.2.2 Graduates in science and engineering, %	26.6	30	6.1 Knowledge creation	78.4	2
2.2.3 Tertiary inbound mobility, %	7.2	35	6.1.1 Patents by origin/bn PPP\$ GDP	10.8	8
2.3 Research and development (R&D)	74.1	5	6.1.2 PCT patents by origin/bn PPP\$ GDP	7.9	1
2.3.1 Researchers, FTE/mn pop.	7,734.8	3	6.1.3 Utility models by origin/bn PPP\$ GDP	n/a	n/a
2.3.2 Gross expenditure on R&D, % GDP	3.4	3	6.1.4 Scientific and technical articles/bn PPP\$ GDP	54.4	5
2.3.3 Global corporate R&D investors, top 3, mn US\$	77.9	10	6.1.5 Citable documents H-index	59.4	12
2.3.4 QS university ranking, top 3*	57.8	16	6.2 Knowledge impact	44.1	14
Infrastructure	62.6	3	6.2.1 Labor productivity growth, %	-0.1	70
3.1 Information and communication technologies (ICTs)	84.8	22	6.2.2 New businesses/th pop. 15-64	7.2	22
3.1.1 ICT access*	80.0	33	6.2.3 Software spending, % GDP	0.5	11
3.1.2 ICT use*	87.2	7	6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP	7.5	37
3.1.3 Government's online service*	90.0	15	6.2.5 High-tech manufacturing, %	48.3	15
3.1.4 E-participation*	82.1	41	6.3 Knowledge diffusion	58.4	6
3.2 General infrastructure	53.3	6	6.3.1 Intellectual property receipts, % total trade	3.2	6
3.2.1 Electricity output, GWh/mn pop.	16,383.0	7	6.3.2 Production and export complexity	83.1	8
3.2.2 Logistics performance*	93.1	2	6.3.3 High-tech exports, % total trade	7.2	23
3.2.3 Gross capital formation, % GDP	24.5	52	6.3.4 ICT services exports, % total trade	6.4	8
3.3 Ecological sustainability	49.6	17	Creative outputs	52.9	5
3.3.1 GDP/unit of energy use	11.0	58	7.1 Intangible assets	57.3	8
3.3.2 Environmental performance*	78.7	8	7.1.1 Trademarks by origin/bn PPP\$ GDP	43.9	53
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP	6.7	12	7.1.2 Global brand value, top 5,000, % GDP	221.3	3
Market sophistication	64.6	11	7.1.3 Industrial designs by origin/bn PPP\$ GDP	4.3	27
4.1 Credit	57.6	17	7.1.4 ICTs and organizational model creation†	82.7	2
4.1.1 Ease of getting credit*	60.0	74	7.2 Creative goods and services	33.0	19
4.1.2 Domestic credit to private sector, % GDP	132.7	15	7.2.1 Cultural and creative services exports, % total trade	1.8	11
4.1.3 Microfinance gross loans, % GDP	n/a	n/a	7.2.2 National feature films/mn pop. 15-69	10.0	20
4.2 Investment	54.8	16	7.2.3 Entertainment and media market/th pop. 15-69	57.1	10
4.2.1 Ease of protecting minority investors*	72.0	27	7.2.4 Printing and other media, % manufacturing	0.9	61
4.2.2 Market capitalization, % GDP	n/a	n/a	7.2.5 Creative goods exports, % total trade	1.8	32
4.2.3 Venture capital investors, deals/bn PPP\$ GDP	0.2	12	7.3 Online creativity	63.7	7
4.2.4 Venture capital recipients, deals/bn PPP\$ GDP	0.1	15	7.3.1 Generic top-level domains (TLDs)/th pop. 15-69	43.1	17
4.3 Trade, diversification, and market scale	81.4	24	7.3.2 Country-code TLDs/th pop. 15-69	69.6	7
4.3.1 Applied tariff rate, weighted avg., %	1.8	25	7.3.3 Wikipedia edits/mn pop. 15-69	81.6	8
4.3.2 Domestic industry diversification	96.2	20	7.3.4 Mobile app creation/bn PPP\$ GDP	56.2	9
4.3.3 Domestic market scale, bn PPP\$	551.5	38			

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 IV 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

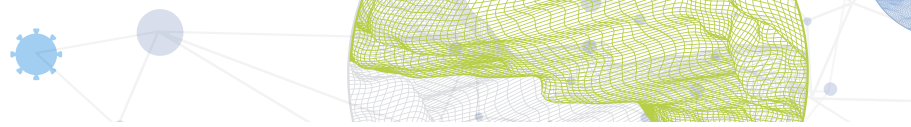
The following tables list data that are either missing or outdated for Sweden.

Missing data for Sweden

Code	Indicator name	Economy year	Model year	Source
4.1.3	Microfinance gross loans, % GDP	n/a	2018	Microfinance Information Exchange
4.2.2	Market capitalization, % GDP	n/a	2019	World Federation of Exchanges
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2019	World Intellectual Property Organization

Outdated data for Sweden

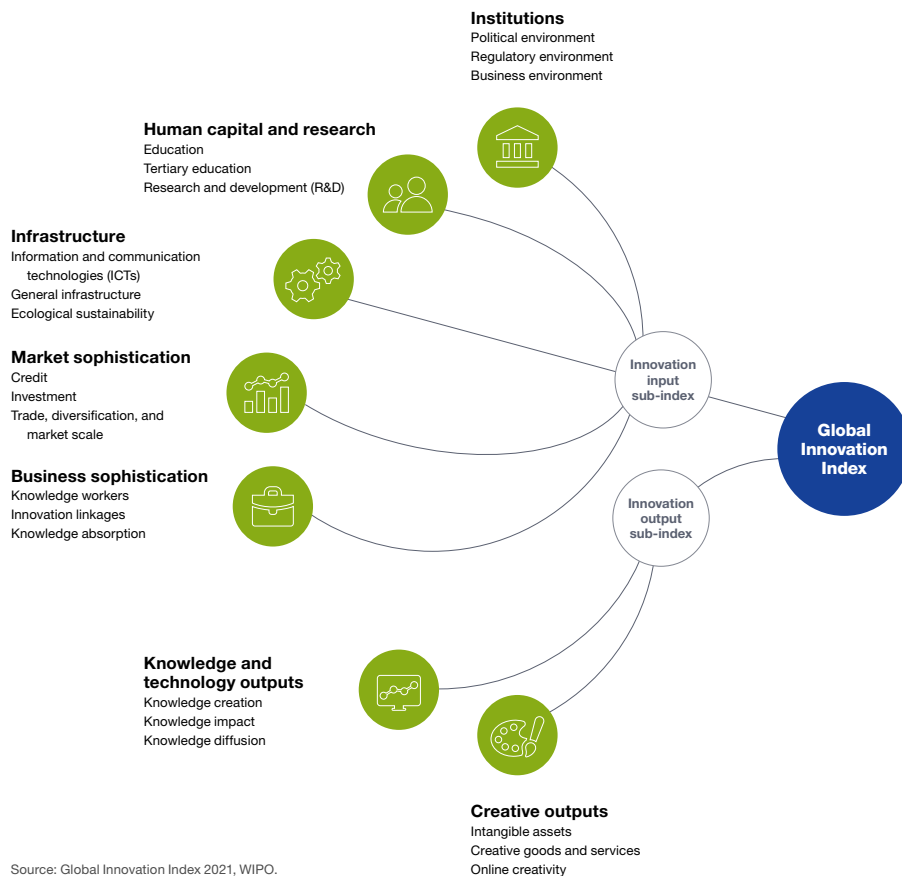
Code	Indicator name	Economy year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	2018	2019	UNESCO Institute for Statistics
5.1.2	Firms offering formal training, %	2014	2019	World Bank
5.1.4	GERD financed by business, %	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.2.3	GERD financed by abroad, % GDP	2017	2018	UNESCO Institute for Statistics



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.