



DENMARK

6th

Denmark ranks 6th among the 131 economies featured in the GI 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 GI aims to capture the multi-dimensional facets of innovation.

The following table shows the rankings of Denmark over the past three years, noting that data availability and changes to the GI model framework influence year-on-year comparisons of the GI rankings.

The statistical confidence interval for the ranking of Denmark in the GI 2020 is between ranks 6 and 8.

Rankings of Denmark (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	6	5	9
2019	7	5	12
2018	8	7	13

- Denmark performs better in innovation inputs than innovation outputs in 2020.
- This year Denmark ranks 5th in innovation inputs, the same as last year and higher compared to 2018.
- As for innovation outputs, Denmark ranks 9th. This position is higher than last year and higher compared to 2018.

6th

Denmark ranks 6th among the 49 high-income group economies.

5th

Denmark ranks 5th among the 39 economies in Europe.

SH 2020

Relative to GDP, Denmark is performing above expectations for its level of development.

▲ GLI score
 ► GDP per capita in PPP\$ logarithmic scale
 ● Bubbles sized by population

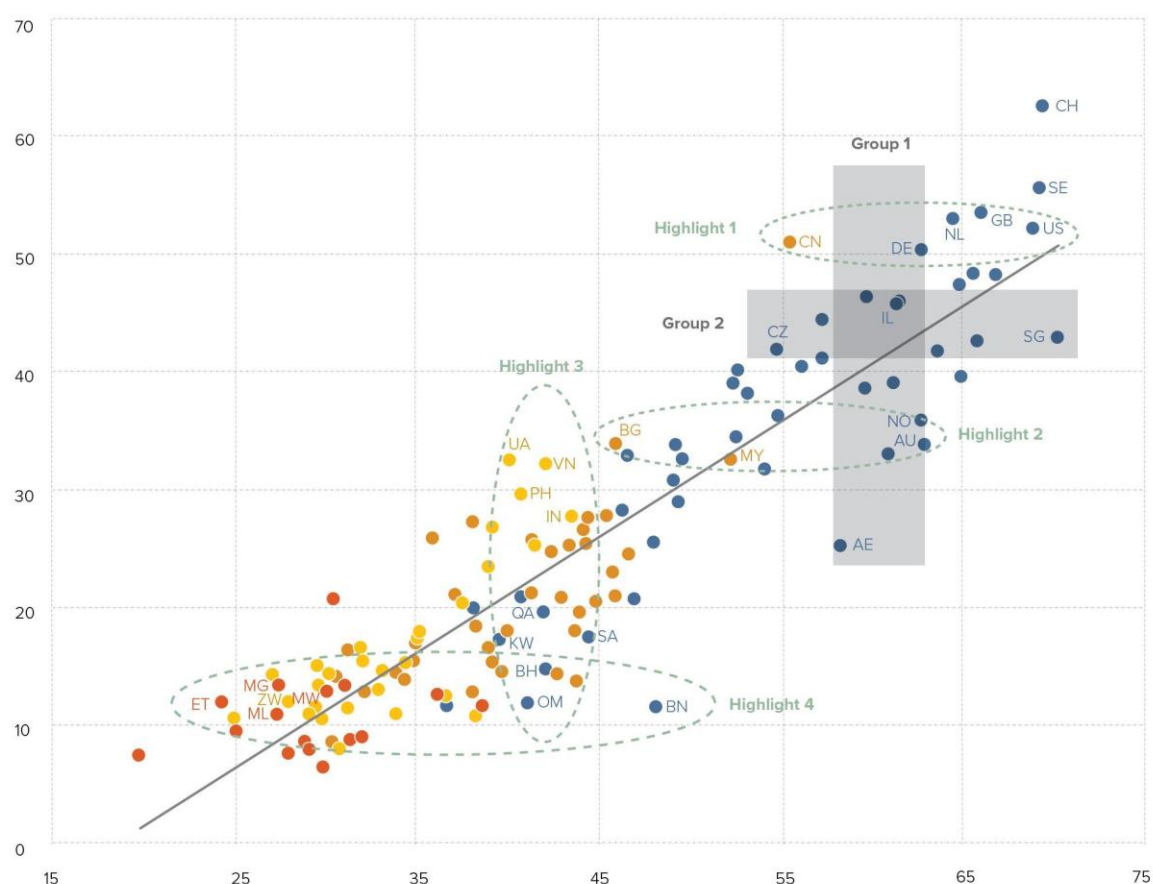
● Innovation leaders
 ● Performing above expectations for level of development
 ● Performing below expectations for level of development

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.

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

Innovation input to output performance, 2020

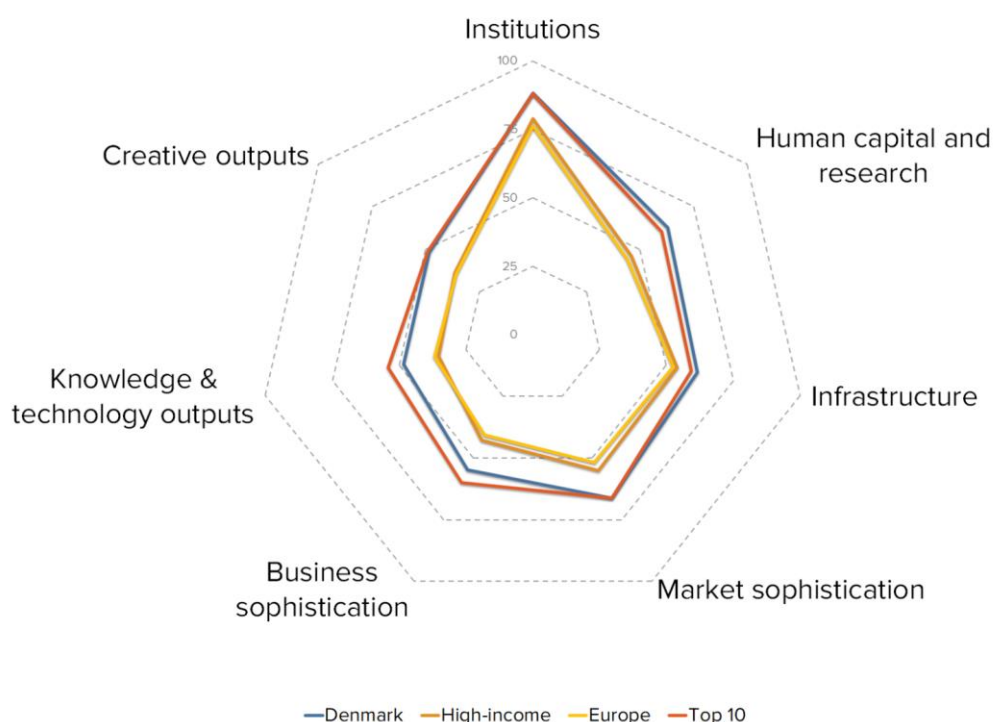


- ▲ Output score
- Input score
- High income group
- Lower middle-income group
- Upper middle-income group
- Low income group
- Fitted values

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 DENMARK AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND EUROPE

Denmark's scores in the seven GII pillars



High-income group economies

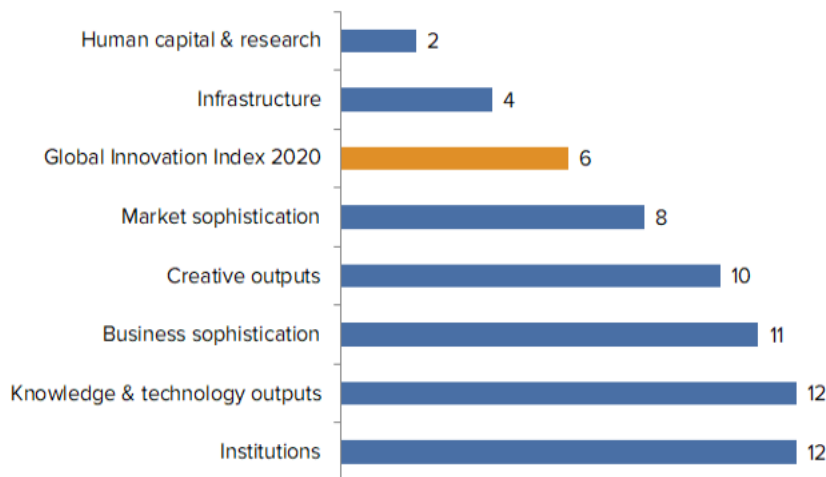
Denmark has high scores in all seven GII pillars that are above average for the high-income group.

Europe

Compared to other economies in Europe, Denmark performs above average in all seven GII pillars.

OVERVIEW OF DENMARK RANKINGS IN THE SEVEN GII AREAS

Denmark performs best in Human capital & research and its weakest performance is in Institutions and 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 Denmark in the GII 2020.

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
1.1	Political environment	5	1.2.3	Cost of redundancy dismissal, salary weeks	78
1.1.2	Government effectiveness*	6	2.2.2	Graduates in science & engineering, %	65
1.3	Business environment	6	3.2.3	Gross capital formation, % GDP	63
1.3.2	Ease of resolving insolvency*	6	4.1.1	Ease of getting credit*	44
2	Human capital & research	2	5.3.2	High-tech imports, % total trade	100
2.1	Education	3	5.3.4	FDI net inflows, % GDP	104
2.1.1	Expenditure on education, % GDP	4	6.1.3	Utility models by origin/bn PPP\$ GDP	44
2.3.1	Researchers, FTE/mn pop.	2	6.2.1	Growth rate of PPP\$ GDP/worker, %	65
3	Infrastructure	4	7.1.1	Trademarks by origin/bn PPP\$ GDP	65
3.1	Information & communication technologies (ICTs)	3	7.2.4	Printing & other media, % manufacturing	60
3.1.2	ICT use*	1			
3.1.3	Government's online service*	1			
3.1.4	E-participation*	1			
3.3.2	Environmental performance*	1			
4.1.2	Domestic credit to private sector, % GDP	5			
6.1.4	Scientific & technical articles/bn PPP\$ GDP	1			
7.3	Online creativity	4			
7.3.2	Country-code TLDs/th pop. 15–69	1			

STRENGTHS

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

- Institutions (12): exhibits strengths in the sub-pillars Political environment (5) and Business environment (6) and in the indicators Government effectiveness (6) and Ease of resolving insolvency (6).
- Human capital & research (2): shows strengths in the sub-pillar Education (3) and in the indicators Expenditure on education (4) and Researchers (2).
- Infrastructure (4): demonstrates strengths in the sub-pillar Information & communication technologies (ICTs) (3) and in the indicators ICT use (1), Government's online service (1), E-participation (1) and Environmental performance (1).
- Market sophistication (8): the indicator Domestic credit to private sector (5) is a strength.
- Knowledge & technology outputs (12): the indicator Scientific & technical articles (1) is a strength.
- Creative outputs (10): has strengths in the sub-pillar Online creativity (4) and in the indicator Country-code TLDs (1).

WEAKNESSES

GII weaknesses for Denmark are found in all seven GII pillars.

- Institutions (12): the indicator Cost of redundancy dismissal (78) is a weakness.
- Human capital & research (2): the indicator Graduates in science & engineering (65) is a weakness.
- Infrastructure (4): the indicator Gross capital formation (63) is a weakness.
- Market sophistication (8): the indicator Ease of getting credit (44) is a weakness.
- Business sophistication (11): demonstrates weaknesses in the indicators High-tech imports (100) and FDI net inflows (104).
- Knowledge & technology outputs (12): displays weaknesses in the indicators Utility models by origin (44) and Growth rate of GDP per worker (65).
- Creative outputs (10): has weaknesses in the indicators Trademarks by origin (65) and Printing and other media (60).

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2019 rank
9	5	High	EUR	5.8	312.8	47,040.4	7
Score/Value Rank				Score/Value Rank			
INSTITUTIONS 88.3 12				BUSINESS SOPHISTICATION 54.8 11			
1.1	Political environment	91.7	5 ●	5.1	Knowledge workers	65.6	9
1.1.1	Political and operational stability*.....	91.1	5	5.1.1	Knowledge-intensive employment, %.....	47.0	13
1.1.2	Government effectiveness*.....	92.0	6 ●	5.1.2	Firms offering formal training, %.....	n/a	n/a
				5.1.3	GERD performed by business, % GDP.....	1.9	10
1.2	Regulatory environment	84.5	19	5.1.4	GERD financed by business, %.....	58.5	13
1.2.1	Regulatory quality*.....	86.0	13	5.1.5	Females employed w/advanced degrees, %.....	22.5	20
1.2.2	Rule of law*.....	94.5	8				
1.2.3	Cost of redundancy dismissal, salary weeks.....	18.8	78 ○	5.2	Innovation linkages	57.8	9
1.3	Business environment	88.9	6 ●	5.2.1	University/industry research collaboration*.....	69.1	10
1.3.1	Ease of starting a business*.....	92.7	42	5.2.2	State of cluster development.....	67.1	12
1.3.2	Ease of resolving insolvency*.....	85.1	6 ●	5.2.3	GERD financed by abroad, % GDP.....	0.3	11
				5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....	0.2	15
				5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....	4.0	12
HUMAN CAPITAL & RESEARCH 62.9 2 ● ◆				5.3	Knowledge absorption	40.9	28
2.1	Education	71.6	3 ● ◆	5.3.1	Intellectual property payments, % total trade.....	0.9	40
2.1.1	Expenditure on education, % GDP.....	7.6	4 ● ◆	5.3.2	High-tech imports, % total trade.....	5.8	100 ○
2.1.2	Government funding/pupil, secondary, % GDP/cap.....	31.1	10 ◆	5.3.3	ICT services imports, % total trade.....	3.1	8 ◆
2.1.3	School life expectancy, years.....	18.9	7	5.3.4	FDI net inflows, % GDP.....	1.3	104 ○
2.1.4	PISA scales in reading, maths, & science.....	501.1	17	5.3.5	Research talent, % in business enterprise.....	60.5	14
2.1.5	Pupil-teacher ratio, secondary.....	11.3	48				
2.2	Tertiary education	45.3	26	KNOWLEDGE & TECHNOLOGY OUTPUTS 48.3 12			
2.2.1	Tertiary enrolment, % gross.....	80.6	18	6.1	Knowledge creation	62.0	10
2.2.2	Graduates in science & engineering, %.....	21.0	65 ○	6.1.1	Patents by origin/bn PPP\$ GDP.....	12.1	8
2.2.3	Tertiary inbound mobility, %.....	10.8	17	6.1.2	PCT patents by origin/bn PPP\$ GDP.....	4.6	8
2.3	Research & development (R&D)	71.8	8 ● ◆	6.1.3	Utility models by origin/bn PPP\$ GDP.....	0.2	44 ○
2.3.1	Researchers, FTE/mn pop.....	8,065.9	2 ● ◆	6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	38.2	1 ● ◆
2.3.2	Gross expenditure on R&D, % GDP.....	3.1	8	6.1.5	Citable documents H-index.....	50.4	15
2.3.3	Global R&D companies, avg. exp. top 3, mn \$US.....	71.3	15	6.2	Knowledge impact	40.3	18
2.3.4	QS university ranking, average score top 3*.....	57.4	15	6.2.1	Growth rate of PPP\$ GDP/worker, %.....	0.8	65 ○
				6.2.2	New businesses/th pop. 15-64.....	10.0	16
				6.2.3	Computer software spending, % GDP.....	0.0	12
				6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	7.4	36
				6.2.5	High- and medium-high-tech manufacturing, %.....	42.2	20
INFRASTRUCTURE 61.5 4 ● ◆				6.3	Knowledge diffusion	42.5	25
3.1	Information & communication technologies (ICTs)	92.4	3 ● ◆	6.3.1	Intellectual property receipts, % total trade.....	1.8	13
3.1.1	ICT access*.....	79.5	32	6.3.2	High-tech net exports, % total trade.....	5.3	31
3.1.2	ICT use*.....	90.3	1 ● ◆	6.3.3	ICT services exports, % total trade.....	2.7	37
3.1.3	Government's online service*.....	100.0	1 ● ◆	6.3.4	FDI net outflows, % GDP.....	2.8	22
3.1.4	E-participation*.....	100.0	1 ●				
3.2	General infrastructure	38.6	27	CREATIVE OUTPUTS 48.3 10			
3.2.1	Electricity output, kWh/mn pop.....	5,179.9	40	7.1	Intangible assets	45.8	19
3.2.2	Logistics performance*.....	90.2	8	7.1.1	Trademarks by origin/bn PPP\$ GDP.....	40.9	65 ○
3.2.3	Gross capital formation, % GDP.....	23.6	63 ○	7.1.2	Global brand value, top 5,000, % GDP.....	131.1	14
3.3	Ecological sustainability	53.6	16 ◆	7.1.3	Industrial designs by origin/bn PPP\$ GDP.....	6.5	20
3.3.1	GDP/unit of energy use.....	15.9	11	7.1.4	ICTs & organizational model creation*.....	78.9	7
3.3.2	Environmental performance*.....	82.5	1 ●				
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....	3.3	29	7.2	Creative goods and services	33.1	20
MARKET SOPHISTICATION 66.3 8				7.2.1	Cultural & creative services exports, % total trade.....	0.6	43
4.1	Credit	72.0	7	7.2.2	National feature films/mn pop. 15-69.....	13.4	10
4.1.1	Ease of getting credit*.....	70.0	44 ○	7.2.3	Entertainment & Media market/th pop. 15-69.....	81.6	4 ◆
4.1.2	Domestic credit to private sector, % GDP.....	163.4	5 ●	7.2.4	Printing and other media, % manufacturing.....	1.0	60 ○
4.1.3	Microfinance gross loans, % GDP.....	n/a	n/a	7.2.5	Creative goods exports, % total trade.....	1.5	35
4.2	Investment	58.3	16	7.3	Online creativity	68.6	4 ●
4.2.1	Ease of protecting minority investors*.....	72.0	27	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....	48.6	16
4.2.2	Market capitalization, % GDP.....	n/a	n/a	7.3.2	Country-code TLDs/th pop. 15-69.....	100.0	1 ● ◆
4.2.3	Venture capital deals/bn PPP\$ GDP.....	0.2	12	7.3.3	Wikipedia edits/mn pop. 15-69.....	83.2	17
4.3	Trade, competition, and market scale	68.6	38	7.3.4	Mobile app creation/bn PPP\$ GDP.....	43.6	12
4.3.1	Applied tariff rate, weighted avg., %.....	1.7	22				
4.3.2	Intensity of local competition*.....	70.9	50				
4.3.3	Domestic market scale, bn PPP\$.....	312.8	56				

NOTES: ● indicates a strength; ○ a weakness; ◆ a strength relative to the other top 25-ranked GII economies; ◇ a weakness relative to the other top 25-ranked GII economies; * 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 Denmark.

Missing data

Code	Indicator name	Country year	Model year	Source
4.1.3	Microfinance gross loans, % GDP	n/a	2018	Microfinance Information Exchange
4.2.2	Market capitalization, % GDP	n/a	2018	World Federation of Exchanges
5.1.2	Firms offering formal training, %	n/a	2018	World Bank

Outdated data

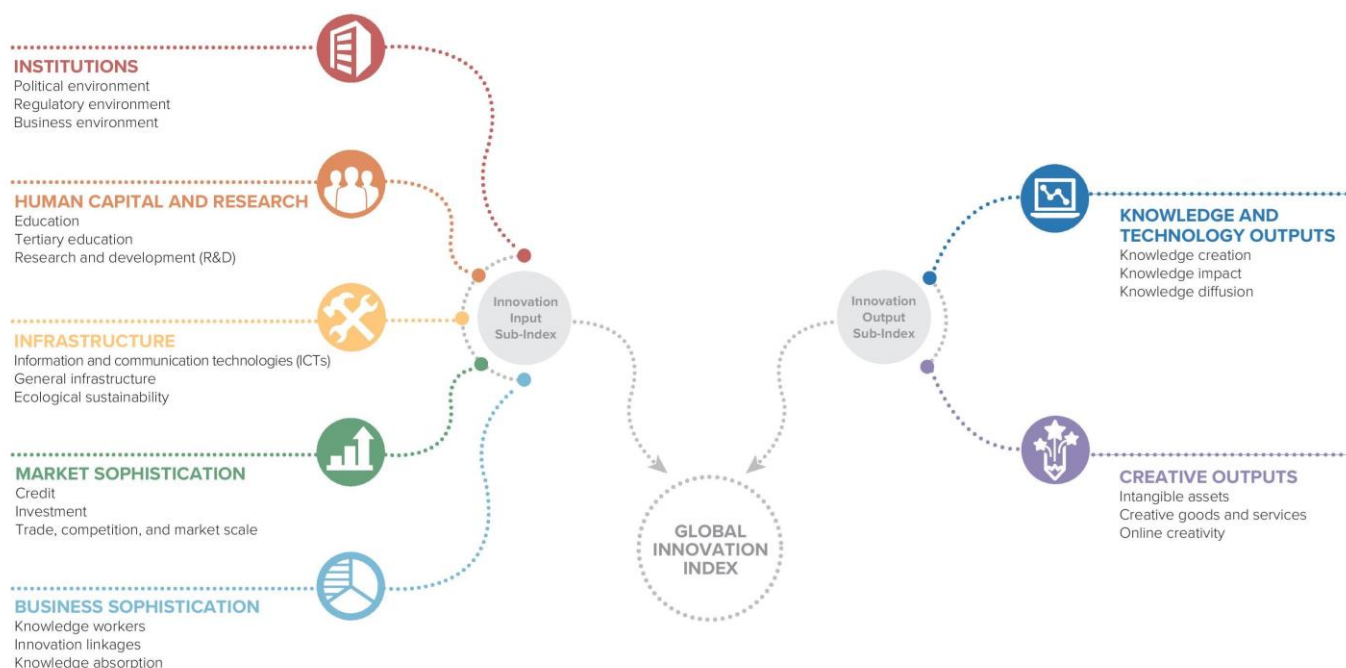
Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	2014	2018	UNESCO Institute for Statistics
2.1.2	Government funding/pupil, secondary, % GDP/cap	2014	2016	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2014	2018	UNESCO Institute for Statistics
7.2.4	Printing & other media, % manufacturing	2016	2017	United Nations Industrial Development 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.



www.globalinnovationindex.org



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