

FRANCE

12th

France ranks 12th 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 France 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 France in the GII 2020 is between ranks 11 and 15.

Rankings of France (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	12	16	12
2019	16	16	14
2018	16	16	16

- France performs better in innovation outputs than innovation inputs in 2020.
- This year France ranks 16th in innovation inputs – the same rank as the last two years.
- As for innovation outputs, France ranks 12th. This position is higher than last year and compared to 2018.

12th

France ranks 12th among the 49 high-income group economies.

8th

France ranks 8th among the 39 economies in Europe.

France ranks 12th in the GII this year, moving up four spots from last year, thanks to a combination of performance improvements and changes to the GII model. The country stands out for its balanced innovation profile, while also being very effective in translating its efforts and investments into innovation outcomes.

France shows its best rankings in those GII areas that measure creativity and human capital and research systems, where it achieves 7th place in R&D-intensive global companies and 12th place in R&D expenditures. In the area of creativity, where France registers the largest gains this year, it retains its 9th spot in Trademarks and ranks 5th in the new GII indicator, Global brand value. With 205 brands in the top 5,000, some of France's most valuable brands include Total (oil and gas industry), Orange (telecoms), Axa (insurance), BNP Paribas (banking) and Cartier (luxury apparel).

Overall, France ranks within the top 10 in nine indicators. Important areas of strength relate to the quality of its infrastructures – in particular its ICT infrastructures and Environmental performance – and also the Intensity of local competition and the size of its domestic market. This year, France has improved in several areas, including R&D expenditures financed by businesses, High-technology manufacturing, and Research talent in business enterprises, in which it attains the 10th spot.

In terms of the quality of innovation, the country retains its 9th position, thanks to ranking 5th in the Quality of scientific publications and 11th in the Quality of universities indicators.

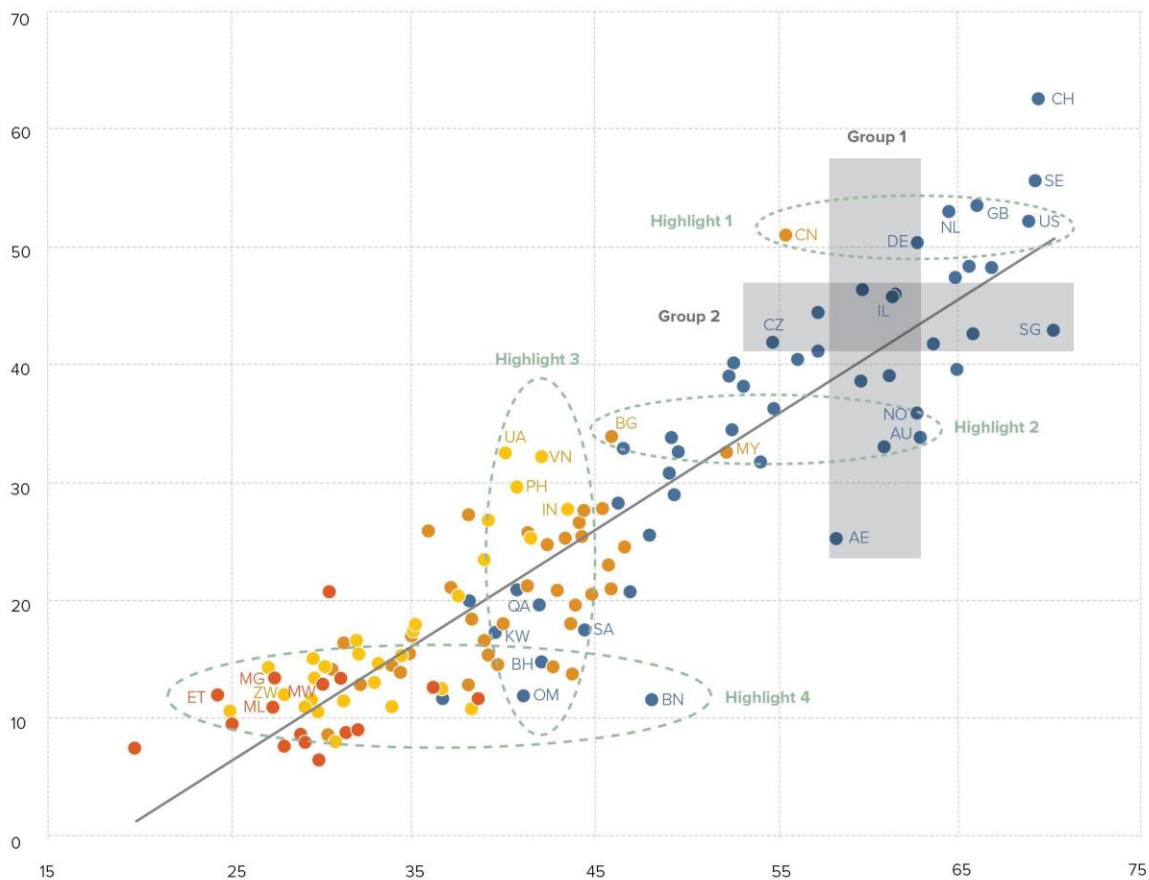
France hosts five of the top 100 science and technology clusters, with Paris ranked 10th worldwide.

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.

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

Innovation input to output performance, 2020

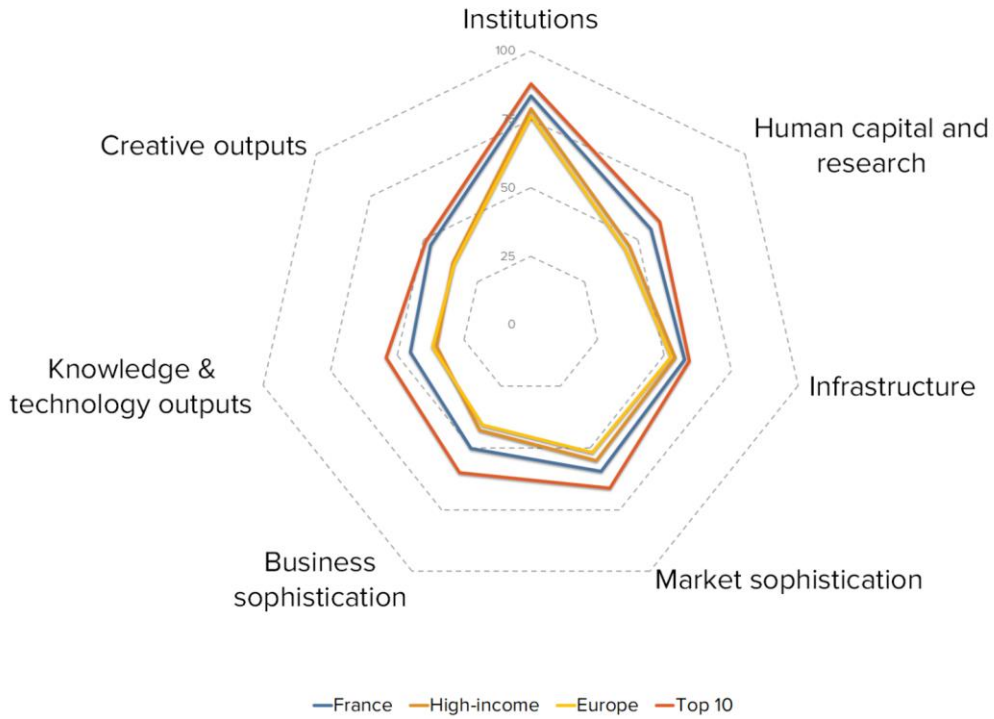


▲ Output score ● High income group ● Lower middle-income group — Fitted values
 ► Input score ● Upper middle-income group ● Low income group

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 FRANCE AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND EUROPE

France's scores in the seven GII pillars



High-income group economies

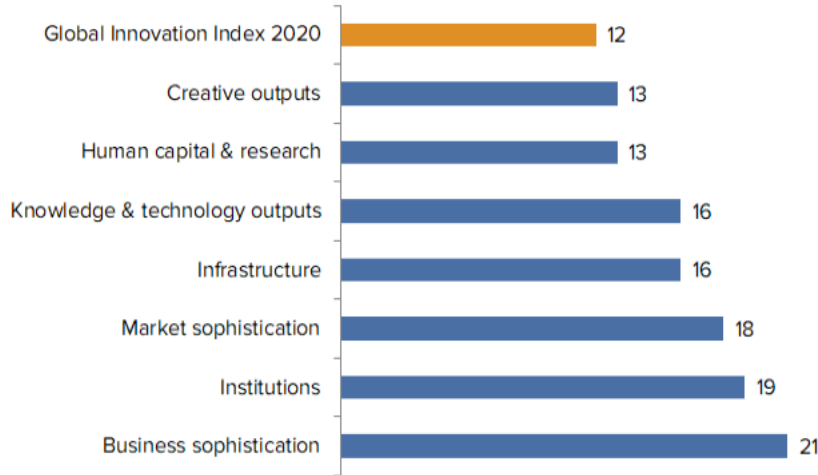
France has high scores in all seven GII pillars, which are above average for the high-income group.

Europe

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

OVERVIEW OF FRANCE RANKINGS IN THE SEVEN GII AREAS

France performs best in Creative outputs and Human capital & research and its weakest performance is in Business 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 France in the GII 2020.

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
2.3.3	Global R&D companies, top 3, mn US\$	7	2.1.5	Pupil-teacher ratio, secondary	60
2.3.4	QS university ranking, average score top 3*	11	3.2.3	Gross capital formation, % GDP	66
3.1	Information & communication technologies (ICTs)	6	3.3.1	GDP/unit of energy use	48
3.1.1	ICT access*	10	4.1.1	Ease of getting credit*	94
3.1.3	Government's online service*	4	4.2.1	Ease of protecting minority investors*	44
3.3.2	Environmental performance*	5	4.3.1	Applied tariff rate, weighted avg., %	22
4.3	Trade, competition, and market scale	5	5.3.4	FDI net inflows, % GDP	93
4.3.2	Intensity of local competition†	8	6.1.3	Utility models by origin/bn PPP\$ GDP	57
4.3.3	Domestic market scale, bn PPP\$	10	6.2.1	Growth rate of PPP\$ GDP/worker, %	68
6.1.5	Citable documents H index	5	7.2.4	Printing & other media, % manufacturing	61
7.1	Intangible assets	6			
7.1.1	Trademarks by origin/bn PPP\$ GDP	9			
7.1.2	Global brand value, top 5000, % GDP	5			

NOTES: * indicates an index; † indicates a survey question. Strengths and weaknesses are listed for pillars and/or sub-pillars where the data minimum coverage (DMC) requirements were not met. For the sake of caution, these ranks are shown in square brackets [] in the country profile. This is to ensure that incomplete data coverage does not lead to erroneous conclusions being made about strengths or weaknesses, in particular about strong or weak sub-pillar rankings.

STRENGTHS

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

- Human capital & research (13): shows strengths in the indicators R&D-intensive global companies (7) and Quality of universities (11).
- Infrastructure (16): demonstrates strengths in the sub-pillar Information & communication technologies (ICTs) (6) and in the indicators ICT access (10), Government's online service (4) and Environmental performance (5).
- Market sophistication (18): displays strengths in the sub-pillar Trade, competition, and market scale (5) and in two of its three indicators – Intensity of local competition (8) and Domestic market scale (10).
- Knowledge & technology outputs (16): the indicator Quality of scientific publications (5) reveals a strength.
- Creative outputs (13): shows strengths in the sub-pillar Intangible assets (6) and in two of its four indicators; namely, Trademarks by origin (9) and Global brand value (5).

WEAKNESSES

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

- Human capital & research (13): the indicator Pupil–teacher ratio (60) reveals a weakness.
- Infrastructure (16): displays weaknesses in the indicators Gross capital formation (66) and GDP/unit of energy use (48).
- Market sophistication (18): shows weaknesses in three indicators: Ease of getting credit (94), Ease of protecting minority investors (44) and Applied tariff rate (22).
- Business sophistication (21): the indicator FDI net inflows (93) reveals a weakness.
- Knowledge & technology outputs (16): demonstrates weaknesses in the indicators Utility models by origin (57) and Productivity growth (68).
- Creative outputs (13): the indicator Printing & other media (61) displays a weakness.

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2019 rank
12	16	High	EUR	65.1	3,061.1	41,226.7	16
		Score/Value	Rank				
		Score/Value	Rank				
INSTITUTIONS				83.7	19		
1.1	Political environment	82.9	20				
1.1.1	Political and operational stability*.....	82.1	29				
1.1.2	Government effectiveness*.....	83.2	16				
1.2	Regulatory environment	84.3	20				
1.2.1	Regulatory quality*.....	72.7	27				
1.2.2	Rule of law*.....	84.2	20				
1.2.3	Cost of redundancy dismissal, salary weeks.....	13.0	40				
1.3	Business environment	83.9	22				
1.3.1	Ease of starting a business*.....	93.1	35				
1.3.2	Ease of resolving insolvency*.....	74.6	24				
HUMAN CAPITAL & RESEARCH				56.2	13		
2.1	Education	58.7	15				
2.1.1	Expenditure on education, % GDP.....	5.3	30				
2.1.2	Government funding/pupil, secondary, % GDP/cap.....	n/a	n/a				
2.1.3	School life expectancy, years.....	15.6	39				
2.1.4	PISA scales in reading, maths, & science.....	493.7	25				
2.1.5	Pupil-teacher ratio, secondary.....	12.9	60				
2.2	Tertiary education	45.4	24				
2.2.1	Tertiary enrolment, % gross.....	65.6	37				
2.2.2	Graduates in science & engineering, %.....	25.6	33				
2.2.3	Tertiary inbound mobility, %.....	10.2	19				
2.3	Research & development (R&D)	64.4	12				
2.3.1	Researchers, FTE/mn pop.....	4,715.3	19				
2.3.2	Gross expenditure on R&D, % GDP.....	2.2	12				
2.3.3	Global R&D companies, avg. exp. top 3, mn \$US.....	87.2	7				
2.3.4	QS university ranking, average score top 3*.....	69.6	11				
INFRASTRUCTURE				57.7	16		
3.1	Information & communication technologies (ICTs)	90.8	6				
3.1.1	ICT access*.....	85.7	10				
3.1.2	ICT use*.....	82.8	14				
3.1.3	Government's online service*.....	97.9	4				
3.1.4	E-participation*.....	96.6	13				
3.2	General infrastructure	39.7	23				
3.2.1	Electricity output, kWh/mn pop.....	8,558.1	19				
3.2.2	Logistics performance*.....	83.3	16				
3.2.3	Gross capital formation, % GDP.....	23.3	66				
3.3	Ecological sustainability	42.5	33				
3.3.1	GDP/unit of energy use.....	10.5	48				
3.3.2	Environmental performance*.....	80.0	5				
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....	2.0	42				
MARKET SOPHISTICATION				59.4	18		
4.1	Credit	48.2	42				
4.1.1	Ease of getting credit*.....	50.0	94				
4.1.2	Domestic credit to private sector, % GDP.....	104.7	23				
4.1.3	Microfinance gross loans, % GDP.....	n/a	n/a				
4.2	Investment	48.8	27				
4.2.1	Ease of protecting minority investors*.....	68.0	44				
4.2.2	Market capitalization, % GDP.....	93.0	13				
4.2.3	Venture capital deals/bn PPP\$ GDP.....	0.2	15				
4.3	Trade, competition, and market scale	81.2	5				
4.3.1	Applied tariff rate, weighted avg., %.....	1.7	22				
4.3.2	Intensity of local competition*.....	80.0	8				
4.3.3	Domestic market scale, bn PPP\$.....	3,061.1	10				
BUSINESS SOPHISTICATION				50.2	21		
5.1	Knowledge workers	60.6	14				
5.1.1	Knowledge-intensive employment, %.....	45.6	16				
5.1.2	Firms offering formal training, %.....	n/a	n/a				
5.1.3	GERD performed by business, % GDP.....	1.4	15				
5.1.4	GERD financed by business, %.....	56.1	17				
5.1.5	Females employed w/advanced degrees, %.....	22.5	21				
5.2	Innovation linkages	42.0	24				
5.2.1	University/industry research collaboration*.....	58.5	26				
5.2.2	State of cluster development*.....	62.1	23				
5.2.3	GERD financed by abroad, % GDP.....	0.2	23				
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....	0.1	26				
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....	3.2	16				
5.3	Knowledge absorption	48.1	19				
5.3.1	Intellectual property payments, % total trade.....	1.8	15				
5.3.2	High-tech imports, % total trade.....	9.4	41				
5.3.3	ICT services imports, % total trade.....	2.2	22				
5.3.4	FDI net inflows, % GDP.....	1.6	93				
5.3.5	Research talent, % in business enterprise.....	62.3	10				
KNOWLEDGE & TECHNOLOGY OUTPUTS				45.1	16		
6.1	Knowledge creation	46.8	18				
6.1.1	Patents by origin/bn PPP\$ GDP.....	8.3	13				
6.1.2	PCT patents by origin/bn PPP\$ GDP.....	2.6	13				
6.1.3	Utility models by origin/bn PPP\$ GDP.....	0.1	57				
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	16.4	36				
6.1.5	Citable documents H-index.....	79.3	5				
6.2	Knowledge impact	39.4	20				
6.2.1	Growth rate of PPP\$ GDP/worker, %.....	0.7	68				
6.2.2	New businesses/th pop. 15-64.....	4.8	31				
6.2.3	Computer software spending, % GDP.....	0.0	11				
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	7.1	37				
6.2.5	High- and medium-high-tech manufacturing, %.....	47.2	12				
6.3	Knowledge diffusion	49.1	13				
6.3.1	Intellectual property receipts, % total trade.....	1.9	11				
6.3.2	High-tech net exports, % total trade.....	12.9	11				
6.3.3	ICT services exports, % total trade.....	2.3	48				
6.3.4	FDI net outflows, % GDP.....	3.2	20				
CREATIVE OUTPUTS				46.7	13		
7.1	Intangible assets	56.4	6				
7.1.1	Trademarks by origin/bn PPP\$ GDP.....	103.9	9				
7.1.2	Global brand value, top 5,000, % GDP.....	178.0	5				
7.1.3	Industrial designs by origin/bn PPP\$ GDP.....	6.3	21				
7.1.4	ICTs & organizational model creation*.....	70.9	19				
7.2	Creative goods and services	28.4	31				
7.2.1	Cultural & creative services exports, % total trade.....	1.3	19				
7.2.2	National feature films/mn pop. 15-69.....	6.8	33				
7.2.3	Entertainment & Media market/th pop. 15-69.....	53.3	15				
7.2.4	Printing and other media, % manufacturing.....	1.0	61				
7.2.5	Creative goods exports, % total trade.....	1.7	32				
7.3	Online creativity	45.6	25				
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....	40.5	18				
7.3.2	Country-code TLDs/th pop. 15-69.....	23.7	27				
7.3.3	Wikipedia edits/mn pop. 15-69.....	86.1	12				
7.3.4	Mobile app creation/bn PPP\$ GDP.....	32.9	16				

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; * a non-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 France.

Missing data

Code	Indicator name	Country year	Model year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2016	UNESCO Institute for Statistics
4.1.3	Microfinance gross loans, % GDP	n/a	2018	Microfinance Information Exchange
5.1.2	Firms offering formal training, %	n/a	2018	World Bank

Outdated data

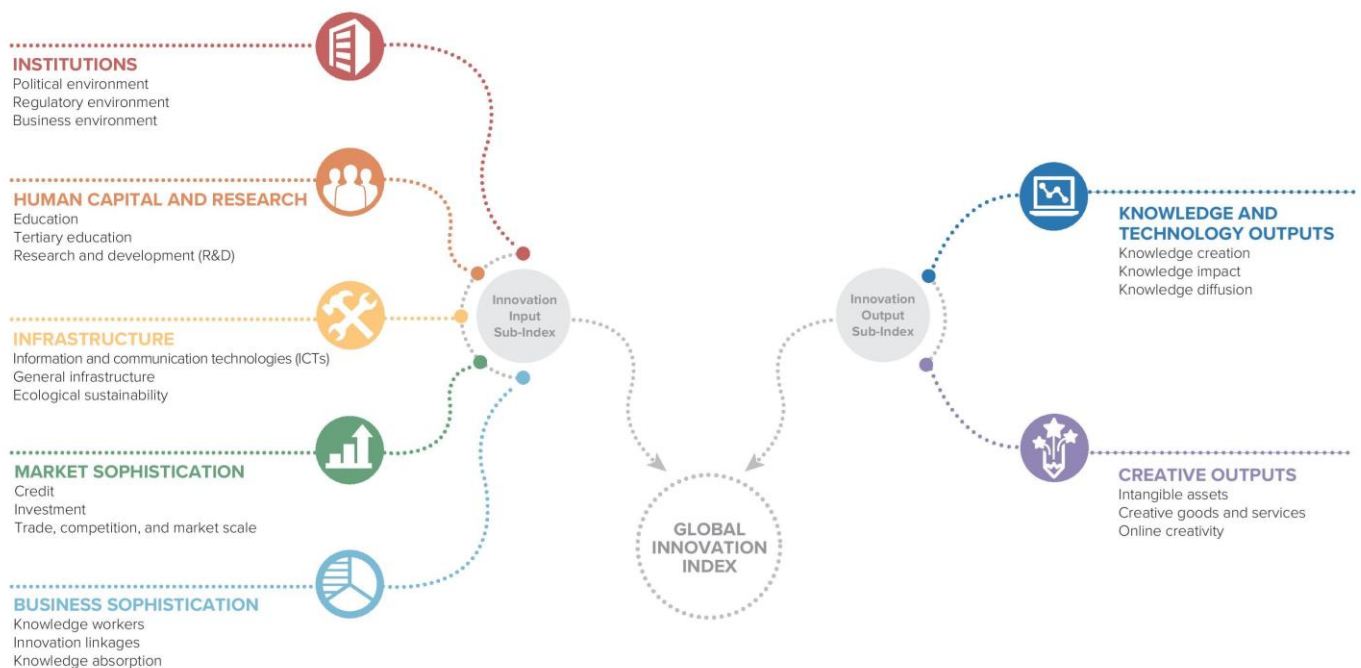
Code	Indicator name	Country year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	2013	2018	UNESCO Institute for Statistics
2.2.2	Graduates in science & engineering, %	2016	2017	UNESCO Institute for Statistics

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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