GLOBAL INNOVATION INDEX 2020

UNITED STATES OF AMERICA

3rd The United States of America ranks 3rd 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 the United States of America 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 the United States of America in the GII 2020 is between ranks 3 and 6.

Rankings of the United States of America (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	3	4	5
2019	3	3	6
2018	6	6	7

- The United States of America performs better in innovation inputs than innovation outputs in 2020.
- This year the United States of America ranks 4th in innovation inputs, lower than last year and higher compared to 2018.
- As for innovation outputs, the United States of America ranks 5th. This position is higher than last year and higher compared to 2018.

3rd The United States of America ranks 3rd among the 49 high-income group economies.

1st The United States of America ranks 1st among the 2 economies in Northern America.

The United States of America (U.S.) ranks 3rd in the GII this year, retaining the same position as in 2019. It also places 3rd among the high-income group economies and 1st in Northern America.

The U.S. ranks 4th worldwide in the new GII indicator, Global brand value, hosting 1,359 of the top 5,000 brands with the highest brand value worldwide, including Amazon, Google, and Apple. Together, the top three brands are valued at over US$521 billion.

The U.S. also places 1st globally according to the quality of innovation metric thanks to its strong performance in generating new technological innovations, its excellent higher education system and its high-quality research. The U.S. ranks 1st in the world for the quality of its universities, with Massachusetts Institute of Technology (MIT) (1st), Stanford University (2nd), and Harvard University (3rd) placing as the top 3 highest ranking universities globally.

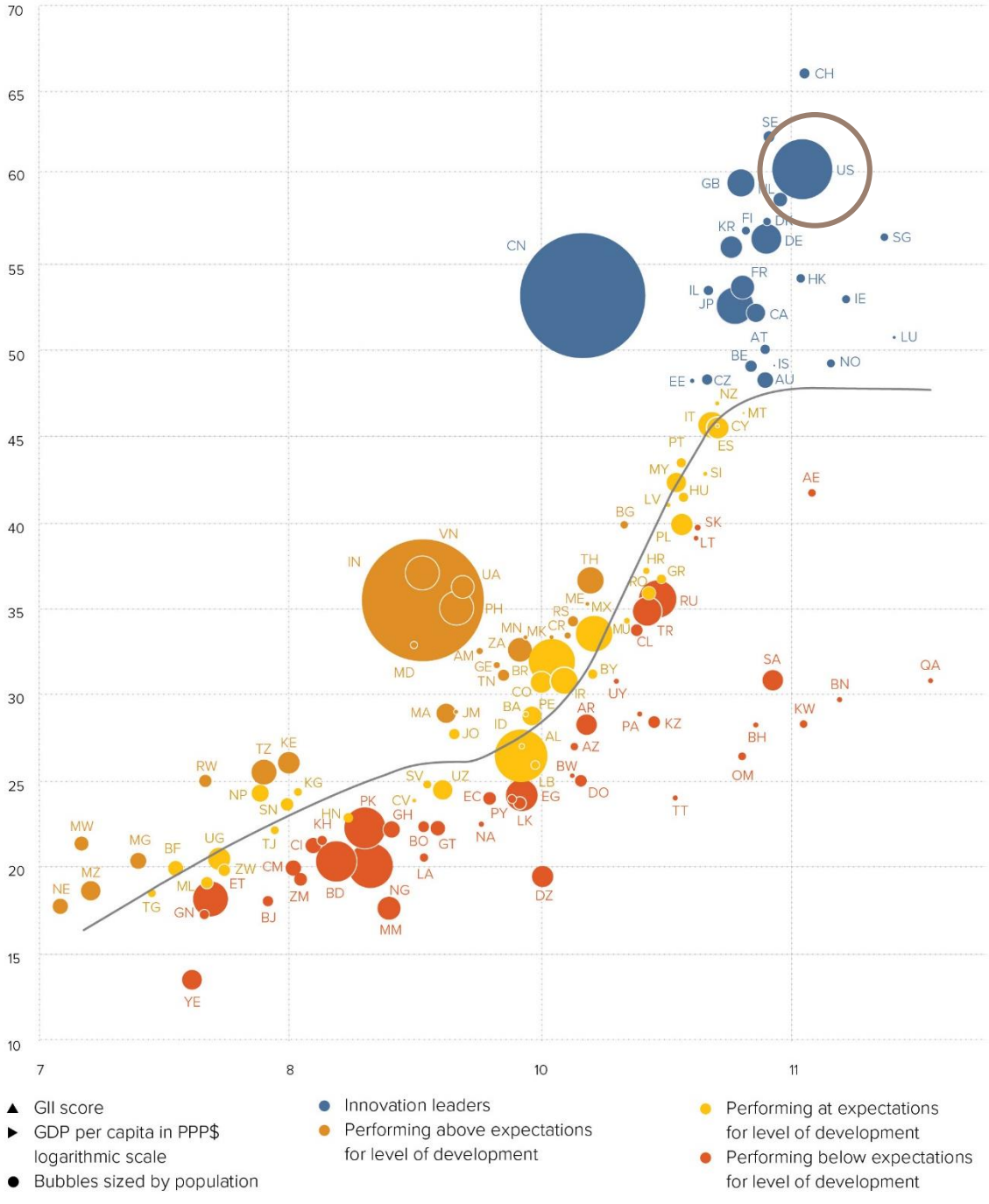
The U.S. is a world leader in cluster development, with San Jose–San Francisco (5th), Boston–Cambridge, MA (7th), and New York City (8th) ranking among the top 10 science and technology clusters. Overall, the U.S. hosts 25 top science and technology clusters that rank among the top 100 global clusters.

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, the United States of America is performing above expectations for its level of development.

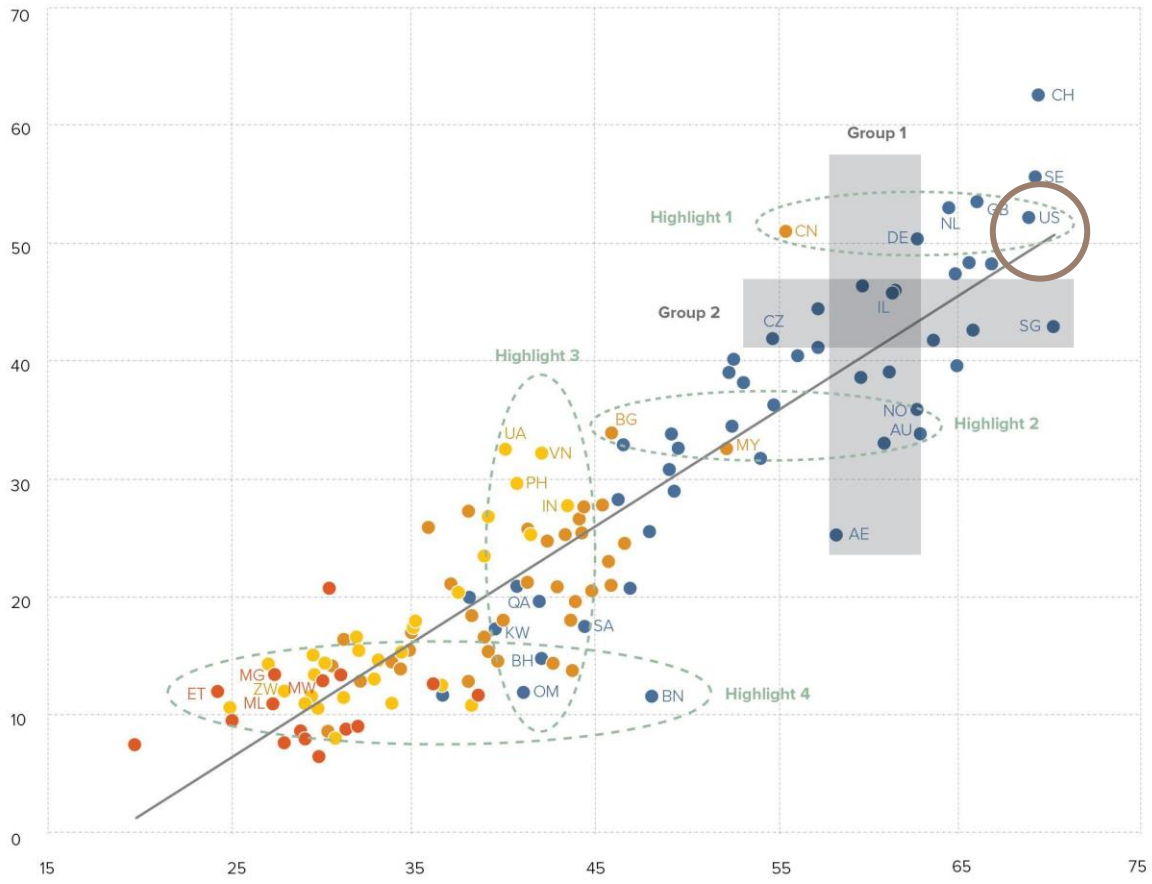
The positive relationship between innovation and development



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.

Innovation input to output performance, 2020



▲ Output score
► Input score

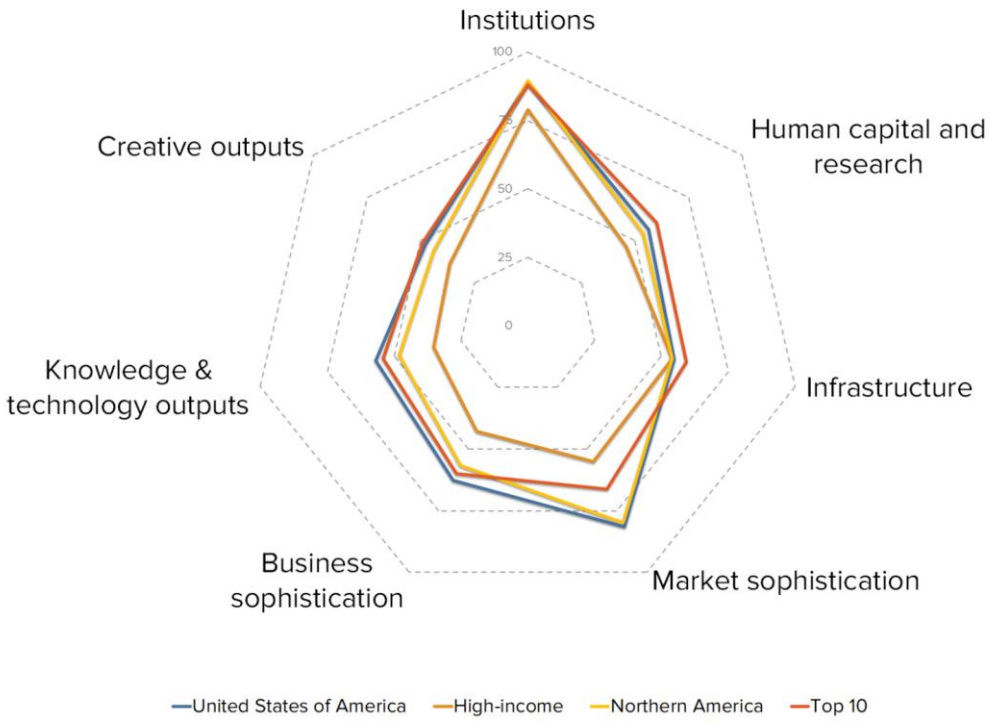
● High income group
● Upper middle-income group
● Lower middle-income group
● Low income group

— 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 THE UNITED STATES OF AMERICA AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND NORTHERN AMERICA

The United States of America's scores in the seven GII pillars



High-income group economies

The United States of America has high scores in all seven of the GII pillars, which are above average for the high-income group.

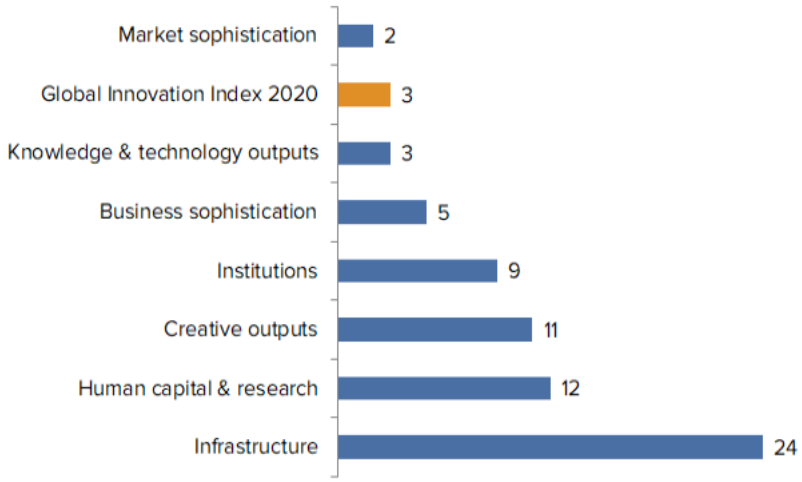
Northern America

Compared to other economies in Northern America, the United States of America performs:

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

OVERVIEW OF THE UNITED STATES OF AMERICA RANKINGS IN THE SEVEN GII AREAS

The United States of America performs best in Market sophistication and its weakest performance is in Infrastructure.



*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 the United States of America in the GII 2020.

Strengths

Code	Indicator name	Rank
1.2.3	Cost of redundancy dismissal, salary weeks	1
1.3	Business environment	2
1.3.2	Ease of resolving insolvency*	2
2.3	Research & development (R&D)	2
2.3.3	Global R&D companies, top 3, mn US$	1
2.3.4	QS university ranking, average score top 3*	1
3.1.3	Government's online service*	2
4	Market sophistication	2
4.1	Credit	1
4.1.2	Domestic credit to private sector, % GDP	2
4.3	Trade, competition, and market scale	1
4.3.2	Intensity of local competition†	3
4.3.3	Domestic market scale, bn PPP$	2
5.2.2	State of cluster development†	2
6	Knowledge & technology outputs	3
6.1	Knowledge creation	3
6.1.1	Patents by origin/bn PPP$ GDP	1
6.1.5	Citable documents H-index	1
6.2	Knowledge impact	3
6.2.3	Computer software spending, % GDP	1
6.3.1	Intellectual property receipts, % total trade	1
7.1.4	ICTs & organizational model creation†	1
7.2.3	Entertainment & Media market/th pop. 15–69	2
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	1

Weaknesses

Code	Indicator name	Rank
2.1.5	Pupil-teacher ratio, secondary	73
2.2.2	Graduates in science & engineering, %	79
3.2.3	Gross capital formation, % GDP	88
3.3.1	GDP/unit of energy use	78
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	114
5.3.4	FDI net inflows, % GDP	84
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	106
7.1.1	Trademarks by origin/bn PPP$ GDP	90
7.1.3	Industrial designs by origin/bn PPP$ GDP	65
7.2.2	National feature films/mn pop. 15–69	60

STRENGTHS

GII strengths for the United States of America are found in all seven of the GII pillars.

- Institutions (9): exhibits strengths in the sub-pillar Business environment (2) and in the indicators Cost of redundancy dismissal (1) and Ease of resolving insolvency (2).
- Human capital & research (12): shows strengths in the sub-pillar Research & development (R&D) (2) and in the indicators Global R&D companies (1) and QS university ranking (1).
- Infrastructure (24): the indicator Government's online service (2) demonstrates a strength.
- Market sophistication (2): shows strengths in the sub-pillars Credit (1) and Trade, competition, and market scale (1) and in the indicators Domestic credit to private sector (2), Intensity of local competition (3) and Domestic market scale (2).
- Business sophistication (5): the indicator State of cluster development (2) displays a strength.
- Knowledge & technology outputs (3): reveals strengths in the sub-pillars Knowledge creation (3) and Knowledge impact (3) and in the indicators Patents by origin (1), Citable documents H-index (1), Computer software spending (1) and Intellectual property receipts (1).
- Creative outputs (11): exhibits strengths in the indicators ICTs & organizational model creation (1), Entertainment & Media market (2) and Generic top-level domains (1).

WEAKNESSES

GII weaknesses for the United States of America are found in five of the seven GII pillars.

- Human capital & research (12): shows weaknesses in the indicators Pupil–teacher ratio (73) and Graduates in science & engineering (79).
- Infrastructure (24): displays weaknesses in the indicators Gross capital formation (88), GDP/unit of energy use (78) and ISO 14001 environmental certificates (114).
- Business sophistication (5): the indicator FDI net inflows (84) reveals a weakness.
- Knowledge & technology outputs (3): exhibits weakness in the indicator ISO 9001 quality certificates (106).
- Creative outputs (11): displays weaknesses in the indicators Trademarks by origin (90), Industrial designs by origin (65) and National feature films (60).

UNITED STATES OF AMERICA

GII 2020 rank

3

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2019 rank
5	4	High	NAC	329.1	21,439.5	56,844.3	3

		Score/Value	Rank	
INSTITUTIONS		**88.9**	**9**	
1.1	**Political environment**	**83.7**	**16**	
1.1.1	Political and operational stability*	80.4	33	
1.1.2	Government effectiveness*	85.4	15	
1.2	**Regulatory environment**	**92.0**	**11**	
1.2.1	Regulatory quality*	83.4	16	
1.2.2	Rule of law*	84.5	19	
1.2.3	Cost of redundancy dismissal, salary weeks	8.0	1	●
1.3	**Business environment**	**91.0**	**2**	● ◆
1.3.1	Ease of starting a business*	91.6	48	
1.3.2	Ease of resolving insolvency*	90.5	2	● ◆
HUMAN CAPITAL & RESEARCH		**56.3**	**12**	
2.1	**Education**	**52.4**	**45**	
2.1.1	Expenditure on education, % GDP ⊙	5.0	43	
2.1.2	Government funding/pupil, secondary, % GDP/cap	22.1	36	
2.1.3	School life expectancy, years	16.3	27	
2.1.4	PISA scales in reading, maths, & science	495.3	24	
2.1.5	Pupil-teacher ratio, secondary ⊙	14.6	73	○ ◇
2.2	**Tertiary education**	**39.3**	**45**	
2.2.1	Tertiary enrolment, % gross	88.2	8	
2.2.2	Graduates in science & engineering, % ⊙	17.9	79	○ ◇
2.2.3	Tertiary inbound mobility, %	5.2	44	
2.3	**Research & development (R&D)**	**77.1**	**2**	● ◆
2.3.1	Researchers, FTE/mn pop. ⊙	4,412.4	23	
2.3.2	Gross expenditure on R&D, % GDP	2.8	9	
2.3.3	Global R&D companies, avg. exp. top 3, mn $US	100.0	1	● ◆
2.3.4	QS university ranking, average score top 3*	98.6	1	● ◆
INFRASTRUCTURE		**54.7**	**24**	
3.1	**Information & communication technologies (ICTs)**	**90.4**	**9**	
3.1.1	ICT access*	83.5	16	
3.1.2	ICT use*	81.2	18	
3.1.3	Government's online service*	98.6	2	●
3.1.4	E-participation*	98.3	5	
3.2	**General infrastructure**	**43.0**	**15**	
3.2.1	Electricity output, kWh/mn pop	13,455.1	9	
3.2.2	Logistics performance*	85.2	14	
3.2.3	Gross capital formation, % GDP	21.1	88	○
3.3	**Ecological sustainability**	**30.8**	**59**	◇
3.3.1	GDP/unit of energy use	8.0	78	○
3.3.2	Environmental performance*	69.3	24	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.2	114	○ ◇
MARKET SOPHISTICATION		**81.4**	**2**	● ◆
4.1	**Credit**	**89.7**	**1**	● ◆
4.1.1	Ease of getting credit*	95.0	4	◆
4.1.2	Domestic credit to private sector, % GDP	186.0	2	● ◆
4.1.3	Microfinance gross loans, % GDP	n/a	n/a	
4.2	**Investment**	**63.8**	**13**	
4.2.1	Ease of protecting minority investors*	71.6	35	
4.2.2	Market capitalization, % GDP	153.1	5	
4.2.3	Venture capital deals/bn PPP$ GDP	0.3	10	
4.3	**Trade, competition, and market scale**	**90.7**	**1**	● ◆
4.3.1	Applied tariff rate, weighted avg., %	1.6	20	
4.3.2	Intensity of local competition+	84.3	3	● ◆
4.3.3	Domestic market scale, bn PPP$	21,439.5	2	● ◆

		Score/Value	Rank	
BUSINESS SOPHISTICATION		**62.8**	**5**	◆
5.1	**Knowledge workers**	**69.8**	**5**	
5.1.1	Knowledge-intensive employment, %	48.0	9	
5.1.2	Firms offering formal training, %	n/a	n/a	
5.1.3	GERD performed by business, % GDP	2.1	8	
5.1.4	GERD financed by business, %	62.4	11	
5.1.5	Females employed w/advanced degrees, %	26.8	6	
5.2	**Innovation linkages**	**60.6**	**8**	
5.2.1	University/industry research collaboration+	75.7	4	◆
5.2.2	State of cluster development+	74.8	2	● ◆
5.2.3	GERD financed by abroad, % GDP	0.2	16	
5.2.4	JV-strategic alliance deals/bn PPP$ GDP	0.2	7	
5.2.5	Patent families 2+ offices/bn PPP$ GDP	3.5	14	
5.3	**Knowledge absorption**	**58.0**	**5**	
5.3.1	Intellectual property payments, % total trade	1.9	14	
5.3.2	High-tech imports, % total trade	17.3	10	
5.3.3	ICT services imports, % total trade	1.4	46	
5.3.4	FDI net inflows, % GDP	1.9	84	○
5.3.5	Research talent, % in business enterprise ⊙	71.3	6	
KNOWLEDGE & TECHNOLOGY OUTPUTS		**56.8**	**3**	●
6.1	**Knowledge creation**	**72.8**	**3**	● ◆
6.1.1	Patents by origin/bn PPP$ GDP	13.9	1	● ◆
6.1.2	PCT patents by origin/bn PPP$ GDP	2.7	12	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific & technical articles/bn PPP$ GDP	10.7	48	◇
6.1.5	Citable documents H-index	100.0	1	● ◆
6.2	**Knowledge impact**	**51.8**	**3**	● ◆
6.2.1	Growth rate of PPP$ GDP/worker, %	1.1	60	
6.2.2	New businesses/th pop. 15-64	n/a	n/a	
6.2.3	Computer software spending, % GDP	0.0	1	● ◆
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	1.1	106	○ ◇
6.2.5	High- and medium-high-tech manufacturing, %	52.0	11	
6.3	**Knowledge diffusion**	**45.9**	**16**	
6.3.1	Intellectual property receipts, % total trade	4.9	1	● ◆
6.3.2	High-tech net exports, % total trade	5.5	29	
6.3.3	ICT services exports, % total trade	1.6	66	
6.3.4	FDI net outflows, % GDP	1.1	51	
CREATIVE OUTPUTS		**47.7**	**11**	
7.1	**Intangible assets**	**48.1**	**15**	
7.1.1	Trademarks by origin/bn PPP$ GDP	21.7	90	○ ◇
7.1.2	Global brand value, top 5,000, % GDP	203.3	4	◆
7.1.3	Industrial designs by origin/bn PPP$ GDP	1.1	65	○
7.1.4	ICTs & organizational model creation+	83.7	1	● ◆
7.2	**Creative goods and services**	**44.2**	**7**	◆
7.2.1	Cultural & creative services exports, % total trade	1.7	10	
7.2.2	National feature films/mn pop. 15-69	2.9	60	○
7.2.3	Entertainment & Media market/th pop. 15-69	99.7	2	● ◆
7.2.4	Printing and other media, % manufacturing	1.4	30	
7.2.5	Creative goods exports, % total trade	3.3	18	
7.3	**Online creativity**	**50.4**	**18**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	100.0	1	● ◆
7.3.2	Country-code TLDs/th pop. 15-69	2.1	70	◇
7.3.3	Wikipedia edits/mn pop. 15-69	73.9	34	◇
7.3.4	Mobile app creation/bn PPP$ GDP	27.1	21	

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 the United States of America.

Missing data

Code	Indicator name	Country year	Model year	Source
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
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2018	World Intellectual Property Organization
6.2.2	New businesses/th pop. 15–64	n/a	2018	World Bank

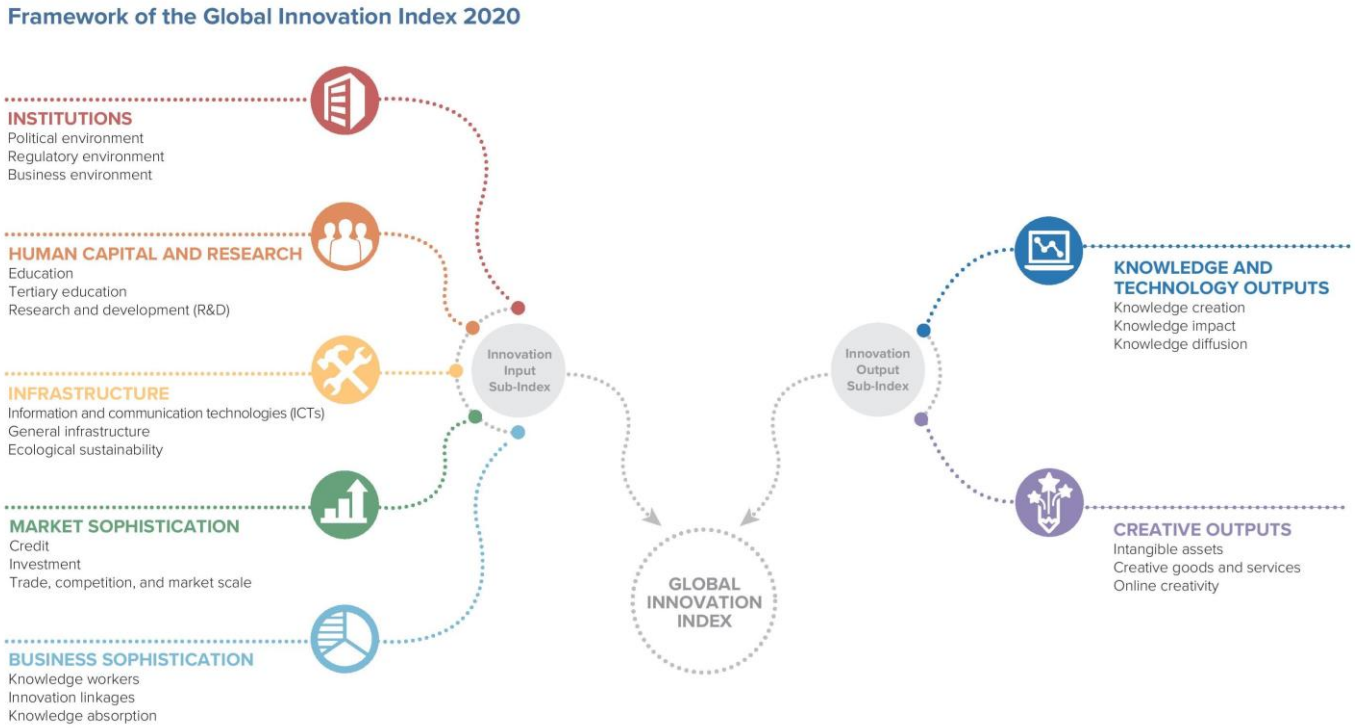
Outdated data

Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	2014	2018	UNESCO Institute for Statistics
2.1.5	Pupil–teacher ratio, secondary	2017	2018	UNESCO Institute for Statistics
2.2.2	Graduates in science & engineering, %	2016	2017	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	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.



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.