GLOBAL INNOVATION INDEX 2020

IRAN (ISLAMIC REPUBLIC OF)

67th Iran (Islamic Republic of) ranks 67th 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 Iran (Islamic Republic of) 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 Iran (Islamic Republic of) in the GII 2020 is between ranks 59 and 71.

Rankings of Iran (Islamic Republic of) (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	67	90	50
2019	61	86	47
2018	65	93	46

- Iran (Islamic Republic of) performs better in innovation outputs than innovation inputs in 2020.
- This year Iran (Islamic Republic of) ranks 90th in innovation inputs, lower than last year and higher compared to 2018.
- As for innovation outputs, Iran (Islamic Republic of) ranks 50th. This position is lower than last year and lower compared to 2018.

19th Iran (Islamic Republic of) ranks 19th among the 37 upper middle-income group economies.

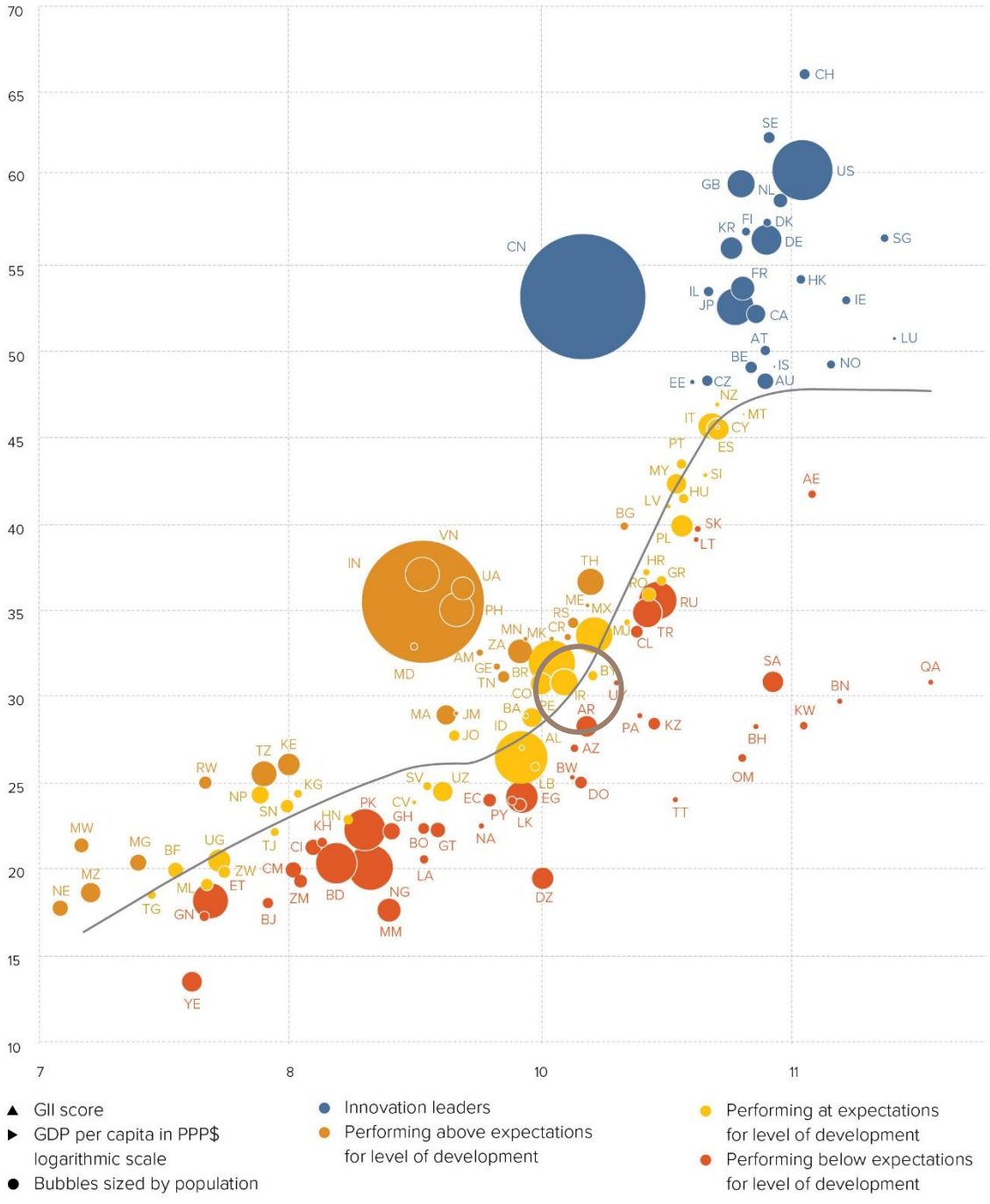
2nd Iran (Islamic Republic of) ranks 2nd among the 10 economies in Central and Southern Asia.

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, Iran (Islamic Republic of)'s performance matches expectations for its level of development.

The positive relationship between innovation and development

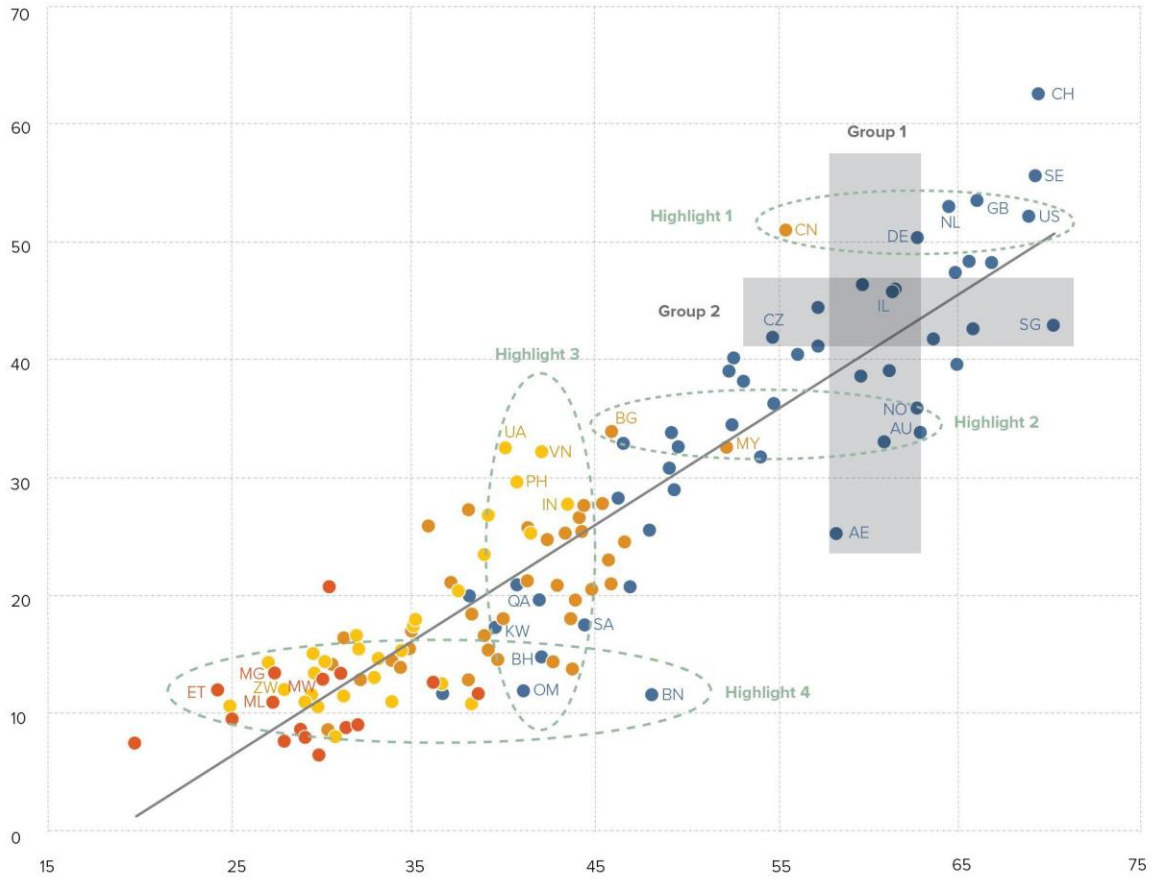


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

Iran (Islamic Republic of) produces more innovation outputs relative to its level of innovation investments.

Innovation input to output performance, 2020



▲ Output score
► Input score

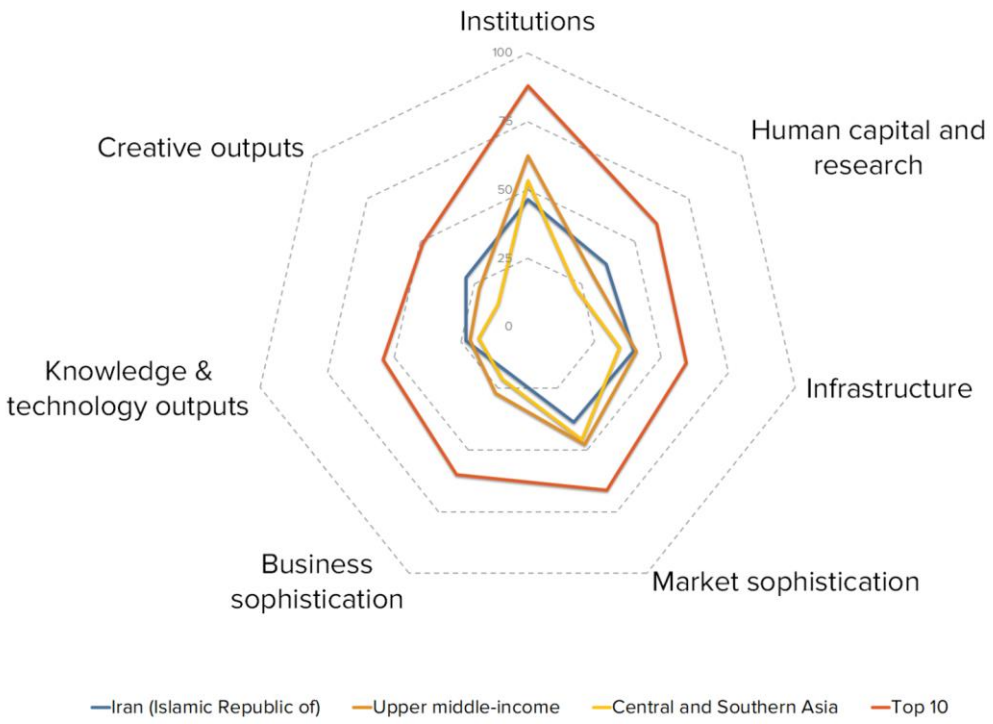
● High income group
● Upper middle-income group
● Lower middle-income group
● Low income group

— 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 IRAN (ISLAMIC REPUBLIC OF) AGAINST OTHER UPPER MIDDLE-INCOME ECONOMIES AND CENTRAL AND SOUTHERN ASIA

Iran (Islamic Republic of)'s scores in the seven GII pillars



Upper middle-income group

Iran (Islamic Republic of) has high scores in four out of the seven GII pillars: Human capital & research, Infrastructure, Knowledge & technology outputs and Creative outputs, which are above average for the upper middle-income group.

Conversely, Iran (Islamic Republic of) scores below average for its income group in three pillars: Institutions, Market sophistication and Business sophistication.

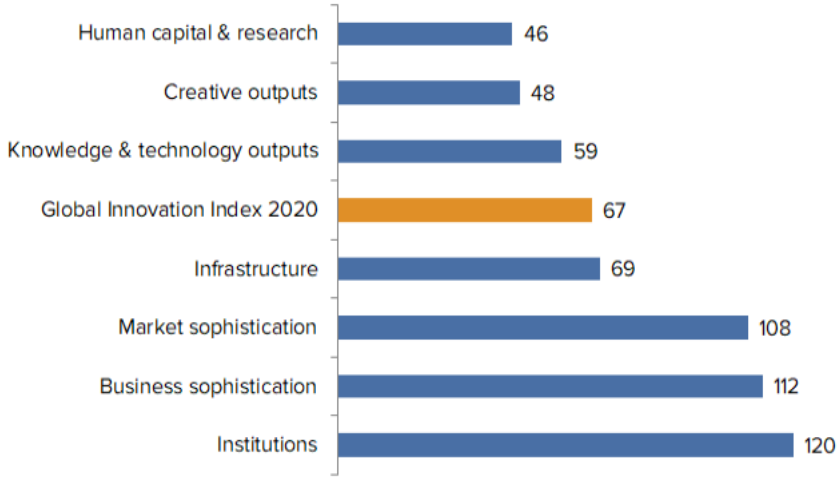
Central and Southern Asia

Compared to other economies in Central and Southern Asia, Iran (Islamic Republic of) performs:

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

OVERVIEW OF IRAN (ISLAMIC REPUBLIC OF) RANKINGS IN THE SEVEN GII AREAS

Iran (Islamic Republic of) performs best in Human capital & research and its weakest performance is in Institutions.



*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 Iran (Islamic Republic of) in the GII 2020.

Strengths

Code	Indicator name	Rank
2.2	Tertiary education	7
2.2.1	Tertiary enrolment, % gross	31
2.2.2	Graduates in science & engineering, %	3
3.1.1	ICT access*	39
3.2	General infrastructure	31
3.2.3	Gross capital formation, % GDP	10
4.3.3	Domestic market scale, bn PPP$	18
6.1	Knowledge creation	25
6.1.1	Patents by origin/bn PPP$ GDP	14
6.1.4	Scientific & technical articles/bn PPP$ GDP	21
6.2.5	High- & medium-high-tech manufacturing, %	26
7.1	Intangible assets	13
7.1.1	Trademarks by origin/bn PPP$ GDP	1
7.1.3	Industrial designs by origin/bn PPP$ GDP	14

Weaknesses

Code	Indicator name	Rank
1	Institutions	120
1.1.1	Political & operational stability*	123
1.2.1	Regulatory quality*	129
1.3	Business environment	125
1.3.1	Ease of starting a business*	128
2.3.3	Global R&D companies, top 3, mn US$	42
4.3.1	Applied tariff rate, weighted avg., %	129
5.2.1	University/industry research collaboration†	117
5.2.4	JV–strategic alliance deals/bn PPP$ GDP	122
6.2.1	Growth rate of PPP$ GDP/worker, %	115
7.2.4	Printing & other media, % manufacturing	96
7.2.5	Creative goods exports, % total trade	119

STRENGTHS

GII strengths for Iran (Islamic Republic of) are found in five of the seven GII pillars.

- Human capital & research (46): shows strengths in the sub-pillar Tertiary education (7) and in the indicators Tertiary enrolment (31) and Graduates in science & engineering (3).
- Infrastructure (69): demonstrates strengths in the sub-pillar General infrastructure (31) and in the indicators ICT access (39) and Gross capital formation (10).
- Market sophistication (108): the indicator Domestic market scale (18) reveals a strength.
- Knowledge & technology outputs (59): exhibits strengths in the sub-pillar Knowledge creation (25) and in the indicators Patents by origin (14), Scientific & technical articles (21) and High- & medium-high-tech manufacturing (26).
- Creative outputs (48): displays strengths in the sub-pillar Intangible assets (13) and in the indicators Trademarks by origin (1) and Industrial designs by origin (14).

WEAKNESSES

GII weaknesses for Iran (Islamic Republic of) are found in six of the seven GII pillars.

- Institutions (120): exhibits weaknesses in the sub-pillar Business environment (125) and in the indicators Political & operational stability (123), Regulatory quality (129) and Ease of starting a business (128).
- Human capital & research (46): the indicator Global R&D companies (42) reveals a weakness.
- Market sophistication (108): demonstrates weakness in the indicator Applied tariff rate (129).
- Business sophistication (112): shows weaknesses in the indicators University/industry research collaboration (117) and JV–strategic alliance deals (122).
- Knowledge & technology outputs (59): the indicator Growth rate of PPP (115) displays a weakness.
- Creative outputs (48): shows weaknesses in the indicators Printing & other media (96) and Creative goods exports (119).

IRAN (ISLAMIC REPUBLIC OF)

GII 2020 rank

67

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2019 rank
50	**90**	**Upper middle**	**CSA**	**82.9**	**1,470.7**	**15,419.0**	**61**

		Score/Value	Rank	
INSTITUTIONS		**46.6**	**120**	○ ◇
1.1	**Political environment**	**44.3**	**106**	◇
1.1.1	Political and operational stability*	51.8	123	○ ◇
1.1.2	Government effectiveness*	40.5	94	◇
1.2	**Regulatory environment**	**44.1**	**117**	◇
1.2.1	Regulatory quality*	7.6	129	○ ◇
1.2.2	Rule of law*	28.6	108	◇
1.2.3	Cost of redundancy dismissal, salary weeks	23.1	97	
1.3	**Business environment**	**51.4**	**125**	○ ◇
1.3.1	Ease of starting a business*	67.8	128	○ ◇
1.3.2	Ease of resolving insolvency*	35.1	111	◇
HUMAN CAPITAL & RESEARCH		**36.6**	**46**	
2.1	**Education**	**39.3**	**83**	
2.1.1	Expenditure on education, % GDP	4.0	74	
2.1.2	Government funding/pupil, secondary, % GDP/cap	17.5	65	
2.1.3	School life expectancy, years	14.8	55	
2.1.4	PISA scales in reading, maths, & science	n/a	n/a	
2.1.5	Pupil-teacher ratio, secondary	19.0	94	
2.2	**Tertiary education**	**55.9**	**7**	● ◆
2.2.1	Tertiary enrolment, % gross	68.1	31	●
2.2.2	Graduates in science & engineering, %	42.1	3	● ◆
2.2.3	Tertiary inbound mobility, %	0.5	96	◇
2.3	**Research & development (R&D)**	**14.5**	**48**	
2.3.1	Researchers, FTE/mn pop.	1,474.9	44	
2.3.2	Gross expenditure on R&D, % GDP	0.8	44	
2.3.3	Global R&D companies, avg. exp. top 3, mn $US	0.0	42	○ ◇
2.3.4	QS university ranking, average score top 3*	24.0	44	
INFRASTRUCTURE		**39.7**	**69**	
3.1	**Information & communication technologies (ICTs)**	**61.1**	**80**	
3.1.1	ICT access*	75.9	39	● ◆
3.1.2	ICT use*	52.7	73	
3.1.3	Government's online service*	63.2	88	
3.1.4	E-participation*	52.8	103	
3.2	**General infrastructure**	**36.5**	**31**	● ◆
3.2.1	Electricity output, kWh/mn pop	3,794.6	53	
3.2.2	Logistics performance*	36.7	63	
3.2.3	Gross capital formation, % GDP	40.8	10	● ◆
3.3	**Ecological sustainability**	**21.3**	**92**	◇
3.3.1	GDP/unit of energy use	5.8	104	◇
3.3.2	Environmental performance*	48.0	61	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.4	92	
MARKET SOPHISTICATION		**38.8**	**108**	◇
4.1	**Credit**	**39.2**	**77**	
4.1.1	Ease of getting credit*	50.0	94	
4.1.2	Domestic credit to private sector, % GDP	66.1	50	
4.1.3	Microfinance gross loans, % GDP	n/a	n/a	
4.2	**Investment**	**25.5**	**115**	
4.2.1	Ease of protecting minority investors*	40.0	110	◇
4.2.2	Market capitalization, % GDP	24.6	52	
4.2.3	Venture capital deals/bn PPP$ GDP	n/a	n/a	
4.3	**Trade, competition, and market scale**	**51.8**	**107**	◇
4.3.1	Applied tariff rate, weighted avg., %	15.2	129	○ ◇
4.3.2	Intensity of local competition+	58.0	113	◇
4.3.3	Domestic market scale, bn PPP$	1,470.7	18	● ◆

		Score/Value	Rank	
BUSINESS SOPHISTICATION		**17.9**	**112**	◇
5.1	**Knowledge workers**	**17.5**	**[103]**	
5.1.1	Knowledge-intensive employment, %	19.8	77	
5.1.2	Firms offering formal training, %	n/a	n/a	
5.1.3	GERD performed by business, % GDP	0.2	50	
5.1.4	GERD financed by business, %	n/a	n/a	
5.1.5	Females employed w/advanced degrees, %	n/a	n/a	
5.2	**Innovation linkages**	**16.4**	**100**	
5.2.1	University/industry research collaboration+	28.7	117	○ ◇
5.2.2	State of cluster development+	42.1	88	
5.2.3	GERD financed by abroad, % GDP	n/a	n/a	
5.2.4	JV-strategic alliance deals/bn PPP$ GDP	0.0	122	○ ◇
5.2.5	Patent families 2+ offices/bn PPP$ GDP	0.1	64	
5.3	**Knowledge absorption**	**19.8**	**99**	
5.3.1	Intellectual property payments, % total trade	0.2	94	
5.3.2	High-tech imports, % total trade	6.2	92	
5.3.3	ICT services imports, % total trade	0.5	101	
5.3.4	FDI net inflows, % GDP	0.8	119	◇
5.3.5	Research talent, % in business enterprise	19.2	56	
KNOWLEDGE & TECHNOLOGY OUTPUTS		**23.0**	**59**	
6.1	**Knowledge creation**	**39.3**	**25**	● ◆
6.1.1	Patents by origin/bn PPP$ GDP	7.5	14	● ◆
6.1.2	PCT patents by origin/bn PPP$ GDP	0.2	53	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific & technical articles/bn PPP$ GDP	23.5	21	● ◆
6.1.5	Citable documents H-index	19.7	40	
6.2	**Knowledge impact**	**18.3**	**86**	
6.2.1	Growth rate of PPP$ GDP/worker, %	-3.0	115	○ ◇
6.2.2	New businesses/th pop. 15-64	0.4	101	
6.2.3	Computer software spending, % GDP	0.0	58	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	1.3	96	
6.2.5	High- and medium-high-tech manufacturing, %	38.5	26	● ◆
6.3	**Knowledge diffusion**	**11.4**	**117**	◇
6.3.1	Intellectual property receipts, % total trade	0.0	86	
6.3.2	High-tech net exports, % total trade	0.3	90	
6.3.3	ICT services exports, % total trade	0.6	92	
6.3.4	FDI net outflows, % GDP	0.8	60	
CREATIVE OUTPUTS		**28.7**	**48**	
7.1	**Intangible assets**	**49.1**	**13**	● ◆
7.1.1	Trademarks by origin/bn PPP$ GDP	222.0	1	● ◆
7.1.2	Global brand value, top 5,000, % GDP	1.9	78	
7.1.3	Industrial designs by origin/bn PPP$ GDP	9.2	14	● ◆
7.1.4	ICTs & organizational model creation+	47.4	92	
7.2	**Creative goods and services**	**2.5**	**114**	◇
7.2.1	Cultural & creative services exports, % total trade	0.1	74	
7.2.2	National feature films/mn pop. 15-69	1.7	74	
7.2.3	Entertainment & Media market/th pop. 15-69	2.1	53	◇
7.2.4	Printing and other media, % manufacturing	0.3	96	○ ◇
7.2.5	Creative goods exports, % total trade	0.0	119	○
7.3	**Online creativity**	**14.1**	**71**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	1.8	80	
7.3.2	Country-code TLDs/th pop. 15-69	6.1	46	
7.3.3	Wikipedia edits/mn pop. 15-69	50.8	59	
7.3.4	Mobile app creation/bn PPP$ GDP	0.5	72	

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 Iran (Islamic Republic of).

Missing data

Code	Indicator name	Country year	Model year	Source
2.1.4	PISA scales in reading, maths & science	n/a	2018	OECD Programme for International Student Assessment (PISA)
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
5.1.2	Firms offering formal training, %	n/a	2018	World Bank
5.1.4	GERD financed by business, %	n/a	2017	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.1.5	Females employed w/advanced degrees, %	n/a	2018	International Labour Organization
5.2.3	GERD financed by abroad, % GDP	n/a	2017	UNESCO Institute for Statistics
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2018	World Intellectual Property Organization

Outdated data

Code	Indicator name	Country year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	2017	2018	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
4.1.2	Domestic credit to private sector, % GDP	2016	2018	International Monetary Fund
4.2.2	Market capitalization, % GDP	2017	2018	World Federation of Exchanges
4.3.1	Applied tariff rate, weighted avg., %	2011	2018	World Bank
5.1.3	GERD performed by business, % GDP	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
5.3.1	Intellectual property payments, % total trade	2016	2018	World Trade Organization
5.3.2	High-tech imports, % total trade	2016	2018	United Nations, COMTRADE
5.3.3	ICT services imports, % total trade	2015	2018	World Trade Organization
5.3.4	FDI net inflows, % GDP	2017	2018	International Monetary Fund
5.3.5	Research talent, % in business enterprise	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
6.2.5	High- & medium-high-tech manufacturing, %	2016	2017	United Nations Industrial Development Organization
6.3.1	Intellectual property receipts, % total trade	2016	2018	World Trade Organization
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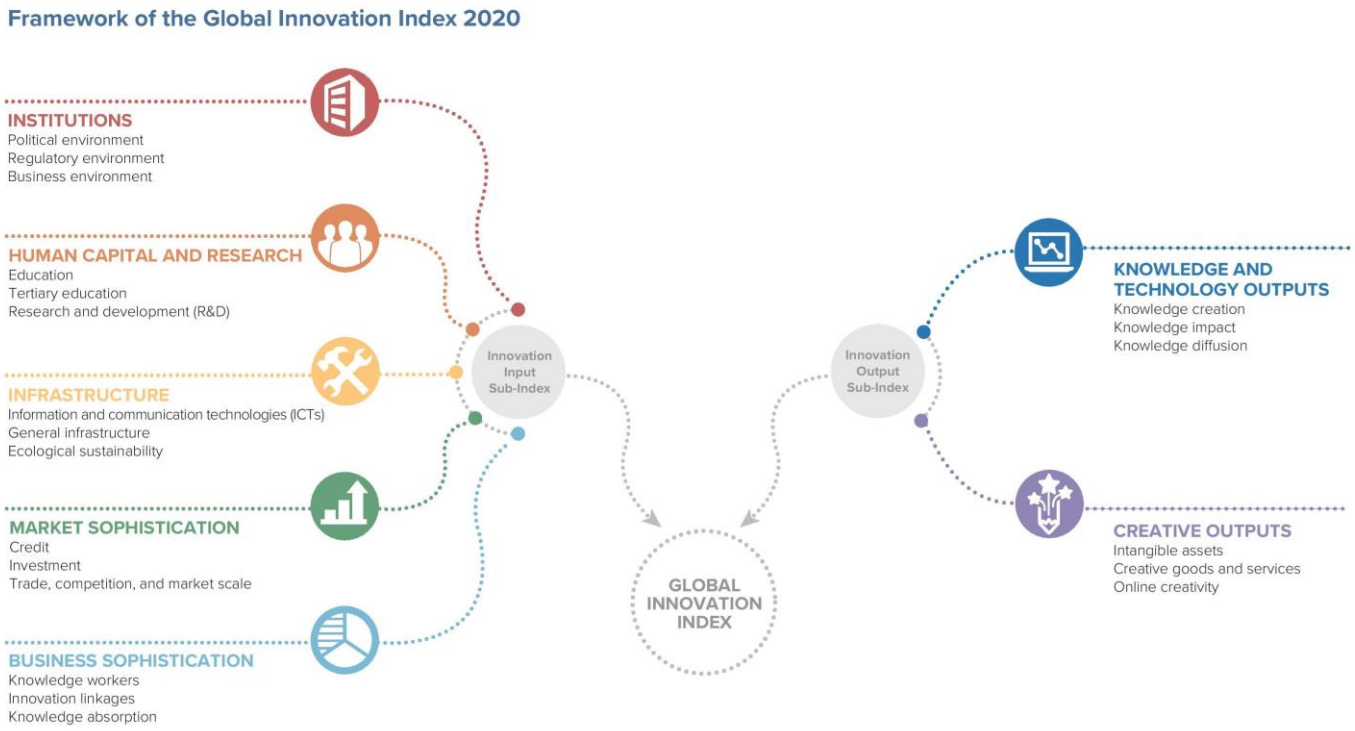
7.2.5	Creative goods exports, % total trade	2016	2018	United Nations, COMTRADE

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.