GLOBAL INNOVATION INDEX 2019

MEXICO

56th Mexico ranks 56th among the 129 economies featured in the GII 2019.

The Global Innovation Index (GII) is a ranking of world economies based on 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 Mexico over the past three years, noting that data availability and the GII model influence year-on-year comparisons of the GII ranks. The confidence interval for Mexico's ranking in the GII 2019 is between 51 and 56.

Mexico's Rankings, 2017 - 2019

	GII	Innovation Inputs	Innovation Outputs
2019	56	59	55
2018	56	54	61
2017	58	54	60

- Mexico performs better in Innovation Outputs than Inputs.
- This year Mexico ranks 59th in Innovation Inputs, worse than last year and compared to 2017.
- As for Innovation Outputs, Mexico ranks 55th. This position is better than last year and compared to 2017.

10th Mexico ranks 10th among the 34 upper middle-income economies.

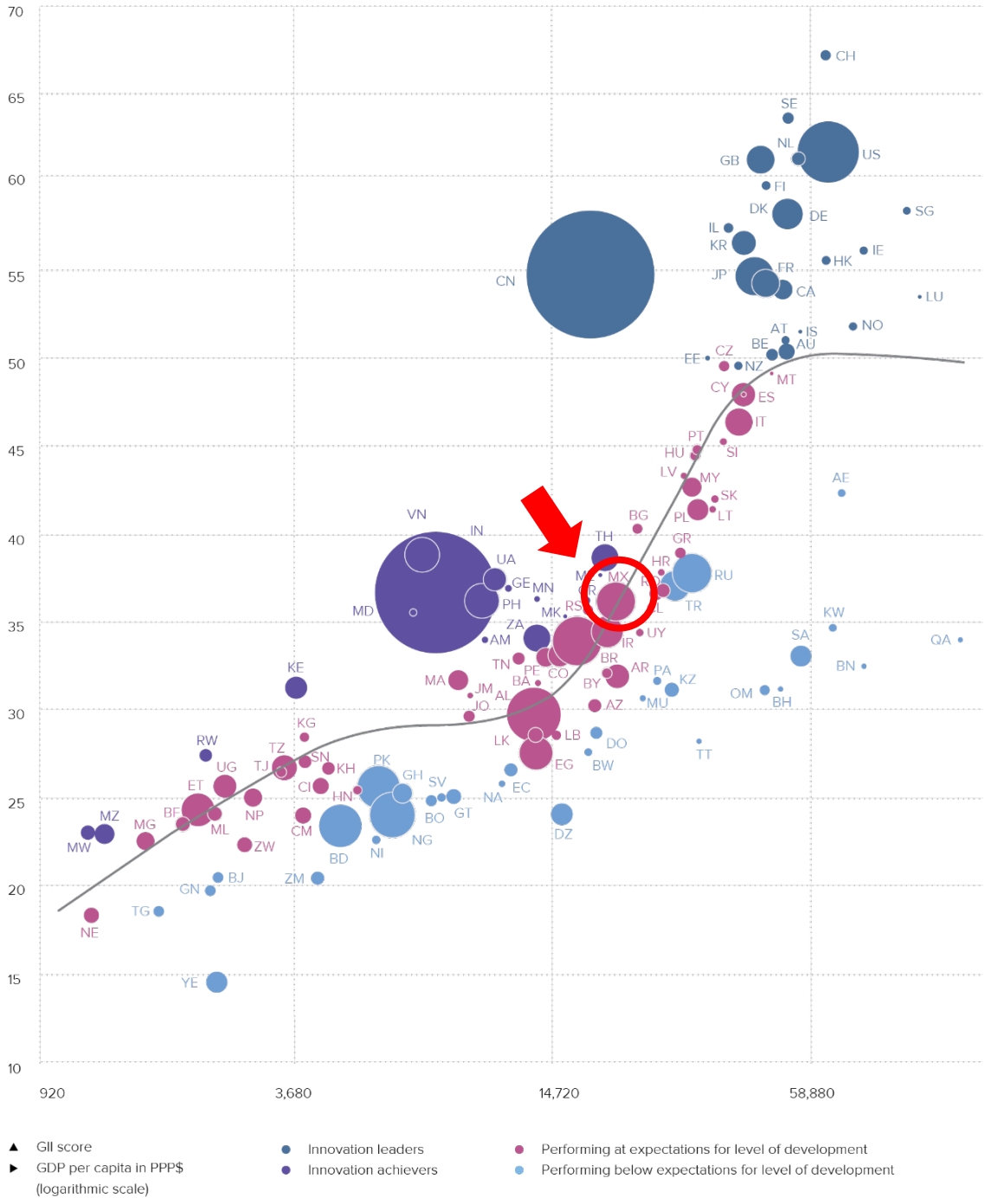
3rd Mexico ranks 3rd among the 19 economies in Latin America and the Caribbean.

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 considered Innovation under-performers relative to GDP.

Relative to GDP, Mexico performs at its expected level of development.

GII scores and GDP per capita in PPP US$
(bubbles sized by population)

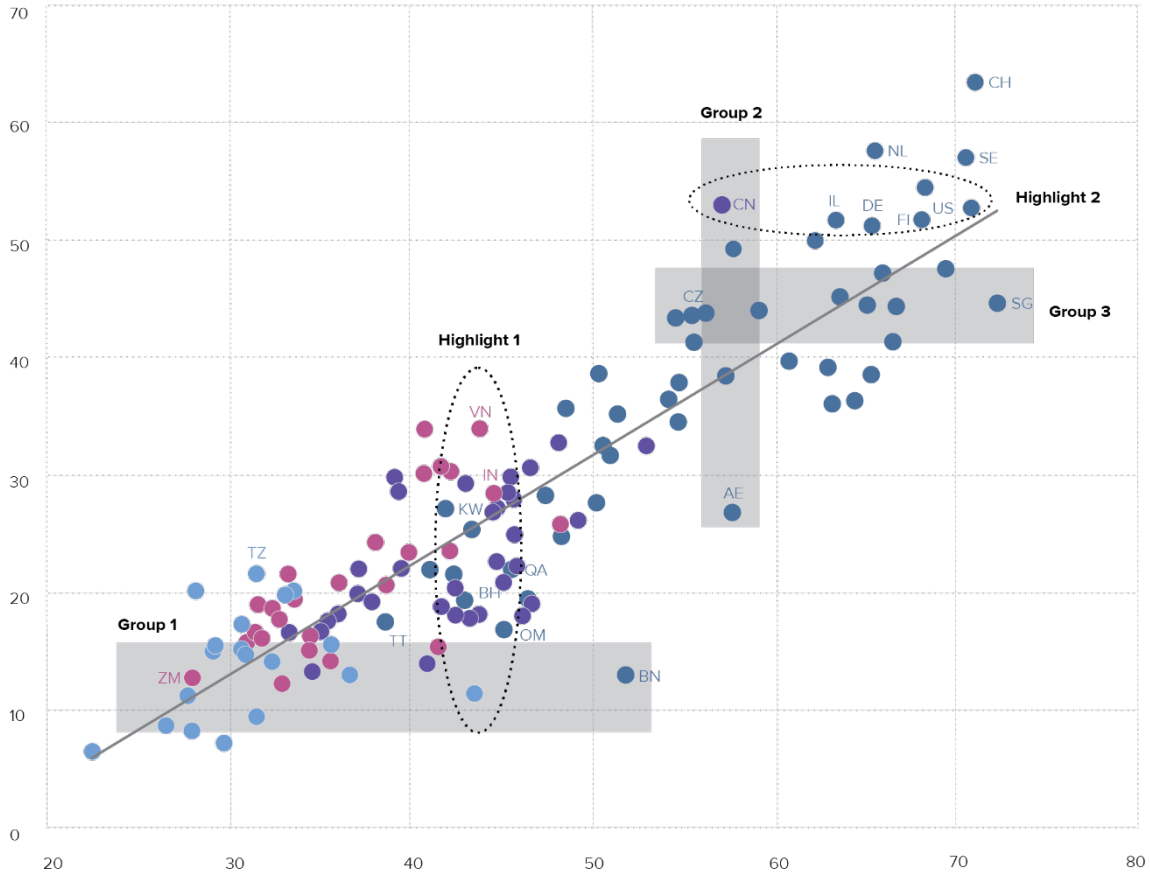


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

The chart below shows the relationship between innovation inputs and innovation outputs, indicating which economies best translate innovation inputs into innovation outputs. Economies appearing above the line are effectively translating their costly innovation investments into more and higher-quality outputs. In contrast, those below the line are not effectively translating innovation inputs into outputs.

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

Innovation input/output performance by income group, 2019



▲ Output score
▶ Input score

● High income
● Upper-middle income

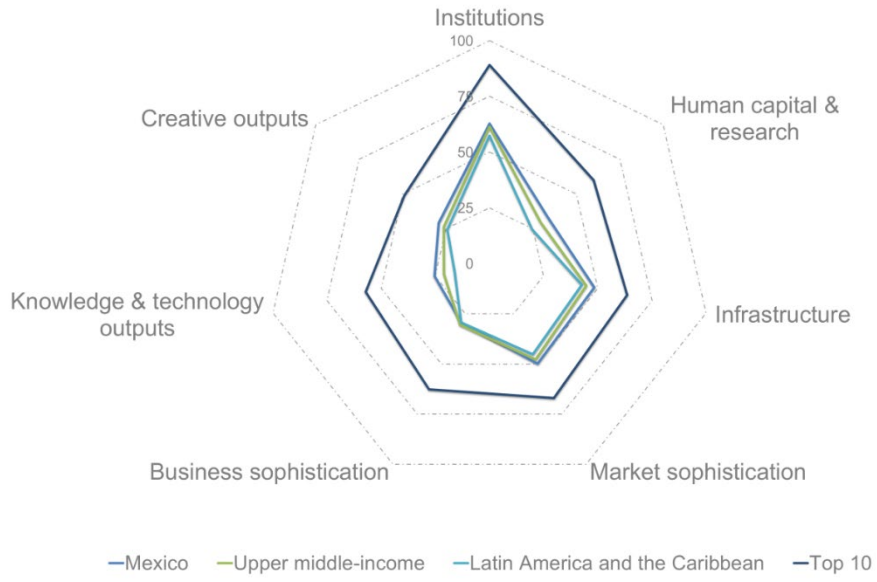
● Lower-middle income
● Low income

— Fitted values

AE	United Arab Emirates	CZ	Czech Republic	NL	Netherlands	TZ	United Republic of Tanzania
BH	Bahrain	DE	Germany	OM	Oman	US	United States of America
BN	Brunei Darussalam	FI	Finland	QA	Qatar	VN	Viet Nam
CH	Switzerland	IL	Israel	SE	Sweden	ZM	Zambia
CN	China	IN	India	SG	Singapore		
		KW	Kuwait	TT	Trinidad and Tobago		

BENCHMARKING MEXICO TO OTHER UPPER MIDDLE-INCOME ECONOMIES AND THE LATIN AMERICA AND THE CARIBBEAN REGION

Mexico's scores in the seven GII pillars



Upper middle-income economies

Mexico has high scores in 6 out of the 7 GII pillars: Institutions, Human capital & research, Infrastructure, Market sophistication, Knowledge & technology outputs, and Creative outputs which are above the average of the upper middle-income group.

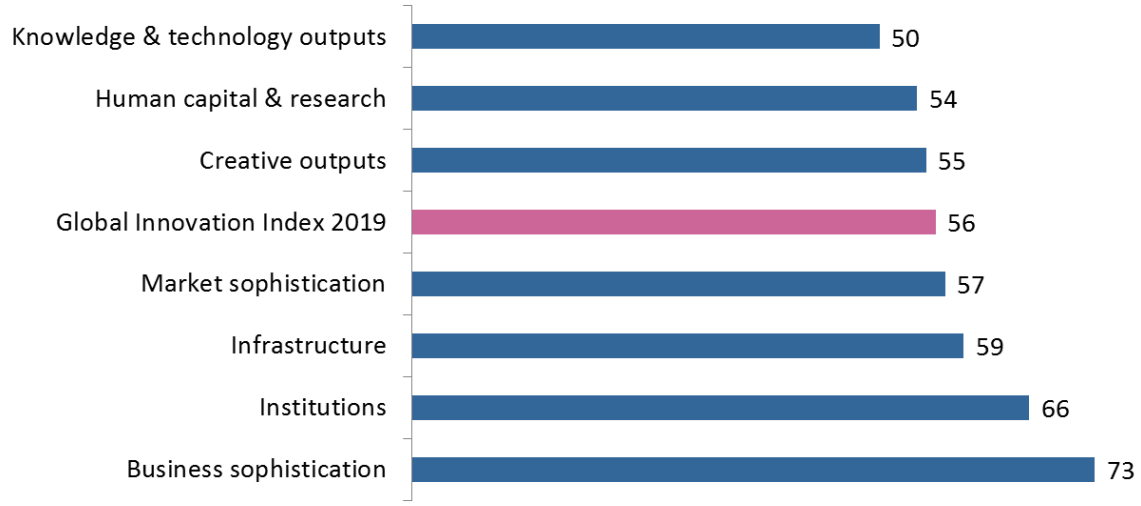
Latin America and the Caribbean Region

Compared to other economies in the Latin America and the Caribbean region, Mexico performs above average in all of the 7 GII pillars.

Top ranks are found in areas such as Business environment, Research and development (R&D), Trade, competition, & market scale, Knowledge diffusion, and Creative goods & services, where Mexico ranks in the top 50 worldwide.

OVERVIEW OF MEXICO'S RANKINGS IN THE 7 GII AREAS

Mexico performs the best in Knowledge & technology outputs and its weakest performance is in Business sophistication.



*The highest possible ranking in each pillar is 1.

MEXICO'S INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of Mexico's strengths and weaknesses in the GII 2019.

Strengths

Code	Indicator name	Rank
3.1.3	Government's online service*	22
3.1.4	E-participation*	17
4.1.1	Ease of getting credit*	7
4.3	Trade, competition, & market scale	8
4.3.1	Applied tariff rate, weighted mean, %	12
4.3.3	Domestic market scale, bn PPP$	11
5.1.2	Firms offering formal training, % firms	20
5.3.2	High-tech imports, % total trade	10
6.2.5	High- & medium-high-tech manufactures, %	11
6.3.2	High-tech net exports, % total trade	9
7.2	Creative goods & services	22
7.2.5	Creative goods exports, % total trade	1

Weaknesses

Code	Indicator name	Rank
2.2.3	Tertiary inbound mobility, %	102
4.2	Investment	110
4.2.3	Venture capital deals/bn PPP$ GDP	69
5.2.3	GERD financed by abroad, %	95
5.3.1	Intellectual property payments, % total trade	104
5.3.3	ICT services imports, % total trade	125
6.2.2	New businesses/th pop. 15–64	83
6.3.1	Intellectual property receipts, % total trade	102
6.3.3	ICT services exports, % total trade	126
7.2.1	Cultural & creative services exports, % total trade	118
7.2.4	Printing & other media, % manufacturing	96

STRENGTHS

- GII strengths for Mexico are found in five of the seven GII pillars.
- Market sophistication (57) is the GII pillar with the highest number of strengths. Here, Mexico's strengths are sub-pillar Trade, competition, & market scale (8) and two of its three indicators - Applied tariff rate (12) and Domestic market scale (11). In this pillar, indicator Ease of getting credit (7) is also a GII strength of Mexico.
- In Infrastructure (59), Mexico's strengths are indicators Government's online service (22) and E-participation (17).
- In Business sophistication (73), Mexico shows strengths in indicators Firms offering formal training (20) and High-tech imports (10).
- In Knowledge & technology outputs (50), GII strengths are found in two indicators: High- & medium-high-tech manufactures (11) and High-tech exports (9).
- In Creative outputs (55), strengths are sub-pillar Creative goods & services (22) and indicator Creative goods exports, where Mexico ranks 1st in the world.

WEAKNESSES

- Mexico's weaknesses in the GII are found in five of the seven GII pillars.
- Three of these weaknesses are found in Business sophistication (73), where indicators: R&D financed by abroad (95), Intellectual property payments (104), and ICT services imports (125) are relative weaknesses for Mexico.
- Other three of them are in Knowledge & technology outputs (50), and in particular in indicators New businesses (83), Intellectual property receipts (102), and ICT services exports (126).
- In Market sophistication (57), sub-pillar Investment (110) and one of its indicators - Venture capital deals (69) – are relative weaknesses of Mexico.
- In Creative outputs (55), Mexico's weaknesses are indicators Cultural & creative services exports (118) and Printing & other media (96).
- In Human capital & research (54), Mexico has only one relative weakness in indicator Tertiary inbound mobility (102).

MEXICO

GII 2019 rank

56

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2018 rank
55	**59**	**Upper middle**	**LCN**	**130.8**	**2,575.2**	**20,601.7**	**56**

		Score/Value	Rank	
INSTITUTIONS		**62.8**	**66**	
1.1	**Political environment**	**51.1**	**78**	
1.1.1	Political and operational stability*	61.4	91	
1.1.2	Government effectiveness*	45.9	72	
1.2	**Regulatory environment**	**59.0**	**84**	
1.2.1	Regulatory quality*	47.2	61	
1.2.2	Rule of law*	31.4	97	
1.2.3	Cost of redundancy dismissal, salary weeks	22.0	94	
1.3	**Business environment**	**78.4**	**37**	
1.3.1	Ease of starting a business*	85.9	75	
1.3.2	Ease of resolving insolvency*	70.8	30	◆
HUMAN CAPITAL & RESEARCH		**33.4**	**54**	
2.1	**Education**	**43.5**	**76**	
2.1.1	Expenditure on education, % GDP	5.2	38	
2.1.2	Government funding/pupil, secondary, % GDP/cap...	15.6	79	
2.1.3	School life expectancy, years	14.3	66	
2.1.4	PISA scales in reading, maths, & science	415.7	55	
2.1.5	Pupil-teacher ratio, secondary	16.9	75	
2.2	**Tertiary education**	**30.7**	**64**	
2.2.1	Tertiary enrolment, % gross	38.2	72	
2.2.2	Graduates in science & engineering, %	25.5	27	
2.2.3	Tertiary inbound mobility, %	0.3	102	○ ◇
2.3	**Research & development (R&D)**	**25.8**	**42**	
2.3.1	Researchers, FTE/mn pop. 🕘	244.2	74	
2.3.2	Gross expenditure on R&D, % GDP 🕘	0.5	65	
2.3.3	Global R&D companies, avg. exp. top 3, mn US$	49.0	29	◆
2.3.4	QS university ranking, average score top 3*	41.2	30	◆
INFRASTRUCTURE		**48.3**	**59**	
3.1	**Information & communication technologies(ICTs)**	**72.8**	**51**	
3.1.1	ICT access*	54.9	79	
3.1.2	ICT use*	49.6	72	
3.1.3	Government's online service*	92.4	22	● ◆
3.1.4	E-participation*	94.4	17	● ◆
3.2	**General infrastructure**	**31.9**	**76**	
3.2.1	Electricity output, kWh/mn pop	2,586.2	69	
3.2.2	Logistics performance*	46.2	50	
3.2.3	Gross capital formation, % GDP	22.5	70	
3.3	**Ecological sustainability**	**40.1**	**54**	
3.3.1	GDP/unit of energy use	11.6	34	
3.3.2	Environmental performance*	59.7	64	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP..	0.7	74	
MARKET SOPHISTICATION		**49.9**	**57**	
4.1	**Credit**	**37.3**	**62**	
4.1.1	Ease of getting credit*	90.0	7	● ◆
4.1.2	Domestic credit to private sector, % GDP	35.5	87	
4.1.3	Microfinance gross loans, % GDP 🕘	0.4	35	
4.2	**Investment**	**32.8**	**110**	○
4.2.1	Ease of protecting minority investors*	58.3	68	
4.2.2	Market capitalization, % GDP	34.4	44	
4.2.3	Venture capital deals/bn PPP$ GDP	0.0	69	○
4.3	**Trade, competition, & market scale**	**79.5**	**8**	● ◆
4.3.1	Applied tariff rate, weighted avg., %	1.2	12	●
4.3.2	Intensity of local competition†	70.1	59	
4.3.3	Domestic market scale, bn PPP$	2,575.2	11	● ◆

		Score/Value	Rank	
BUSINESS SOPHISTICATION		**29.4**	**73**	
5.1	**Knowledge workers**	**35.7**	**68**	
5.1.1	Knowledge-intensive employment, %	19.9	74	
5.1.2	Firms offering formal training, % firms 🕘	50.8	20	●
5.1.3	GERD performed by business, % GDP 🕘	0.1	55	
5.1.4	GERD financed by business, %	20.7	66	
5.1.5	Females employed w/advanced degrees, %	8.8	74	
5.2	**Innovation linkages**	**20.0**	**87**	
5.2.1	University/industry research collaboration†	43.7	56	
5.2.2	State of cluster development†	53.8	39	◆
5.2.3	GERD financed by abroad, %	0.6	95	○
5.2.4	JV-strategic alliance deals/bn PPP$ GDP	0.0	81	
5.2.5	Patent families 2+ offices/bn PPP$ GDP	0.1	63	
5.3	**Knowledge absorption**	**32.6**	**67**	
5.3.1	Intellectual property payments, % total trade	0.1	104	○
5.3.2	High-tech imports, % total trade	17.0	10	● ◆
5.3.3	ICT services imports, % total trade	0.0	125	○ ◇
5.3.4	FDI net inflows, % GDP	3.1	54	
5.3.5	Research talent, % in business enterprise 🕘	24.5	50	
KNOWLEDGE & TECHNOLOGY OUTPUTS		**25.5**	**50**	
6.1	**Knowledge creation**	**11.0**	**67**	
6.1.1	Patents by origin/bn PPP$ GDP	0.5	76	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.1	65	
6.1.3	Utility models by origin/bn PPP$ GDP	0.2	42	
6.1.4	Scientific & technical articles/bn PPP$ GDP	4.3	88	
6.1.5	Citable documents H-index	27.4	34	◆
6.2	**Knowledge impact**	**36.7**	**65**	
6.2.1	Growth rate of PPP$ GDP/worker, %	0.3	82	
6.2.2	New businesses/th pop. 15-64	0.5	83	○
6.2.3	Computer software spending, % GDP	0.2	66	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	2.9	77	
6.2.5	High- & medium-high-tech manufactures, %	0.5	11	● ◆
6.3	**Knowledge diffusion**	**28.7**	**33**	◆
6.3.1	Intellectual property receipts, % total trade	0.0	102	○ ◇
6.3.2	High-tech net exports, % total trade	15.0	9	● ◆
6.3.3	ICT services exports, % total trade	0.0	126	○
6.3.4	FDI net outflows, % GDP	0.7	61	
CREATIVE OUTPUTS		**29.2**	**55**	
7.1	**Intangible assets**	**41.4**	**62**	
7.1.1	Trademarks by origin/bn PPP$ GDP	44.1	59	
7.1.2	Industrial designs by origin/bn PPP$ GDP	0.7	82	
7.1.3	ICTs & business model creation†	67.6	37	◆
7.1.4	ICTs & organizational model creation†	57.9	53	
7.2	**Creative goods & services**	**32.1**	**22**	● ◆
7.2.1	Cultural & creative services exports, % total trade	0.0	118	○
7.2.2	National feature films/mn pop. 15-69	2.0	66	
7.2.3	Entertainment & Media market/th pop. 15-69	7.5	40	
7.2.4	Printing & other media, % manufacturing	0.4	96	○ ◇
7.2.5	Creative goods exports, % total trade	9.6	1	● ◆
7.3	**Online creativity**	**2.2**	**82**	
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	2.5	72	
7.3.2	Country-code TLDs/th pop. 15-69	3.3	58	
7.3.3	Wikipedia edits/mn pop. 15-69	3.4	93	
7.3.4	Mobile app creation/bn PPP$ GDP	0.7	66	

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

Mexico has complete data coverage in the GII 2019.

The following table lists data that are outdated for Mexico.

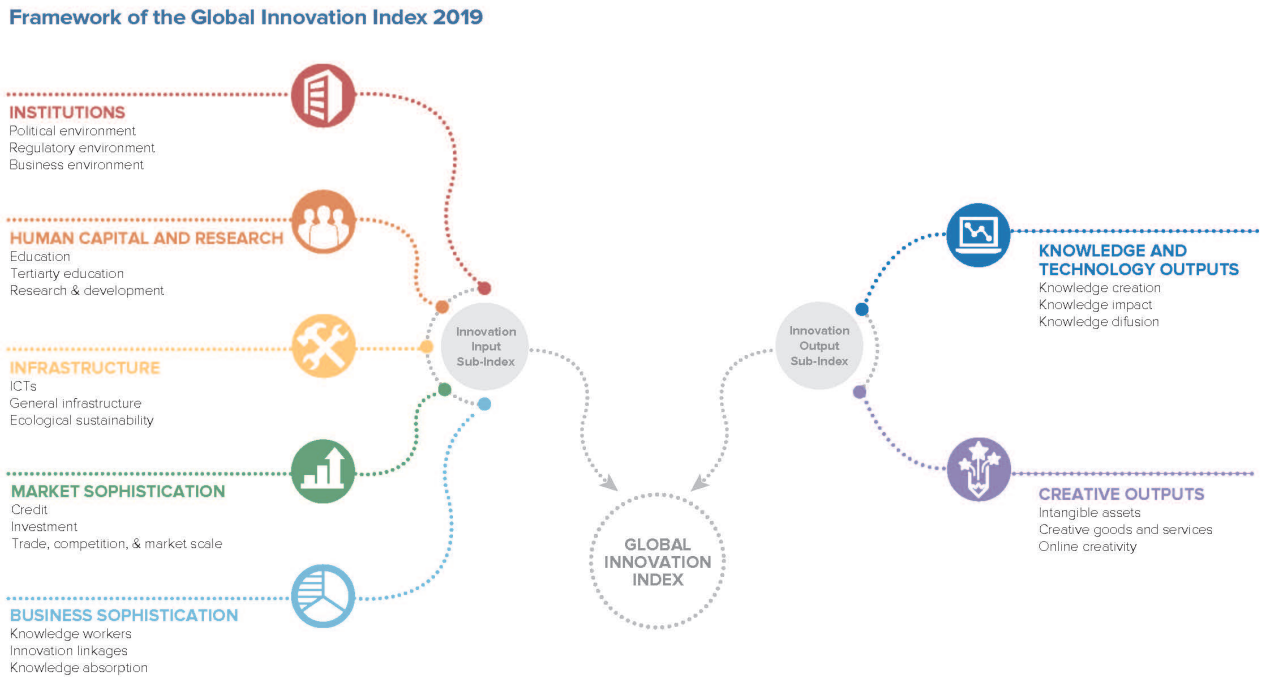
Outdated data

Code	Indicator name	Country year	Model year	Source
2.3.1	Researchers, FTE/mn pop.	2013	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2016	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
4.1.3	Microfinance gross loans, % GDP	2016	2017	Microfinance Information Exchange
5.1.2	Firms offering formal training, % firms	2010	2013	World Bank
5.1.3	GERD performed by business, % GDP	2016	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.3.5	Research talent, % in business enterprise	2013	2017	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 2019, the GII presents its 12th edition devoted to the theme **Creating Healthy Lives—The Future of Medical Innovation**.

Recognizing that innovation is a key driver of economic development, the GII aims to provide a rich innovation ranking and 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 countries 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 includes 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 containing three sub-pillars.