

Global Innovation Index 2023

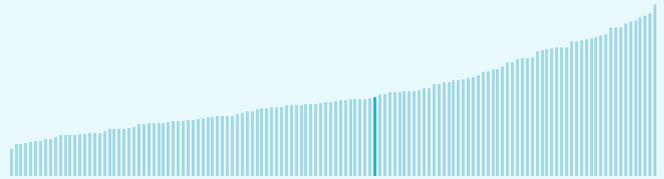


The Global Innovation Index (GII) **ranks world economies according to their innovation capabilities.**

Consisting of **roughly 80 indicators**, grouped into innovation inputs and outputs, the GII **aims to capture the multi-dimensional facets of innovation.**

Mexico ranking in the Global Innovation Index 2023

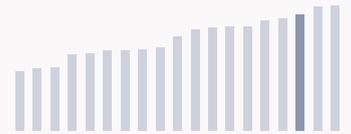
> Mexico ranks **58th** among the 132 economies featured in the GII 2023.



> Mexico ranks **11th** among the 33 upper-middle-income group economies.



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



> Mexico GII Ranking (2020-2023)

The table shows the rankings of Mexico over the past four years. 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 Mexico in the GII 2023 is between ranks 54 and 63.

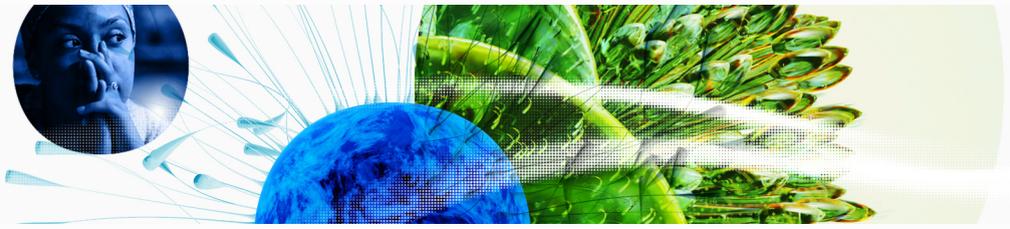
	GII Position	Innovation Inputs	Innovation Outputs
2020	55th	61st	57th
2021	55th	62nd	51st
2022	58th	70th	55th
2023	58th	77th	51st

Mexico performs better in innovation outputs than innovation inputs in 2023.

This year Mexico ranks 77th in innovation inputs. This position is lower than last year.

Mexico ranks 51st in innovation outputs. This position is higher than last year.

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→ Expected vs. observed innovation performance

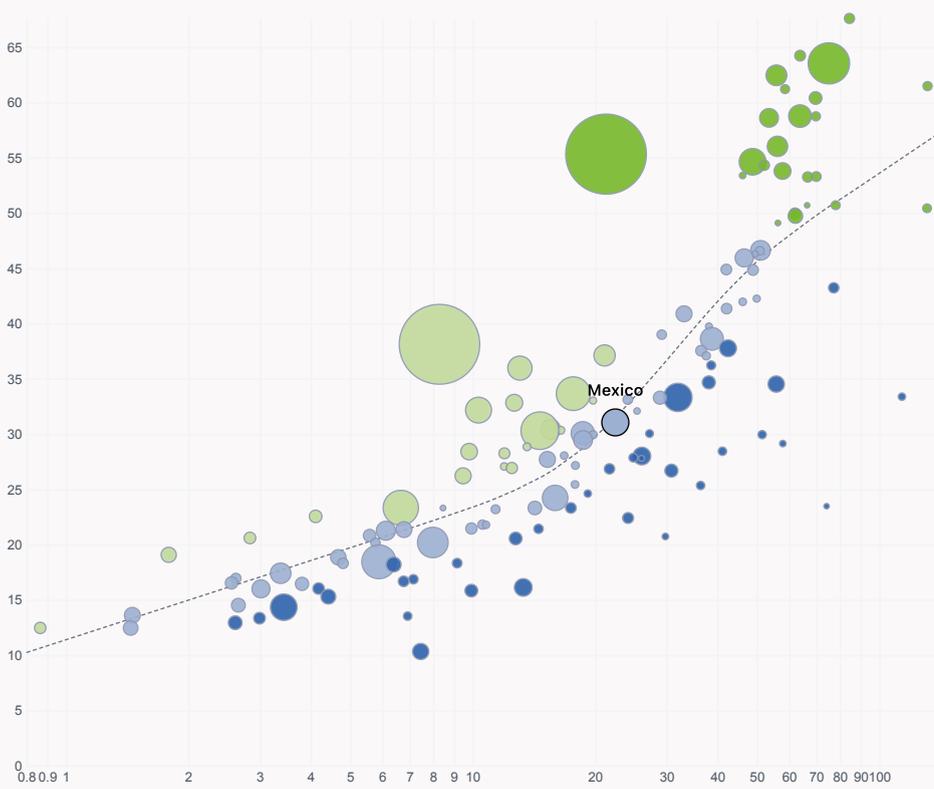
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected and those below are performing below expectations.



> Relative to GDP, Mexico's performance is at expectations for its level of development.

> Innovation overperformers relative to their economic development

↑ **GII Score**



- Innovation leader
- Performing above expectations for level of development
- Performing at expectations for level of development
- Performing below expectations for level of development

Size legend (Population)



→ GDP per capita, PPP logarithmic scale (thousands of \$)

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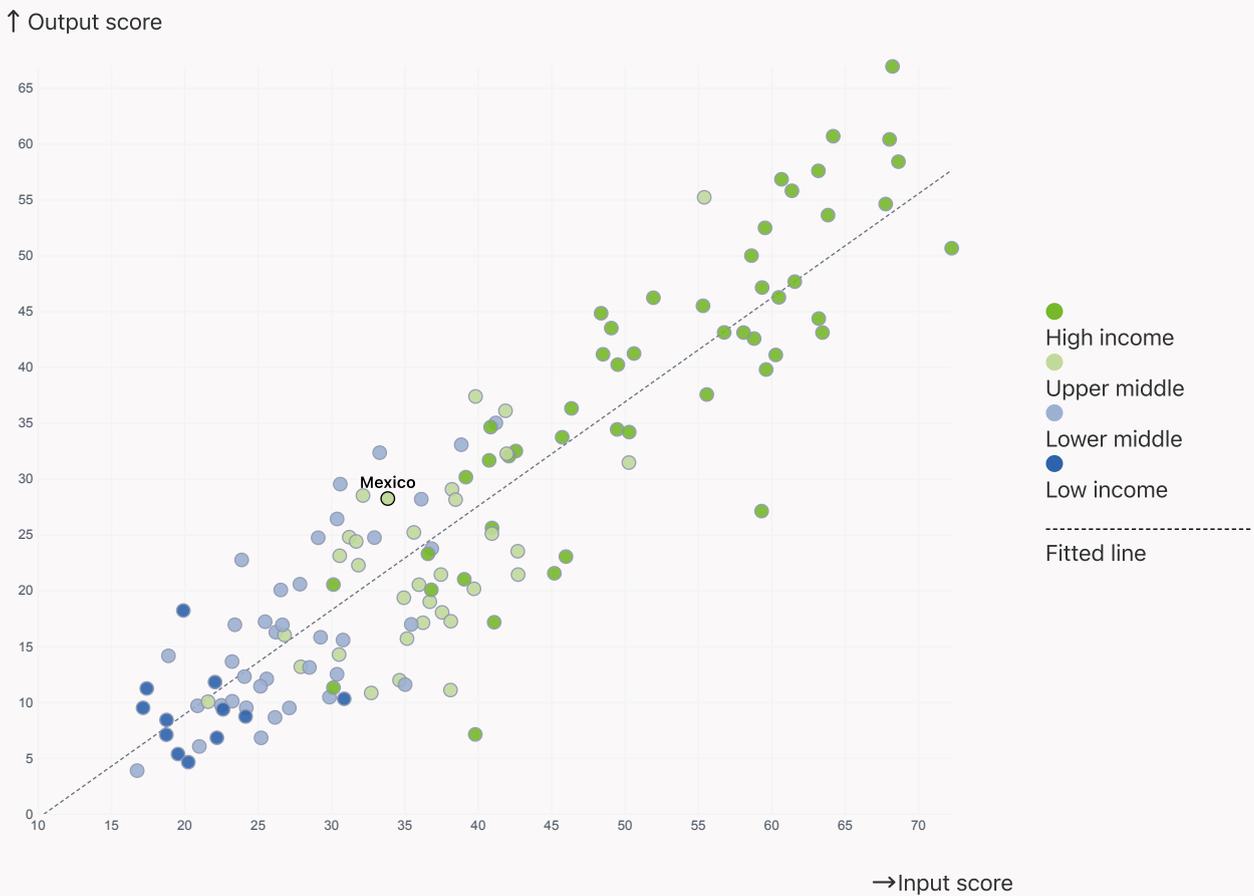
→ Effectively translating innovation investments into innovation outputs

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.

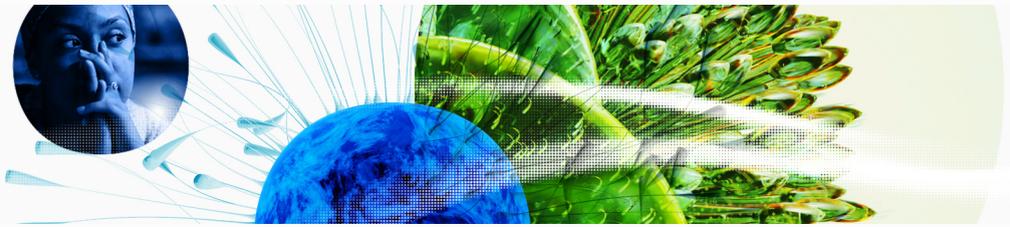


> Mexico produces more innovation outputs relative to its level of innovation investments.

> Relationship between innovation inputs and outputs

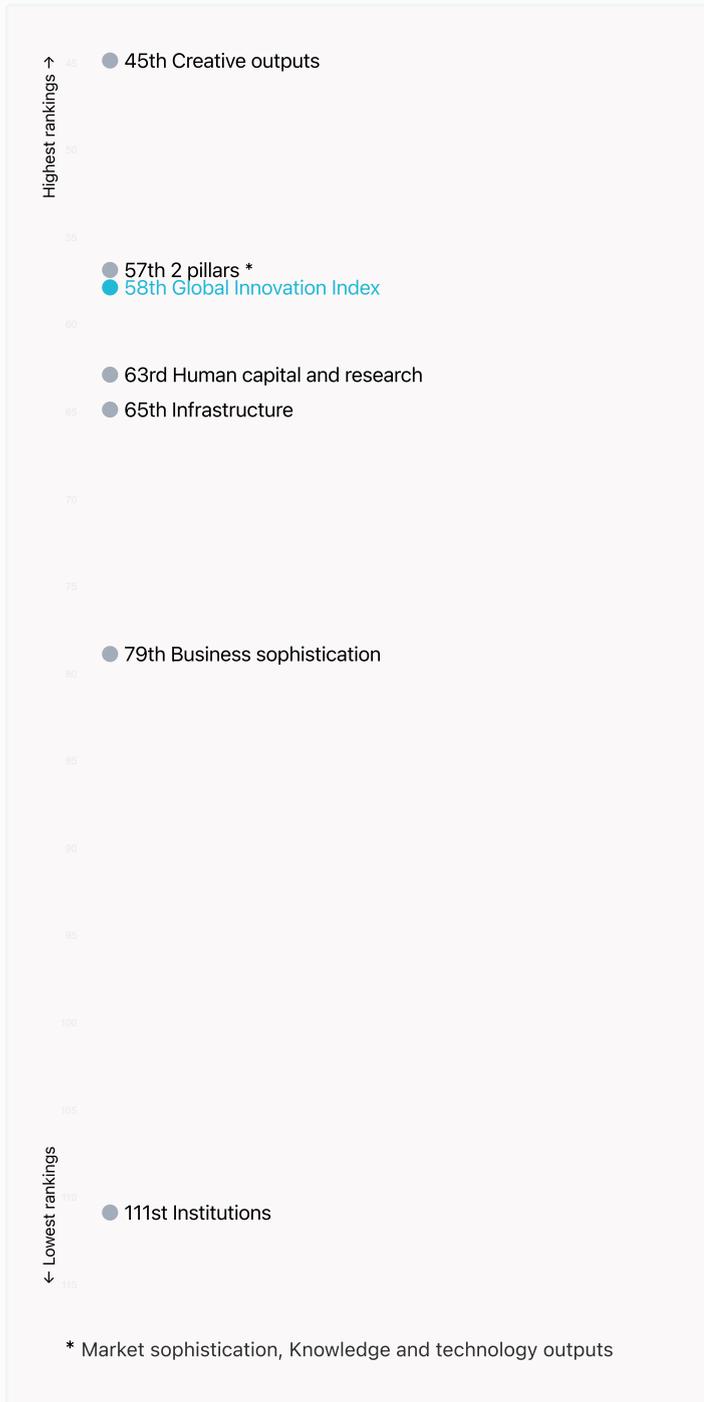


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→ Overview of Mexico's rankings in the seven areas of the GII in 2023

The chart shows the ranking for each of the seven areas that the GII comprises. The strongest areas for Mexico are those that rank above the GII (shown in blue) and the weakest are those that rank below.



> Highest rankings



Mexico ranks highest in Creative outputs (45th) and Market sophistication, Knowledge and technology outputs (57th).

> Lowest rankings



Mexico ranks lowest in Institutions (111st), Business sophistication (79th) and Infrastructure (65th).



The full WIPO Intellectual Property Statistics profile for Mexico can be found on [this link](#).

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→ Benchmark of Mexico against other country groupings for each of the seven areas of the GII Index

The charts show the relative position of Mexico (blue bar) against other country groupings (grey bars), for each of the seven areas of the GII Index.

> Upper-Middle-Income economies

Mexico performs below the upper-middle-income group average in Business sophistication, Infrastructure, Institutions.

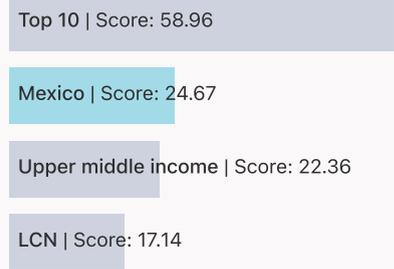


> Latin America And The Caribbean

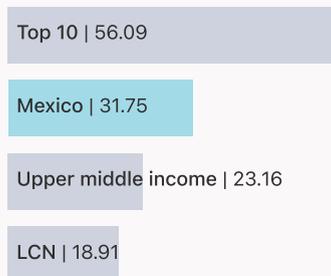
Mexico performs above the regional average in Knowledge and technology outputs, Creative outputs, Market sophistication, Human capital and research, Infrastructure.



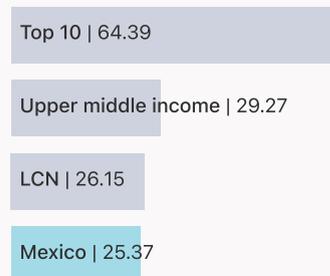
Knowledge and technology outputs



Creative outputs



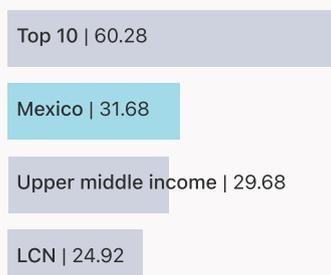
Business sophistication



Market sophistication



Human capital and research



Infrastructure



Institutions



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→ Innovation strengths and weaknesses in Mexico

The table below gives an overview of the indicator strengths and weaknesses of Mexico in the GII 2023.



> Mexico's main innovation strengths are **Creative goods exports, % total trade (rank 1)**, **High-tech exports, % total trade (rank 9)** and **High-tech imports, % total trade (rank 11)**.

Strengths

Weaknesses

Rank	Code	Indicator name	Rank	Code	Indicator name
1	7.2.4	Creative goods exports, % total trade	131	6.3.4	ICT services exports, % total trade
9	6.3.3	High-tech exports, % total trade	131	5.3.3	ICT services imports, % total trade
11	5.3.2	High-tech imports, % total trade	123	6.2.1	Labor productivity growth, %
13	4.3.1	Applied tariff rate, weighted avg., %	120	1.3.1	Policies for doing business
13	4.3.3	Domestic market scale, bn PPP\$	116	1.1.1	Operational stability for businesses
15	7.1.1	Intangible asset intensity, top 15, %	110	7.2.1	Cultural and creative services exports, % total trade
16	6.2.4	High-tech manufacturing, %	104	5.3.1	Intellectual property payments, % total trade
20	6.3.2	Production and export complexity	92	2.2.3	Tertiary inbound mobility, %
26	2.3.4	QS university ranking, top 3	83	2.1.2	Government funding/pupil, secondary, % GDP/cap
31	6.2.2	Unicorn valuation, % GDP	79	4.2.2	Venture capital (VC) investors, deals/bn PPP\$ GDP

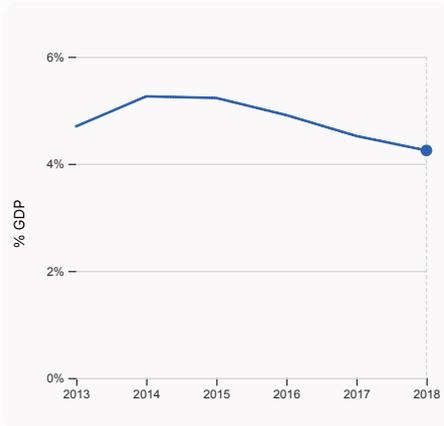
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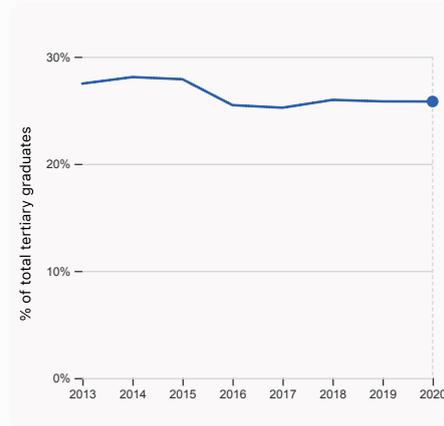
→ Mexico's innovation system

As far as practicable, the plots below present unscaled indicator data.

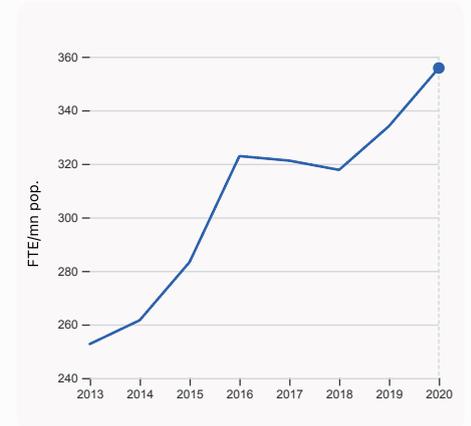
> Innovation inputs in Mexico



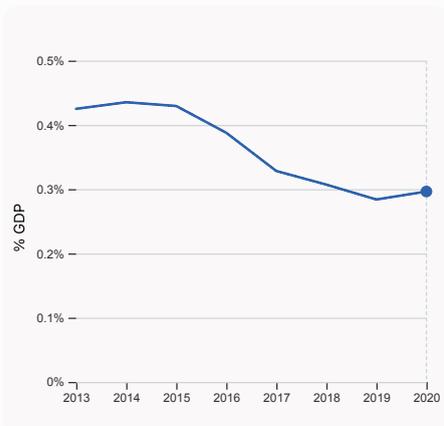
2.1.1 Expenditure on education, % GDP was equal to 4.25% GDP in 2018, down by 0.27 percentage points from the year prior – and equivalent to an indicator rank of 62.



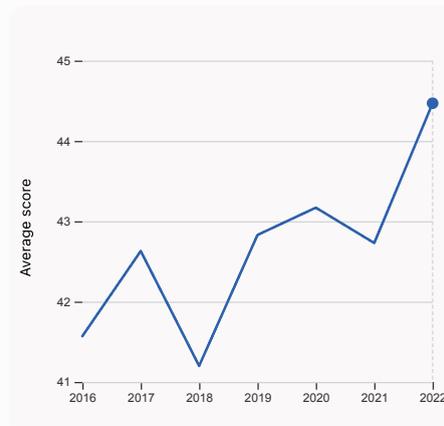
2.2.2 Graduates in science and engineering, % was equal to 25.82% of total tertiary graduates in 2020, down by 0.01 percentage points from the year prior – and equivalent to an indicator rank of 41.



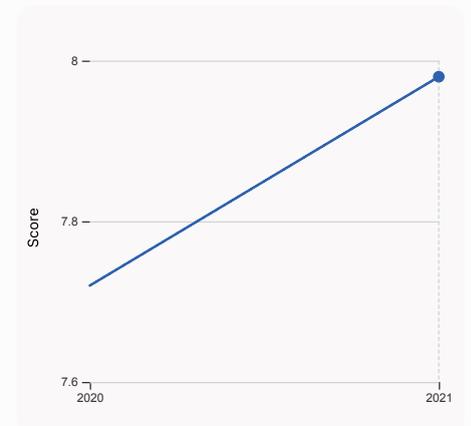
2.3.1 Researchers, FTE/mn pop. was equal to 355.79 FTE/mn pop. in 2020, up by 6.5% from the year prior – and equivalent to an indicator rank of 77.



2.3.2 Gross expenditure on R&D, % GDP was equal to 0.296% GDP in 2020, up by 0.012 percentage points from the year prior – and equivalent to an indicator rank of 75.

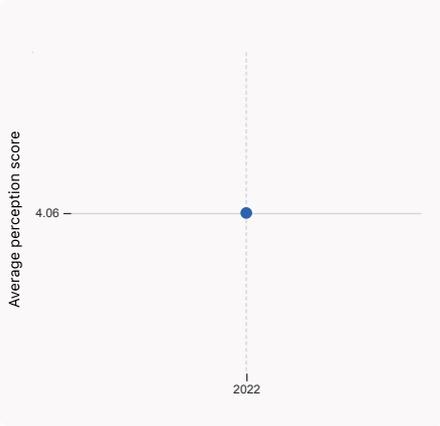


2.3.4 QS university ranking, top 3 was equal to an average score of 44.47 for the top 3 universities in 2022, up by 4.072% from the year prior – and equivalent to an indicator rank of 26.

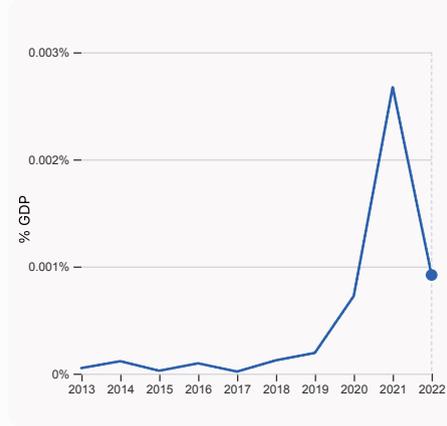


3.1.1 ICT access was equal to a score of 7.98 in 2021, up by 3.37% from the year prior – and equivalent to an indicator rank of 90.

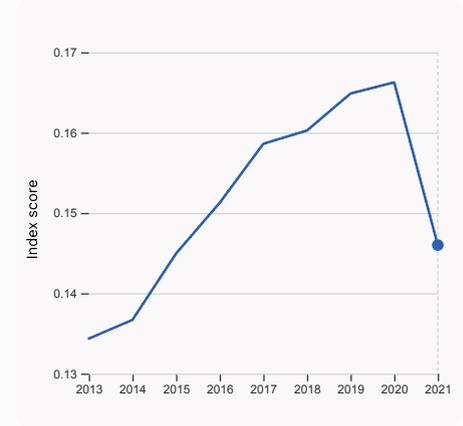
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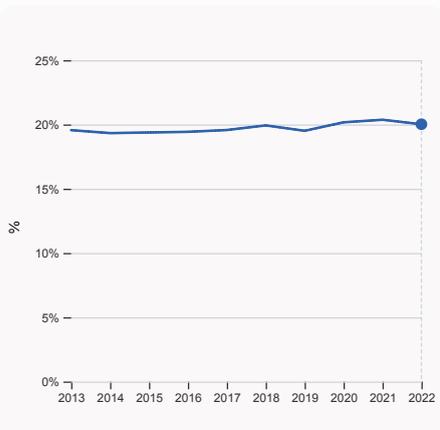
4.1.1 Finance for startups and scaleups was equal to an average perception score of 4.06 in 2022, equivalent to an indicator rank of 59.



4.2.4 VC received, value, % GDP was equal to 0.00092% GDP in 2022, down by 0.0018 percentage points from the year prior – and equivalent to an indicator rank of 40.



4.3.2 Domestic industry diversification was equal to an index score of 0.146 in 2021, down by 12.18% from the year prior – and equivalent to an indicator rank of 45.

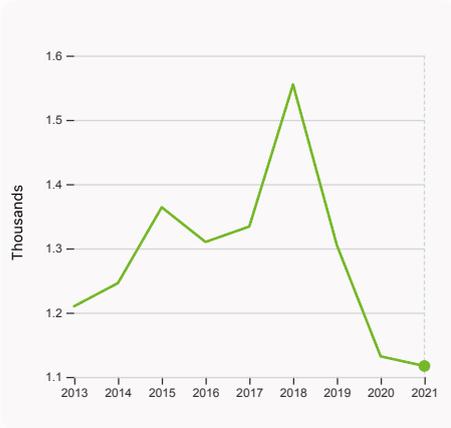


5.1.1 Knowledge-intensive employment, % was equal to 20.02% in 2022, down by 0.35 percentage points from the year prior – and equivalent to an indicator rank of 75.

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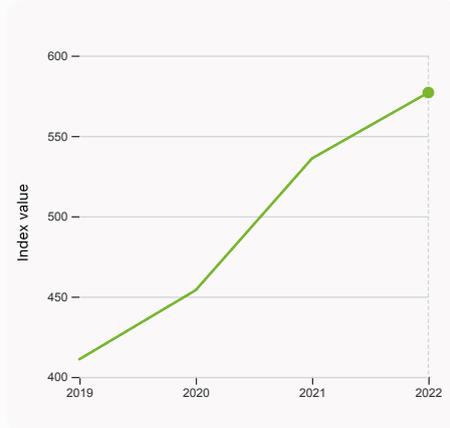


> Innovation outputs in Mexico



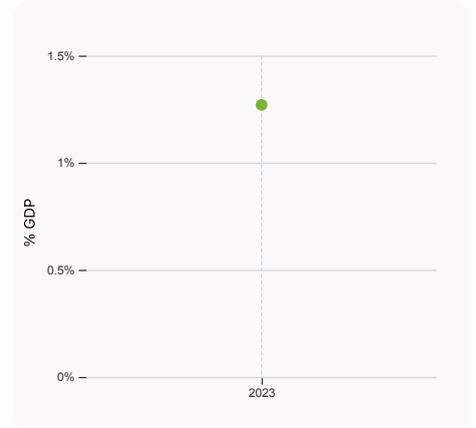
6.1.1 Patents by origin

was equal to 1.12 Thousands in 2021, down by 1.33% from the year prior – and equivalent to an indicator rank of 83.



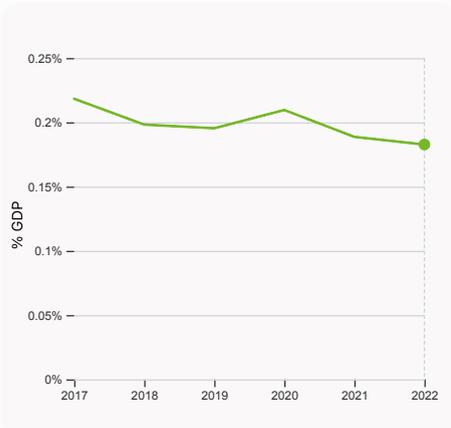
6.1.5 Citable documents H-index

was equal to an index value of 577 in 2022, up by 7.65% from the year prior – and equivalent to an indicator rank of 33.



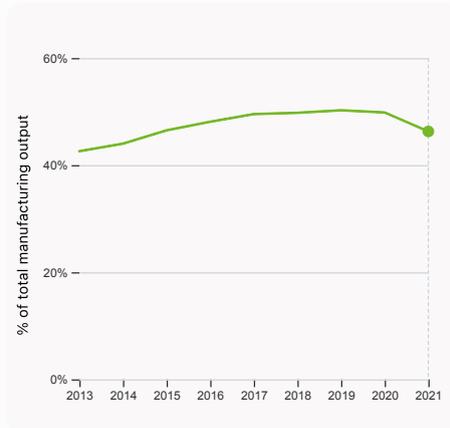
6.2.2 Unicorn valuation, % GDP

was equal to 1.27 % GDP in 2023 – and equivalent to an indicator rank of 31.



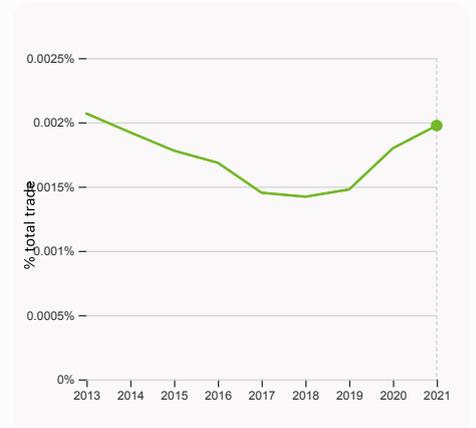
6.2.3 Software spending, % GDP

was equal to 0.183% GDP in 2022, down by 0.006 percentage points from the year prior – and equivalent to an indicator rank of 76.



6.2.4 High-tech manufacturing, %

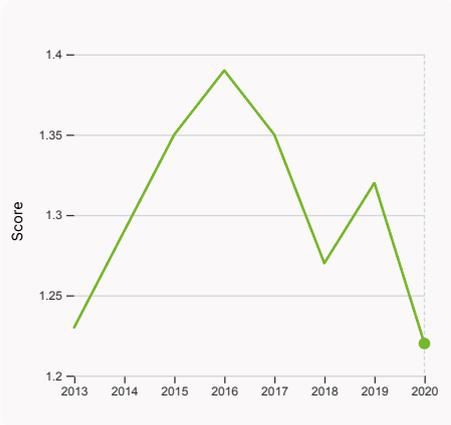
was equal to 46.3% of total manufacturing output in 2021, down by 3.54 percentage points from the year prior – and equivalent to an indicator rank of 16.



6.3.1 Intellectual property receipts, % total trade

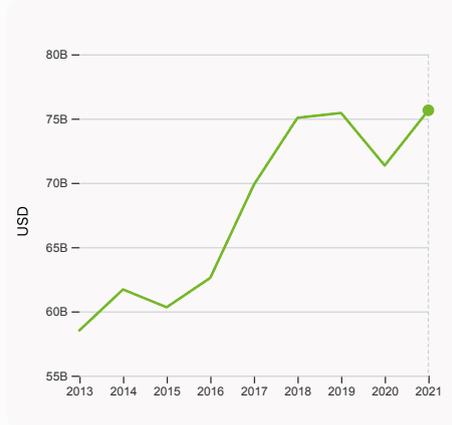
was equal to 0.002% total trade in 2021, up by 0.00018 percentage points from the year prior – and equivalent to an indicator rank of 102.

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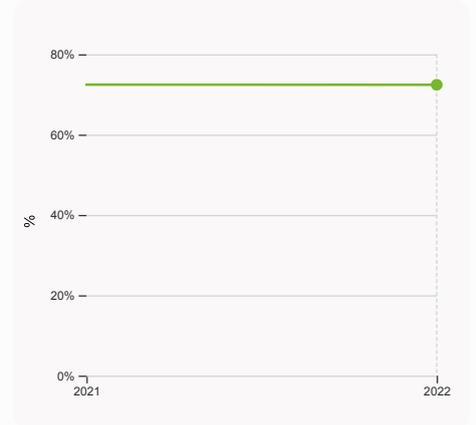
6.3.2 Production and export complexity

was equal to a score of 1.22 in 2020, down by 7.58% from the year prior – and equivalent to an indicator rank of 20.



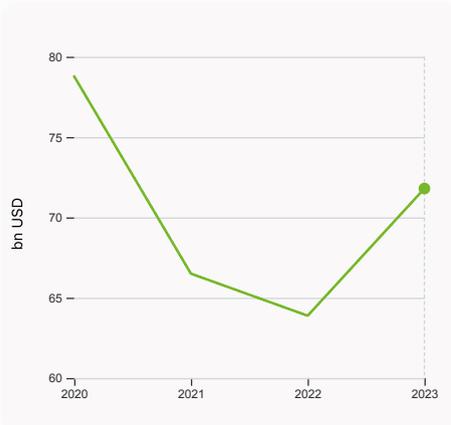
6.3.3 High-tech exports

was equal to 75,645,435,649 USD in 2021, up by 6.02% from the year prior – and equivalent to an indicator rank of 9.



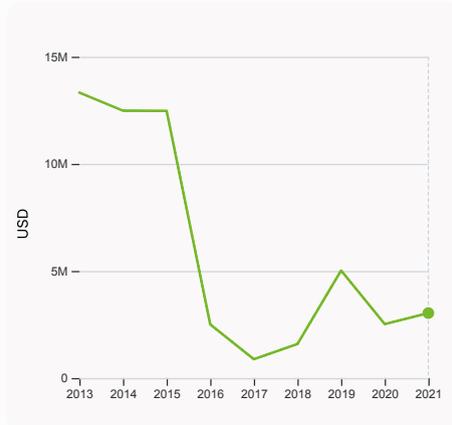
7.1.1 Intangible asset intensity, top 15, %

was equal to 72.42% in 2022, down by 0.03 percentage points from the year prior – and equivalent to an indicator rank of 15.



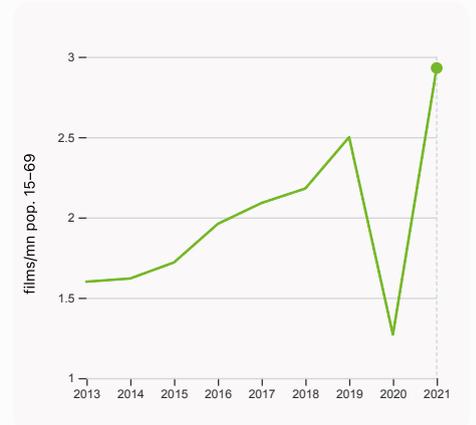
7.1.3 Global brand value, top 5,000

was equal to 71.799 bn USD in 2023, up by 12.39% from the year prior – and equivalent to an indicator rank of 34.



7.2.1 Cultural and creative services exports

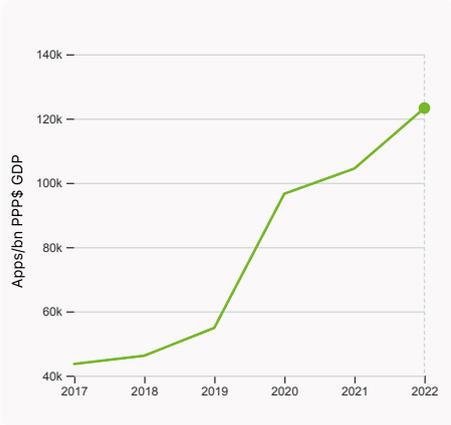
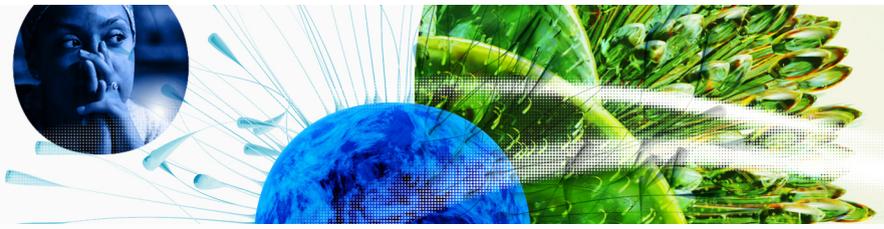
was equal to 3,035,000 USD in 2021, up by 20.39% from the year prior – and equivalent to an indicator rank of 110.



7.2.2 National feature films/mn pop. 15-69

was equal to 2.93 films/mn pop. 15-69 in 2021, up by 130.71% from the year prior – and equivalent to an indicator rank of 39.

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7.3.4 Mobile app creation/bn PPP\$ GDP

was equal to 123,269.7 Apps/bn PPP\$ GDP in 2022, up by 18.027% from the year prior – and equivalent to an indicator rank of 69.

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→ Mexico's innovation top performers

> 2.3.4 QS university ranking of Mexico's top universities

Rank	University	Score
104	UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO (UNAM)	58.00
170	TECNOLOGICO DE MONTERREY (ITESM)	47.10
402	COLEGIO DE MEXICO	28.30

Source: QS Quacquarelli Symonds Ltd (<https://www.topuniversities.com/university-rankings/world-university-rankings/2023>).

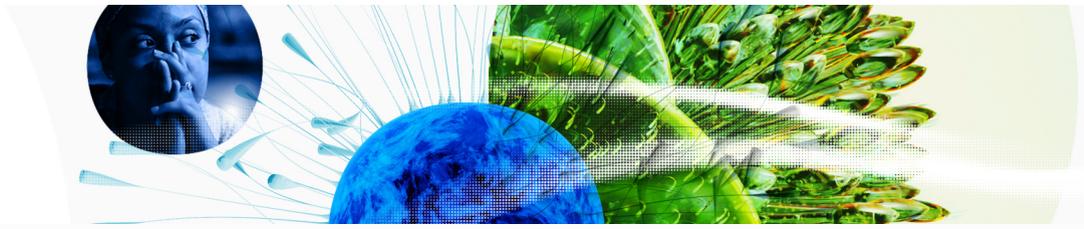
Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100]. Ranks can represent a single value "x", a tie "x=" or a range "x-y".

> 6.2.2 Top Unicorn Companies in Mexico

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	KAVAK	E-commerce & direct-to-consumer	Lerma de Villada	9
2	BITSO	Fintech	Mexico City	2
3	CLIP	Fintech	Mexico City	2

Source: CBInsights, Tracker – The Complete List of Unicorn Companies: <https://www.cbinsights.com/research-unicorn-companies>

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> 7.1.1 Top 15 intangible-asset intensive companies in Mexico

Rank	Firm	Intensity, %
1	AMERICA MOVIL SAB DE CV	56.68
2	GRUPO BIMBO SAB DE CV	80.54
3	FOMENTO ECONOMICO MEXICANO SAB DE CV	55.04

Source: Brand Finance (<https://brandirectory.com/reports/gift-2022>).

Note: Brand Finance only provides within economy ranks.

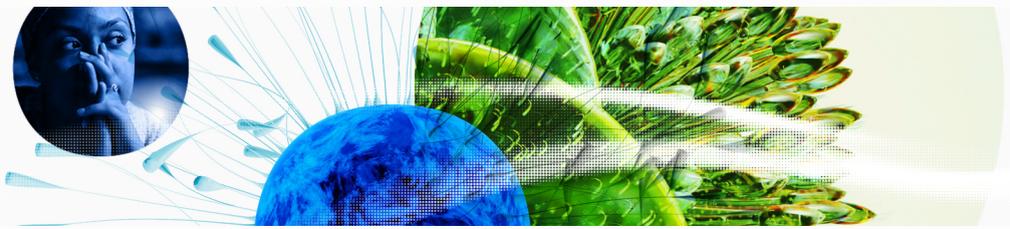
> 7.1.3 Top 5,000 companies in Mexico with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	CORONA EXTRA	Beers	7,425.3
2	CLARO	Telecoms	5,493.7
3	BODEGA AURRERA	Retail	4,387.5

Source: Brand Finance (<https://brandirectory.com>).

Note: Rank corresponds to within economy ranks.

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GII 2023 rank

58

Mexico

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
51	77	Upper middle	LCN	127.5	2,919.9	22,440.1

Score / Value Rank

Score / Value Rank

Institutions		34.8	111	◇	Business sophistication		25.4	79
1.1 Institutional environment		30.0	100	◇	5.1 Knowledge workers		21.2	94
1.1.1	Operational stability for businesses*	31.9	116	○ ◇	5.1.1	Knowledge-intensive employment, %	20.0	75
1.1.2	Government effectiveness*	28.1	89		5.1.2	Firms offering formal training, %	n/a	n/a
1.2 Regulatory environment		49.2	102		5.1.3	GERD performed by business, % GDP	0.1	66
1.2.1	Regulatory quality*	36.1	85		5.1.4	GERD financed by business, %	17.8	69
1.2.2	Rule of law*	16.3	109	◇	5.1.5	Females employed w/advanced degrees, %	10.4	74
1.2.3	Cost of redundancy dismissal	22.0	98		5.2 Innovation linkages		19.0	80
1.3 Business environment		25.0	112	○	5.2.1	University-industry R&D collaboration†	37.9	80
1.3.1	Policies for doing business†	19.7	120	○ ◇	5.2.2	State of cluster development†	52.9	42
1.3.2	Entrepreneurship policies and culture†	30.3	57		5.2.3	GERD financed by abroad, % GDP	0.0	81
Human capital and research		31.7	63		5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	0.0	100
2.1 Education		42.8	89		5.2.5	Patent families/bn PPP\$ GDP	0.0	67
2.1.1	Expenditure on education, % GDP	4.3	62	●	5.3 Knowledge absorption		35.8	56
2.1.2	Government funding/pupil, secondary, % GDP/cap	12.8	83	○	5.3.1	Intellectual property payments, % total trade	0.1	104
2.1.3	School life expectancy, years	14.7	60		5.3.2	High-tech imports, % total trade	17.9	11
2.1.4	PISA scales in reading, maths and science	416.2	57		5.3.3	ICT services imports, % total trade	0.1	131
2.1.5	Pupil-teacher ratio, secondary	16.0	82		5.3.4	FDI net inflows, % GDP	2.6	60
2.2 Tertiary education		26.2	78		5.3.5	Research talent, % in businesses	47.2	29
2.2.1	Tertiary enrolment, % gross	44.8	71		Knowledge and technology outputs		24.7	57
2.2.2	Graduates in science and engineering, %	25.8	41		6.1 Knowledge creation		11.2	78
2.2.3	Tertiary inbound mobility, %	0.9	92	○ ◇	6.1.1	Patents by origin/bn PPP\$ GDP	0.4	83
2.3 Research and development (R&D)		26.1	38	◆	6.1.2	PCT patents by origin/bn PPP\$ GDP	0.1	67
2.3.1	Researchers, FTE/mn pop.	355.8	77	●	6.1.3	Utility models by origin/bn PPP\$ GDP	0.2	40
2.3.2	Gross expenditure on R&D, % GDP	0.3	75	●	6.1.4	Scientific and technical articles/bn PPP\$ GDP	n/a	n/a
2.3.3	Global corporate R&D investors, top 3, mn US\$	50.4	32	◆	6.1.5	Citable documents H-index	29.7	33
2.3.4	QS university ranking, top 3*	45.1	26	●◆	6.2 Knowledge impact		31.3	51
Infrastructure		40.4	65		6.2.1	Labor productivity growth, %	-1.8	123
3.1 Information and communication technologies (ICTs)		73.2	57		6.2.2	Unicorn valuation, % GDP	1.3	31
3.1.1	ICT access*	69.7	90		6.2.3	Software spending, % GDP	0.2	76
3.1.2	ICT use*	70.5	69		6.2.4	High-tech manufacturing, %	46.3	16
3.1.3	Government's online service*	80.6	31		6.3 Knowledge diffusion		31.5	51
3.1.4	E-participation*	72.1	32		6.3.1	Intellectual property receipts, % total trade	0.0	102
3.2 General infrastructure		21.3	84		6.3.2	Production and export complexity	78.0	20
3.2.1	Electricity output, GWh/mn pop.	2,566.2	73		6.3.3	High-tech exports, % total trade	14.2	9
3.2.2	Logistics performance*	36.4	65		6.3.4	ICT services exports, % total trade	0.0	131
3.2.3	Gross capital formation, % GDP	20.8	91		6.3.5	ISO 9001 quality/bn PPP\$ GDP	3.1	72
3.3 Ecological sustainability		26.6	58		Creative outputs		31.7	45
3.3.1	GDP/unit of energy use	12.2	47		7.1 Intangible assets		38.2	50
3.3.2	Environmental performance*	45.1	57		7.1.1	Intangible asset intensity, top 15, %	72.4	15
3.3.3	ISO 14001 environment/bn PPP\$ GDP	0.8	75		7.1.2	Trademarks by origin/bn PPP\$ GDP	53.2	44
Market sophistication		37.2	57		7.1.3	Global brand value, top 5,000	4.9	34
4.1 Credit		20.8	90		7.1.4	Industrial designs by origin/bn PPP\$ GDP	0.5	84
4.1.1	Finance for startups and scaleups†	39.2	59		7.2 Creative goods and services		31.7	25
4.1.2	Domestic credit to private sector, % GDP	38.1	85		7.2.1	Cultural and creative services exports, % total trade	0.0	110
4.1.3	Loans from microfinance institutions, % GDP	0.9	29		7.2.2	National feature films/mn pop. 15-69	2.9	39
4.2 Investment		8.8	58		7.2.3	Entertainment and media market/th pop. 15-69	8.2	36
4.2.1	Market capitalization, % GDP	33.6	45		7.2.4	Creative goods exports, % total trade	10.1	1
4.2.2	Venture capital (VC) investors, deals/bn PPP\$ GDP	0.0	79	○	7.3 Online creativity		18.9	72
4.2.3	VC recipients, deals/bn PPP\$ GDP	0.0	79		7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	3.0	70
4.2.4	VC received, value, % GDP	0.0	40		7.3.2	Country-code TLDs/th pop. 15-69	4.4	58
4.3 Trade, diversification, and market scale		81.9	12	●◆	7.3.3	GitHub commits/mn pop. 15-69	3.9	81
4.3.1	Applied tariff rate, weighted avg., %	1.2	13	●◆	7.3.4	Mobile app creation/bn PPP\$ GDP	64.1	69
4.3.2	Domestic industry diversification	90.8	45					
4.3.3	Domestic market scale, bn PPP\$	2,919.9	13	●◆				

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 appendices for details, including the year of the data, at <https://www.wipo.int/gii-ranking>. 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 indicators that are either missing or outdated for Mexico.



> Mexico has missing data for one indicator and outdated data for six indicators.

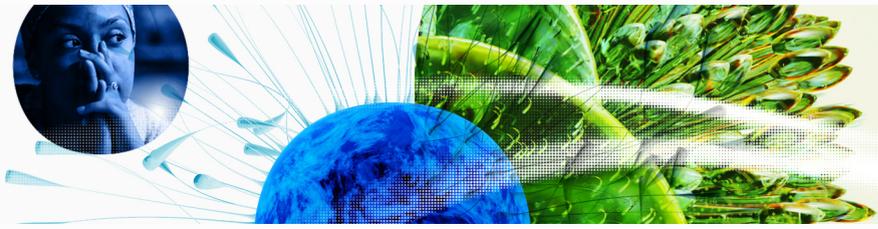
> Missing data for Mexico

Code	Indicator name	Economy Year	Model Year	Source
5.1.2	Firms offering formal training, %	n/a	2019	World Bank Enterprise Surveys

> Outdated data for Mexico

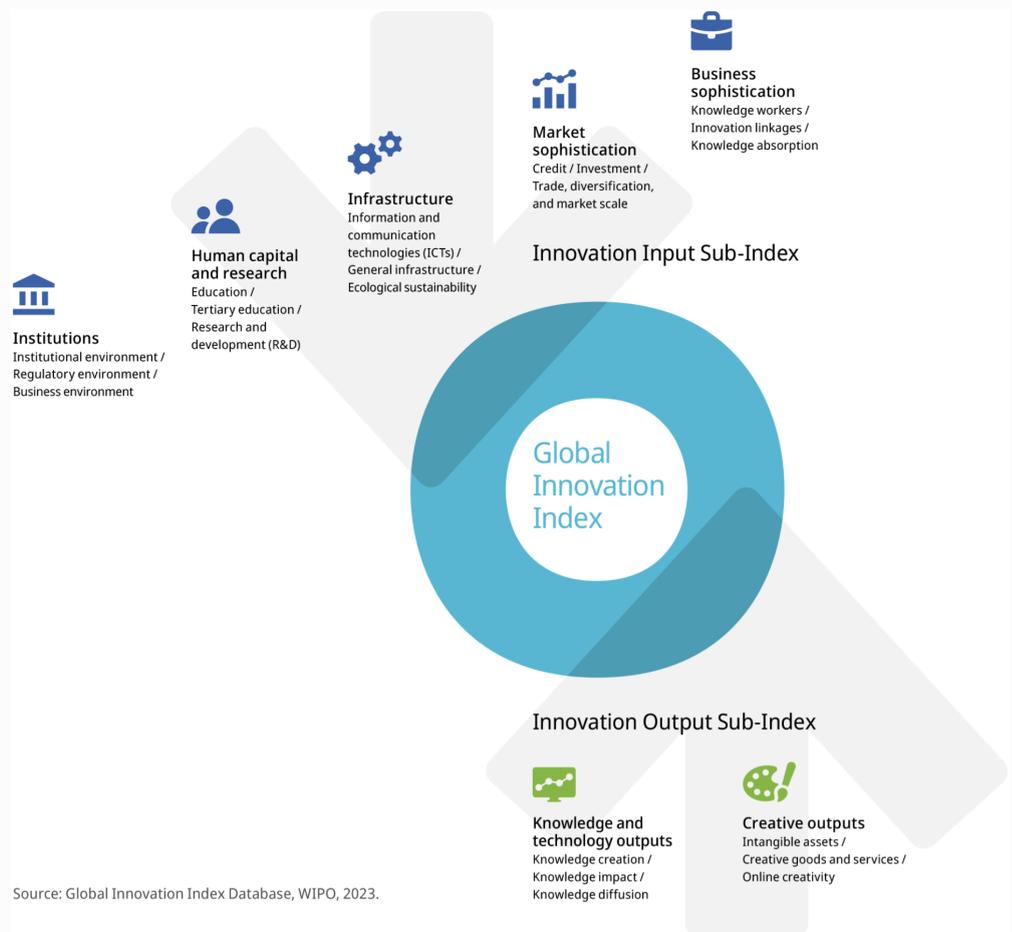
Code	Indicator name	Economy Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2018	2021	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2020	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	2020	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
4.3.1	Applied tariff rate, weighted avg., %	2018	2020	World Bank
5.1.3	GERD performed by business, % GDP	2020	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.5	Research talent, % in businesses	2020	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT

Global Innovation Index 2023



→ About the Global Innovation Index

- The Global Innovation Index (GII) is published by the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations.
- 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.