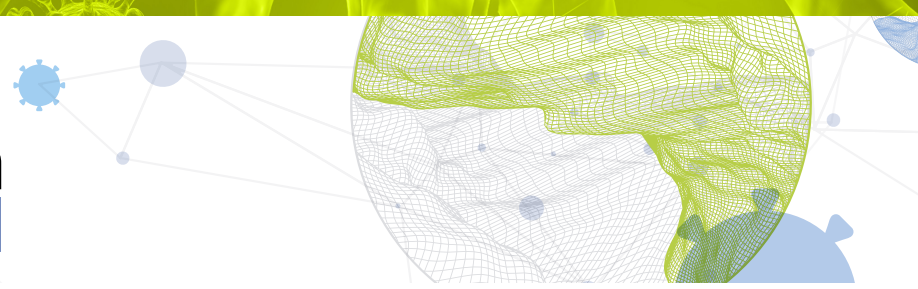




# Global Innovation Index 2021



## ISRAEL

**15th** Israel ranks 15th among the 132 economies featured in the GII 2021.

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 Israel 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 Israel in the GII 2021 is between ranks 14 and 16.

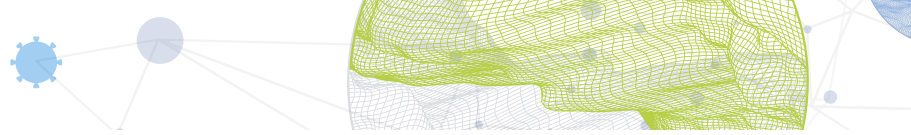
### Rankings for Israel (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	15	18	12
2020	13	17	13
2019	10	17	8

- Israel performs better in innovation outputs than innovation inputs in 2021.
- This year Israel ranks 18th in innovation inputs, lower than both 2020 and 2019.
- As for innovation outputs, Israel ranks 12th. This position is higher than last year but lower than 2019.

**14th** Israel ranks 14th among the 51 high-income group economies.

**1st** Israel ranks 1st among the 19 economies in Northern Africa and Western Asia.

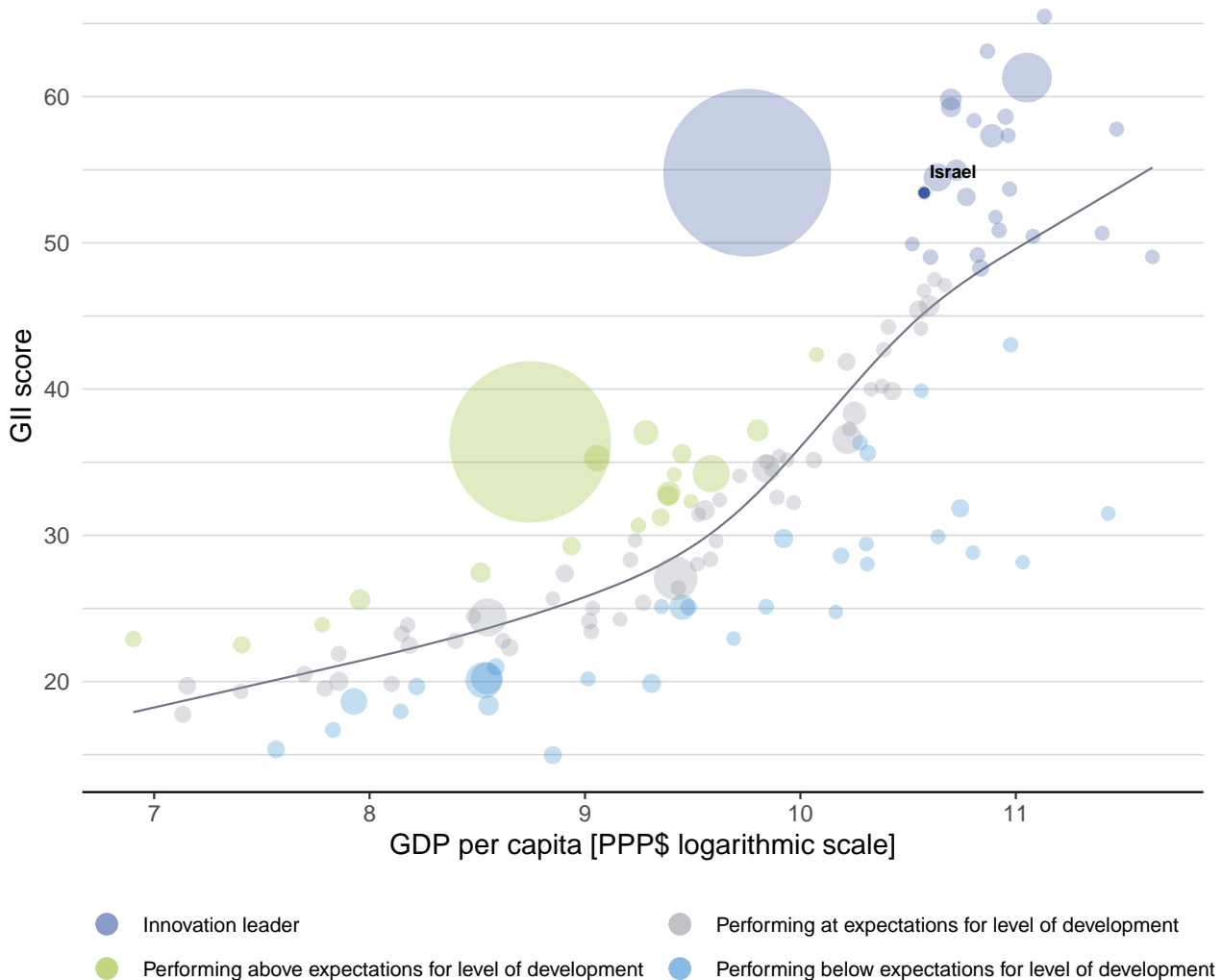


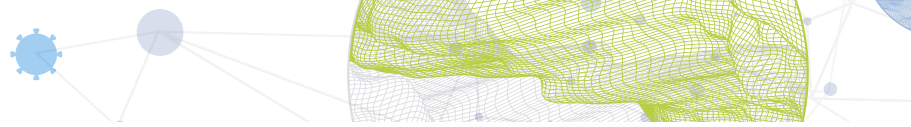
## EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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, Israel's performance is above expectations for its level of development.

### The positive relationship between innovation and development



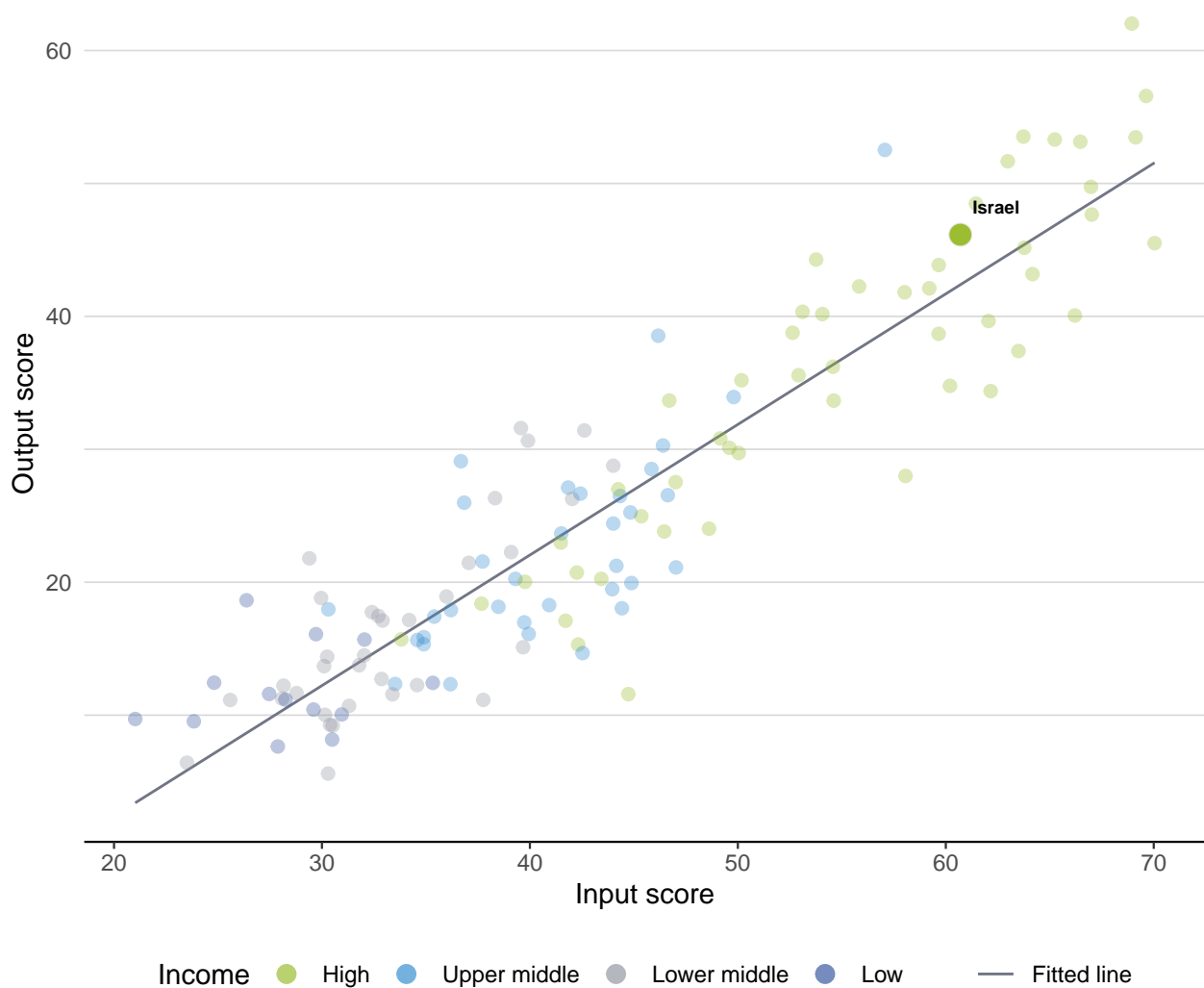


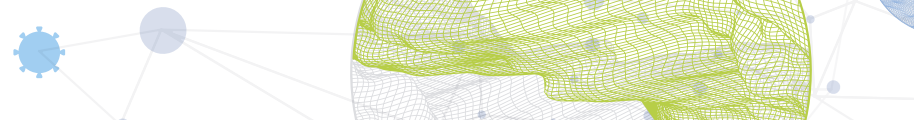
## EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

**Innovation input to output performance**





## BENCHMARKING AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND NORTHERN AFRICA AND WESTERN ASIA

### The seven GII pillar scores for Israel

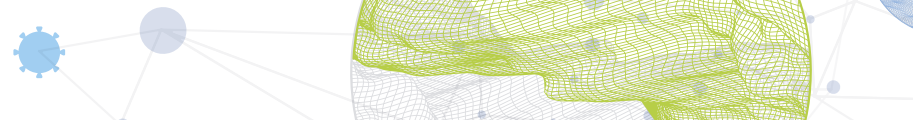


#### High-income group economies

Israel performs above the high-income group average in four pillars, namely: Human capital and research; Market sophistication; Business sophistication; and, Knowledge and technology outputs.

#### Northern Africa and Western Asia

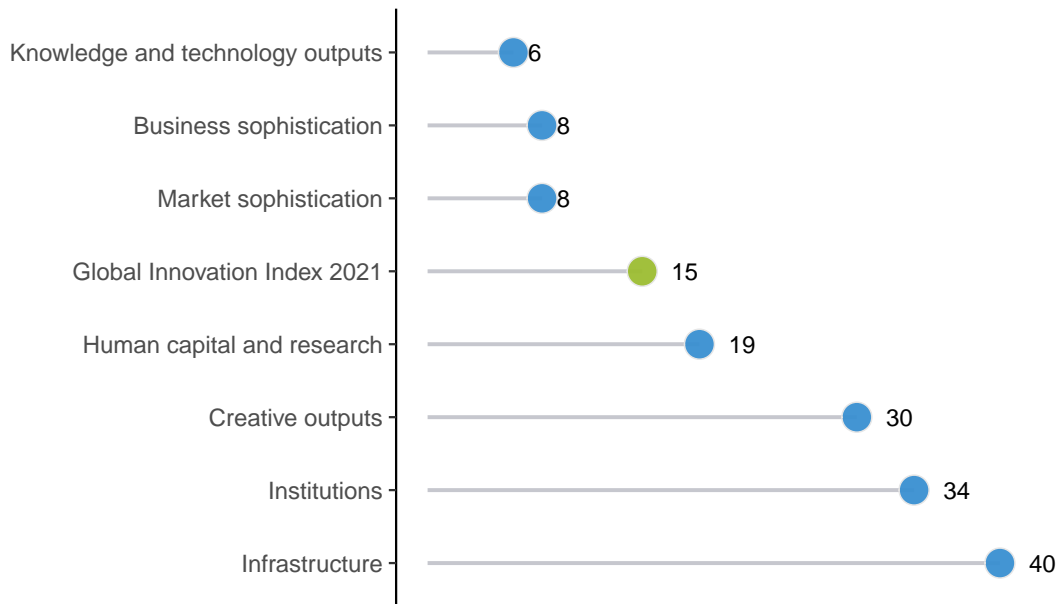
Israel performs above the regional average in all GII pillars.



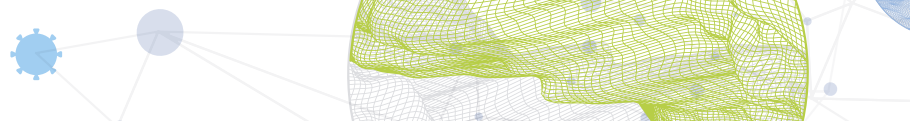
## OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Israel performs best in Knowledge and technology outputs and its weakest performance is in Infrastructure.

### The seven GII pillar ranks for Israel



Note: The highest possible ranking in each pillar is one.



## INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Israel in the GII 2021.

### Strengths and weaknesses for Israel

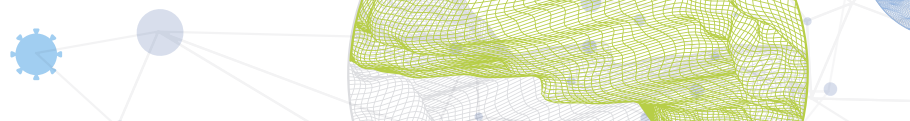
Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
2.3.2	Gross expenditure on R&D, % GDP	1	1.1.1	Political and operational stability	60
4.2.3	Venture capital investors, deals/bn PPP\$ GDP	1	1.2.3	Cost of redundancy dismissal	114
4.2.4	Venture capital recipients, deals/bn PPP\$ GDP	1	2.1.5	Pupil-teacher ratio, secondary	68
5.1.3	GERD performed by business, % GDP	1	2.2	Tertiary education	77
5.2	Innovation linkages	1	2.2.2	Graduates in science and engineering, %	85
5.2.1	University-industry R&D collaboration	1	2.2.3	Tertiary inbound mobility, %	70
5.2.3	GERD financed by abroad, % GDP	1	3.1.4	E-participation	66
5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	3	3.2.3	Gross capital formation, % GDP	84
6.1.2	PCT patents by origin/bn PPP\$ GDP	1	5.1.2	Firms offering formal training, %	81
6.3	Knowledge diffusion	2	5.3.1	Intellectual property payments, % total trade	64
6.3.4	ICT services exports, % total trade	1	7.1	Intangible assets	75
7.2.1	Cultural and creative services exports, % total trade	5	7.1.1	Trademarks by origin/bn PPP\$ GDP	109
7.3.3	Wikipedia edits/mn pop. 15–69	1			
7.3.4	Mobile app creation/bn PPP\$ GDP	1			

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$	GII 2020 rank
12	18	High	NAWA	8.7	361.0	39,126	13

	Score/Value	Rank		Score/Value	Rank
 <b>Institutions</b>	76.2	34	 <b>Business sophistication</b>	58.7	8
<b>1.1 Political environment</b>	76.6	28	<b>5.1 Knowledge workers</b>	61.2	15
1.1.1 Political and operational stability*	69.6	60	5.1.1 Knowledge-intensive employment, %	48.4	12
1.1.2 Government effectiveness*	80.1	22	5.1.2 Firms offering formal training, %	18.6	81
<b>1.2 Regulatory environment</b>	68.6	53	5.1.3 GERD performed by business, % GDP	4.4	1
1.2.1 Regulatory quality*	77.0	23	5.1.4 GERD financed by business, %	36.6	52
1.2.2 Rule of law*	74.3	27	5.1.5 Females employed w/advanced degrees, %	22.4	25
1.2.3 Cost of redundancy dismissal	27.4	114	<b>5.2 Innovation linkages</b>	82.1	1
<b>1.3 Business environment</b>	83.4	24	5.2.1 University-industry R&D collaboration†	79.2	1
1.3.1 Ease of starting a business*	94.1	26	5.2.2 State of cluster development and depth†	56.9	32
1.3.2 Ease of resolving insolvency*	72.7	27	5.2.3 GERD financed by abroad, % GDP	2.5	1
			5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP	0.3	3
			5.2.5 Patent families/bn PPP\$ GDP	5.3	8
 <b>Human capital and research</b>	51.6	19	<b>5.3 Knowledge absorption</b>	33.0	48
<b>2.1 Education</b>	58.1	38	5.3.1 Intellectual property payments, % total trade	0.6	64
2.1.1 Expenditure on education, % GDP	6.1	14	5.3.2 High-tech imports, % total trade	10.9	22
2.1.2 Government funding/pupil, secondary, % GDP/cap	19.4	50	5.3.3 ICT services imports, % total trade	2.2	28
2.1.3 School life expectancy, years	16.1	34	5.3.4 FDI net inflows, % GDP	5.1	20
2.1.4 PISA scales in reading, maths and science	465.2	39	5.3.5 Research talent, % in businesses	n/a	n/a
2.1.5 Pupil-teacher ratio, secondary	14.4	68	 <b>Knowledge and technology outputs</b>	55.9	6
<b>2.2 Tertiary education</b>	28.6	77	<b>6.1 Knowledge creation</b>	53.8	12
2.2.1 Tertiary enrolment, % gross	61.5	47	6.1.1 Patents by origin/bn PPP\$ GDP	3.6	23
2.2.2 Graduates in science and engineering, %	18.1	85	6.1.2 PCT patents by origin/bn PPP\$ GDP	5.4	1
2.2.3 Tertiary inbound mobility, %	2.8	70	6.1.3 Utility models by origin/bn PPP\$ GDP	n/a	n/a
<b>2.3 Research and development (R&amp;D)</b>	68.0	8	6.1.4 Scientific and technical articles/bn PPP\$ GDP	41.6	15
2.3.1 Researchers, FTE/mn pop.	n/a	n/a	6.1.5 Citable documents H-index	47.4	16
2.3.2 Gross expenditure on R&D, % GDP	4.9	1	<b>6.2 Knowledge impact</b>	42.2	21
2.3.3 Global corporate R&D investors, top 3, mn US\$	64.2	20	6.2.1 Labor productivity growth, %	1.0	45
2.3.4 QS university ranking, top 3*	39.9	32	6.2.2 New businesses/th pop. 15–64	3.3	42
			6.2.3 Software spending, % GDP	0.2	56
 <b>Infrastructure</b>	50.2	40	6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP	21.7	7
<b>3.1 Information and communication technologies (ICTs)</b>	76.6	45	6.2.5 High-tech manufacturing, %	33.0	37
3.1.1 ICT access*	81.6	27	<b>6.3 Knowledge diffusion</b>	71.8	2
3.1.2 ICT use*	78.4	25	6.3.1 Intellectual property receipts, % total trade	2.1	12
3.1.3 Government's online service*	74.7	55	6.3.2 Production and export complexity	71.7	20
3.1.4 E-participation*	71.4	66	6.3.3 High-tech exports, % total trade	11.4	14
<b>3.2 General infrastructure</b>	33.7	45	6.3.4 ICT services exports, % total trade	15.3	1
3.2.1 Electricity output, GWh/mn pop.	7,757.5	25	 <b>Creative outputs</b>	36.3	30
3.2.2 Logistics performance*	58.5	36	<b>7.1 Intangible assets</b>	27.5	75
3.2.3 Gross capital formation, % GDP	20.7	84	7.1.1 Trademarks by origin/bn PPP\$ GDP	11.3	109
<b>3.3 Ecological sustainability</b>	40.3	35	7.1.2 Global brand value, top 5,000, % GDP	19.9	49
3.3.1 GDP/unit of energy use	15.0	22	7.1.3 Industrial designs by origin/bn PPP\$ GDP	2.2	46
3.3.2 Environmental performance*	65.8	29	7.1.4 ICTs and organizational model creation†	77.0	12
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP	2.1	38	<b>7.2 Creative goods and services</b>	31.2	23
			7.2.1 Cultural and creative services exports, % total trade	2.9	5
 <b>Market sophistication</b>	66.8	8	7.2.2 National feature films/mn pop. 15–69	5.3	41
<b>4.1 Credit</b>	48.0	39	7.2.3 Entertainment and media market/th pop. 15–69	35.6	22
4.1.1 Ease of getting credit*	70.0	44	7.2.4 Printing and other media, % manufacturing	1.2	38
4.1.2 Domestic credit to private sector, % GDP	65.4	50	7.2.5 Creative goods exports, % total trade	1.4	37
4.1.3 Microfinance gross loans, % GDP	n/a	n/a	<b>7.3 Online creativity</b>	59.0	9
<b>4.2 Investment</b>	74.4	7	7.3.1 Generic top-level domains (TLDs)/th pop. 15–69	21.9	26
4.2.1 Ease of protecting minority investors*	78.0	18	7.3.2 Country-code TLDs/th pop. 15–69	14.3	34
4.2.2 Market capitalization, % GDP	58.7	26	7.3.3 Wikipedia edits/mn pop. 15–69	93.9	1
4.2.3 Venture capital investors, deals/bn PPP\$ GDP	0.6	1	7.3.4 Mobile app creation/bn PPP\$ GDP	100.0	1
4.2.4 Venture capital recipients, deals/bn PPP\$ GDP	0.5	1			
<b>4.3 Trade, diversification, and market scale</b>	77.9	36			
4.3.1 Applied tariff rate, weighted avg., %	1.8	53			
4.3.2 Domestic industry diversification	91.7	46			
4.3.3 Domestic market scale, bn PPP\$	361.0	48			

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 IV 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 Israel.

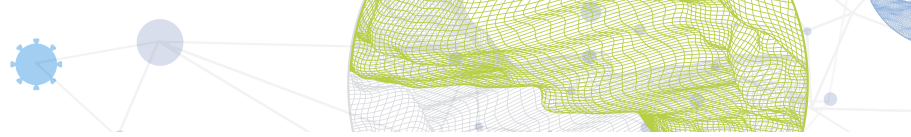
### Missing data for Israel

Code	Indicator name	Economy year	Model year	Source
2.3.1	Researchers, FTE/mn pop.	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
4.1.3	Microfinance gross loans, % GDP	n/a	2018	Microfinance Information Exchange
5.3.5	Research talent, % in businesses	n/a	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2019	World Intellectual Property Organization

### Outdated data for Israel

Code	Indicator name	Economy year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	2018	2019	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	2014	2018	UNESCO Institute for Statistics
4.3.1	Applied tariff rate, weighted avg., %	2017	2019	World Bank
4.3.2	Domestic industry diversification	2017	2018	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2017	2019	International Labour Organization
5.1.2	Firms offering formal training, %	2013	2019	World Bank
5.1.5	Females employed w/advanced degrees, %	2017	2019	International Labour Organization
7.2.4	Printing and other media, % manufacturing	2017	2018	United Nations Industrial Development Organization

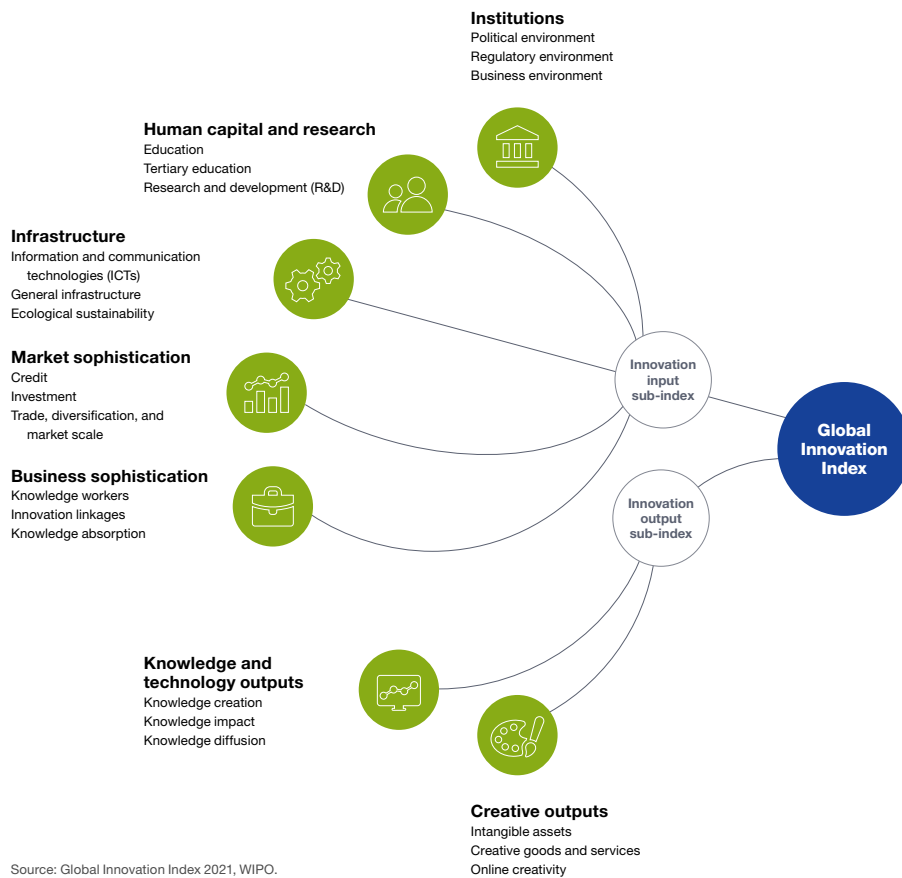




## ABOUT THE GLOBAL INNOVATION INDEX

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.