



GLOBAL INNOVATION INDEX 2019

THE REPUBLIC OF MOLDOVA

58th

The Republic of Moldova ranks 58th 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 the Republic of Moldova 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 the Republic of Moldova's ranking in the GII 2019 is between 52 and 60.

Rankings of the Republic of Moldova, 2017 - 2019

	GII	Innovation Inputs	Innovation Outputs
2019	58	81	45
2018	48	79	37
2017	54	73	42

- The Republic of Moldova performs better in Innovation Outputs than Inputs.
- This year the Republic of Moldova ranks 81st in Innovation Inputs, worse than last year and compared to 2017.
- As for Innovation Outputs, the Republic of Moldova ranks 45th. This position is worse than last year and compared to 2017.

7th

The Republic of Moldova ranks 7th among the 26 lower middle-income economies.

35th

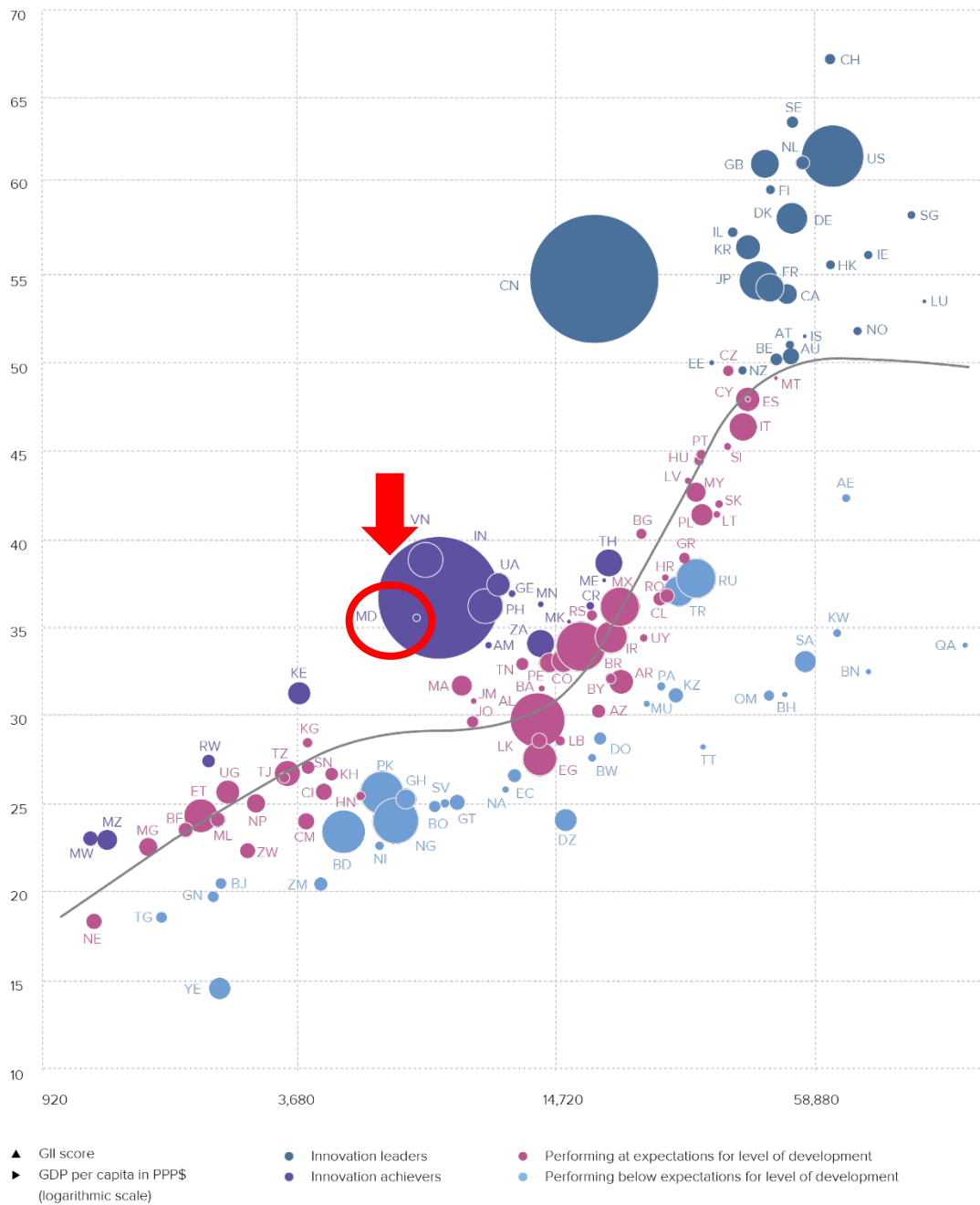
The Republic of Moldova ranks 35th among the 39 economies in Europe.

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, the Republic of Moldova performs above its expected level of development.

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

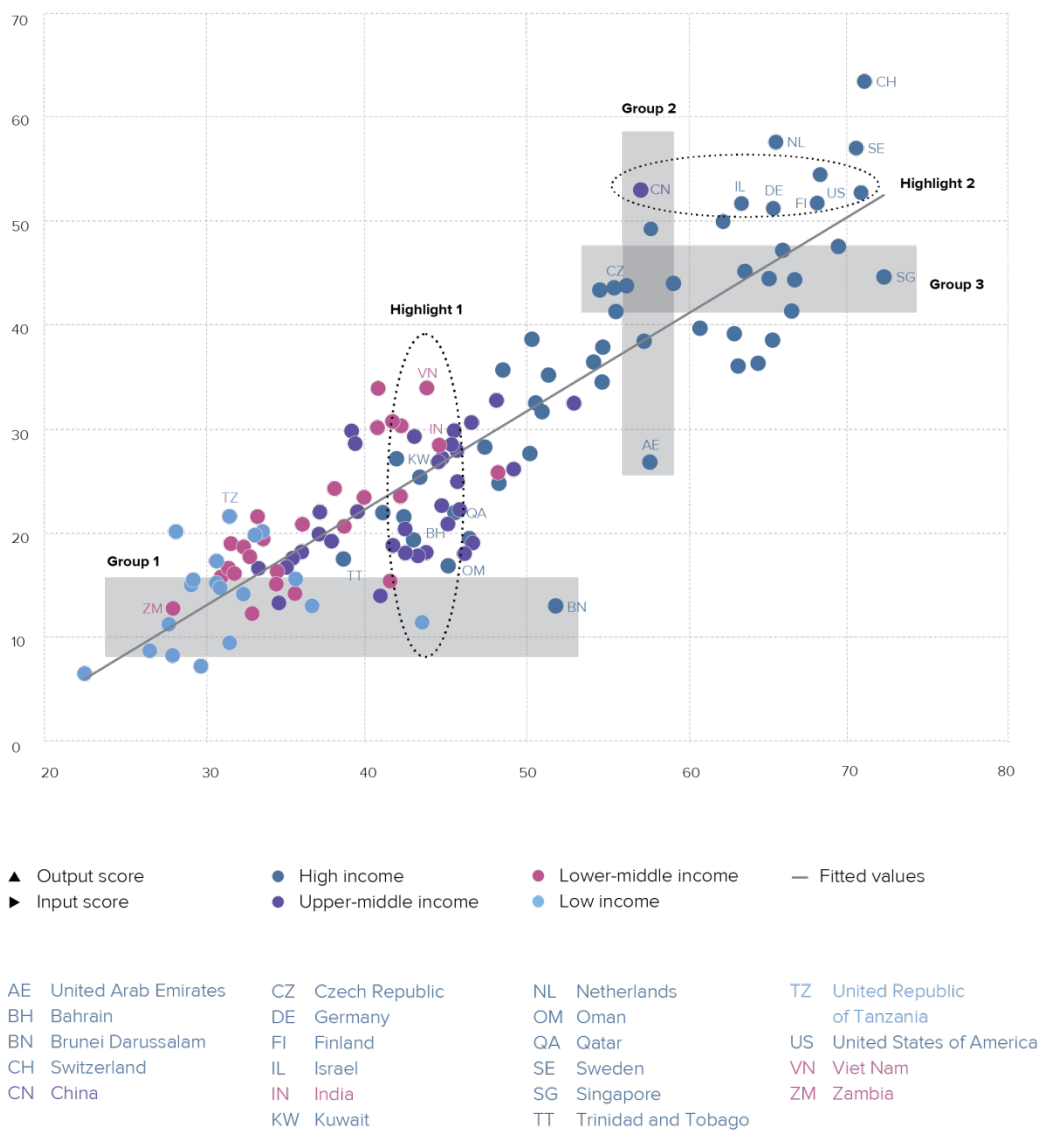


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

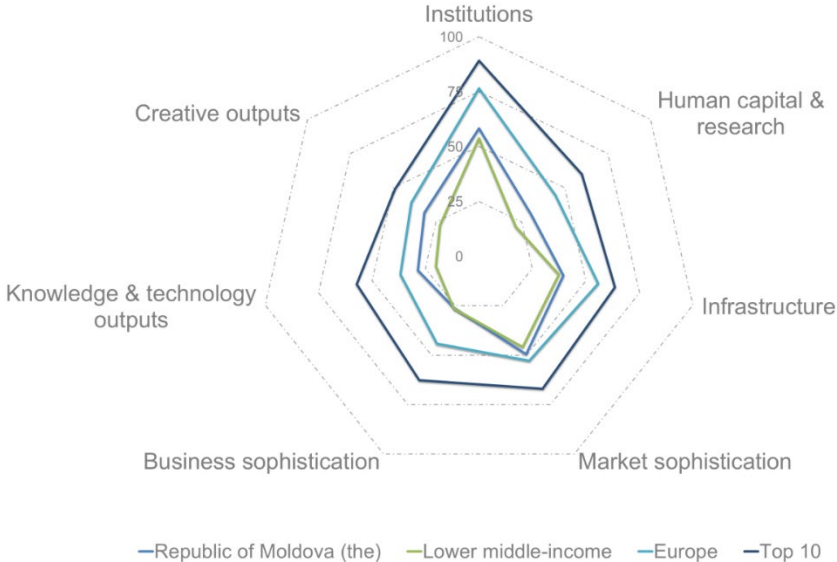
The Republic of Moldova produces more innovation outputs relative to its level of innovation investments.

Innovation input/output performance by income group, 2019



BENCHMARKING THE REPUBLIC OF MOLDOVA TO OTHER LOWER MIDDLE-INCOME ECONOMIES AND THE EUROPE REGION

Scores of the Republic of Moldova in the seven GII pillars



Lower middle-income economies

The Republic of Moldova 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 lower middle-income group.

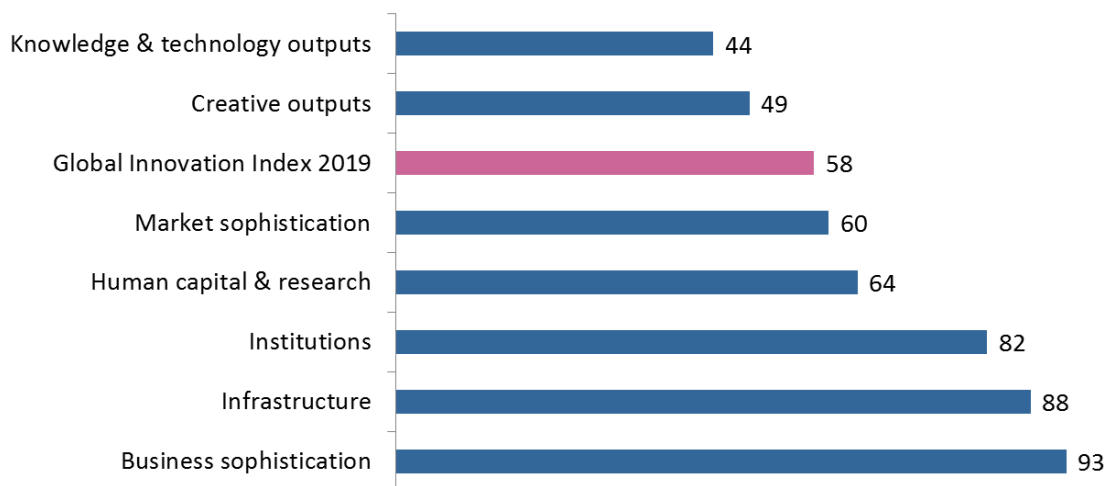
Europe Region

Compared to other economies in Europe, the Republic of Moldova performs below average in all of the 7 GII pillars.

Top ranks are found in sub-pillars Business environment, Education, Investment, Knowledge creation, and Intangible assets where the country ranks in the top 50 worldwide.

OVERVIEW OF THE RANKINGS OF THE REPUBLIC OF MOLDOVA IN THE 7 GII AREAS

The Republic of Moldova performs the best in Knowledge & technology outputs and its weakest performance is in Business sophistication.



*The highest possible ranking in each pillar is 1.

THE REPUBLIC OF MOLDOVA'S INNOVATION STRENGTHS AND WEAKNESSES

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

Strengths

Code	Indicator name	Rank
1.3.1	Ease of starting a business*	12
2.1.1	Expenditure on education, % GDP	11
2.1.2	Government funding/pupil, secondary, % GDP/cap	7
5.3.3	ICT services imports, % total trade	28
6.1	Knowledge creation	28
6.1.3	Utility models by origin/bn PPP\$ GDP	4
6.2.1	Growth rate of PPP\$ GDP/worker, %, 3-year average	13
6.3.3	ICT services exports, % total trade	18
7.1	Intangible assets	26
7.1.1	Trademarks by origin/bn PPP\$ GDP	7
7.1.2	Industrial designs by origin/bn PPP\$ GDP	11
7.3.4	Mobile app creation/bn PPP\$ GDP	20

Weaknesses

Code	Indicator name	Rank
2.3.3	Global R&D companies, top 3, in mn US\$	43
2.3.4	QS university ranking, average score top 3*	78
3.2	General infrastructure	115
3.2.2	Logistics performance*	106
3.3	Ecological sustainability	116
3.3.1	GDP/unit of energy use	112
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP	111
4.3	Trade, competition, & market scale	108
4.3.3	Domestic market scale, bn PPP\$	121
5.2	Innovation linkages	120
5.2.1	University/industry research collaboration [†]	109
5.2.2	State of cluster development [†]	124
5.3.5	Research talent, % in business enterprise	70
7.2.2	National feature films/mn pop. 15–69	99

STRENGTHS

- GII strengths for the Republic of Moldova are found in five of the seven GII pillars, and mostly on the innovation output side of the GII.
- Four of these relative strengths are in Knowledge & technology outputs (44), where the Republic of Moldova shows strengths in sub-pillar Knowledge creation (28) as well as in three indicators: Utility models by origin (4), Labor productivity growth (13), and ICT services exports (18).
- In Creative outputs (49), strengths are found in sub-pillar Intangible assets (26) as well as in three indicators: Trademarks by origin (7), Industrial designs by origin (11), and Mobile app creation (20).
- In Institutions (82), the Republic of Moldova's only strength is indicator Ease of starting a business (12).
- In Human capital & research (64), relative strengths for the country are indicators Expenditure on education (11) and Government funding per pupil (7).
- In Business sophistication (93), indicator ICT services imports (28) is a GII strength for this country.

WEAKNESSES

- The Republic of Moldova's weaknesses in the GII are found in five of the seven GII pillars, and mostly on the innovation input side of the GII.
- In Human capital & research (64), GII weaknesses are indicators Global R&D companies (43) and Quality of universities (78).
- In Infrastructure (88), relative weaknesses are sub-pillars General infrastructure (115) and Ecological sustainability (116) and indicators Logistics performance (106), GDP per unit of energy use (112), and ISO 14001 environmental certificates (111).
- In Market sophistication (60), GII weaknesses are sub-pillar Trade, competition, & market scale (108) and indicator Domestic market scale (121).
- In Business sophistication (93), the Republic of Moldova has weaknesses in sub-pillar Innovation linkages (120) as well as in three indicators: University-industry research collaboration (109), State of cluster development (124), and Research talent (70).
- On the innovation output side, only one weakness is found in indicator National feature films (99).

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2018 rank
45	81	Lower middle	EUR	4.0	25.2	7,304.5	48
				Score/Value	Rank		
INSTITUTIONS				58.4	82		
1.1	Political environment		43.2	96			
1.1.1	Political and operational stability*.....		61.4	91			
1.1.2	Government effectiveness*.....		34.2	97			
1.2	Regulatory environment		57.1	91			
1.2.1	Regulatory quality*.....		40.9	72			
1.2.2	Rule of law*.....		35.4	89			
1.2.3	Cost of redundancy dismissal, salary weeks.....		23.7	98			
1.3	Business environment		74.8	47	◆		
1.3.1	Ease of starting a business*.....		95.6	12	●◆		
1.3.2	Ease of resolving insolvency*.....		54.1	63			
HUMAN CAPITAL & RESEARCH				30.4	64		
2.1	Education		57.2	38	◆		
2.1.1	Expenditure on education, % GDP.....		6.7	11	●◆		
2.1.2	Government funding/pupil, secondary, % GDP/cap... ..		36.3	7	●◆		
2.1.3	School life expectancy, years.....		11.6	93			
2.1.4	PISA scales in reading, maths, & science.....		421.3	51			
2.1.5	Pupil-teacher ratio, secondary.....		9.9	28	◆		
2.2	Tertiary education		30.3	66			
2.2.1	Tertiary enrolment, % gross.....		41.1	70			
2.2.2	Graduates in science & engineering, %.....		22.3	47			
2.2.3	Tertiary inbound mobility, %.....		4.1	52	◆		
2.3	Research & development (R&D)		3.7	84			
2.3.1	Researchers, FTE/mn pop.....		723.9	56			
2.3.2	Gross expenditure on R&D, % GDP.....		0.3	78			
2.3.3	Global R&D companies, avg. exp. top 3, mn US\$.....		0.0	43	○◇		
2.3.4	QS university ranking, average score top 3*.....		0.0	78	○◇		
INFRASTRUCTURE				39.4	88		
3.1	Information & communication technologies (ICTs)		72.3	52	◆		
3.1.1	ICT access*.....		72.8	56	◆		
3.1.2	ICT use*.....		53.4	66	◆		
3.1.3	Government's online service*.....		77.1	53	◆		
3.1.4	E-participation*.....		86.0	37	◆		
3.2	General infrastructure		21.2	115	○		
3.2.1	Electricity output, kWh/mn pop.....		1,641.4	85			
3.2.2	Logistics performance*.....		18.4	106	○		
3.2.3	Gross capital formation, % GDP.....		19.8	95			
3.3	Ecological sustainability		24.8	116	○		
3.3.1	GDP/unit of energy use.....		4.5	112	○◇		
3.3.2	Environmental performance*.....		52.0	91			
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP..		0.2	111	○		
MARKET SOPHISTICATION				49.5	60		
4.1	Credit		29.8	94			
4.1.1	Ease of getting credit*.....		70.0	40			
4.1.2	Domestic credit to private sector, % GDP.....		27.1	100			
4.1.3	Microfinance gross loans, % GDP.....		0.5	29			
4.2	Investment		68.3	[9]			
4.2.1	Ease of protecting minority investors*.....		68.3	30			
4.2.2	Market capitalization, % GDP.....		n/a	n/a			
4.2.3	Venture capital deals/bn PPP\$ GDP.....		n/a	n/a			
4.3	Trade, competition, & market scale		50.2	108	○		
4.3.1	Applied tariff rate, weighted avg., %.....		3.5	69			
4.3.2	Intensity of local competition*.....		63.8	86			
4.3.3	Domestic market scale, bn PPP\$.....		25.2	121	○◇		
BUSINESS SOPHISTICATION				26.1	93		
5.1	Knowledge workers		33.6	76			
5.1.1	Knowledge-intensive employment, %.....		26.5	52	◆		
5.1.2	Firms offering formal training, % firms.....		32.4	46			
5.1.3	GERD performed by business, % GDP.....		0.1	70			
5.1.4	GERD financed by business, %.....		17.9	70			
5.1.5	Females employed w/advanced degrees, %.....		13.7	48			
5.2	Innovation linkages		14.8	120	○		
5.2.1	University/industry research collaboration*.....		29.1	109	○		
5.2.2	State of cluster development*.....		28.2	124	○◇		
5.2.3	GERD financed by abroad, %.....		3.7	67			
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....		n/a	n/a			
5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....		0.1	51	◆		
5.3	Knowledge absorption		30.0	82			
5.3.1	Intellectual property payments, % total trade.....		0.5	61			
5.3.2	High-tech imports, % total trade.....		7.4	66			
5.3.3	ICT services imports, % total trade.....		1.9	28	●◆		
5.3.4	FDI net inflows, % GDP.....		2.2	77			
5.3.5	Research talent, % in business enterprise.....		6.4	70	○		
KNOWLEDGE & TECHNOLOGY OUTPUTS				28.7	44	◆	
6.1	Knowledge creation		33.2	28	●◆		
6.1.1	Patents by origin/bn PPP\$ GDP.....		3.1	32	◆		
6.1.2	PCT patents by origin/bn PPP\$ GDP.....		0.2	49	◆		
6.1.3	Utility models by origin/bn PPP\$ GDP.....		5.9	4	●◆		
6.1.4	Scientific & technical articles/bn PPP\$ GDP.....		6.7	66			
6.1.5	Citable documents H-index.....		4.7	96			
6.2	Knowledge impact		35.0	72			
6.2.1	Growth rate of PPP\$ GDP/worker, %.....		4.2	13	●		
6.2.2	New businesses/th pop. 15-64.....		1.8	54			
6.2.3	Computer software spending, % GDP.....		0.1	87			
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....		4.6	60			
6.2.5	High- & medium-high-tech manufactures, %.....		0.1	71			
6.3	Knowledge diffusion		17.9	61			
6.3.1	Intellectual property receipts, % total trade.....		0.1	45			
6.3.2	High-tech net exports, % total trade.....		0.7	74			
6.3.3	ICT services exports, % total trade.....		4.2	18	●		
6.3.4	FDI net outflows, % GDP.....		0.1	93			
CREATIVE OUTPUTS				31.8	49	◆	
7.1	Intangible assets		53.4	26	●◆		
7.1.1	Trademarks by origin/bn PPP\$ GDP.....		127.1	7	●◆		
7.1.2	Industrial designs by origin/bn PPP\$ GDP.....		12.2	11	●◆		
7.1.3	ICTs & business model creation*.....		52.1	98			
7.1.4	ICTs & organizational model creation*.....		48.3	86			
7.2	Creative goods & services		10.5	83			
7.2.1	Cultural & creative services exports, % total trade.....		0.9	31	◆		
7.2.2	National feature films/mn pop. 15-69.....		0.3	99	○		
7.2.3	Entertainment & Media market/th pop. 15-69.....		n/a	n/a			
7.2.4	Printing & other media, % manufacturing.....		1.0	68			
7.2.5	Creative goods exports, % total trade.....		0.2	83			
7.3	Online creativity		9.9	52	◆		
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....		2.0	78			
7.3.2	Country-code TLDs/th pop. 15-69.....		2.0	67			
7.3.3	Wikipedia edits/mn pop. 15-69.....		17.1	53			
7.3.4	Mobile app creation/bn PPP\$ GDP.....		24.3	20	●◆		

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 missing or are outdated for the Republic of Moldova.

Missing data

Code	Indicator name	Country year	Model year	Source
4.2.2	Market capitalization, % GDP	n/a	2017	World Federation of Exchanges
4.2.3	Venture capital deals/bn PPP\$ GDP	n/a	2018	Thomson Reuters
5.2.4	JV–strategic alliance deals/bn PPP\$ GDP	n/a	2018	Thomson Reuters
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2017	PwC

Outdated data

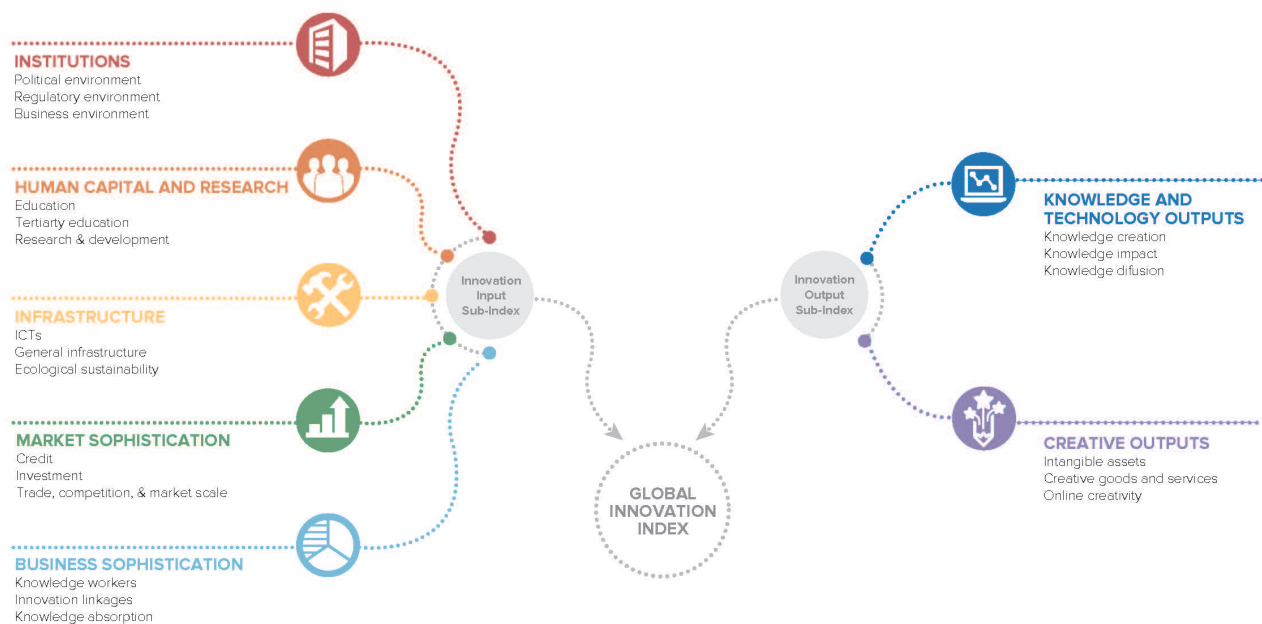
Code	Indicator name	Country year	Model year	Source
2.2.2	Graduates in science & engineering, %	2015	2016	UNESCO Institute for Statistics
4.3.1	Applied tariff rate, weighted mean, %	2016	2017	World Bank
7.2.2	National feature films/mn pop. 15–69	2015	2017	UNESCO Institute for Statistics
7.3.3	Wikipedia edits/mn pop. 15–69	2014	2017	Wikimedia Foundation

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.

Framework of the Global Innovation Index 2019



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.

