GLOBAL INNOVATION INDEX 2020

REPUBLIC OF MOLDOVA

59th The Republic of Moldova ranks 59th 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 the Republic of Moldova 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 the Republic of Moldova in the GII 2020 is between ranks 48 and 60.

Rankings of Republic of Moldova (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	59	75	48
2019	58	81	45
2018	48	79	37

- The Republic of Moldova performs better in innovation outputs than innovation inputs in 2020.
- This year the Republic of Moldova ranks 75th in innovation inputs, higher than last year and higher compared to 2018.
- As for innovation outputs, the Republic of Moldova ranks 48th. This position is lower than last year and lower compared to 2018.

6th Republic of Moldova ranks 6th among the 29 lower middle-income group economies.

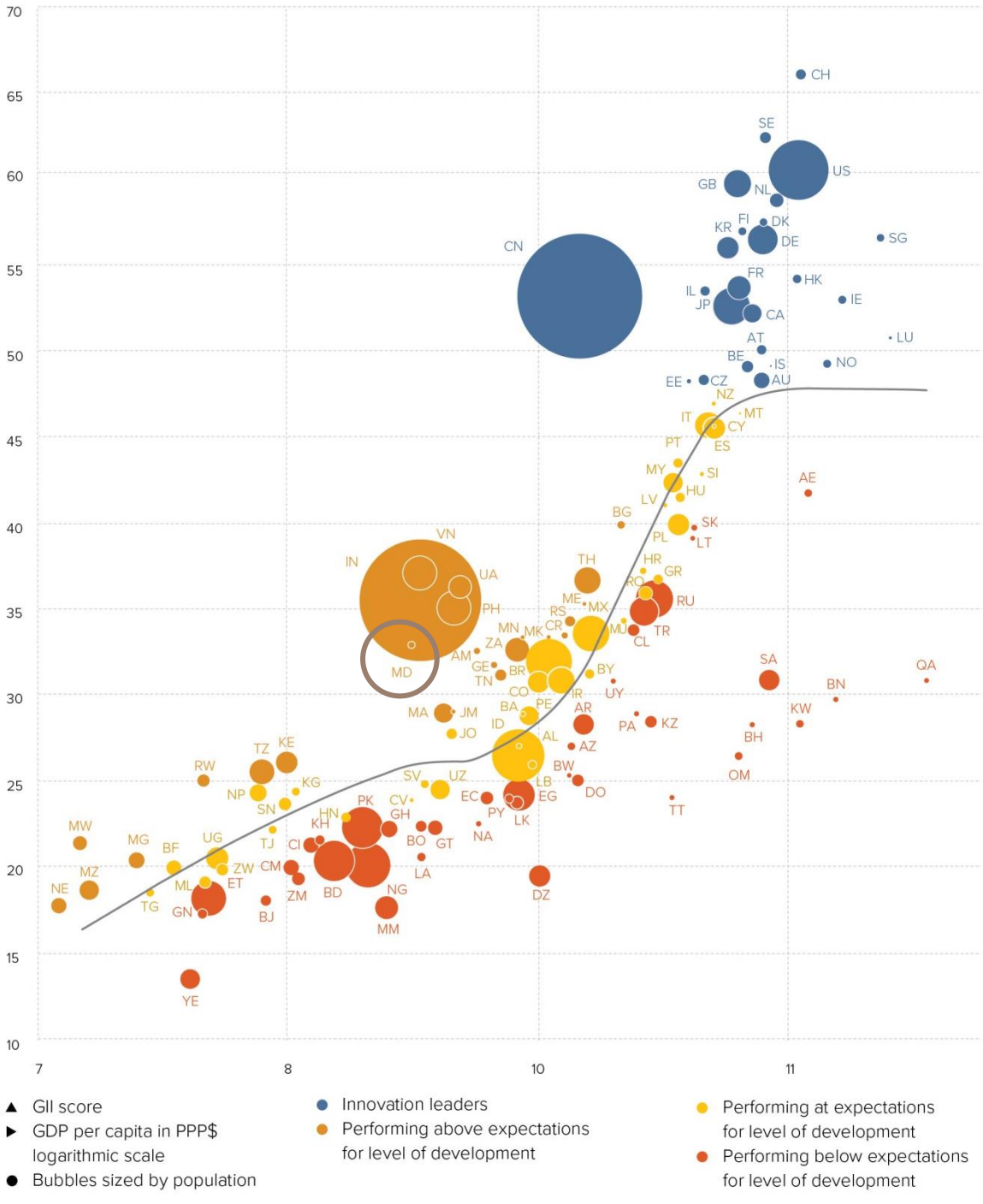
36th Republic of Moldova ranks 36th among the 39 economies in Europe.

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 performing below expectations.

Relative to GDP, the Republic of Moldova's performance is above expectations for its level of development.

The positive relationship between innovation and development

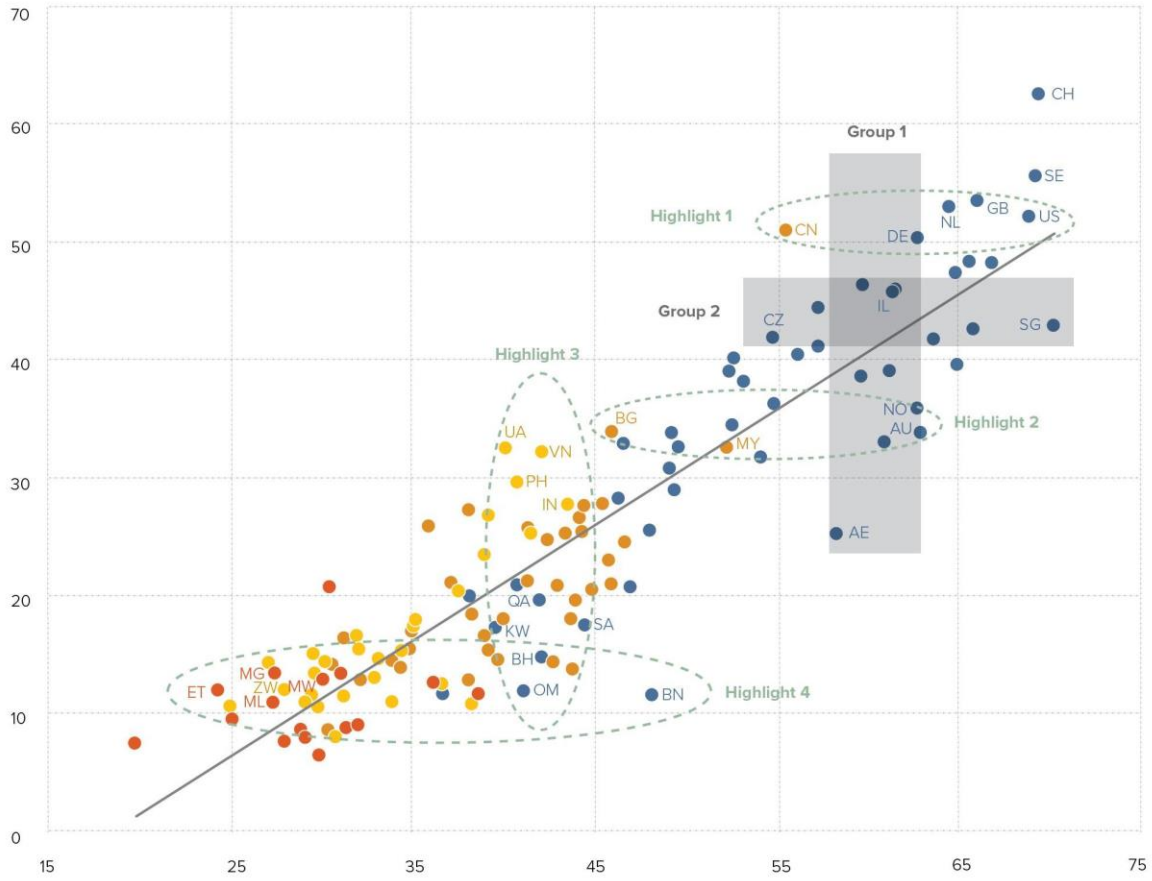


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

Innovation input to output performance, 2020



▲ Output score
► Input score

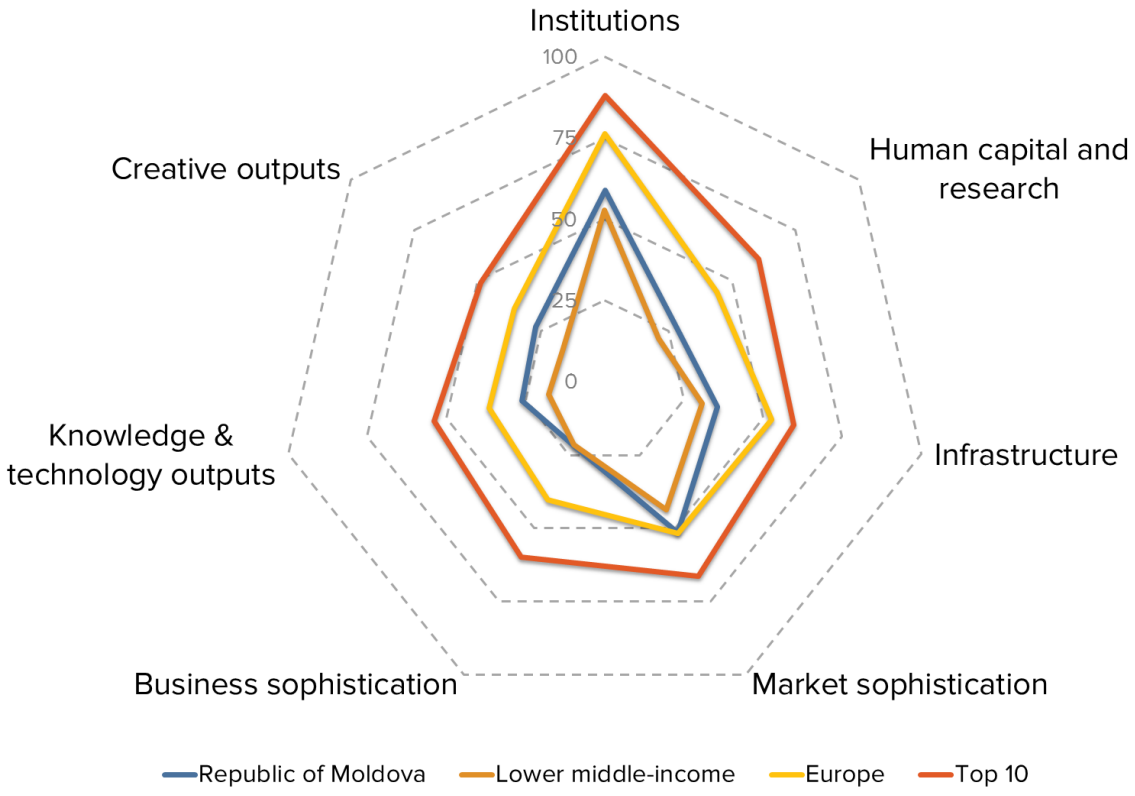
● High income group
● Upper middle-income group
● Lower middle-income group
● Low income group

— 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 REPUBLIC OF MOLDOVA AGAINST OTHER LOWER MIDDLE-INCOME GROUP ECONOMIES AND EUROPE

Republic of Moldova's scores in the seven GII pillars



Lower middle-income group economies

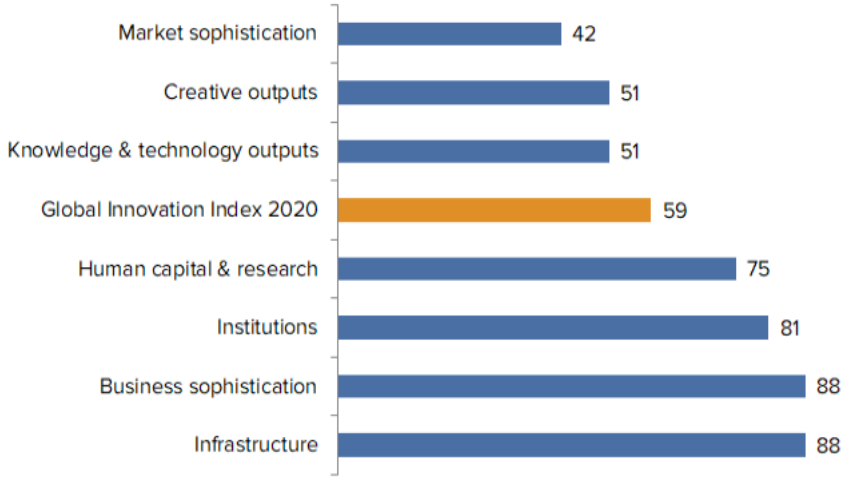
The Republic of Moldova has high scores in all GII pillars.

Europe

The Republic of Moldova performs below the regional average in all GII pillars.

OVERVIEW OF REPUBLIC OF MOLDOVA RANKINGS IN THE SEVEN GII AREAS

The Republic of Moldova performs best in Market sophistication and its weakest performance is in Infrastructure and in Business sophistication.



*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 the Republic of Moldova in the GII 2020.

Strengths

Code	Indicator name	Rank
1.3.1	Ease of starting a business*	12
2.1.1	Expenditure on education, % GDP	20
2.1.2	Government funding/pupil, secondary, % GDP/cap	11
6.1.1	Patents by origin/bn PPP$ GDP	28
6.1.3	Utility models by origin/bn PPP$ GDP	4
6.2.1	Growth rate of PPP$ GDP/worker, %	14
6.3.3	ICT services exports, % total trade	13
7.1	Intangible assets	25
7.1.1	Trademarks by origin/bn PPP$ GDP	8
7.1.3	Industrial designs by origin/bn PPP$ GDP	5
7.3.4	Mobile app creation/bn PPP$ GDP	20

Weaknesses

Code	Indicator name	Rank
2.3.3	Global R&D companies, top 3, mn US$	42
2.3.4	QS university ranking, average score top 3*	77
3.2	General infrastructure	112
3.2.2	Logistics performance*	108
3.3.1	GDP/unit of energy use	112
4.1.2	Domestic credit to private sector, % GDP	108
4.3.3	Domestic market scale, bn PPP$	123
5.2	Innovation linkages	122
5.2.1	University/industry research collaboration†	116
5.2.2	State of cluster development†	126
7.1.2	Global brand value, top 5000, % GDP	80
7.2.2	National feature films/mn pop. 15–69	103

STRENGTHS

GII strengths for the Republic of Moldova are found in four of the seven GII pillars.

- Institutions (81): exhibits strengths in the indicator Ease of starting a business (12).
- Human capital & research (75): shows strengths in the indicators Expenditure on education (20) and Government funding/pupil (11).
- Knowledge & technology outputs (51): reveals strengths in the indicators Patents by origin (28), Utility models by origin (4), Growth rate of PPP$ GDP/worker (14) and ICT services exports (13).
- Creative outputs (51): displays strengths in the sub-pillar Intangible assets (25) and in the indicators Trademarks by origin (8), Industrial designs by origin (5) and Mobile app creation (20).

WEAKNESSES

GII weaknesses for the Republic of Moldova are found in five of the seven GII pillars.

- Human capital & research (75): exhibits weaknesses in the indicators Global R&D companies (42) and QS university ranking (77).
- Infrastructure (88): displays weaknesses in the sub-pillar General infrastructure (112) and in the indicators Logistics performance (108) and GDP/unit of energy use (112).
- Market sophistication (42): shows weaknesses in the indicators Domestic credit to private sector (108) and Domestic market scale (123).
- Business sophistication (88): demonstrates weaknesses in the sub-pillar Innovation linkages (122) and in the indicators University/industry research collaboration (116) and State of cluster development (126).
- Creative outputs (51): reveals weaknesses in the indicators Global brand value (80) and National feature films (103).

REPUBLIC OF MOLDOVA

GII 2020 rank

59

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2019 rank
48	75	Lower middle	EUR	4.0	27.3	6,725.2	58

		Score/Value	Rank	
INSTITUTIONS		**59.1**	**81**	
1.1	**Political environment**	**48.5**	**92**	
1.1.1	Political and operational stability*	66.1	76	
1.1.2	Government effectiveness*	39.7	98	
1.2	**Regulatory environment**	**53.6**	**96**	
1.2.1	Regulatory quality*	40.5	75	◆
1.2.2	Rule of law*	35.9	90	
1.2.3	Cost of redundancy dismissal, salary weeks	23.7	100	
1.3	**Business environment**	**75.2**	**49**	◆
1.3.1	Ease of starting a business*	95.7	12	● ◆
1.3.2	Ease of resolving insolvency*	54.8	62	
HUMAN CAPITAL & RESEARCH		**27.9**	**75**	
2.1	**Education**	**49.3**	**54**	
2.1.1	Expenditure on education, % GDP	5.5	20	● ◆
2.1.2	Government funding/pupil, secondary, % GDP/cap	30.8	11	● ◆
2.1.3	School life expectancy, years	11.5	96	
2.1.4	PISA scales in reading, maths, & science	424.4	51	
2.1.5	Pupil-teacher ratio, secondary	9.9	32	◆
2.2	**Tertiary education**	**31.1**	**71**	
2.2.1	Tertiary enrolment, % gross	39.8	71	
2.2.2	Graduates in science & engineering, %	23.5	45	
2.2.3	Tertiary inbound mobility, %	5.1	46	◆
2.3	**Research & development (R&D)**	**3.3**	**85**	
2.3.1	Researchers, FTE/mn pop	696.1	60	
2.3.2	Gross expenditure on R&D, % GDP	0.3	86	
2.3.3	Global R&D companies, avg. exp. top 3, mn $US	0.0	42	○ ◇
2.3.4	QS university ranking, average score top 3*	0.0	77	○ ◇
INFRASTRUCTURE		**35.4**	**88**	
3.1	**Information & communication technologies (ICTs)**	**69.0**	**61**	◆
3.1.1	ICT access*	61.3	72	◆
3.1.2	ICT use*	51.8	75	◆
3.1.3	Government's online service*	77.1	54	◆
3.1.4	E-participation*	86.0	37	◆
3.2	**General infrastructure**	**18.3**	**112**	○
3.2.1	Electricity output, kWh/mn pop	1,398.6	90	
3.2.2	Logistics performance*	18.1	108	○
3.2.3	Gross capital formation, % GDP	25.2	50	
3.3	**Ecological sustainability**	**18.8**	**110**	
3.3.1	GDP/unit of energy use	4.7	112	○ ◇
3.3.2	Environmental performance*	44.4	76	◆
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.4	91	
MARKET SOPHISTICATION		**51.5**	**42**	◆
4.1	**Credit**	**33.3**	**97**	
4.1.1	Ease of getting credit*	70.0	44	
4.1.2	Domestic credit to private sector, % GDP	23.5	108	○
4.1.3	Microfinance gross loans, % GDP	0.6	31	
4.2	**Investment**	**68.0**	**[10]**	
4.2.1	Ease of protecting minority investors*	68.0	44	
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, and market scale**	**53.3**	**100**	
4.3.1	Applied tariff rate, weighted avg., %	3.5	73	
4.3.2	Intensity of local competition+	63.8	86	
4.3.3	Domestic market scale, bn PPP$	27.3	123	○ ◇

		Score/Value	Rank	
BUSINESS SOPHISTICATION		**22.0**	**88**	
5.1	**Knowledge workers**	**30.8**	**62**	
5.1.1	Knowledge-intensive employment, %	31.2	44	◆
5.1.2	Firms offering formal training, %	38.1	33	
5.1.3	GERD performed by business, % GDP	0.0	74	
5.1.4	GERD financed by business, %	15.5	72	
5.1.5	Females employed w/advanced degrees, %	16.3	40	◆
5.2	**Innovation linkages**	**13.1**	**122**	○
5.2.1	University/industry research collaboration+	28.7	116	○
5.2.2	State of cluster development+	26.1	126	○ ◇
5.2.3	GERD financed by abroad, % GDP	0.0	75	
5.2.4	JV-strategic alliance deals/bn PPP$ GDP	n/a	n/a	
5.2.5	Patent families 2+ offices/bn PPP$ GDP	0.2	41	◆
5.3	**Knowledge absorption**	**22.2**	**93**	
5.3.1	Intellectual property payments, % total trade	0.5	63	
5.3.2	High-tech imports, % total trade	8.0	58	
5.3.3	ICT services imports, % total trade	1.8	34	◆
5.3.4	FDI net inflows, % GDP	1.8	87	
5.3.5	Research talent, % in business enterprise	6.2	71	
KNOWLEDGE & TECHNOLOGY OUTPUTS		**26.3**	**51**	◆
6.1	**Knowledge creation**	**31.7**	**32**	◆
6.1.1	Patents by origin/bn PPP$ GDP	3.6	28	● ◆
6.1.2	PCT patents by origin/bn PPP$ GDP	0.3	46	◆
6.1.3	Utility models by origin/bn PPP$ GDP	4.5	4	● ◆
6.1.4	Scientific & technical articles/bn PPP$ GDP	7.4	64	
6.1.5	Citable documents H-index	5.9	96	
6.2	**Knowledge impact**	**21.8**	**74**	
6.2.1	Growth rate of PPP$ GDP/worker, %	4.4	14	●
6.2.2	New businesses/th pop. 15-64	1.9	59	
6.2.3	Computer software spending, % GDP	0.0	92	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	3.4	69	
6.2.5	High- and medium-high-tech manufacturing, %	14.5	66	
6.3	**Knowledge diffusion**	**25.4**	**58**	
6.3.1	Intellectual property receipts, % total trade	0.1	49	
6.3.2	High-tech net exports, % total trade	0.4	85	
6.3.3	ICT services exports, % total trade	4.5	13	● ◆
6.3.4	FDI net outflows, % GDP	0.2	93	
CREATIVE OUTPUTS		**27.3**	**51**	◆
7.1	**Intangible assets**	**41.1**	**25**	● ◆
7.1.1	Trademarks by origin/bn PPP$ GDP	116.7	8	● ◆
7.1.2	Global brand value, top 5,000, % GDP	0.0	80	○ ◇
7.1.3	Industrial designs by origin/bn PPP$ GDP	16.7	5	● ◆
7.1.4	ICTs & organizational model creation+	48.3	87	
7.2	**Creative goods and services**	**9.0**	**82**	
7.2.1	Cultural & creative services exports, % total trade	0.9	27	◆
7.2.2	National feature films/mn pop. 15-69	0.3	103	○
7.2.3	Entertainment & Media market/th pop. 15-69	n/a	n/a	
7.2.4	Printing and other media, % manufacturing	0.9	64	
7.2.5	Creative goods exports, % total trade	0.1	93	
7.3	**Online creativity**	**18.0**	**59**	◆
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	2.1	75	
7.3.2	Country-code TLDs/th pop. 15-69	2.2	68	◆
7.3.3	Wikipedia edits/mn pop. 15-69	43.0	77	◆
7.3.4	Mobile app creation/bn PPP$ GDP	27.7	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 either missing or outdated for Republic of Moldova.

Missing data

Code	Indicator name	Country year	Model year	Source
4.2.2	Market capitalization, % GDP	n/a	2018	World Federation of Exchanges
4.2.3	Venture capital deals/bn PPP$ GDP	n/a	2019	Thomson Reuters
5.2.4	JV–strategic alliance deals/bn PPP$ GDP	n/a	2019	Thomson Reuters
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2018	PwC

Outdated data

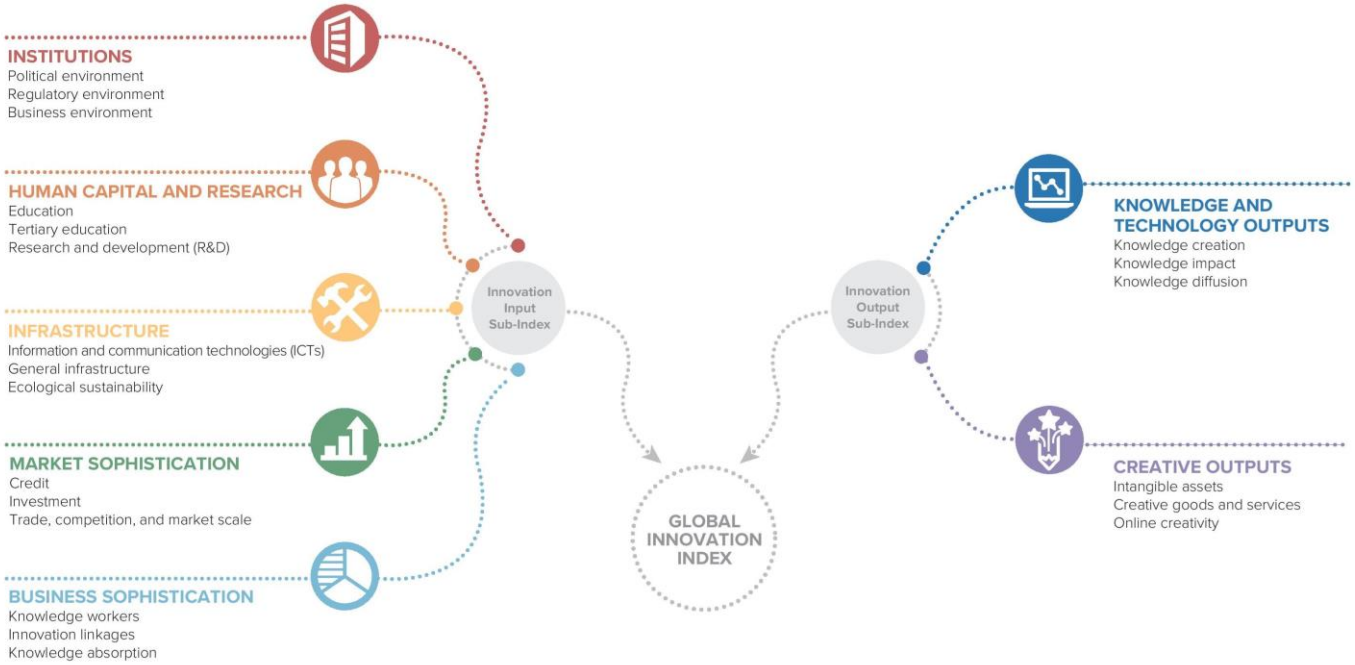
Code	Indicator name	Country year	Model year	Source
4.3.1	Applied tariff rate, weighted avg., %	2016	2018	World Bank
7.2.2	National feature films/mn pop. 15–69	2015	2017	UNESCO Institute for Statistics

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.

Framework of the Global Innovation Index 2020



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.