

BELARUS

64th

Belarus ranks 64th 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 Belarus 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 Belarus in the GII 2020 is between ranks 51 and 67.

Rankings of Belarus (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	64	67	61
2019	72	50	95
2018	86	60	110

- Belarus performs better in innovation outputs than innovation inputs in 2020.
- This year Belarus ranks 67th in innovation inputs, lower than last year and lower compared to 2018.
- As for innovation outputs, Belarus ranks 61st. This position is higher than last year and higher compared to 2018.

18th

Belarus ranks 18th among the 37 upper middle-income group economies.

37th

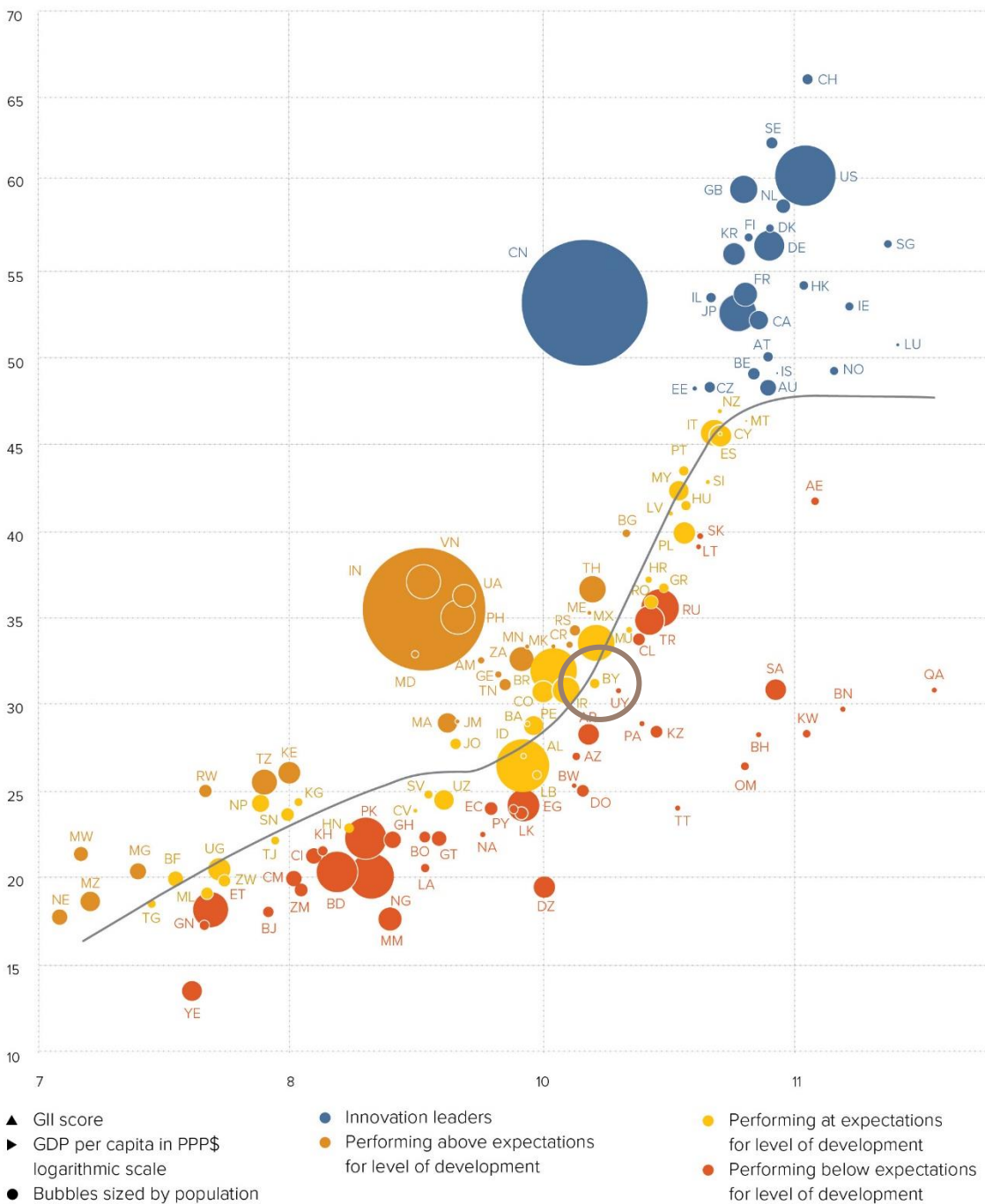
Belarus ranks 37th among the 39 economies in Europe.

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, Belarus's performance matches expectations for its level of development.

The positive relationship between innovation and development

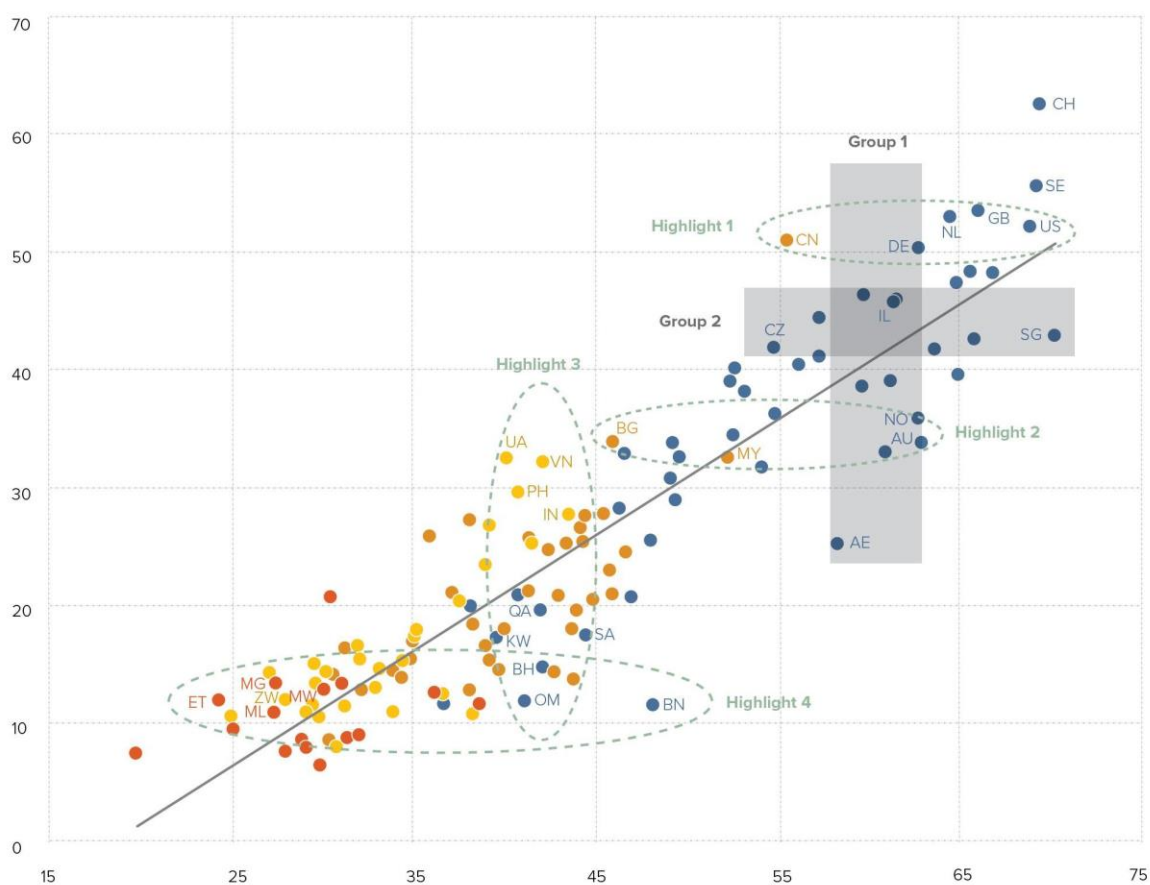


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

Innovation input to output performance, 2020

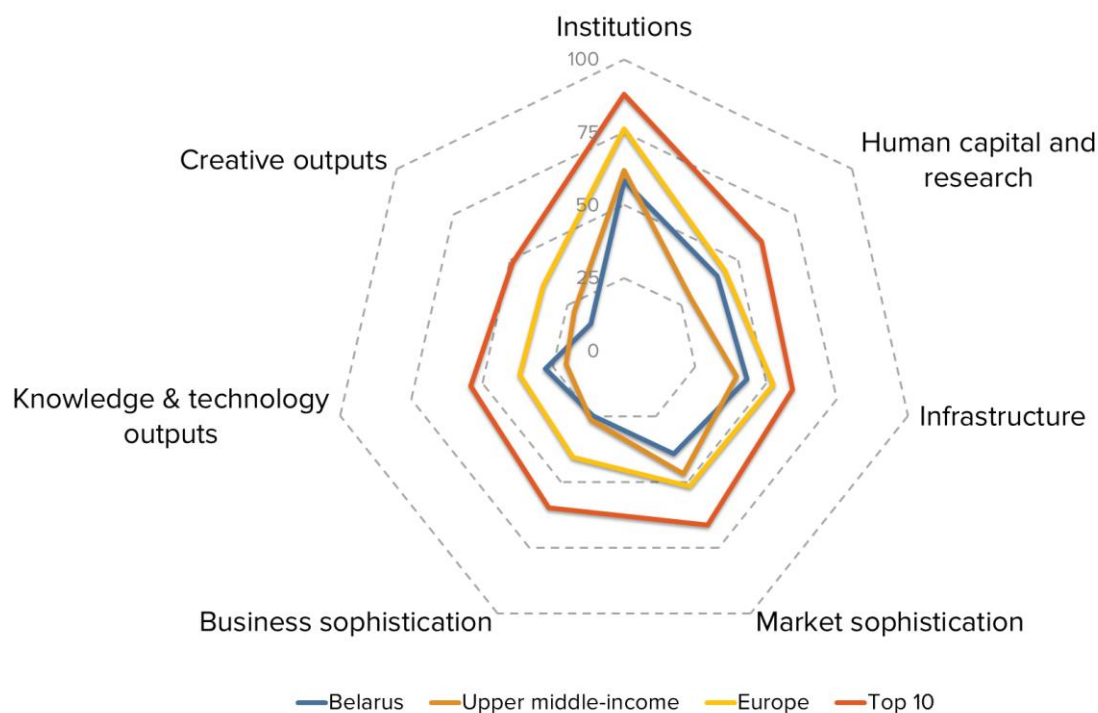


▲ Output score ● High income group ● Lower middle-income group — Fitted values
 ► Input score ● Upper middle-income group ● Low income group

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 BELARUS AGAINST OTHER UPPER MIDDLE-INCOME GROUP ECONOMIES AND EUROPE

Belarus's scores in the seven GII pillars



Upper middle-income group economies

Belarus has high scores in three out of the seven GII pillars: Human capital & research, Infrastructure and Knowledge & technology outputs, which are above average for the upper middle-income group.

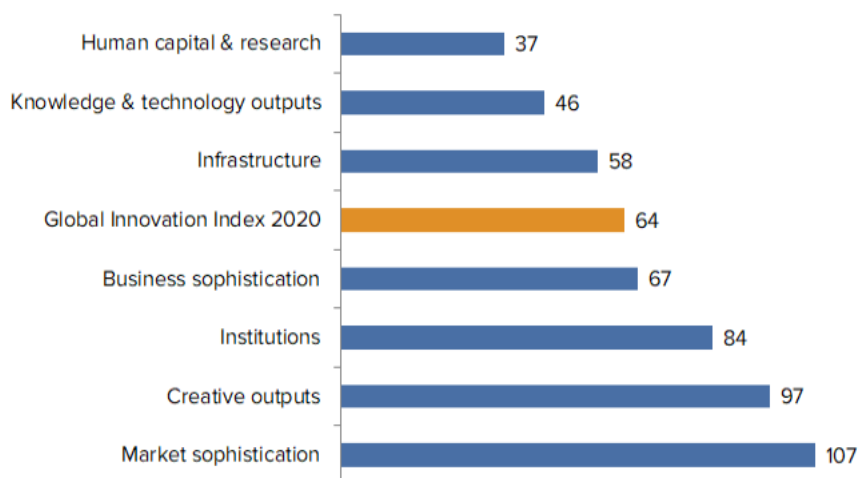
Conversely, Belarus scores below average for its income group in four pillars: Institutions, Market sophistication, Business sophistication and Creative outputs.

Europe

Compared to other economies in Europe, Belarus performs below average in all seven of the GII pillars.

OVERVIEW OF BELARUS RANKINGS IN THE SEVEN GII AREAS

Belarus performs best in Human capital & research and its weakest performance is in Market 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 Belarus in the GII 2020.

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
2.1	Education	16	1.2.1	Regulatory quality*	111
2.1.2	Government funding/pupil, secondary, % GDP/cap	8	1.2.2	Rule of law*	116
2.1.5	Pupil-teacher ratio, secondary	16	2.3.3	Global R&D companies, top 3, mn US\$	42
2.2	Tertiary education	10	3.3.1	GDP/unit of energy use	99
2.2.1	Tertiary enrolment, % gross	10	4	Market sophistication	107
2.2.2	Graduates in science & engineering, %	11	4.1	Credit	119
3.1.1	ICT access*	19	4.1.3	Microfinance gross loans, % GDP	82
4.3.1	Applied tariff rate, weighted avg., %	21	4.2.3	Venture capital deals/bn PPP\$ GDP	76
5.1.5	Females employed w/advanced degrees, %	2	6.2.3	Computer software spending, % GDP	104
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP	5	7.1	Intangible assets	130
6.3.3	ICT services exports, % total trade	15	7.1.2	Global brand value, top 5,000, % GDP	80
7.3.4	Mobile app creation/bn PPP\$ GDP	1	7.2.2	National feature films/mn pop. 15–69	107
			7.2.4	Printing & other media, % manufacturing	91

STRENGTHS

GII strengths for Belarus are found in six of the seven GII pillars.

- Human capital & research (37): shows strengths in the sub-pillars Education (16) and Tertiary education (10) and in the indicators Government funding/pupil, secondary (8), Pupil–teacher ratio, secondary (16), Tertiary enrolment (10) and Graduates in science & engineering (11).
- Infrastructure (58): the indicator ICT access (19) demonstrates a strength.
- Market sophistication (107): displays strength in the indicator Applied tariff rate (21).
- Business sophistication (67): the indicator Females employed with advanced degrees (2) is a strength.
- Knowledge & technology outputs (46): shows strengths in the indicators ISO 9001 quality certificates (5) and ICT services exports (15).
- Creative outputs (97): the indicator Mobile app creation (1) reveals a strength.

WEAKNESSES

GII weaknesses for Belarus are found in six of the seven GII pillars.

- Institutions (84): exhibits weaknesses in the indicators Regulatory quality (111) and Rule of law (116).
- Human capital & research (37): shows weakness in the indicator Global R&D companies (42).
- Infrastructure (58): displays weakness in the indicator GDP/unit of energy use (99).
- Market sophistication (107): shows weaknesses in the sub-pillar Credit (119) and in the indicators Microfinance gross loans (82) and Venture capital deals (76).
- Knowledge & technology outputs (46): the indicator Computer software spending (104) is a weakness.
- Creative outputs (97): shows weaknesses in the sub-pillar Intangible assets (130) and in the indicators Global brand value (80), National feature films (107) and Printing & other media (91).

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2019 rank
61	67	Upper middle	EUR	9.5	195.6	18,022.5	72
			Score/Value Rank				Score/Value Rank
INSTITUTIONS 58.4 84				BUSINESS SOPHISTICATION 24.9 67			
1.1	Political environment	53.4	79	5.1	Knowledge workers	47.6	30 ◆
1.1.1	Political and operational stability*.....	73.2	49	5.1.1	Knowledge-intensive employment, %.....	40.1	27 ◆
1.1.2	Government effectiveness*.....	43.4	89	5.1.2	Firms offering formal training, %.....	31.5	47
1.2	Regulatory environment	48.8	106	5.1.3	GERD performed by business, % GDP.....	0.4	40
1.2.1	Regulatory quality*.....	24.4	111 ○ ◇	5.1.4	GERD financed by business, %.....	45.0	37
1.2.2	Rule of law*.....	25.0	116 ○ ◇	5.1.5	Females employed w/advanced degrees, %.....	32.6	2 ● ◆
1.2.3	Cost of redundancy dismissal, salary weeks.....	21.7	92	5.2	Innovation linkages	6.2	[127]
1.3	Business environment	73.2	58	5.2.1	University/industry research collaboration*.....	n/a	n/a
1.3.1	Ease of starting a business*.....	93.5	28	5.2.2	State of cluster development.....	n/a	n/a
1.3.2	Ease of resolving insolvency*.....	52.9	68	5.2.3	GERD financed by abroad, % GDP.....	0.1	44
				5.2.4	JV-strategic alliance deals/bn PPP\$ GDP.....	0.0	93
				5.2.5	Patent families 2+ offices/bn PPP\$ GDP.....	0.1	53
HUMAN CAPITAL & RESEARCH 40.9 37 ◆				5.3 Knowledge absorption 20.7 96			
2.1	Education	58.7	16 ● ◆	5.3.1	Intellectual property payments, % total trade.....	0.4	72
2.1.1	Expenditure on education, % GDP.....	4.8	51	5.3.2	High-tech imports, % total trade.....	5.5	105
2.1.2	Government funding/pupil, secondary, % GDP/cap.....	35.7	8 ● ◆	5.3.3	ICT services imports, % total trade.....	0.7	93
2.1.3	School life expectancy, years.....	15.4	43	5.3.4	FDI net inflows, % GDP.....	2.4	70
2.1.4	PISA scales in reading, maths, & science.....	472.3	36 ◆	5.3.5	Research talent, % in business enterprise.....	n/a	n/a
2.1.5	Pupil-teacher ratio, secondary.....	8.6	16 ●				
2.2	Tertiary education	55.1	10 ● ◆	KNOWLEDGE & TECHNOLOGY OUTPUTS 27.7 46			
2.2.1	Tertiary enrolment, % gross.....	87.4	10 ● ◆	6.1	Knowledge creation	17.2	58
2.2.2	Graduates in science & engineering, %.....	33.2	11 ● ◆	6.1.1	Patents by origin/bn PPP\$ GDP.....	3.0	31
2.2.3	Tertiary inbound mobility, %.....	4.3	53	6.1.2	PCT patents by origin/bn PPP\$ GDP.....	0.1	66
2.3	Research & development (R&D)	9.0	61	6.1.3	Utility models by origin/bn PPP\$ GDP.....	1.5	16
2.3.1	Researchers, FTE/mn pop.....	n/a	n/a	6.1.4	Scientific & technical articles/bn PPP\$ GDP.....	5.7	78
2.3.2	Gross expenditure on R&D, % GDP.....	0.6	55	6.1.5	Citable documents H-index.....	10.8	72
2.3.3	Global R&D companies, avg. exp. top 3, mn \$US.....	0.0	42 ○ ◇	6.2	Knowledge impact	34.7	29 ◆
2.3.4	QS university ranking, average score top 3*.....	14.9	57	6.2.1	Growth rate of PPP\$ GDP/worker, %.....	3.0	28
				6.2.2	New businesses/th pop. 15-64.....	1.3	74
				6.2.3	Computer software spending, % GDP.....	0.0	104 ○ ◇
				6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP.....	24.6	5 ● ◆
				6.2.5	High- and medium-high-tech manufacturing, %.....	26.1	41
INFRASTRUCTURE 43.2 58				6.3	Knowledge diffusion	31.2	41
3.1	Information & communication technologies (ICTs)	79.5	34 ◆	6.3.1	Intellectual property receipts, % total trade.....	0.1	54
3.1.1	ICT access*.....	82.1	19 ● ◆	6.3.2	High-tech net exports, % total trade.....	1.7	59
3.1.2	ICT use*.....	74.0	33 ◆	6.3.3	ICT services exports, % total trade.....	4.5	15 ● ◆
3.1.3	Government's online service*.....	73.6	58	6.3.4	FDI net outflows, % GDP.....	0.2	97
3.1.4	E-participation*.....	88.2	33				
3.2	General infrastructure	22.5	86	CREATIVE OUTPUTS 14.8 97			
3.2.1	Electricity output, kWh/mn pop.....	3,629.3	55	7.1	Intangible assets	4.9	130 ○ ◇
3.2.2	Logistics performance*.....	23.7	99	7.1.1	Trademarks by origin/bn PPP\$ GDP.....	23.9	86
3.2.3	Gross capital formation, % GDP.....	26.2	43	7.1.2	Global brand value, top 5,000, % GDP.....	0.0	80 ○ ◇
3.3	Ecological sustainability	27.7	69	7.1.3	Industrial designs by origin/bn PPP\$ GDP.....	1.0	70
3.3.1	GDP/unit of energy use.....	6.3	99 ○ ◇	7.1.4	ICTs & organizational model creation*.....	n/a	n/a
3.3.2	Environmental performance*.....	53.0	47	7.2	Creative goods and services	5.1	104
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP.....	1.9	47	7.2.1	Cultural & creative services exports, % total trade.....	0.3	65
				7.2.2	National feature films/mn pop. 15-69.....	0.1	107 ○ ◇
				7.2.3	Entertainment & Media market/th pop. 15-69.....	n/a	n/a
				7.2.4	Printing and other media, % manufacturing.....	0.5	91 ○ ◇
				7.2.5	Creative goods exports, % total trade.....	0.5	63
MARKET SOPHISTICATION 39.1 107 ○				7.3	Online creativity	44.1	26 ◆
4.1	Credit	24.1	119 ○ ◇	7.3.1	Generic top-level domains (TLDs)/th pop. 15-69.....	1.7	82
4.1.1	Ease of getting credit*.....	50.0	94	7.3.2	Country-code TLDs/th pop. 15-69.....	5.9	48
4.1.2	Domestic credit to private sector, % GDP.....	27.8	98	7.3.3	Wikipedia edits/mn pop. 15-69.....	70.6	38 ◆
4.1.3	Microfinance gross loans, % GDP.....	0.0	82 ○ ◇	7.3.4	Mobile app creation/bn PPP\$ GDP.....	100.0	1 ● ◆
4.2	Investment	29.2	97				
4.2.1	Ease of protecting minority investors*.....	58.0	77				
4.2.2	Market capitalization, % GDP.....	n/a	n/a				
4.2.3	Venture capital deals/bn PPP\$ GDP.....	0.0	76 ○				
4.3	Trade, competition, and market scale	64.0	59				
4.3.1	Applied tariff rate, weighted avg., %.....	1.7	21 ●				
4.3.2	Intensity of local competition*.....	n/a	n/a				
4.3.3	Domestic market scale, bn PPP\$.....	195.6	68				

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 Belarus.

Missing data

Code	Indicator name	Country year	Model year	Source
2.3.1	Researchers, FTE/mn pop.	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
4.2.2	Market capitalization, % GDP	n/a	2018	World Federation of Exchanges
4.3.2	Intensity of local competition [†]	n/a	2018	World Economic Forum
5.2.1	University/industry research collaboration [†]	n/a	2019	World Economic Forum
5.2.2	State of cluster development [†]	n/a	2019	World Economic Forum
5.3.5	Research talent, % in business enterprise	n/a	2018	UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators
7.1.4	ICTs & organizational model creation [†]	n/a	2018	World Economic Forum
7.2.3	Entertainment & Media market/th pop. 15–69	n/a	2018	PwC

Outdated data

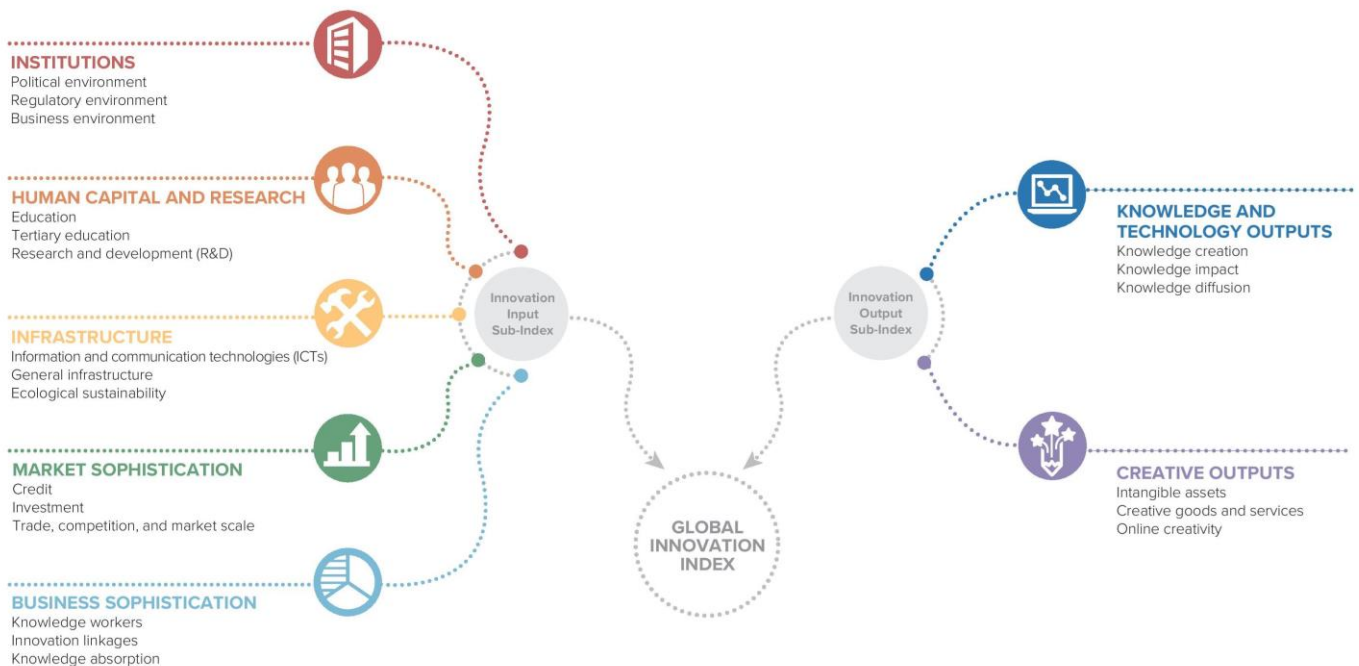
Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	2017	2018	UNESCO Institute for Statistics
5.1.2	Firms offering formal training, %	2017	2018	World Bank
5.1.5	Females employed w/advanced degrees, %	2017	2018	International Labour Organization
7.2.2	National feature films/mn pop. 15–69	2011	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.

