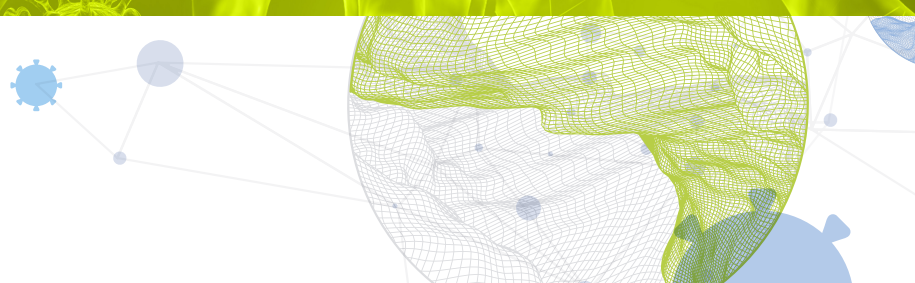




Global Innovation Index 2021



INDONESIA

87th

Indonesia ranks 87th 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 Indonesia 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 Indonesia in the GII 2021 is between ranks 80 and 87.

Rankings for Indonesia (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	87	87	84
2020	85	91	76
2019	85	87	78

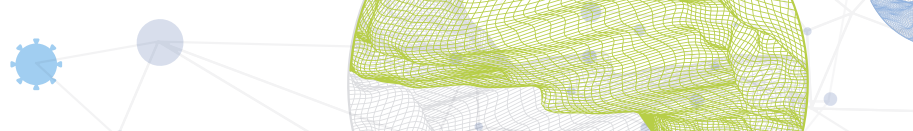
- Indonesia performs better in innovation outputs than innovation inputs in 2021.
- This year Indonesia ranks 87th in innovation inputs, higher than last year but the same as 2019.
- As for innovation outputs, Indonesia ranks 84th. This position is lower than both 2020 and 2019.

27th

Indonesia ranks 27th among the 34 upper middle-income group economies.

14th

Indonesia ranks 14th among the 17 economies in South East Asia, East Asia, and Oceania.

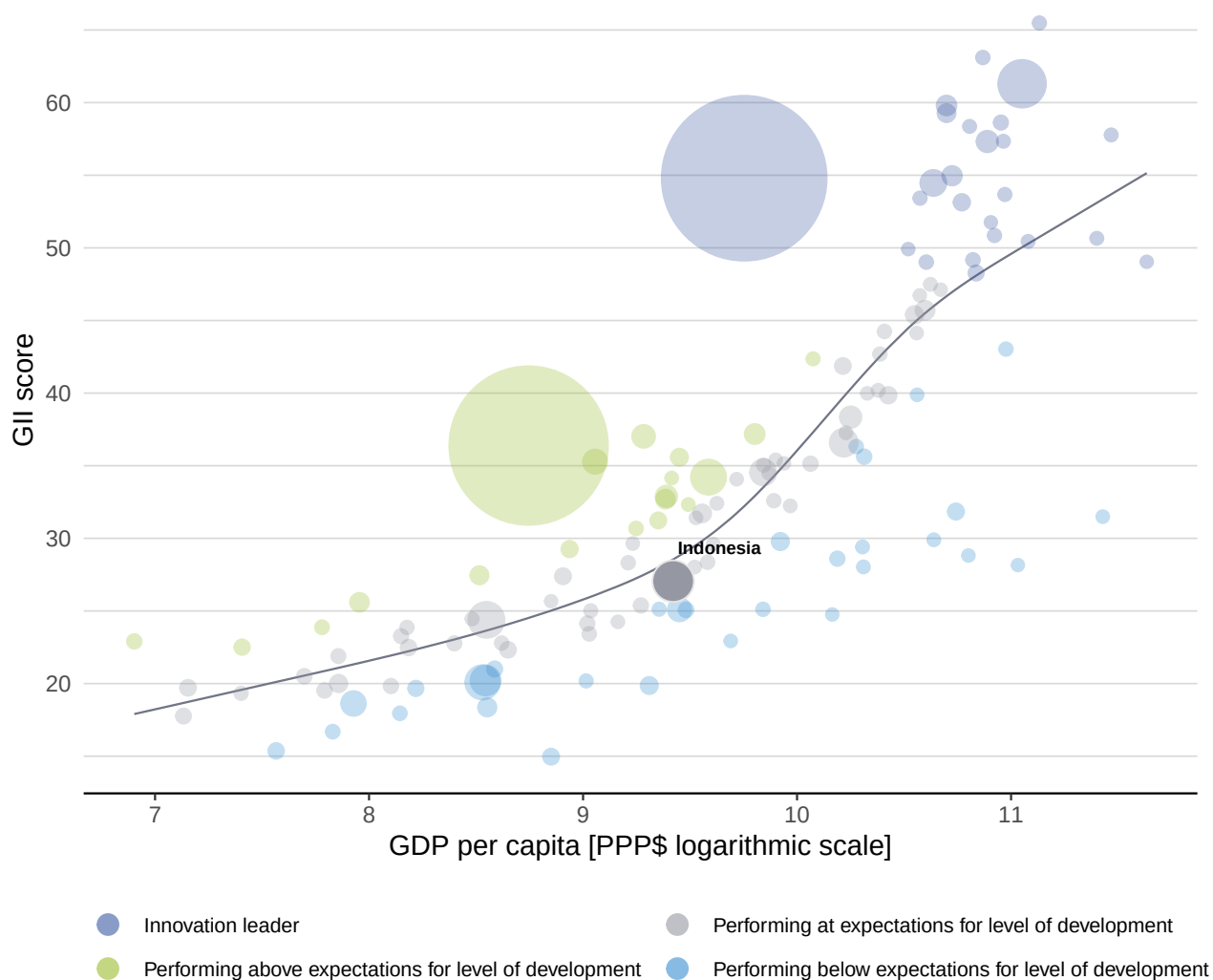


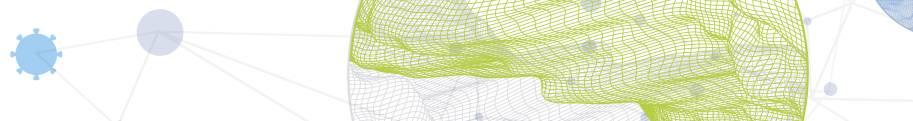
EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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, Indonesia's performance is at expectations for its level of development.

The positive relationship between innovation and development



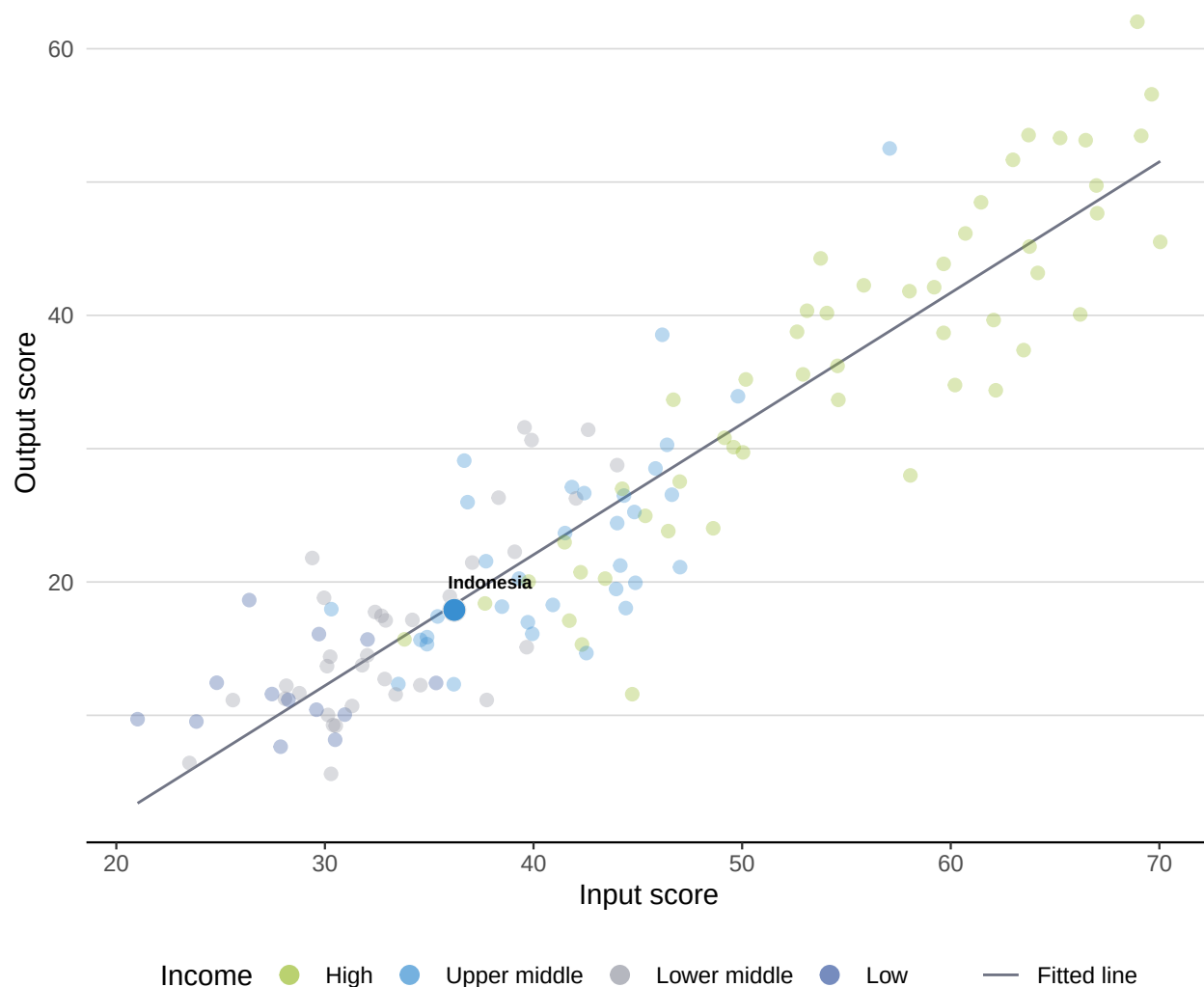


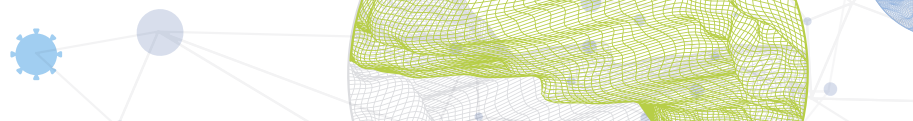
EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

Indonesia produces less innovation outputs relative to its level of innovation investments.

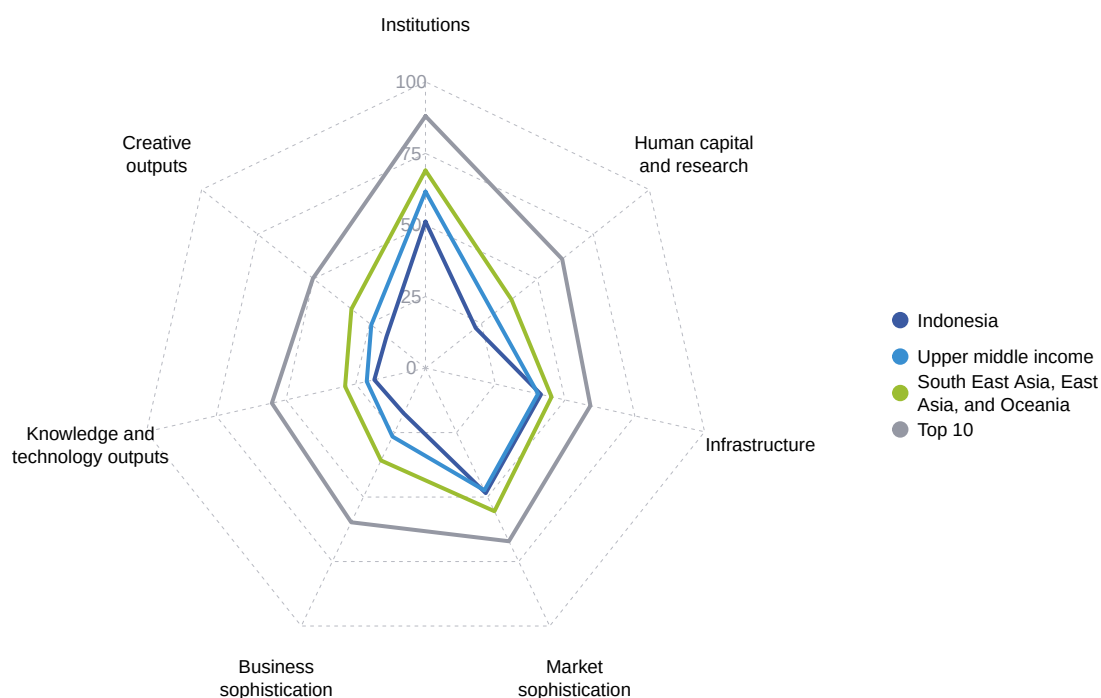
Innovation input to output performance





BENCHMARKING AGAINST OTHER UPPER MIDDLE-INCOME GROUP ECONOMIES AND SOUTH EAST ASIA, EAST ASIA, AND OCEANIA

The seven GII pillar scores for Indonesia

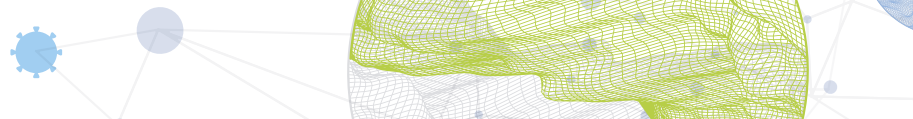


Upper middle-income group economies

Indonesia performs above the upper middle-income group average in two pillars, namely: Infrastructure; and, Market sophistication.

South East Asia, East Asia, and Oceania

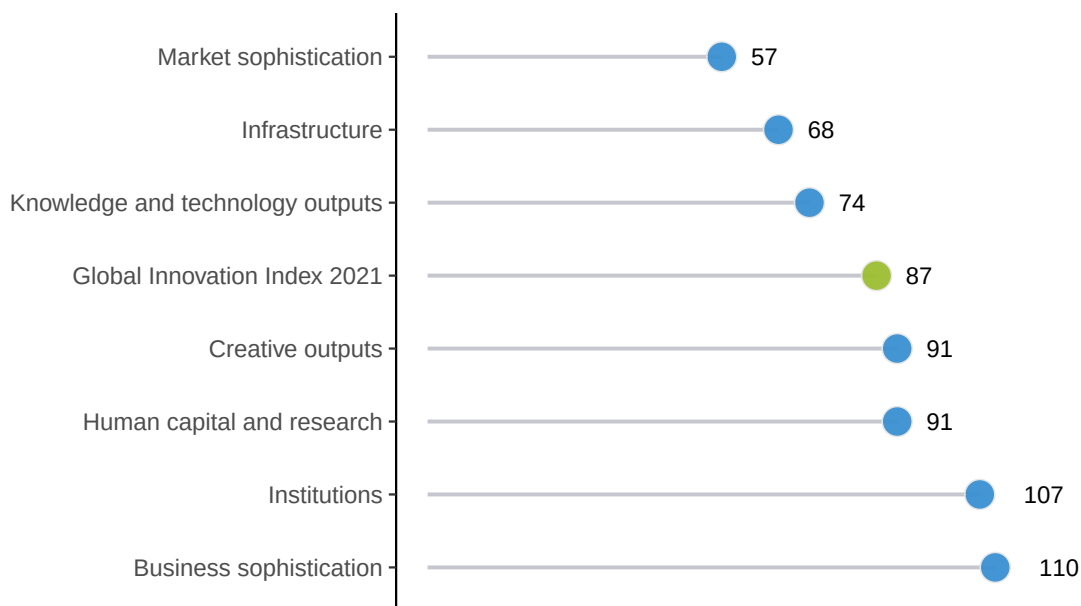
Indonesia performs below the regional average in all GII pillars.



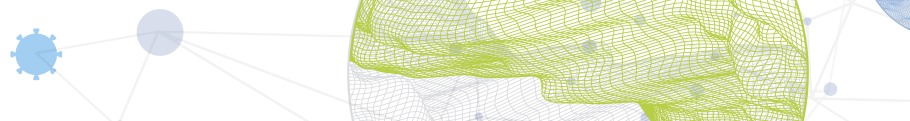
OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Indonesia performs best in Market sophistication and its weakest performance is in Business sophistication.

The seven GII pillar ranks for Indonesia



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 Indonesia in the GII 2021.

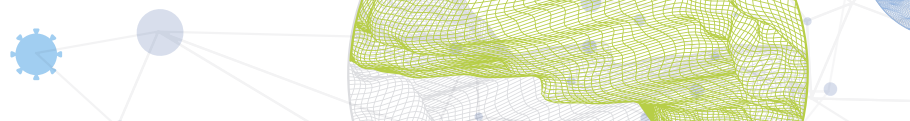
Strengths and weaknesses for Indonesia

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
2.3.4	QS university ranking, top 3	34	1.2	Regulatory environment	131
3.2.3	Gross capital formation, % GDP	17	1.2.3	Cost of redundancy dismissal	129
3.3.1	GDP/unit of energy use	28	2.1.2	Government funding/pupil, secondary, % GDP/cap	90
4.3	Trade, diversification, and market scale	6	2.1.4	PISA scales in reading, maths and science	72
4.3.2	Domestic industry diversification	27	2.2.3	Tertiary inbound mobility, %	109
4.3.3	Domestic market scale, bn PPP\$	7	2.3.3	Global corporate R&D investors, top 3, mn US\$	41
5.2.1	University-industry R&D collaboration	27	5.1	Knowledge workers	126
5.2.2	State of cluster development and depth	23	5.1.2	Firms offering formal training, %	97
6.2.3	Software spending, % GDP	27	5.1.3	GERD performed by business, % GDP	83
7.1.4	ICTs and organizational model creation	27	5.2.3	GERD financed by abroad, % GDP	99
7.2.5	Creative goods exports, % total trade	27	5.2.4	Joint venture/strategic alliance deals/bn PPP\$ GDP	113
			6.1.4	Scientific and technical articles/bn PPP\$ GDP	128

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$	GII 2020 rank
84	87	Upper middle	SEAO	273.5	3,328.3	12,345	85

		Score/ Value	Rank			Score/ Value	Rank
	Institutions	51.2	107		Business sophistication	17.5	110
1.1 Political environment		58.5	64	5.1 Knowledge workers		8.0	126
1.1.1 Political and operational stability*		66.1	74	5.1.1 Knowledge-intensive employment, %		11.3	106
1.1.2 Government effectiveness*		54.7	59	5.1.2 Firms offering formal training, %	⊙	7.7	97
1.2 Regulatory environment		20.4	131	5.1.3 GERD performed by business, % GDP	⊙	0.0	83
1.2.1 Regulatory quality*		41.1	76	5.1.4 GERD financed by business, %		8.0	80
1.2.2 Rule of law*		37.7	82	5.1.5 Females employed w/advanced degrees, %		6.3	87
1.2.3 Cost of redundancy dismissal		57.8	129	5.2 Innovation linkages		20.7	64
1.3 Business environment		74.6	52	5.2.1 University-industry R&D collaboration†		58.4	27
1.3.1 Ease of starting a business*		81.2	108	5.2.2 State of cluster development and depth†		61.9	23
1.3.2 Ease of resolving insolvency*		68.1	35	5.2.3 GERD financed by abroad, % GDP		0.0	99
				5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP		0.0	113
				5.2.5 Patent families/bn PPP\$ GDP		0.0	99
	Human capital and research	22.4	91	5.3 Knowledge absorption		23.9	73
2.1 Education		35.4	106	5.3.1 Intellectual property payments, % total trade		0.9	44
2.1.1 Expenditure on education, % GDP		3.6	82	5.3.2 High-tech imports, % total trade		8.9	48
2.1.2 Government funding/pupil, secondary, % GDP/cap	⊙	10.5	90	5.3.3 ICT services imports, % total trade		1.6	48
2.1.3 School life expectancy, years		13.6	74	5.3.4 FDI net inflows, % GDP		2.0	78
2.1.4 PISA scales in reading, maths and science		381.9	72	5.3.5 Research talent, % in businesses	⊙	7.5	65
2.1.5 Pupil-teacher ratio, secondary	⊙	15.2	74				
2.2 Tertiary education		21.5	93		Knowledge and technology outputs	18.3	74
2.2.1 Tertiary enrolment, % gross		36.3	78	6.1 Knowledge creation		9.5	81
2.2.2 Graduates in science and engineering, %		19.4	76	6.1.1 Patents by origin/bn PPP\$ GDP		0.9	65
2.2.3 Tertiary inbound mobility, %		0.1	109	6.1.2 PCT patents by origin/bn PPP\$ GDP		0.0	96
2.3 Research and development (R&D)		10.4	57	6.1.3 Utility models by origin/bn PPP\$ GDP		0.7	27
2.3.1 Researchers, FTE/mn pop.	⊙	216.0	80	6.1.4 Scientific and technical articles/bn PPP\$ GDP		1.5	128
2.3.2 Gross expenditure on R&D, % GDP	⊙	0.2	89	6.1.5 Citable documents H-index		14.5	56
2.3.3 Global corporate R&D investors, top 3, mn US\$		0.0	41	6.2 Knowledge impact		31.8	58
2.3.4 QS university ranking, top 3*		34.9	34	6.2.1 Labor productivity growth, %		1.3	36
				6.2.2 New businesses/th pop. 15–64	⊙	0.3	106
	Infrastructure	41.4	68	6.2.3 Software spending, % GDP		0.4	27
3.1 Information and communication technologies (ICTs)		60.9	80	6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP		2.0	88
3.1.1 ICT access*		55.4	84	6.2.5 High-tech manufacturing, %	⊙	31.9	41
3.1.2 ICT use*		45.1	92	6.3 Knowledge diffusion		13.7	74
3.1.3 Government's online service*		68.2	72	6.3.1 Intellectual property receipts, % total trade		0.0	72
3.1.4 E-participation*		75.0	57	6.3.2 Production and export complexity		44.2	61
3.2 General infrastructure		36.1	36	6.3.3 High-tech exports, % total trade		3.1	47
3.2.1 Electricity output, GWh/mn pop.	1,090.5	96	◆	6.3.4 ICT services exports, % total trade		0.6	95
3.2.2 Logistics performance*		51.2	45				
3.2.3 Gross capital formation, % GDP		33.0	17		Creative outputs	17.5	91
3.3 Ecological sustainability		27.2	69	7.1 Intangible assets		24.3	88
3.3.1 GDP/unit of energy use		14.4	28	7.1.1 Trademarks by origin/bn PPP\$ GDP		12.2	106
3.3.2 Environmental performance*		37.8	96	7.1.2 Global brand value, top 5,000, % GDP		30.0	44
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP		0.6	78	7.1.3 Industrial designs by origin/bn PPP\$ GDP		0.5	83
				7.1.4 ICTs and organizational model creation†		65.4	27
	Market sophistication	48.5	57	7.2 Creative goods and services		12.0	74
4.1 Credit		33.6	95	7.2.1 Cultural and creative services exports, % total trade		0.0	94
4.1.1 Ease of getting credit*		70.0	44	7.2.2 National feature films/mn pop. 15–69		0.6	95
4.1.2 Domestic credit to private sector, % GDP		37.8	84	7.2.3 Entertainment and media market/th pop. 15–69		3.1	50
4.1.3 Microfinance gross loans, % GDP		0.0	67	7.2.4 Printing and other media, % manufacturing	⊙	0.9	65
4.2 Investment		24.0	92	7.2.5 Creative goods exports, % total trade		2.2	27
4.2.1 Ease of protecting minority investors*		70.0	36	7.3 Online creativity		9.3	98
4.2.2 Market capitalization, % GDP		48.2	35	7.3.1 Generic top-level domains (TLDs)/th pop. 15–69		1.5	89
4.2.3 Venture capital investors, deals/bn PPP\$ GDP		0.0	65	7.3.2 Country-code TLDs/th pop. 15–69		0.7	94
4.2.4 Venture capital recipients, deals/bn PPP\$ GDP		0.0	59	7.3.3 Wikipedia edits/mn pop. 15–69		32.9	96
4.3 Trade, diversification, and market scale		87.8	6	7.3.4 Mobile app creation/bn PPP\$ GDP		4.5	57
4.3.1 Applied tariff rate, weighted avg., %		2.0	55				
4.3.2 Domestic industry diversification	⊙	94.8	27				
4.3.3 Domestic market scale, bn PPP\$		3,328.3	7				

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

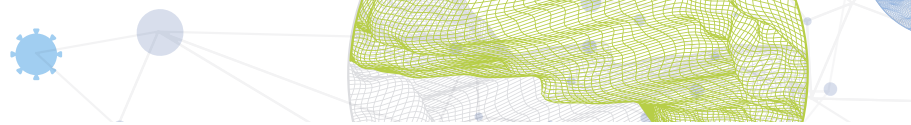
The following tables list data that are either missing or outdated for Indonesia.

Missing data for Indonesia

Code	Indicator name	Economy year	Model year	Source
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Outdated data for Indonesia

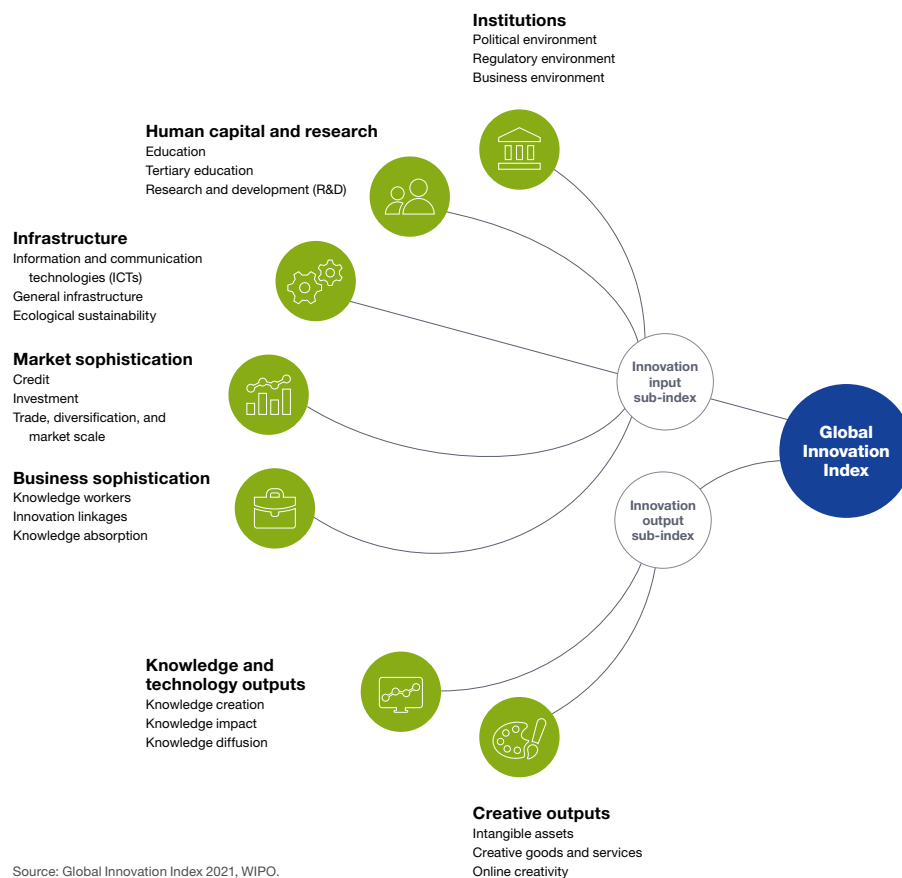
Code	Indicator name	Economy year	Model year	Source
2.1.1	Expenditure on education, % GDP	2015	2017	UNESCO Institute for Statistics
2.1.2	Government funding/pupil, secondary, % GDP/cap	2015	2017	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2018	2019	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
4.3.2	Domestic industry diversification	2017	2018	United Nations Industrial Development Organization
5.1.2	Firms offering formal training, %	2015	2019	World Bank
5.1.3	GERD performed by business, % GDP	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.3.5	Research talent, % in businesses	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
6.2.2	New businesses/th pop. 15–64	2016	2018	World Bank
6.2.5	High-tech manufacturing, %	2017	2018	United Nations Industrial Development 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.