Global Innovation Index 2021

VIET NAM

44th Viet Nam ranks 44th 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 Viet Nam 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 Viet Nam in the GII 2021 is between ranks 42 and 47.

Rankings for Viet Nam (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	44	60	38
2020	42	62	38
2019	42	63	37

- Viet Nam performs better in innovation outputs than innovation inputs in 2021.
- This year Viet Nam ranks 60th in innovation inputs, higher than both 2020 and 2019.
- As for innovation outputs, Viet Nam ranks 38th. This position is the same as last year but lower than 2019.

1st Viet Nam ranks 1st among the 34 lower middle-income group economies.

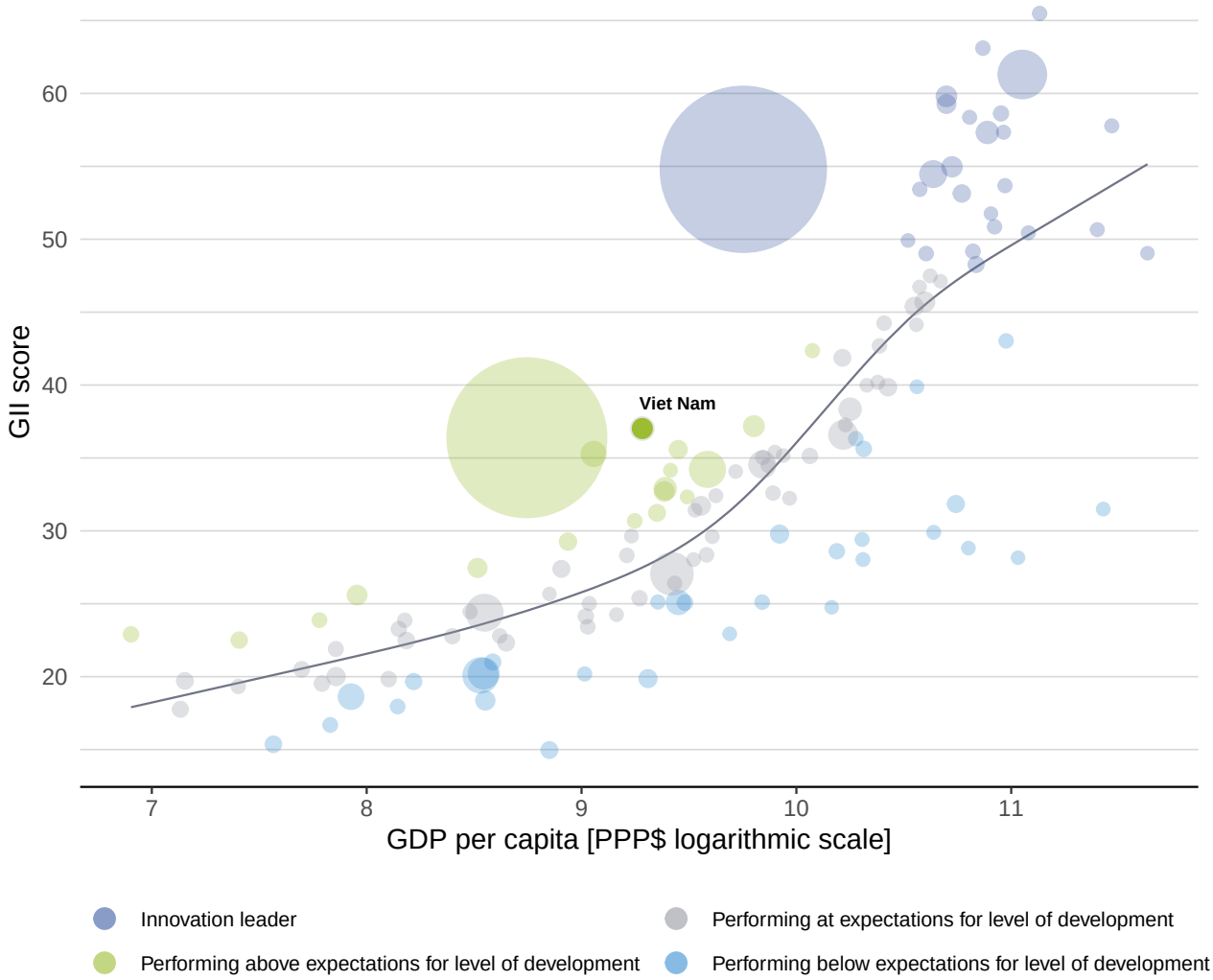
10th Viet Nam ranks 10th among the 17 economies in South East Asia, East Asia, and Oceania.

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

The positive relationship between innovation and development

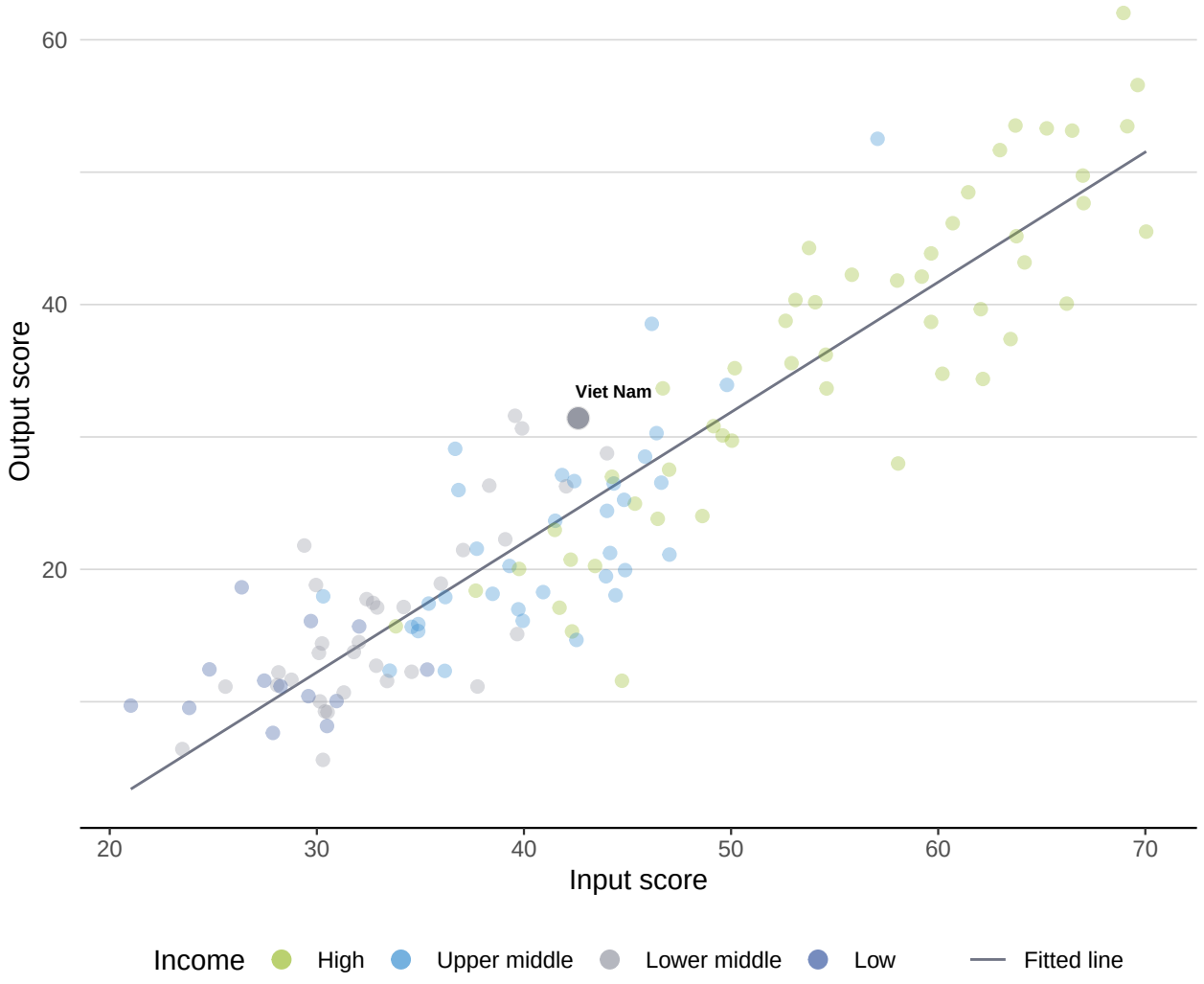


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

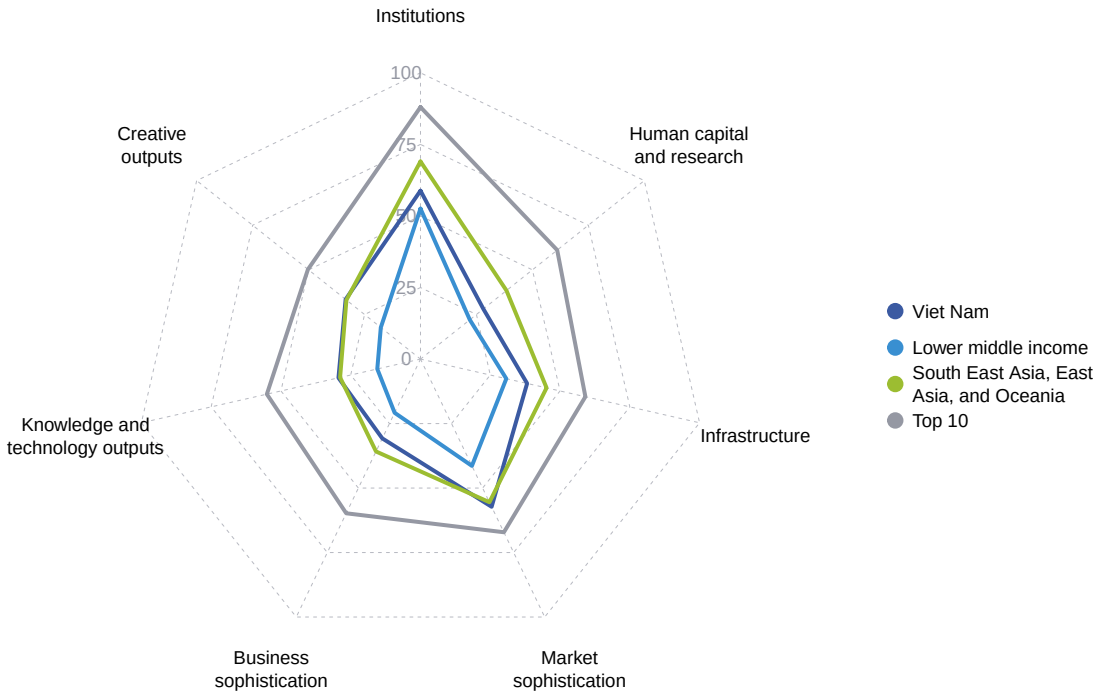
Viet Nam produces more innovation outputs relative to its level of innovation investments.

Innovation input to output performance



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

The seven GII pillar scores for Viet Nam



Lower middle-income group economies

Viet Nam performs above the lower middle-income group average in all GII pillars.

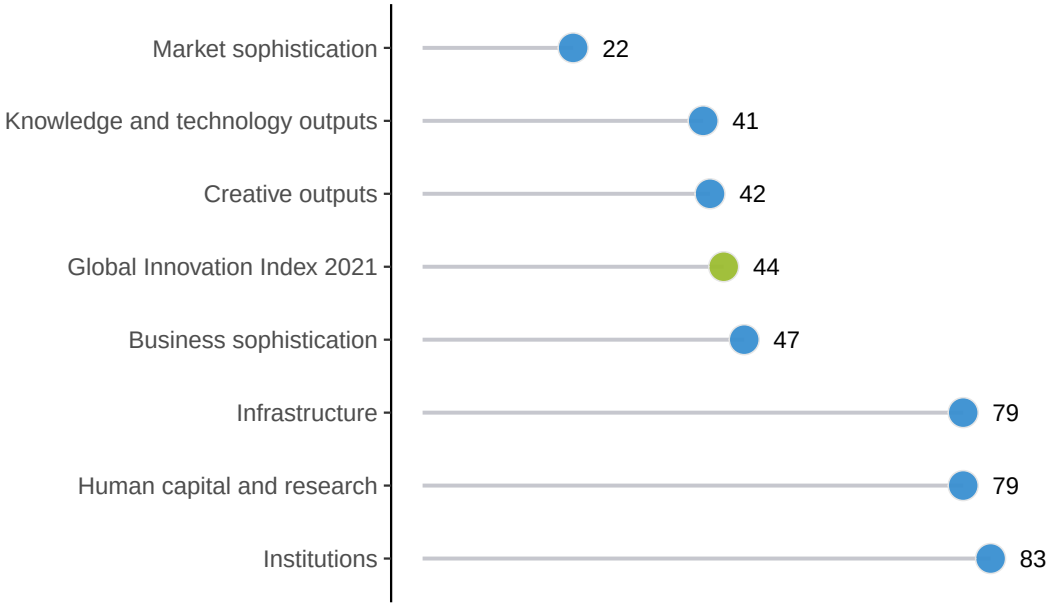
South East Asia, East Asia, and Oceania

Viet Nam performs above the regional average in three pillars, namely: Market sophistication; Knowledge and technology outputs; and, Creative outputs.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Viet Nam performs best in Market sophistication and its weakest performance is in Institutions.

The seven GII pillar ranks for Viet Nam



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 Viet Nam in the GII 2021.

Strengths and weaknesses for Viet Nam

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
4.1	Credit	9	1.3.2	Ease of resolving insolvency	106
4.1.2	Domestic credit to private sector, % GDP	12	2.2.3	Tertiary inbound mobility, %	102
4.1.3	Microfinance gross loans, % GDP	11	2.3.3	Global corporate R&D investors, top 3, mn US$	41
4.3	Trade, diversification, and market scale	15	3.3.2	Environmental performance	110
4.3.2	Domestic industry diversification	9	4.2	Investment	111
5.1.4	GERD financed by business, %	8	5.1.1	Knowledge-intensive employment, %	100
5.3.2	High-tech imports, % total trade	3	5.3.3	ICT services imports, % total trade	129
5.3.4	FDI net inflows, % GDP	16	6.3.1	Intellectual property receipts, % total trade	106
6.2.1	Labor productivity growth, %	3	6.3.4	ICT services exports, % total trade	115
6.3.3	High-tech exports, % total trade	1	7.2.1	Cultural and creative services exports, % total trade	91
7.2.5	Creative goods exports, % total trade	11	7.2.3	Entertainment and media market/th pop. 15–69	52
7.3.4	Mobile app creation/bn PPP$ GDP	10			

Viet Nam

GII 2021 rank **44**

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$	GII 2020 rank
38	60	Lower middle	SEAO	97.3	1,047.3	10,755	42

		Score/ Value	Rank	
Institutions		**58.8**	**83**	
1.1	**Political environment**	**60.5**	**58**	◆
1.1.1	Political and operational stability*	78.6	34	◆
1.1.2	Government effectiveness*	51.5	71	◆
1.2	**Regulatory environment**	**54.3**	**98**	
1.2.1	Regulatory quality*	36.6	93	
1.2.2	Rule of law*	46.3	64	◆
1.2.3	Cost of redundancy dismissal	24.6	104	
1.3	**Business environment**	**61.6**	**101**	
1.3.1	Ease of starting a business*	85.1	88	
1.3.2	Ease of resolving insolvency*	38.0	106 ○	
Human capital and research		**28.1**	**79**	
2.1	**Education**	**54.2**	**[52]**	
2.1.1	Expenditure on education, % GDP	4.2	62	
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	n/a	n/a	
2.1.4	PISA scales in reading, maths and science ◴	502.0	16	◆
2.1.5	Pupil-teacher ratio, secondary	18.6	91	
2.2	**Tertiary education**	**23.2**	**90**	
2.2.1	Tertiary enrolment, % gross	28.6	87	
2.2.2	Graduates in science and engineering, % ◴	22.7	54	
2.2.3	Tertiary inbound mobility, %	0.4	102 ○	
2.3	**Research and development (R&D)**	**6.9**	**68**	
2.3.1	Researchers, FTE/mn pop. ◴	707.7	57	
2.3.2	Gross expenditure on R&D, % GDP ◴	0.5	64	
2.3.3	Global corporate R&D investors, top 3, mn US$	0.0	41 ○ ◇	
2.3.4	QS university ranking, top 3*	8.9	66	
Infrastructure		**38.2**	**79**	◆
3.1	**Information and communication technologies (ICTs)**	**61.0**	**79**	◆
3.1.1	ICT access*	52.8	87	
3.1.2	ICT use*	55.6	71	◆
3.1.3	Government's online service*	65.3	78	
3.1.4	E-participation*	70.2	70	
3.2	**General infrastructure**	**33.1**	**47**	
3.2.1	Electricity output, GWh/mn pop.	2,521.9	74	◆
3.2.2	Logistics performance*	57.0	38	◆
3.2.3	Gross capital formation, % GDP	26.2	39	
3.3	**Ecological sustainability**	**20.5**	**95**	
3.3.1	GDP/unit of energy use	8.1	90	
3.3.2	Environmental performance*	33.4	110 ○	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	1.5	55	◆
Market sophistication		**57.2**	**22**	◆
4.1	**Credit**	**66.1**	**9**	● ◆
4.1.1	Ease of getting credit*	80.0	23	
4.1.2	Domestic credit to private sector, % GDP	137.9	12	● ◆
4.1.3	Microfinance gross loans, % GDP ◴	3.1	11	●
4.2	**Investment**	**20.6**	**111**	○
4.2.1	Ease of protecting minority investors*	54.0	88	
4.2.2	Market capitalization, % GDP	55.8	31	
4.2.3	Venture capital investors, deals/bn PPP$ GDP	0.0	71	
4.2.4	Venture capital recipients, deals/bn PPP$ GDP	0.0	54	
4.3	**Trade, diversification, and market scale**	**85.0**	**15**	● ◆
4.3.1	Applied tariff rate, weighted avg., %	1.7	21	◆
4.3.2	Domestic industry diversification	98.3	9	● ◆
4.3.3	Domestic market scale, bn PPP$	1,047.3	23	◆

		Score/ Value	Rank	
Business sophistication		**30.8**	**47**	◆
5.1	**Knowledge workers**	**31.0**	**66**	
5.1.1	Knowledge-intensive employment, %	13.2	100 ○	
5.1.2	Firms offering formal training, % ◴	22.2	68	
5.1.3	GERD performed by business, % GDP ◴	0.4	44	◆
5.1.4	GERD financed by business, % ◴	64.1	8	● ◆
5.1.5	Females employed w/advanced degrees, %	8.0	79	
5.2	**Innovation linkages**	**22.1**	**58**	
5.2.1	University-industry R&D collaboration†	53.0	34	◆
5.2.2	State of cluster development and depth†	63.6	17	◆
5.2.3	GERD financed by abroad, % GDP ◴	0.0	64	
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	74	
5.2.5	Patent families/bn PPP$ GDP	0.0	92	
5.3	**Knowledge absorption**	**39.2**	**30**	◆
5.3.1	Intellectual property payments, % total trade	0.2	91	
5.3.2	High-tech imports, % total trade	25.7	3	● ◆
5.3.3	ICT services imports, % total trade	0.1	129 ○ ◇	
5.3.4	FDI net inflows, % GDP	6.3	16	●
5.3.5	Research talent, % in businesses ◴	24.1	52	
Knowledge and technology outputs		**29.4**	**41**	◆
6.1	**Knowledge creation**	**9.8**	**79**	
6.1.1	Patents by origin/bn PPP$ GDP	0.7	73	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.0	88	
6.1.3	Utility models by origin/bn PPP$ GDP	0.4	38	
6.1.4	Scientific and technical articles/bn PPP$ GDP	10.4	83	
6.1.5	Citable documents H-index	13.0	58	
6.2	**Knowledge impact**	**36.4**	**36**	◆
6.2.1	Labor productivity growth, %	5.8	3	● ◆
6.2.2	New businesses/th pop. 15–64 ◴	1.1	81	
6.2.3	Software spending, % GDP	0.3	49	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	3.8	65	
6.2.5	High-tech manufacturing, %	29.9	42	◆
6.3	**Knowledge diffusion**	**41.9**	**21**	◆
6.3.1	Intellectual property receipts, % total trade	0.0	106 ○	
6.3.2	Production and export complexity	47.2	52	◆
6.3.3	High-tech exports, % total trade	32.1	1	● ◆
6.3.4	ICT services exports, % total trade	0.3	115 ○	
Creative outputs		**33.4**	**42**	◆
7.1	**Intangible assets**	**41.9**	**35**	◆
7.1.1	Trademarks by origin/bn PPP$ GDP	73.3	23	◆
7.1.2	Global brand value, top 5,000, % GDP	80.8	25	◆
7.1.3	Industrial designs by origin/bn PPP$ GDP	2.2	45	
7.1.4	ICTs and organizational model creation†	54.4	63	
7.2	**Creative goods and services**	**26.0**	**35**	◆
7.2.1	Cultural and creative services exports, % total trade	0.1	91 ○	
7.2.2	National feature films/mn pop. 15–69 ◴	1.2	81	
7.2.3	Entertainment and media market/th pop. 15–69	2.8	52 ○	◆
7.2.4	Printing and other media, % manufacturing	0.9	64	
7.2.5	Creative goods exports, % total trade	5.8	11	● ◆
7.3	**Online creativity**	**23.9**	**49**	◆
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	2.5	71	◆
7.3.2	Country-code TLDs/th pop. 15–69	2.1	69	◆
7.3.3	Wikipedia edits/mn pop. 15–69	44.0	79	
7.3.4	Mobile app creation/bn PPP$ GDP	47.9	10	● ◆

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 Viet Nam.

Missing data for Viet Nam

Code	Indicator name	Economy year	Model year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2017	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	n/a	2018	UNESCO Institute for Statistics

Outdated data for Viet Nam

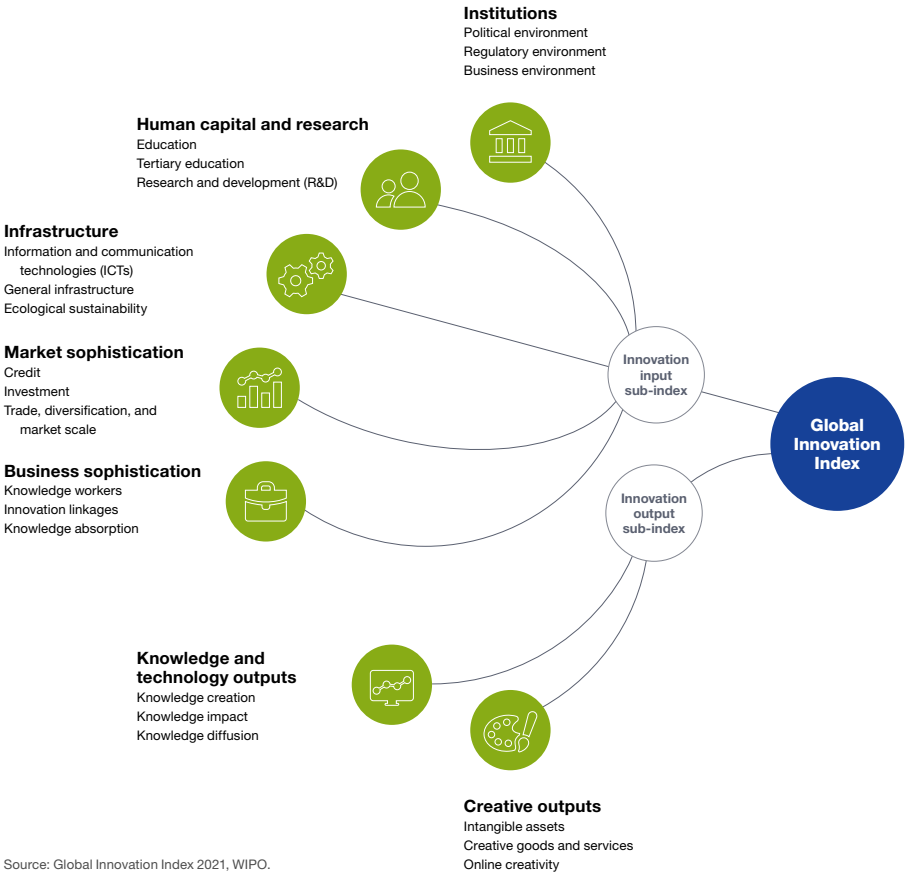
Code	Indicator name	Economy year	Model year	Source
2.1.4	PISA scales in reading, maths and science	2015	2018	OECD Programme for International Student Assessment (PISA)
2.2.2	Graduates in science and engineering, %	2016	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.1	Researchers, FTE/mn pop.	2017	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2017	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
4.1.3	Microfinance gross loans, % GDP	2017	2018	Microfinance Information Exchange
5.1.2	Firms offering formal training, %	2015	2019	World Bank
5.1.3	GERD performed by business, % GDP	2017	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.4	GERD financed by business, %	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.2.3	GERD financed by abroad, % GDP	2017	2018	UNESCO Institute for Statistics

Code	Indicator name	Economy year	Model year	Source
5.3.5	Research talent, % in businesses	2017	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
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 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.



Source: Global Innovation Index 2021, WIPO.

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.