

GLOBAL INNOVATION INDEX 2018

Viet Nam

45th Viet Nam is ranked 45th in the GII 2018, moving up 2 positions from the previous year.

The GII indicators are grouped into innovation inputs and outputs. The following table reflects Viet Nam's rankings over time¹.

Viet Nam's ranking over time

	GII	Input	Output	Efficiency
2018	45	65	41	16
2017	47	71	38	10
2016	59	79	42	11

- Viet Nam notably improves its GII ranking, gaining 14 spots from 2016 and taking the 45th position this year.
- It also improves in innovation inputs, reaching the 65th position, up from the 71st in 2017 and 79th in 2016.
- Viet Nam slightly deteriorates its ranking in innovation outputs (41st), down 3 from 2017.
- Viet Nam is highly efficient in translating its innovation inputs into outputs, ranking 16th in the Innovation Efficiency Ratio. Despite leaving the top 10 this year, Viet Nam's position in the Innovation Efficiency Ratio is stronger than its overall GII position, thanks to its much higher ranking in innovation outputs (41st) compared to inputs (65th).

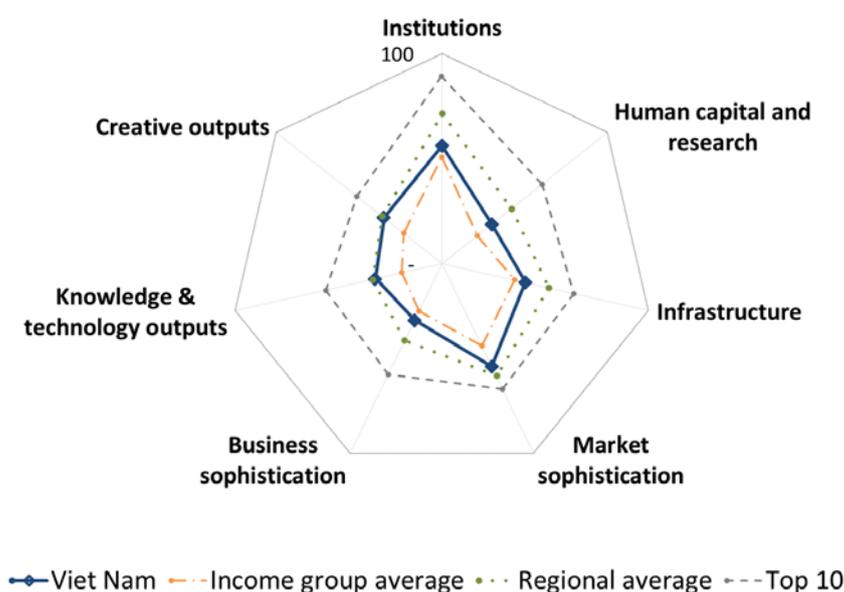
2nd Viet Nam is ranked 2nd among the 30 lower-middle-income countries in the GII 2018.

10th Viet Nam is ranked 10th among the 15 countries in South East Asia and Oceania.

¹ Note that year-on-year comparisons of the GII ranks are imperfect and influenced by changes in the GII model and data availability.

Benchmarking Viet Nam to other lower-middle-income countries and the South East Asia and Oceania region

Viet Nam's scores by area



Lower-middle-income countries

Viet Nam has high scores in all 7 GII areas – **Institutions, Human Capital & Research, Infrastructure, Market Sophistication, Business Sophistication, Knowledge & Technology Outputs, and Creative Outputs**, in which it scores above the average of the lower-middle-income group.

Top scores in areas such as *Business environment, Education, Information & Communication Technologies (ICTs), Trade, competition & market scale, Knowledge absorption, Knowledge impact, and Intangible assets* are behind these high rankings.

South East Asia and Oceania region

Compared to other countries in the South East Asia and Oceania region, Viet Nam performs below-average in all 7 GII areas.

Viet Nam's innovation profile

Strengths

- The most important strength for Viet Nam is the **Innovation Efficiency Ratio**, in which it positions 16th globally.
- Most other relative strengths are concentrated on the innovation output side of the GII, and especially in the area **Knowledge & Technology Outputs** (35th), where it performs strongly in two of its three components – *Knowledge impact* (19th) and *Knowledge diffusion* (21st). Viet Nam also demonstrates strengths in indicators *Productivity growth* (6th) and *High-tech exports*, where it achieves great results and ranks 1st in the world.
- On the innovation output side, other strengths are found in **Creative Outputs** (46th) in indicators *Trademarks by origin* (18th), *Creative goods exports* (7th), and *Mobile app creation* (16th).
- In **innovation inputs**, Viet Nam's strengths lie in two areas. In **Business Sophistication** (66th), it has strong performance in the area *Knowledge absorption* (25th) as well as in indicators *R&D financed by business* (13th), *FDI inflows* (25th), and *High-tech imports*, where it ranks 4th globally.
- In **Market Sophistication** (33rd), Viet Nam exhibits strength in the area *Credit* (15th) and in indicators *Domestic credit to private sector* (19th) and *Microfinance gross loans* (11th).

Weaknesses

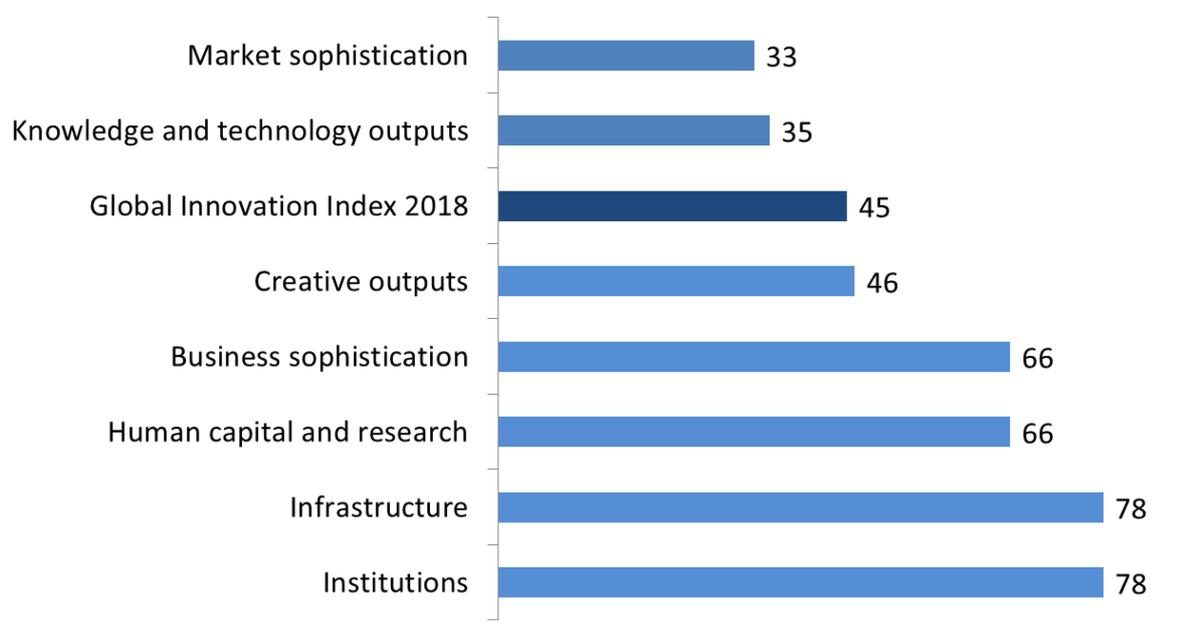
- Viet Nam's relative weaknesses are mainly accrued in **innovation inputs**, and in particular in four of the five GII areas capturing inputs.
- In **Institutions** (78th), Viet Nam performs relatively weakly in indicator *Ease of resolving insolvency* (107th).
- In **Human Capital & Research** (66th), GII weaknesses are found in indicators *Tertiary inbound mobility* (99th), *Global R&D companies expenditures* (40th), and *Quality of universities* (78th).
- The area *Investment* (109th) and the indicator *Intensity of local competition* (101st) are signaled as GII weaknesses within the area **Market Sophistication** (33rd).
- Indicators *Patent families in 2 or more offices* (98th) and *ICT services imports* (122nd) present relatively weak performance in **Business Sophistication** (66th).
- On the **innovation output** side, Viet Nam exhibits relative weaknesses in the following three indicators: *ICT services exports* (120th) in **Knowledge & Technology Outputs** (35th) and *National feature films* (98th) and *Entertainment & Media market* (56th) in **Creative Outputs** (46th).

The following figure presents a summary of Viet Nam's ranks in the 7 GII areas, as well as the overall rank in the GII 2018.

Viet Nam's rank in the GII 2018 and the 7 GII areas

Rank 1 is the highest possible in each pillar

Total number of countries: 126



Missing and Outdated Data

More and better data improve the ability of a country to understand its strengths and weaknesses and give policymakers greater capacity to plan and adapt public policies accordingly. The GII 2018 covers 126 countries that complied with the minimum indicator coverage of 35 indicators in the Innovation Input Sub-Index (66%) and 18 indicators in the Innovation Output Sub-Index (66%).

The following tables show data for Viet Nam that is not available or that is outdated.

Missing Data

Code	Indicator	Country Year	Model Year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2014	UNESCO Institute for Statistics (UIS)
2.1.3	School life expectancy, years	n/a	2016	UNESCO Institute for Statistics (UIS)
2.1.5	Pupil-teacher ratio, secondary	n/a	2016	UNESCO Institute for Statistics (UIS)
5.3.1	Intellectual property payments, % total trade	n/a	2016	WTO, Trade in Commercial Services
6.2.2	New businesses/th pop. 15–64	n/a	2016	World Bank, Doing Business
6.3.1	Intellectual property receipts, % total trade	n/a	2016	WTO, Trade in Commercial Services
7.2.1	Cultural & creative services exports, % total trade	n/a	2016	WTO, Trade in Commercial Services

Outdated Data

Code	Indicator	Country Year	Model Year	Source
2.1.1	Expenditure on education, % GDP	2013	2014	UNESCO Institute for Statistics (UIS)
2.3.1	Researchers, FTE/mn pop.	2015	2016	UNESCO Institute for Statistics (UIS)
2.3.2	Gross expenditure on R&D, % GDP	2015	2016	UNESCO Institute for Statistics (UIS)
5.1.3	GERD performed by business, % GDP	2015	2016	UNESCO Institute for Statistics (UIS)
5.3.3	ICT services imports, % total trade	2015	2016	WTO, Trade in Commercial Services
5.3.5	Research talent, % in business enterprise	2015	2016	UNESCO Institute for Statistics (UIS)
6.2.5	High- & medium-high-tech manufactures, %	2012	2015	UNIDO, Industrial Statistics
6.3.3	ICT services exports, % total trade	2015	2016	WTO, Trade in Commercial Services
7.2.2	National feature films/mn pop. 15–69	2009	2015	UNESCO Institute for Statistics (UIS)



Output rank	Input rank	Income	Region	Efficiency ratio	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2017 rank
41	65	Lower-middle	SEAO	16 ●	95.5	643.9	6,913.1	47

	Score/Value	Rank		Score/Value	Rank
I Institutions	56.2	78	B Business sophistication	30.0	66
1.1 Political environment.....	53.1	62 ◆	5.1 Knowledge workers.....	25.3	91
1.1.1 Political stability & safety*.....	68.5	57 ◆	5.1.1 Knowledge-intensive employment, %.....	11.0	95
1.1.2 Government effectiveness*.....	45.4	71 ◆	5.1.2 Firms offering formal training, % firms.....	22.2	69
1.2 Regulatory environment.....	56.8	89	5.1.3 GERD performed by business, % GDP ^②	0.3	48 ◆
1.2.1 Regulatory quality*.....	32.5	99	5.1.4 GERD financed by business, %.....	58.1	13 ◆◆
1.2.2 Rule of law*.....	45.2	57 ◆	5.1.5 Females employed w/advanced degrees, %.....	5.8	78
1.2.3 Cost of redundancy dismissal, salary weeks.....	24.6	97	5.2 Innovation linkages.....	22.6	88
1.3 Business environment.....	58.6	103	5.2.1 University/industry research collaboration [†]	41.7	59
1.3.1 Ease of starting a business*.....	82.0	95	5.2.2 State of cluster development [†]	46.2	64
1.3.2 Ease of resolving insolvency*.....	35.2	107 ○	5.2.3 GERD financed by abroad, %.....	2.9	68
			5.2.4 JV-strategic alliance deals/bn PPP\$ GDP.....	0.0	53
			5.2.5 Patent families 2+ offices/bn PPP\$ GDP.....	0.0	98 ○
sk Human capital & research	30.0	66	5.3 Knowledge absorption.....	42.0	25 ◆◆
2.1 Education.....	61.2	[18]	5.3.1 Intellectual property payments, % total trade.....	n/a	n/a
2.1.1 Expenditure on education, % GDP ^②	5.7	29	5.3.2 High-tech net imports, % total trade.....	23.8	4 ◆◆
2.1.2 Government funding/pupil, secondary, % GDP/cap.....	n/a	n/a	5.3.3 ICT services imports, % total trade ^②	0.0	122 ○◇
2.1.3 School life expectancy, years.....	n/a	n/a	5.3.4 FDI net inflows, % GDP.....	5.7	25 ●
2.1.4 PISA scales in reading, maths & science.....	502.0	20 ◆	5.3.5 Research talent, % in business enterprise ^②	21.7	51
2.1.5 Pupil-teacher ratio, secondary.....	n/a	n/a			
2.2 Tertiary education.....	24.4	84	ET Knowledge & technology outputs	32.4	35 ◆
2.2.1 Tertiary enrolment, % gross.....	28.3	80	6.1 Knowledge creation.....	8.1	76
2.2.2 Graduates in science & engineering, %.....	22.7	44	6.1.1 Patents by origin/bn PPP\$ GDP.....	0.9	67
2.2.3 Tertiary inbound mobility, %.....	0.2	99 ○	6.1.2 PCT patents by origin/bn PPP\$ GDP.....	0.0	88
2.3 Research & development (R&D).....	4.5	81	6.1.3 Utility models by origin/bn PPP\$ GDP.....	0.5	35
2.3.1 Researchers, FTE/mn pop. ^②	672.1	58	6.1.4 Scientific & technical articles/bn PPP\$ GDP.....	4.9	79
2.3.2 Gross expenditure on R&D, % GDP ^②	0.4	66	6.1.5 Citable documents H index.....	11.3	57
2.3.3 Global R&D companies, top 3, mn US\$.....	0.0	40 ○◇	6.2 Knowledge impact.....	49.9	19 ◆◆
2.3.4 QS university ranking, average score top 3*.....	0.0	78 ○◇	6.2.1 Growth rate of PPP\$ GDP/worker, %.....	5.3	6 ●
			6.2.2 New businesses/th pop. 15-64.....	n/a	n/a
✂ Infrastructure	40.4	78	6.2.3 Computer software spending, % GDP.....	0.3	45
3.1 Information & communication technologies (ICTs).....	52.7	76	6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP.....	8.7	40 ◆
3.1.1 ICT access*.....	47.5	89	6.2.5 High- & medium-high-tech manufactures, % ^②	0.2	47
3.1.2 ICT use*.....	36.5	85	6.3 Knowledge diffusion.....	39.1	21 ◆◆
3.1.3 Government's online service*.....	57.2	72	6.3.1 Intellectual property receipts, % total trade.....	n/a	n/a
3.1.4 E-participation*.....	69.5	43 ◆	6.3.2 High-tech net exports, % total trade.....	29.9	1 ◆◆
3.2 General infrastructure.....	38.8	57	6.3.3 ICT services exports, % total trade ^②	0.1	120 ○
3.2.1 Electricity output, kWh/cap.....	1,671.4	84	6.3.4 FDI net outflows, % GDP.....	0.6	64
3.2.2 Logistics performance*.....	42.2	63			
3.2.3 Gross capital formation, % GDP.....	26.7	28	✂ Creative outputs	35.0	46 ◆
3.3 Ecological sustainability.....	29.6	94	7.1 Intangible assets.....	46.5	49
3.3.1 GDP/unit of energy use.....	6.9	85	7.1.1 Trademarks by origin/bn PPP\$ GDP.....	92.3	18 ●
3.3.2 Environmental performance*.....	47.0	103	7.1.2 Industrial designs by origin/bn PPP\$ GDP.....	3.5	37
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP.....	2.3	46 ◆	7.1.3 ICTs & business model creation [†]	56.6	80
			7.1.4 ICTs & organizational model creation [†]	53.3	66
📈 Market sophistication	54.3	33 ◆	7.2 Creative goods & services.....	35.1	29 ◆
4.1 Credit.....	64.1	15 ◆◆	7.2.1 Cultural & creative services exports, % total trade.....	n/a	n/a
4.1.1 Ease of getting credit*.....	75.0	26	7.2.2 National feature films/mn pop. 15-69 ^②	0.2	98 ○
4.1.2 Domestic credit to private sector, % GDP.....	123.8	19 ◆◆	7.2.3 Entertainment & Media market/th pop. 15-69.....	1.1	56 ○
4.1.3 Microfinance gross loans, % GDP.....	3.9	11 ◆◆	7.2.4 Printing & other media, % manufacturing.....	1.0	59
4.2 Investment.....	31.1	109 ○	7.2.5 Creative goods exports, % total trade.....	7.2	7 ◆◆
4.2.1 Ease of protecting minority investors*.....	55.0	78	7.3 Online creativity.....	12.1	54 ◆
4.2.2 Market capitalization, % GDP.....	28.0	50	7.3.1 Generic top-level domains (TLDs)/th pop. 15-69.....	2.4	73
4.2.3 Venture capital deals/bn PPP\$ GDP.....	0.0	62	7.3.2 Country-code TLDs/th pop. 15-69.....	1.8	70
4.3 Trade, competition, & market scale.....	67.7	40 ◆	7.3.3 Wikipedia edits/mn pop. 15-69.....	7.1	70
4.3.1 Applied tariff rate, weighted mean, %.....	2.9	62	7.3.4 Mobile app creation/bn PPP\$ GDP.....	39.4	16 ◆◆
4.3.2 Intensity of local competition [†]	61.0	101 ○			
4.3.3 Domestic market scale, bn PPP\$.....	643.9	33			

NOTES: ● indicates a strength; ○ a weakness; ◆ an income group strength; ◇ an income group weakness; * an index; † a survey question.

② indicates that the country'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; see page 75 of this appendix for details.