

Global Innovation Index 2023

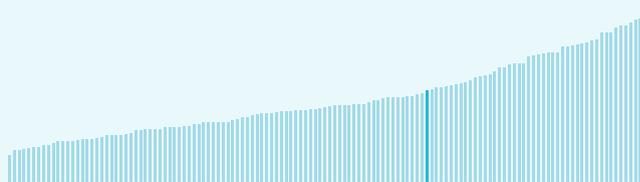


The Global Innovation Index (GII) **ranks world economies according to their innovation capabilities.**

Consisting of **roughly 80 indicators**, grouped into innovation inputs and outputs, the GII **aims to capture the multi-dimensional facets of innovation.**

Viet Nam ranking in the Global Innovation Index 2023

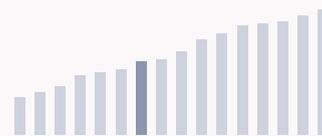
> Viet Nam ranks **46th** among the 132 economies featured in the GII 2023.



> Viet Nam ranks **2nd** among the 37 lower-middle-income group economies.



> Viet Nam ranks **10th** among the 16 economies in South East Asia, East Asia, and Oceania.



> Viet Nam GII Ranking (2020-2023)

The table shows the rankings of Viet Nam over the past four years. 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 2023 is between ranks 44 and 47.

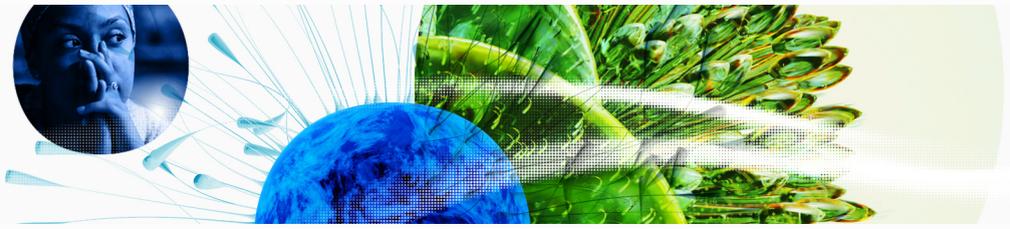
	GII Position	Innovation Inputs	Innovation Outputs
2020	42nd	62nd	38th
2021	44th	60th	38th
2022	48th	59th	41st
2023	46th	57th	40th

Viet Nam performs better in innovation outputs than innovation inputs in 2023.

This year Viet Nam ranks 57th in innovation inputs. This position is higher than last year.

Viet Nam ranks 40th in innovation outputs. This position is higher than last year.

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→ Expected vs. observed innovation performance

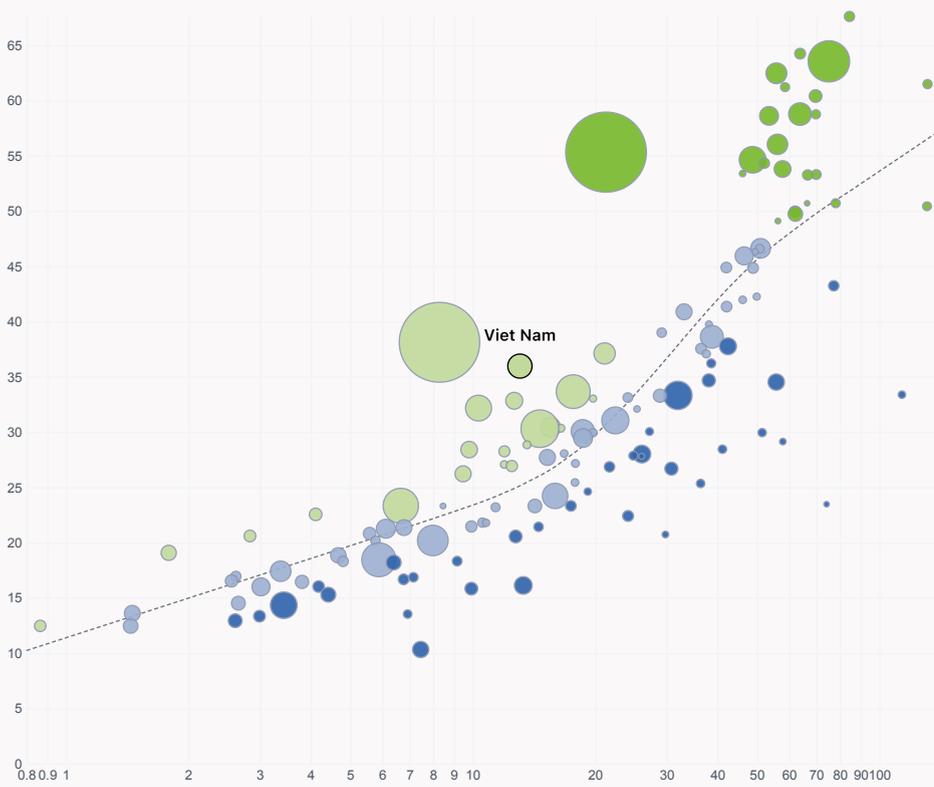
The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The trend line gives an indication of the expected innovation performance according to income level. Economies appearing above the trend line are performing better than expected and those below are performing below expectations.



> Relative to GDP, Viet Nam is performing above expectations for its level of development.

> Innovation overperformers relative to their economic development

↑ **GII Score**



- Innovation leader
- Performing above expectations for level of development
- Performing at expectations for level of development
- Performing below expectations for level of development

Size legend (Population)



→ **GDP per capita, PPP logarithmic scale (thousands of \$)**

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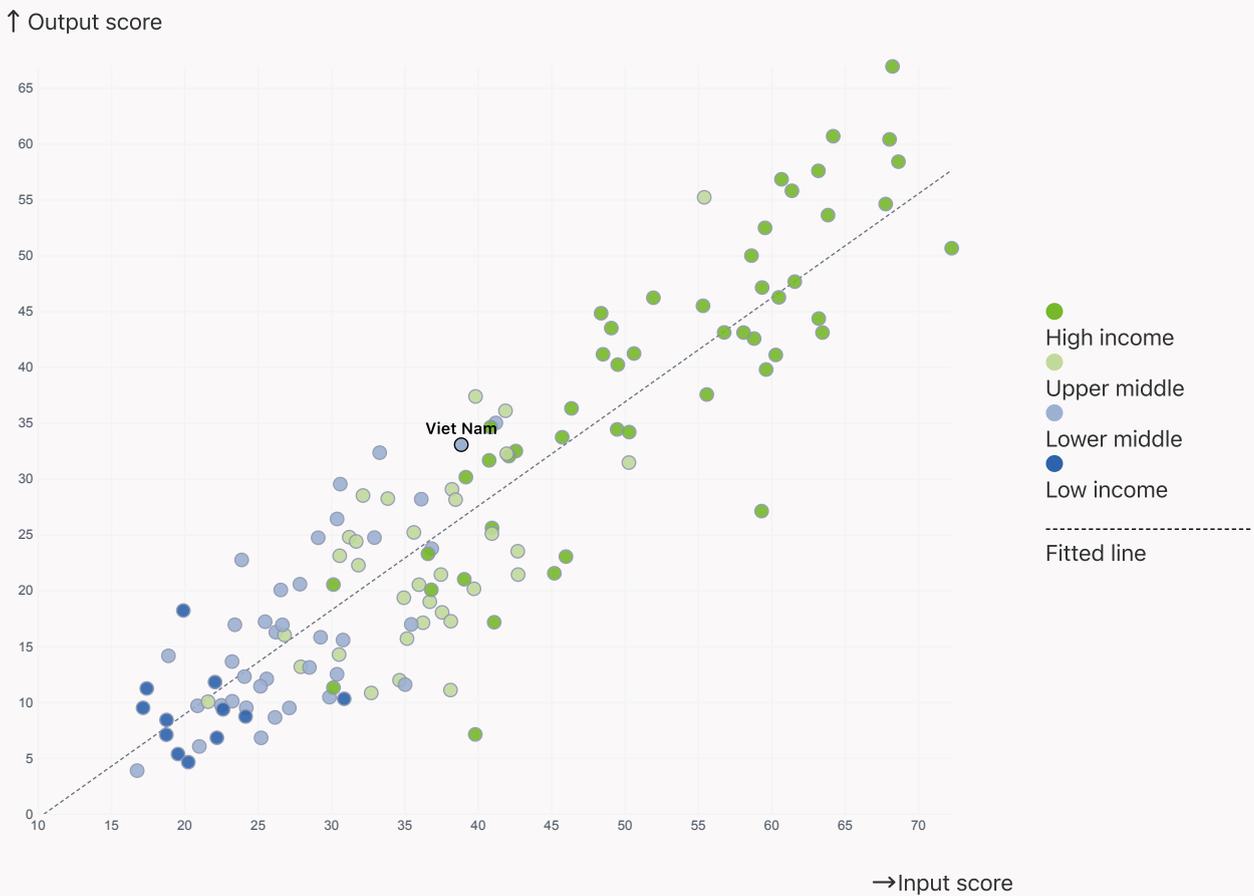
→ Effectively translating innovation investments into innovation outputs

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.

> Relationship between innovation inputs and outputs

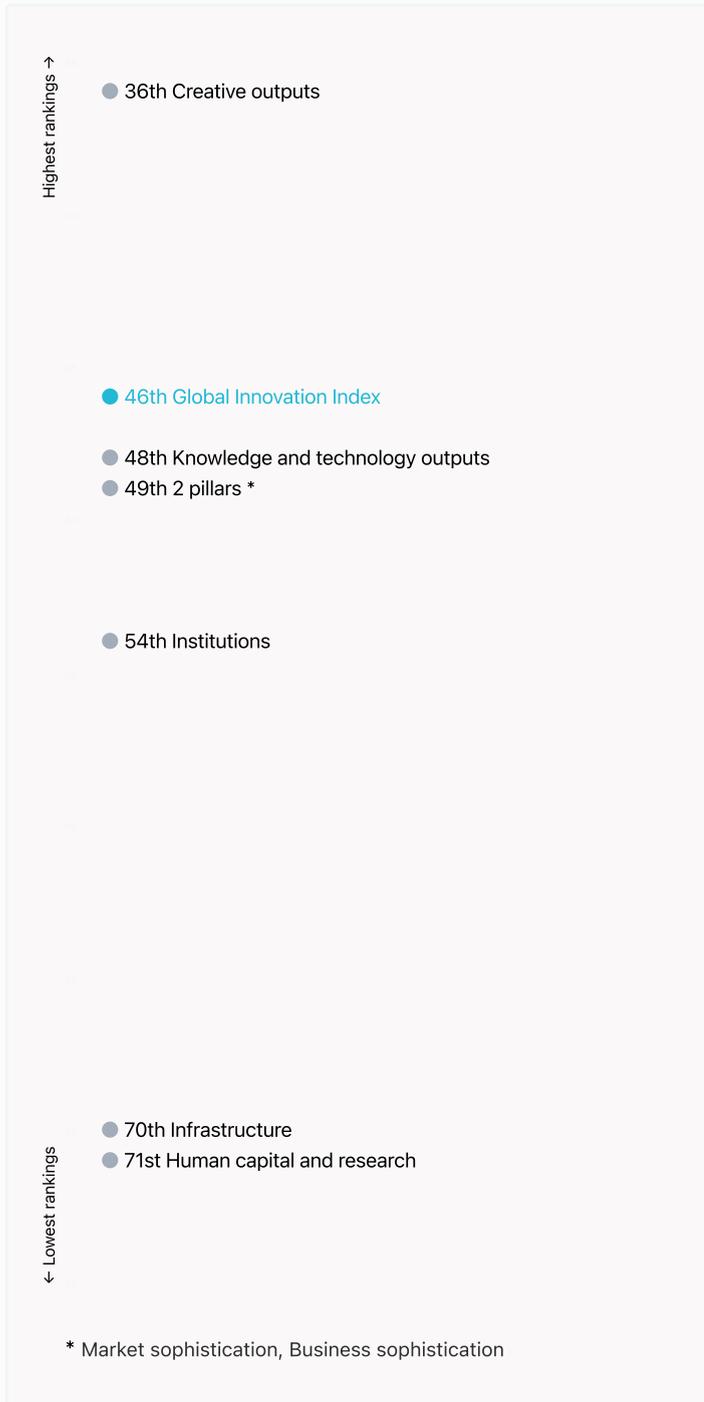


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→ Overview of Viet Nam's rankings in the seven areas of the GII in 2023

The chart shows the ranking for each of the seven areas that the GII comprises. The strongest areas for Viet Nam are those that rank above the GII (shown in blue) and the weakest are those that rank below.



> Highest rankings



Viet Nam ranks highest in Creative outputs (36th).

> Lowest rankings

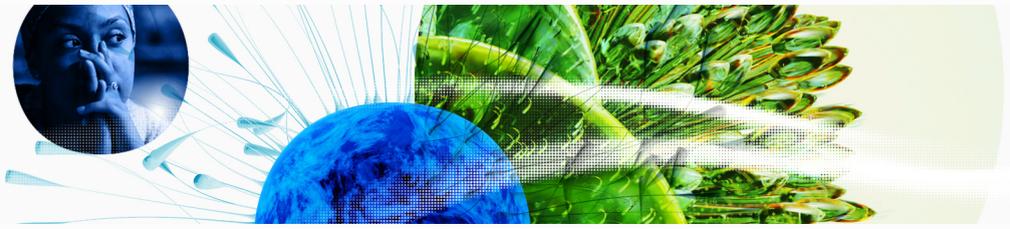


Viet Nam ranks lowest in Human capital and research (71st), Infrastructure (70th) and Institutions (54th).



The full WIPO Intellectual Property Statistics profile for Viet Nam can be found on [this link](#).

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→ Benchmark of Viet Nam against other country groupings for each of the seven areas of the GII Index

The charts show the relative position of Viet Nam (blue bar) against other country groupings (grey bars), for each of the seven areas of the GII Index.

> Lower-Middle-Income economies

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

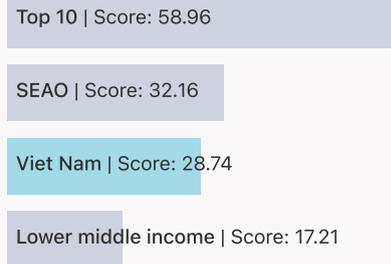


> South East Asia, East Asia, And Oceania

Viet Nam performs below the regional average in Knowledge and technology outputs, Business sophistication, Market sophistication, Human capital and research, Infrastructure, Institutions.

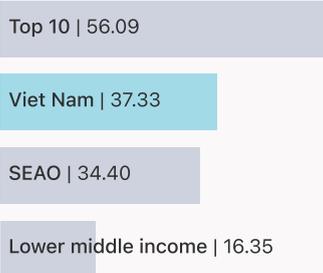


Knowledge and technology outputs

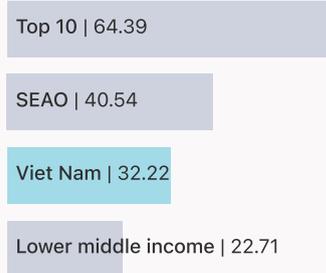


* South East Asia, East Asia, and Oceania

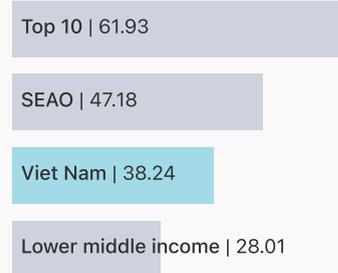
Creative outputs



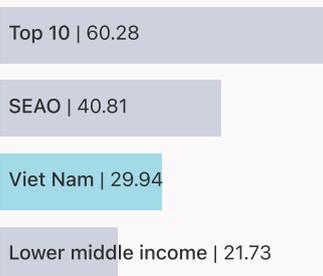
Business sophistication



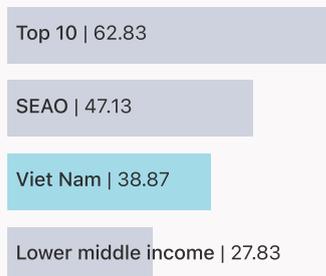
Market sophistication



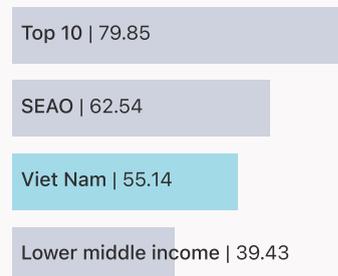
Human capital and research



Infrastructure



Institutions



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→ Innovation strengths and weaknesses in Viet Nam

The table below gives an overview of the indicator strengths and weaknesses of Viet Nam in the GII 2023.



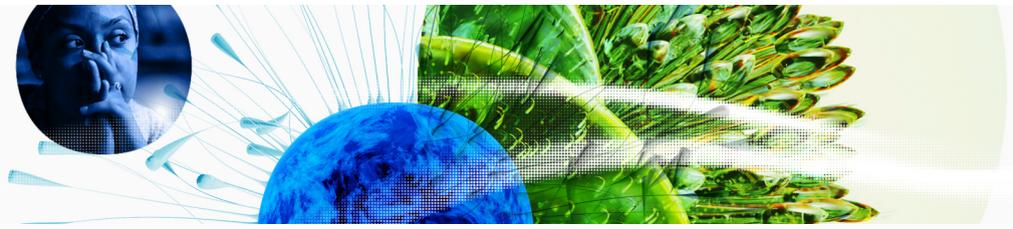
> Viet Nam's main innovation strengths are **High-tech exports, % total trade (rank 3)**, **Labor productivity growth, % (rank 4)** and **High-tech imports, % total trade (rank 4)**.

Strengths

Weaknesses

Rank	Code	Indicator name	Rank	Code	Indicator name
3	6.3.3	High-tech exports, % total trade	130	3.3.2	Environmental performance
4	6.2.1	Labor productivity growth, %	112	5.1.1	Knowledge-intensive employment, %
4	5.3.2	High-tech imports, % total trade	108	2.1.1	Expenditure on education, % GDP
7	7.2.4	Creative goods exports, % total trade	105	1.2.3	Cost of redundancy dismissal
7	4.3.2	Domestic industry diversification	103	2.2.3	Tertiary inbound mobility, %
8	7.3.4	Mobile app creation/bn PPP\$ GDP	100	2.1.5	Pupil-teacher ratio, secondary
9	5.1.4	GERD financed by business, %	77	7.2.2	National feature films/mn pop. 15-69
13	3.2.3	Gross capital formation, % GDP	51	4.1.3	Loans from microfinance institutions, % GDP
17	4.3.1	Applied tariff rate, weighted avg., %			
21	4.1.2	Domestic credit to private sector, % GDP			

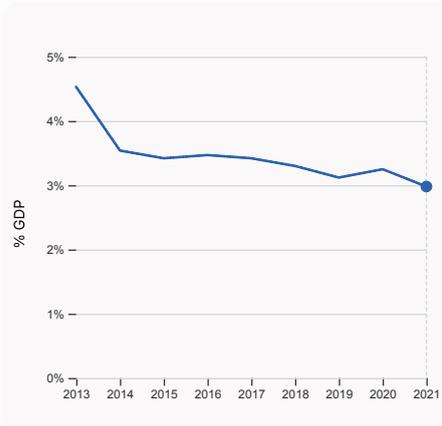
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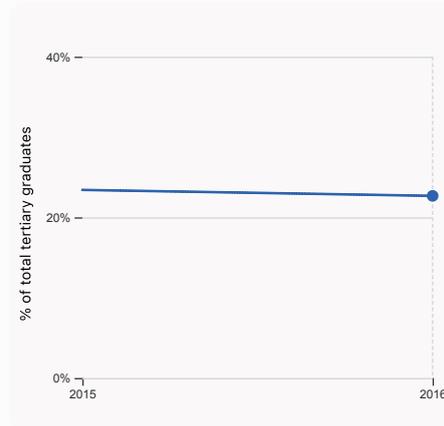
→ Viet Nam's innovation system

As far as practicable, the plots below present unscaled indicator data.

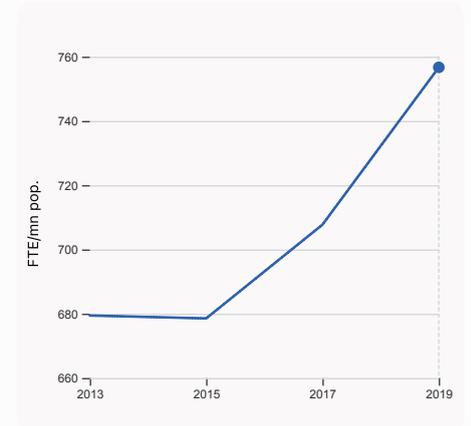
> Innovation inputs in Viet Nam



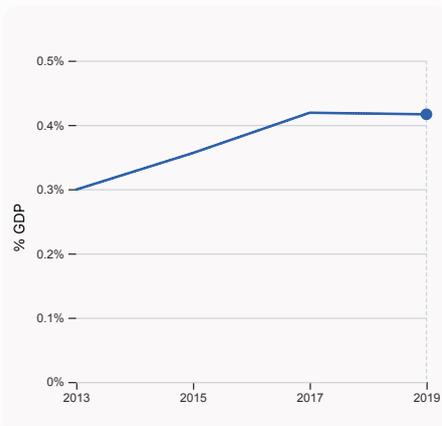
2.1.1 Expenditure on education, % GDP was equal to 2.98% GDP in 2021, down by 0.27 percentage points from the year prior – and equivalent to an indicator rank of 108.



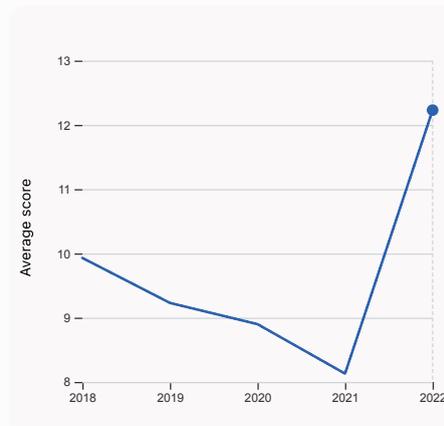
2.2.2 Graduates in science and engineering, % was equal to 22.68% of total tertiary graduates in 2016, down by 0.74 percentage points from the year prior – and equivalent to an indicator rank of 59.



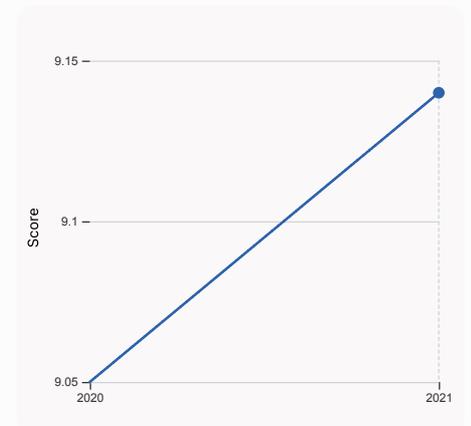
2.3.1 Researchers, FTE/mn pop. was equal to 756.69 FTE/mn pop. in 2019, up by 6.92% from the year prior – and equivalent to an indicator rank of 59.



2.3.2 Gross expenditure on R&D, % GDP was equal to 0.417% GDP in 2019, down by 0.0024 percentage points from the year prior – and equivalent to an indicator rank of 66.

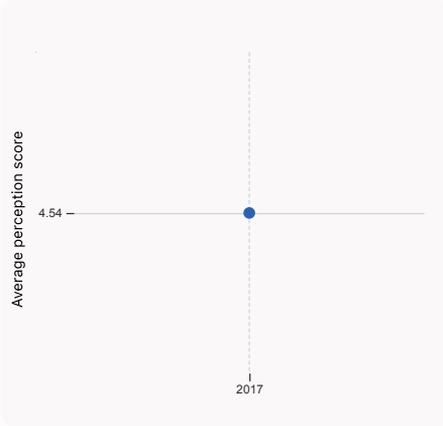
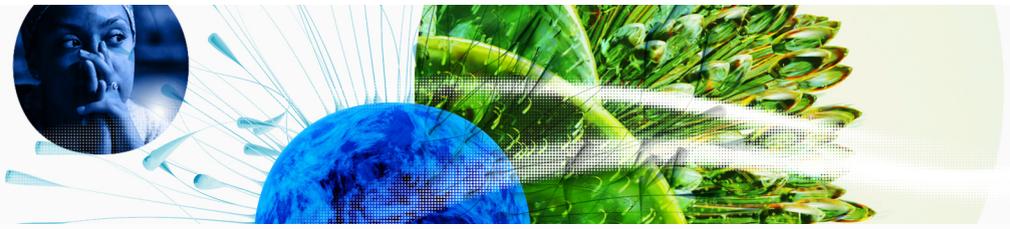


2.3.4 QS university ranking, top 3 was equal to an average score of 12.23 for the top 3 universities in 2022, up by 50.43% from the year prior – and equivalent to an indicator rank of 61.

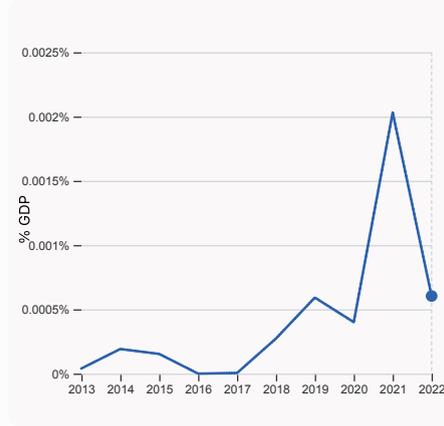


3.1.1 ICT access was equal to a score of 9.14 in 2021, up by 0.99% from the year prior – and equivalent to an indicator rank of 40.

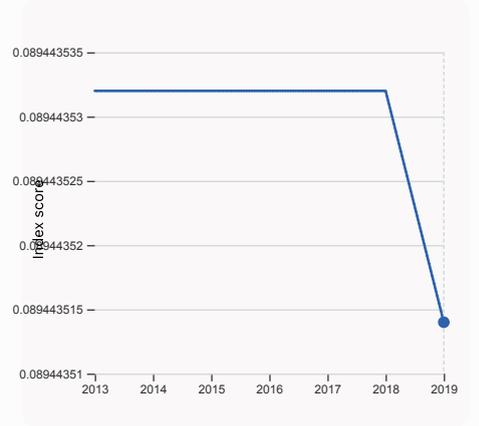
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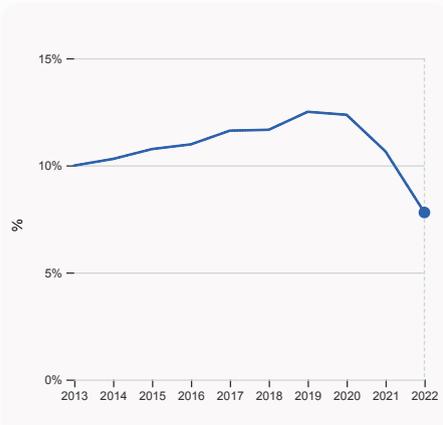
4.1.1 Finance for startups and scaleups was equal to an average perception score of 4.54 in 2017, equivalent to an indicator rank of 47.



4.2.4 VC received, value, % GDP was equal to 0.0006% GDP in 2022, down by 0.0014 percentage points from the year prior – and equivalent to an indicator rank of 48.

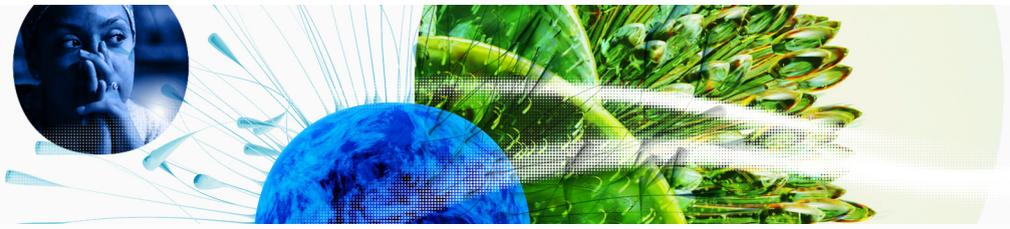


4.3.2 Domestic industry diversification was equal to an index score of 0.089 in 2019, down by 0.00002% from the year prior – and equivalent to an indicator rank of 7.

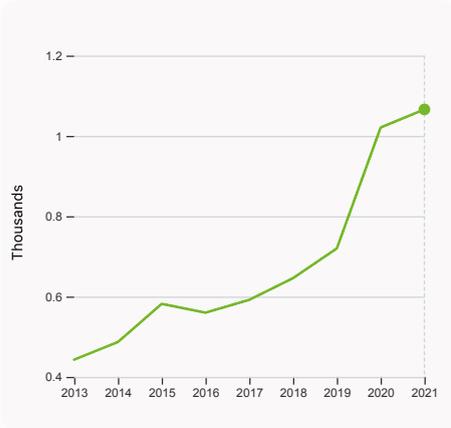


5.1.1 Knowledge-intensive employment, % was equal to 7.8% in 2022, down by 2.85 percentage points from the year prior – and equivalent to an indicator rank of 112.

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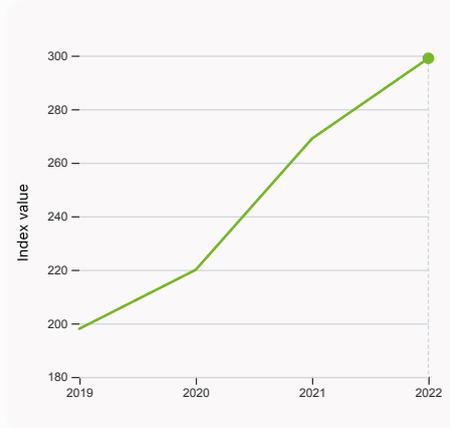


> Innovation outputs in Viet Nam



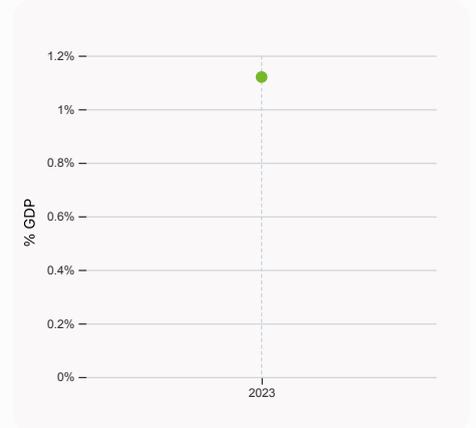
6.1.1 Patents by origin

was equal to 1.066 Thousands in 2021, up by 4.41% from the year prior – and equivalent to an indicator rank of 60.



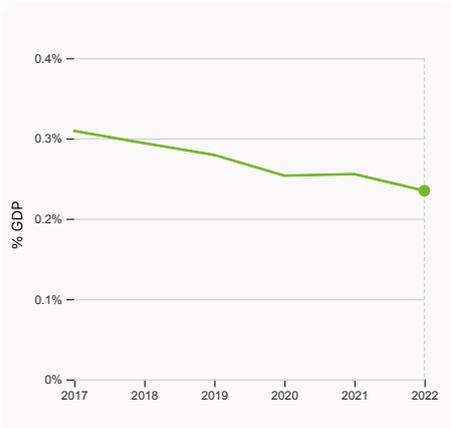
6.1.5 Citable documents H-index

was equal to an index value of 299 in 2022, up by 11.15% from the year prior – and equivalent to an indicator rank of 59.



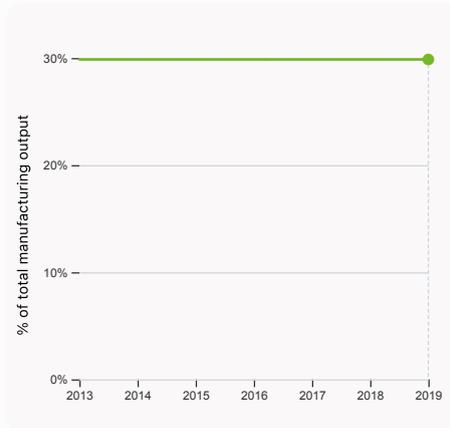
6.2.2 Unicorn valuation, % GDP

was equal to 1.12 % GDP in 2023 – and equivalent to an indicator rank of 33.



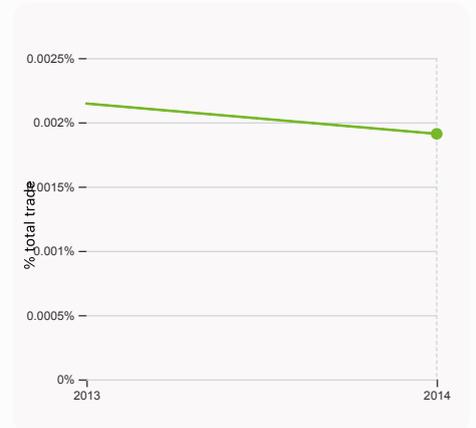
6.2.3 Software spending, % GDP

was equal to 0.235% GDP in 2022, down by 0.021 percentage points from the year prior – and equivalent to an indicator rank of 64.



6.2.4 High-tech manufacturing, %

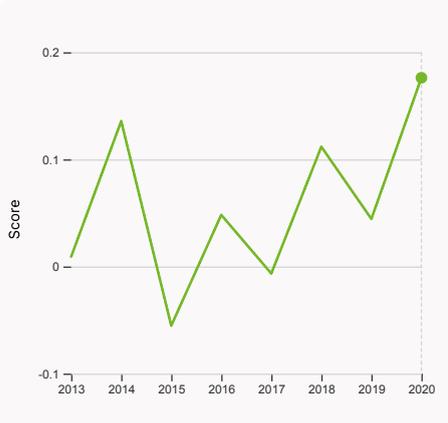
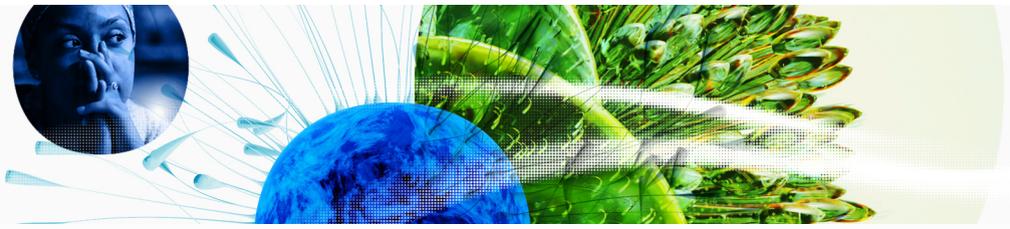
was equal to 29.87% of total manufacturing output in 2019, up by with no change from the year prior – and equivalent to an indicator rank of 38.



6.3.1 Intellectual property receipts, % total trade

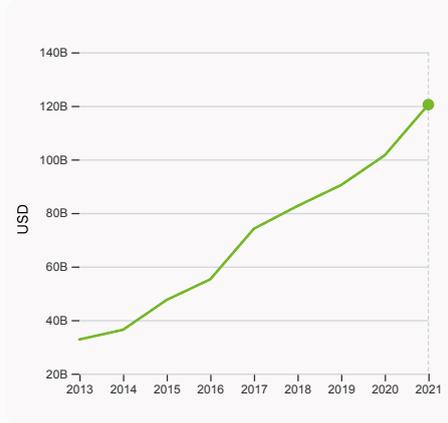
was equal to 0.002% total trade in 2014, down by 0.00024 percentage points from the year prior – and equivalent to an indicator rank of 95.

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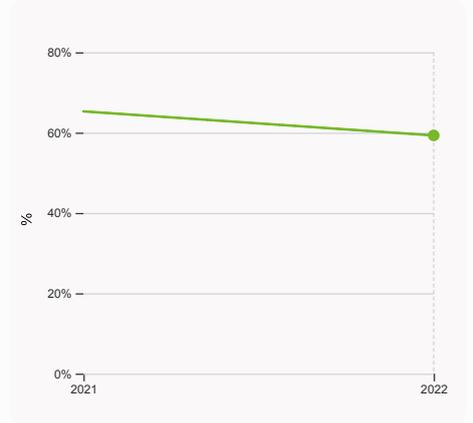
6.3.2 Production and export complexity

was equal to a score of 0.176 in 2020, up by 296.57% from the year prior – and equivalent to an indicator rank of 52.



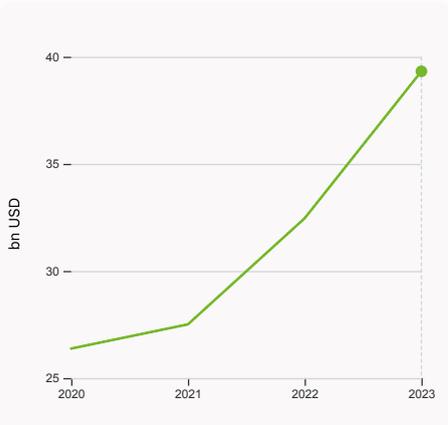
6.3.3 High-tech exports

was equal to 120,466,013,879 USD in 2021, up by 18.65% from the year prior – and equivalent to an indicator rank of 3.



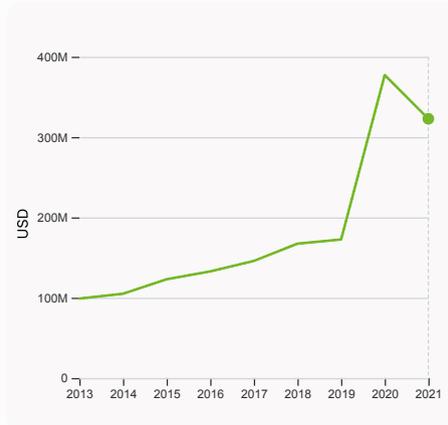
7.1.1 Intangible asset intensity, top 15, %

was equal to 59.31% in 2022, down by 5.99 percentage points from the year prior – and equivalent to an indicator rank of 38.



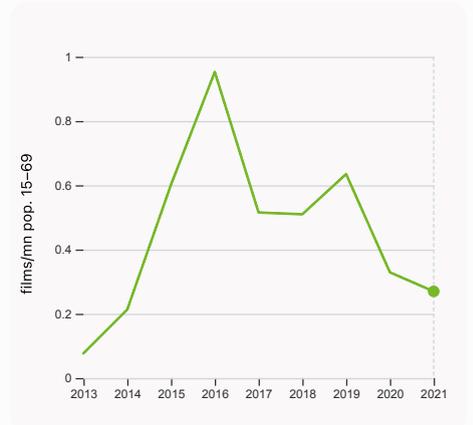
7.1.3 Global brand value, top 5,000

was equal to 39.322 bn USD in 2023, up by 21.14% from the year prior – and equivalent to an indicator rank of 23.



7.2.1 Cultural and creative services exports

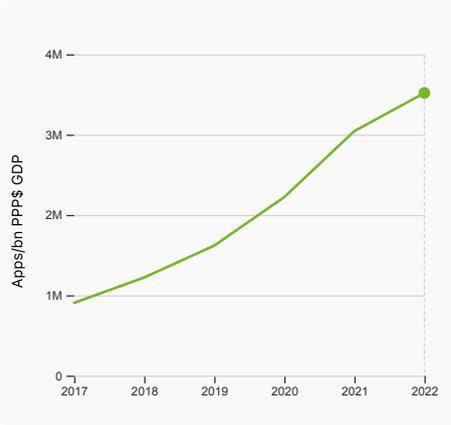
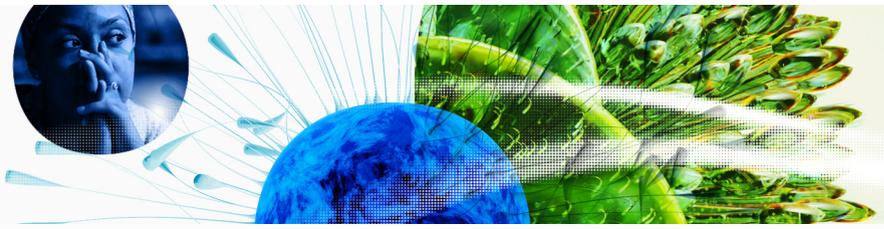
was equal to 322,835,000 USD in 2021, down by 14.43% from the year prior – and equivalent to an indicator rank of 87.



7.2.2 National feature films/mn pop. 15-69

was equal to 0.27 films/mn pop. 15-69 in 2021, down by 18.054% from the year prior – and equivalent to an indicator rank of 77.

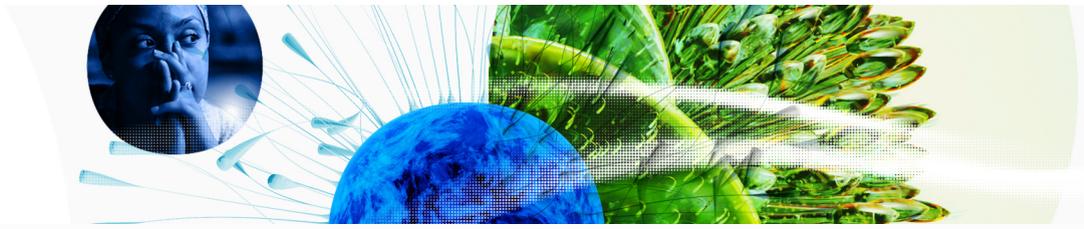
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7.3.4 Mobile app creation/bn PPP\$ GDP

was equal to 3,518,511.98 Apps/bn PPP\$ GDP in 2022, up by 15.58% from the year prior – and equivalent to an indicator rank of 8.

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→ Viet Nam's innovation top performers

> 2.3.4 QS university ranking of Viet Nam's top universities

Rank	University	Score
801-1000	VIET NAM NATIONAL UNIVERSITY HO CHI MINH CITY (VNU-HCM)	12.70
801-1000	DUY TAN UNIVERSITY	12.70
801-1000	VIETNAM NATIONAL UNIVERSITY, HANOI	11.30

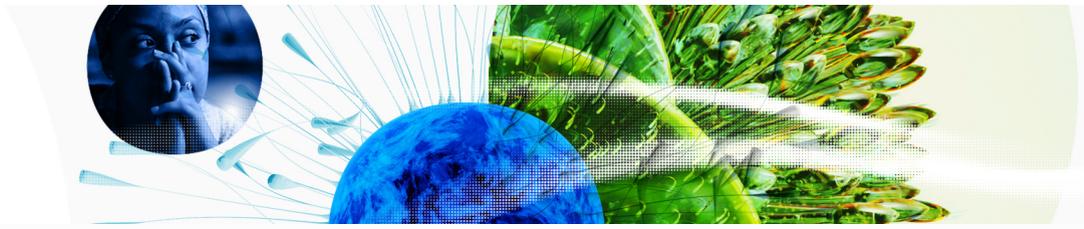
Source: QS Quacquarelli Symonds Ltd (<https://www.topuniversities.com/university-rankings/world-university-rankings/2023>).

Note: QS Quacquarelli Symonds Ltd annually assesses over 1,200 universities across the globe and scores them between [0,100]. Ranks can represent a single value "x", a tie "x=" or a range "x-y".

> 6.2.2 Top Unicorn Companies in Viet Nam

Rank	Unicorn Company	Industry	City	Valuation, bn USD
1	SKY MAVIS	Internet software & services	Ho Chi Minh City	3
2	MOMO	Fintech	Ho Chi Minh City	2

Source: CBInsights, Tracker – The Complete List of Unicorn Companies: <https://www.cbinsights.com/research-unicorn-companies>



> 7.1.1 Top 15 intangible-asset intensive companies in Viet Nam

Rank	Firm	Intensity, %
1	BANK FOR FOREIGN TRADE OF VIETNAM JSC	58.40
2	VINGROUP JSC	50.48
3	PETROVIETNAM GAS JSC	61.43

Source: Brand Finance (<https://brandirectory.com/reports/gif-2022>).
Note: Brand Finance only provides within economy ranks.

> 7.1.3 Top 5,000 companies in Viet Nam with highest global brand value

Rank	Brand	Industry	Brand Value, mn USD
1	VIETTEL	Telecoms	8,901.6
2	VINAMILK	Food	2,991.1
3	VNPT	Telecoms	2,707.9

Source: Brand Finance (<https://brandirectory.com>).
Note: Rank corresponds to within economy ranks.

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GII 2023 rank

46

Viet Nam

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$
40	57	Lower middle	SEAO	98.2	1,299.7	13,075.0

Score / Value Rank

Score / Value Rank

Institutions 55.1 54

1.1 Institutional environment	53.8	48
1.1.1 Operational stability for businesses*	63.2	40
1.1.2 Government effectiveness*	44.4	54
1.2 Regulatory environment	50.4	98
1.2.1 Regulatory quality*	31.8	94
1.2.2 Rule of law*	35.4	72
1.2.3 Cost of redundancy dismissal	24.6	105 ○
1.3 Business environment	61.2	31
1.3.1 Policies for doing business†	62.0	36
1.3.2 Entrepreneurship policies and culture†	60.4	24 ●

Human capital and research 29.9 71

2.1 Education	49.3	70
2.1.1 Expenditure on education, % GDP	3.0	108 ○
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	20.6	100 ○
2.2 Tertiary education	20.5	89
2.2.1 Tertiary enrolment, % gross	35.4	83
2.2.2 Graduates in science and engineering, %	22.7	59 ●
2.2.3 Tertiary inbound mobility, %	0.4	103 ○
2.3 Research and development (R&D)	19.9	44
2.3.1 Researchers, FTE/mn pop.	756.7	59 ●
2.3.2 Gross expenditure on R&D, % GDP	0.4	66 ●
2.3.3 Global corporate R&D investors, top 3, mn US\$	52.3	29
2.3.4 QS university ranking, top 3*	12.4	61

Infrastructure 38.9 70

3.1 Information and communication technologies (ICTs)	68.4	71
3.1.1 ICT access*	87.2	40
3.1.2 ICT use*	72.8	67
3.1.3 Government's online service*	61.1	75
3.1.4 E-participation*	52.3	71
3.2 General infrastructure	34.8	43
3.2.1 Electricity output, GWh/mn pop.	2,466.8	75 ●
3.2.2 Logistics performance*	54.5	42
3.2.3 Gross capital formation, % GDP	34.7	13 ●
3.3 Ecological sustainability	13.4	110
3.3.1 GDP/unit of energy use	9.7	72
3.3.2 Environmental performance*	2.0	130 ○ ◇
3.3.3 ISO 14001 environment/bn PPP\$ GDP	2.1	43

Market sophistication 38.2 49

4.1 Credit	31.3	62
4.1.1 Finance for startups and scaleups†	49.4	47 ●
4.1.2 Domestic credit to private sector, % GDP	115.5	21 ●
4.1.3 Loans from microfinance institutions, % GDP	0.1	51 ○
4.2 Investment	10.8	53
4.2.1 Market capitalization, % GDP	47.1	36
4.2.2 Venture capital (VC) investors, deals/bn PPP\$ GDP	0.0	60
4.2.3 VC recipients, deals/bn PPP\$ GDP	0.0	47
4.2.4 VC received, value, % GDP	0.0	48
4.3 Trade, diversification, and market scale	72.6	19
4.3.1 Applied tariff rate, weighted avg., %	1.3	17 ●
4.3.2 Domestic industry diversification	98.7	7 ●
4.3.3 Domestic market scale, bn PPP\$	1,299.7	25

Business sophistication 32.2 49

5.1 Knowledge workers	28.2	75
5.1.1 Knowledge-intensive employment, %	7.8	112 ○
5.1.2 Firms offering formal training, %	22.2	71 ●
5.1.3 GERD performed by business, % GDP	0.4	47 ●
5.1.4 GERD financed by business, %	64.1	9 ●
5.1.5 Females employed w/advanced degrees, %	7.5	87
5.2 Innovation linkages	28.6	43
5.2.1 University-industry R&D collaboration†	65.3	27
5.2.2 State of cluster development†	68.8	26
5.2.3 GERD financed by abroad, % GDP	0.0	59 ●
5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP	0.0	81
5.2.5 Patent families/bn PPP\$ GDP	0.0	69
5.3 Knowledge absorption	39.8	45
5.3.1 Intellectual property payments, % total trade	0.3	85 ●
5.3.2 High-tech imports, % total trade	29.5	4 ●
5.3.3 ICT services imports, % total trade	0.2	127 ●
5.3.4 FDI net inflows, % GDP	4.6	24
5.3.5 Research talent, % in businesses	24.1	52 ●

Knowledge and technology outputs 28.7 48

6.1 Knowledge creation	9.9	80
6.1.1 Patents by origin/bn PPP\$ GDP	0.9	60
6.1.2 PCT patents by origin/bn PPP\$ GDP	0.0	88
6.1.3 Utility models by origin/bn PPP\$ GDP	0.3	39
6.1.4 Scientific and technical articles/bn PPP\$ GDP	n/a	n/a
6.1.5 Citable documents H-index	14.2	59
6.2 Knowledge impact	43.0	24
6.2.1 Labor productivity growth, %	5.3	4 ●
6.2.2 Unicorn valuation, % GDP	1.1	33
6.2.3 Software spending, % GDP	0.2	64
6.2.4 High-tech manufacturing, %	29.9	38 ●
6.3 Knowledge diffusion	33.4	46
6.3.1 Intellectual property receipts, % total trade	0.0	95 ●
6.3.2 Production and export complexity	56.2	52
6.3.3 High-tech exports, % total trade	35.1	3 ●
6.3.4 ICT services exports, % total trade	0.3	115 ●
6.3.5 ISO 9001 quality/bn PPP\$ GDP	5.6	50

Creative outputs 37.3 36

7.1 Intangible assets	47.1	32
7.1.1 Intangible asset intensity, top 15, %	59.3	38
7.1.2 Trademarks by origin/bn PPP\$ GDP	68.3	26
7.1.3 Global brand value, top 5,000	8.4	23
7.1.4 Industrial designs by origin/bn PPP\$ GDP	1.9	43
7.2 Creative goods and services	31.2	29
7.2.1 Cultural and creative services exports, % total trade	0.1	87
7.2.2 National feature films/mn pop. 15-69	0.3	77 ○
7.2.3 Entertainment and media market/th pop. 15-69	n/a	n/a
7.2.4 Creative goods exports, % total trade	7.7	7 ●
7.3 Online creativity	23.9	54
7.3.1 Generic top-level domains (TLDs)/th pop. 15-69	2.9	73
7.3.2 Country-code TLDs/th pop. 15-69	2.2	71
7.3.3 GitHub commits/mn pop. 15-69	7.9	58
7.3.4 Mobile app creation/bn PPP\$ GDP	82.6	8 ●

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 appendices for details, including the year of the data, at <https://www.wipo.int/gii-ranking>. 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 indicators that are either missing or outdated for Viet Nam.



> Viet Nam has missing data for three indicators and outdated data for eighteen indicators.

> Missing data for Viet Nam

Code	Indicator name	Economy Year	Model Year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2019	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	n/a	2020	UNESCO Institute for Statistics
7.2.3	Entertainment and media market/th pop. 15-69	n/a	2022	PwC, GEMO; United Nations, World Population Prospects; International Monetary Fund

> Outdated data for Viet Nam

Code	Indicator name	Economy Year	Model Year	Source
1.3.2	Entrepreneurship policies and culture	2017	2022	Global Entrepreneurship Monitor
2.1.4	PISA scales in reading, maths and science	2015	2018	OECD, PISA
2.2.2	Graduates in science and engineering, %	2016	2020	UNESCO Institute for Statistics; Eurostat; OECD
2.3.1	Researchers, FTE/mn pop.	2019	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
2.3.2	Gross expenditure on R&D, % GDP	2019	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
3.2.1	Electricity output, GWh/mn pop.	2020	2021	International Energy Agency
4.1.1	Finance for startups and scaleups	2017	2022	Global Entrepreneurship Monitor
4.3.2	Domestic industry diversification	2019	2020	United Nations Industrial Development Organization
5.1.2	Firms offering formal training, %	2015	2019	World Bank Enterprise Surveys
5.1.3	GERD performed by business, % GDP	2017	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.1.4	GERD financed by business, %	2017	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT

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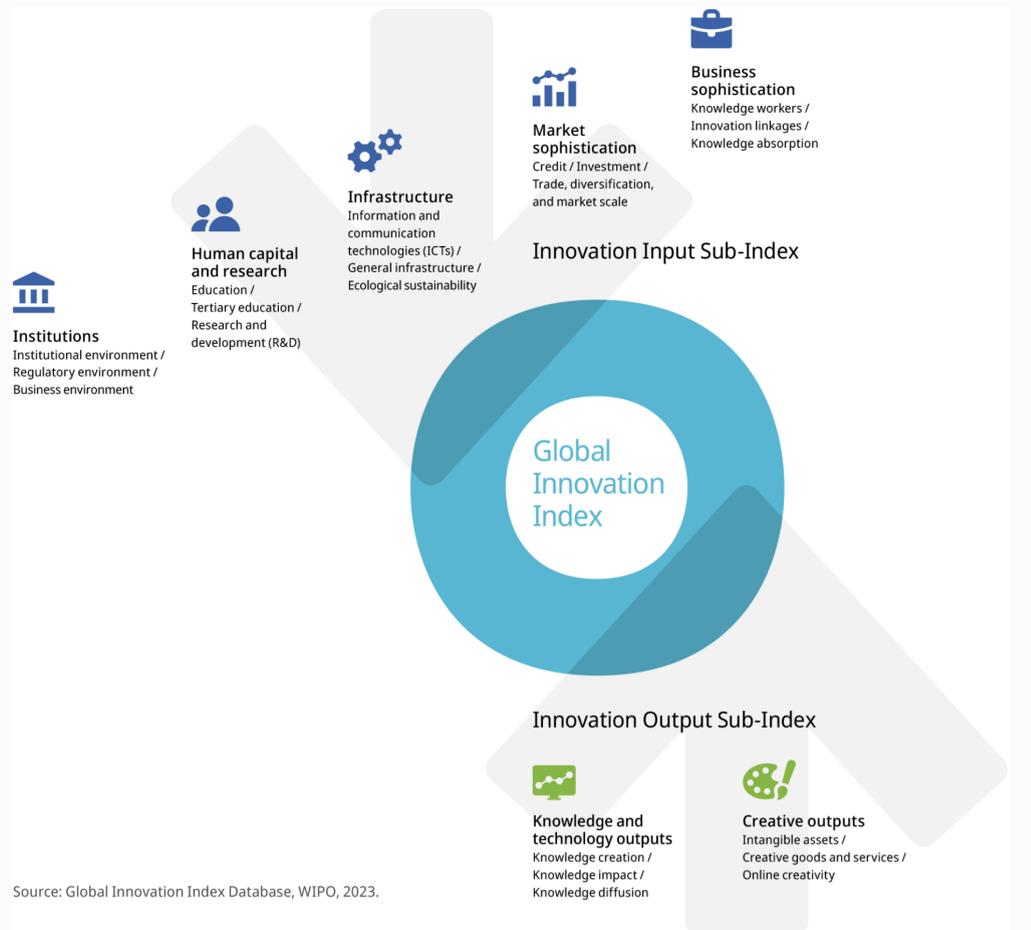
Code	Indicator name	Economy Year	Model Year	Source
5.2.3	GERD financed by abroad, % GDP	2017	2020	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
5.3.1	Intellectual property payments, % total trade	2014	2021	World Trade Organization and United Nations Conference on Trade and Development
5.3.3	ICT services imports, % total trade	2014	2021	World Trade Organization and United Nations Conference on Trade and Development
5.3.5	Research talent, % in businesses	2017	2021	UNESCO Institute for Statistics; Eurostat; OECD; RICYT
6.2.4	High-tech manufacturing, %	2019	2020	United Nations Industrial Development Organization
6.3.1	Intellectual property receipts, % total trade	2014	2021	World Trade Organization and United Nations Conference on Trade and Development
6.3.4	ICT services exports, % total trade	2014	2021	World Trade Organization and United Nations Conference on Trade and Development

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→ 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.