Global Innovation Index 2022

CAMBODIA

97th Cambodia ranks 97th among the 132 economies featured in the GII 2022.

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 Cambodia 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 Cambodia in the GII 2022 is between ranks 93 and 98.

Rankings for Cambodia (2020–2022)

GIIYR	GII	Innovation inputs	Innovation outputs
2020	110	117	101
2021	109	106	104
2022	97	92	102

- Cambodia performs better in innovation inputs than innovation outputs in 2022.
- This year Cambodia ranks 92nd in innovation inputs, higher than both 2021 and 2020.
- As for innovation outputs, Cambodia ranks 102nd. This position is higher than last year but lower than 2020.

17th Cambodia ranks 17th among the 36 lower-middle-income group economies.

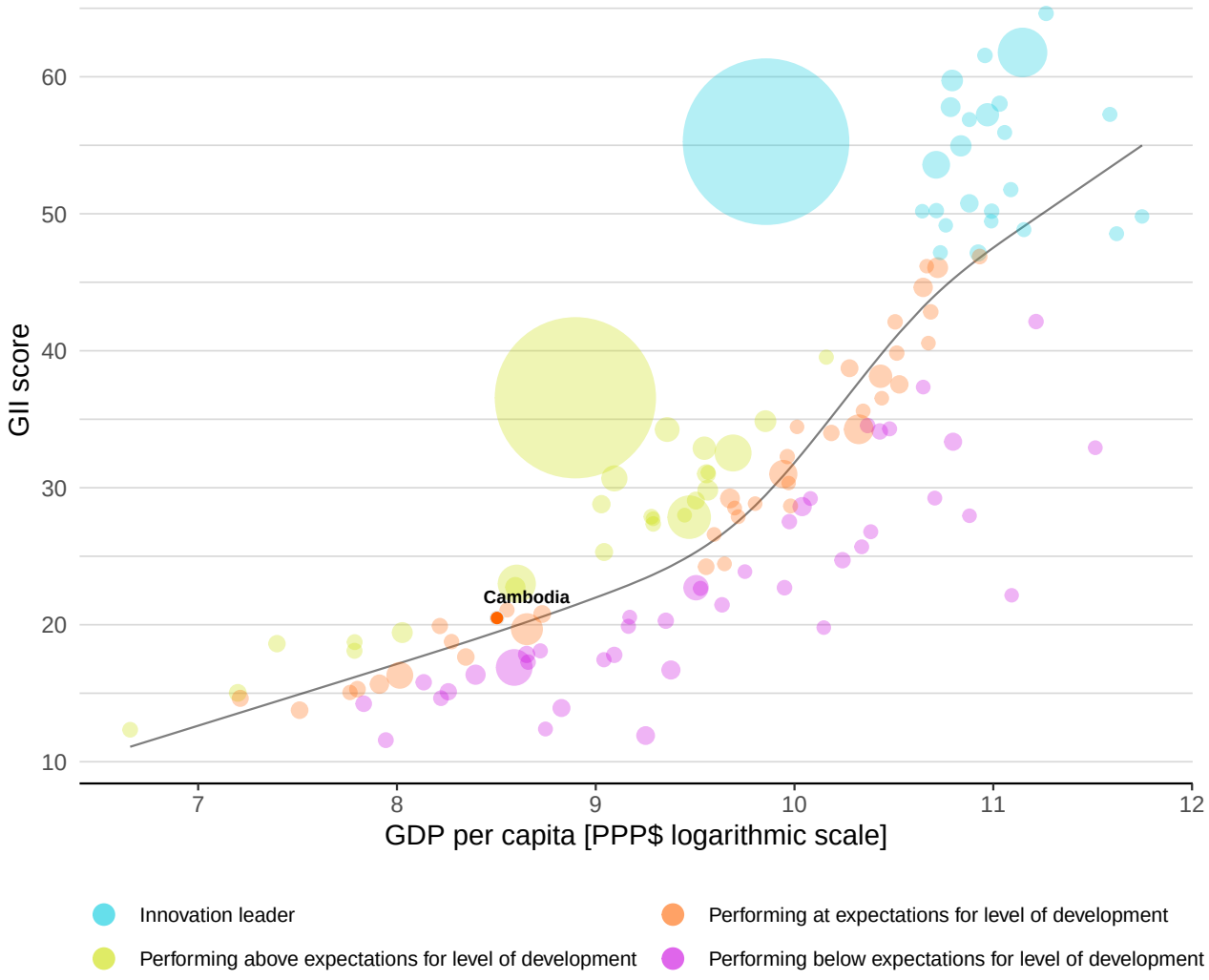
15th Cambodia ranks 15th among the 17 economies in South East Asia, East Asia, and Oceania.

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

The positive relationship between innovation and development

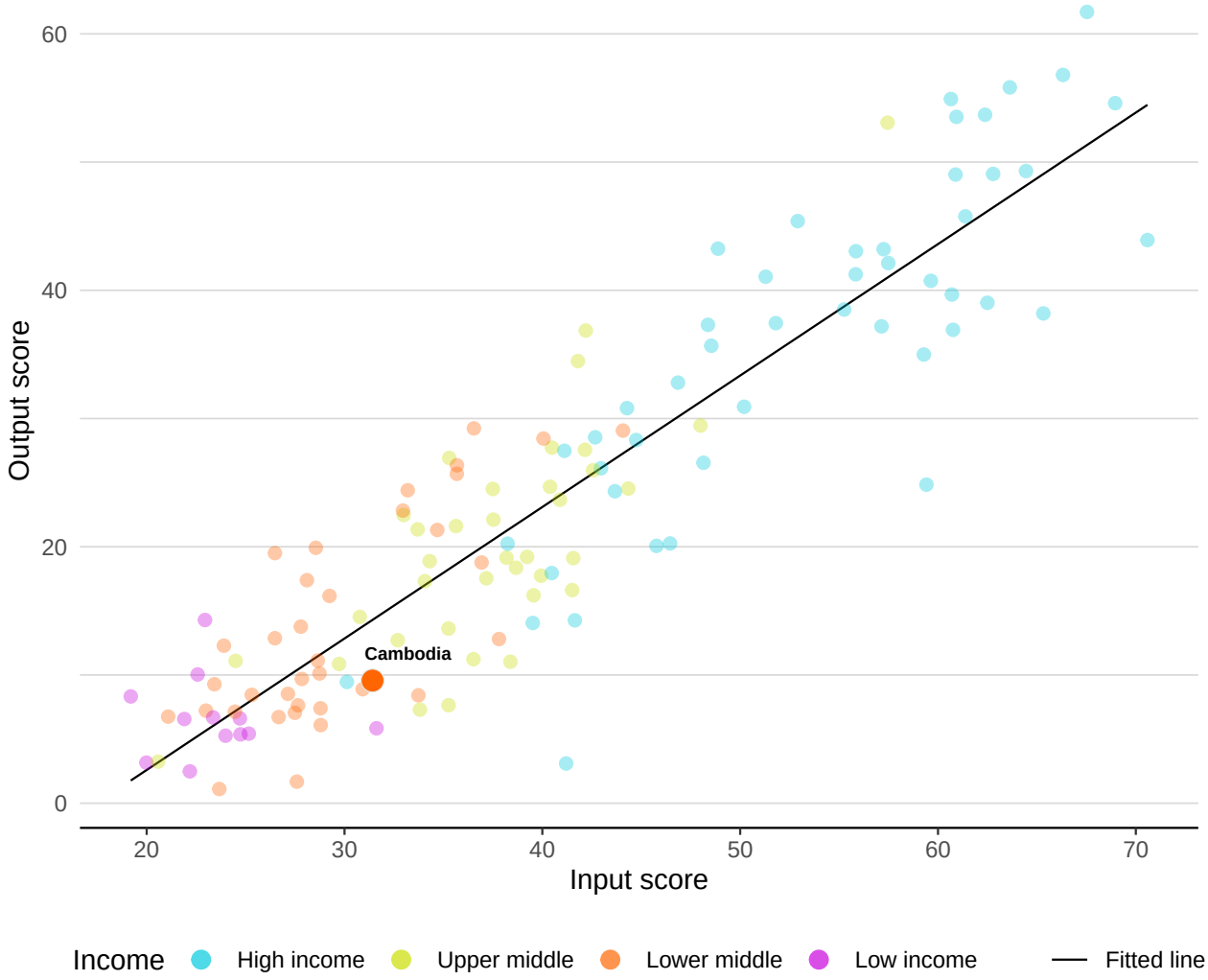


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

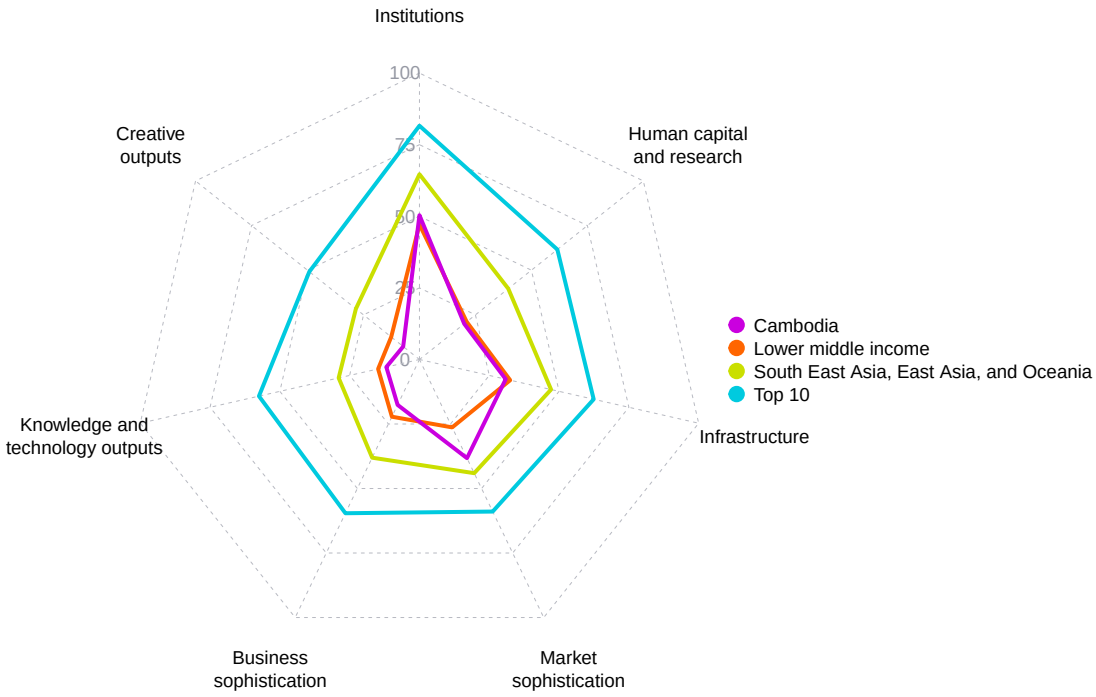
Cambodia produces less innovation outputs relative to its level of innovation investments.

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 Cambodia



Lower-middle-income group economies

Cambodia performs above the lower-middle-income group average in two pillars, namely: Institutions; and, Market sophistication.

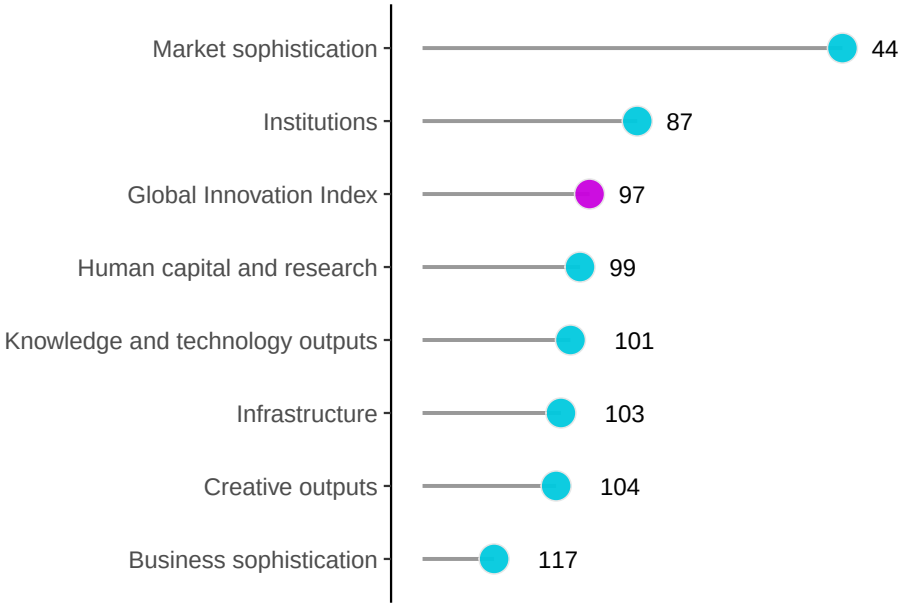
South East Asia, East Asia, and Oceania

Cambodia performs below the regional average in all GII pillars.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2022 AREAS

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

The seven GII pillar ranks for Cambodia



Note: The highest possible ranking in each pillar is 1.

The full WIPO Intellectual Property Statistics profile for Cambodia can be found at:

https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=KH.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the indicator strengths and weaknesses of Cambodia in the GII 2022.

Strengths and weaknesses for Cambodia

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
2.2.2	Graduates in science and engineering, %	47	2.1.1	Expenditure on education, % GDP	122
3.2.3	Gross capital formation, % GDP	36	2.3.1	Researchers, FTE/mn pop.	102
4.1.2	Domestic credit to private sector, % GDP	14	2.3.2	Gross expenditure on R&D, % GDP	103
4.1.3	Loans from microfinance institutions, % GDP	1	2.3.3	Global corporate R&D investors, top 3, mn USD	38
4.2.2	Venture capital investors, deals/bn PPP$ GDP	41	2.3.4	QS university ranking, top 3	72
4.2.3	Venture capital recipients, deals/bn PPP$ GDP	37	5.2.5	Patent families/bn PPP$ GDP	101
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	54	5.3.2	High-tech imports, % total trade	126
5.3.4	FDI net inflows, % GDP	9	6.1.1	Patents by origin/bn PPP$ GDP	128
6.2.1	Labor productivity growth, %	27	7.1.3	Global brand value, top 5,000, % GDP	77
7.2.5	Creative goods exports, % total trade	57	7.3.2	Country-code TLDs/th pop. 15–69	121

GII 2022 rank

Cambodia

97

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
102	92	Lower middle	SEAO	16.9	78.1	4,930

		Score/ Value	Rank	
Institutions		**50.4**	**87**	
1.1	**Political environment**	55.8	80	
1.1.1	Political and operational stability*	70.9	53	◆
1.1.2	Government effectiveness*	40.7	92	
1.2	**Regulatory environment**	51.5	102	
1.2.1	Regulatory quality*	29.5	104	
1.2.2	Rule of law*	21.5	117	
1.2.3	Cost of redundancy dismissal	19.4	83	
1.3	**Business environment**	43.8	[78]	
1.3.1	Policies for doing business†	43.8	84	
1.3.2	Entrepreneurship policies and culture*	n/a	n/a	
Human capital and research		**20.0**	**99**	
2.1	**Education**	32.7	[114]	
2.1.1	Expenditure on education, % GDP	2.2	122 ○ ◇	
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	n/a	n/a	
2.1.5	Pupil-teacher ratio, secondary	22.9	100	
2.2	**Tertiary education**	26.9	76	
2.2.1	Tertiary enrolment, % gross	14.7	103	
2.2.2	Graduates in science and engineering, %	23.2	47 ●	
2.2.3	Tertiary inbound mobility, %	n/a	n/a	
2.3	**Research and development (R&D)**	0.4	108	
2.3.1	Researchers, FTE/mn pop.	30.4	102 ○	
2.3.2	Gross expenditure on R&D, % GDP	0.1	103 ○	
2.3.3	Global corporate R&D investors, top 3, mn USD	0.0	38 ○ ◇	
2.3.4	QS university ranking, top 3*	0.0	72 ○ ◇	
Infrastructure		**30.9**	**103**	
3.1	**Information and communication technologies (ICTs)**	53.1	99	
3.1.1	ICT access*	71.1	96	
3.1.2	ICT use*	54.1	87	
3.1.3	Government's online service*	45.3	112	
3.1.4	E-participation*	41.7	111	
3.2	**General infrastructure**	21.8	97	
3.2.1	Electricity output, GWh/mn pop.	526.4	108	
3.2.2	Logistics performance*	24.7	92	
3.2.3	Gross capital formation, % GDP	27.0	36 ●	
3.3	**Ecological sustainability**	17.8	107	
3.3.1	GDP/unit of energy use	8.6	86	
3.3.2	Environmental performance*	30.1	109	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.4	96	
Market sophistication		**38.2**	**44 ● ◆**	
4.1	**Credit**	76.6	2 ● ◆	
4.1.1	Finance for startups and scaleups*	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	139.9	14 ● ◆	
4.1.3	Loans from microfinance institutions, % GDP	26.6	1 ● ◆	
4.2	**Investment**	7.5	63	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital investors, deals/bn PPP$ GDP	0.1	41 ● ◆	
4.2.3	Venture capital recipients, deals/bn PPP$ GDP	0.0	37 ●	
4.2.4	Venture capital received, value, % GDP	0.0	82	
4.3	**Trade, diversification, and market scale**	30.7	115	
4.3.1	Applied tariff rate, weighted avg., %	6.2	98	
4.3.2	Domestic industry diversification	n/a	n/a	
4.3.3	Domestic market scale, bn PPP$	78.1	92	

		Score/ Value	Rank	
Business sophistication		**17.6**	**117**	
5.1	**Knowledge workers**	12.8	114	
5.1.1	Knowledge-intensive employment, %	8.6	110	
5.1.2	Firms offering formal training, %	22.2	69	
5.1.3	GERD performed by business, % GDP	0.0	83	
5.1.4	GERD financed by business, %	19.4	66	
5.1.5	Females employed w/advanced degrees, %	2.2	105	
5.2	**Innovation linkages**	20.9	84	
5.2.1	University-industry R&D collaboration†	39.1	85	
5.2.2	State of cluster development and depth†	48.4	65	
5.2.3	GERD financed by abroad, % GDP	0.0	52	◆
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	54 ● ◆	
5.2.5	Patent families/bn PPP$ GDP	0.0	101 ○ ◇	
5.3	**Knowledge absorption**	19.1	115	
5.3.1	Intellectual property payments, % total trade	0.1	101	
5.3.2	High-tech imports, % total trade	3.1	126 ○	
5.3.3	ICT services imports, % total trade	0.7	99	
5.3.4	FDI net inflows, % GDP	13.5	9 ● ◆	
5.3.5	Research talent, % in businesses	4.3	71	
Knowledge and technology outputs		**11.9**	**101**	
6.1	**Knowledge creation**	3.0	118	
6.1.1	Patents by origin/bn PPP$ GDP	0.0	128 ○	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.0	87	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific and technical articles/bn PPP$ GDP	5.1	114	
6.1.5	Citable documents H-index	4.7	98	
6.2	**Knowledge impact**	18.3	98	
6.2.1	Labor productivity growth, %	2.4	27 ●	
6.2.2	New businesses/th pop. 15–64	0.5	94	
6.2.3	Software spending, % GDP	0.0	109	◇
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	1.1	103	
6.2.5	High-tech manufacturing, %	n/a	n/a	
6.3	**Knowledge diffusion**	14.3	91	
6.3.1	Intellectual property receipts, % total trade	0.0	76	
6.3.2	Production and export complexity	29.9	86	
6.3.3	High-tech exports, % total trade	1.5	68	
6.3.4	ICT services exports, % total trade	0.4	109	
Creative outputs		**7.3**	**104**	
7.1	**Intangible assets**	9.9	102	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	39.5	65	
7.1.3	Global brand value, top 5,000, % GDP	0.0	77 ○ ◇	
7.1.4	Industrial designs by origin/bn PPP$ GDP	0.3	99	
7.2	**Creative goods and services**	7.5	[91]	
7.2.1	Cultural and creative services exports, % total trade	n/a	n/a	
7.2.2	National feature films/mn pop. 15–69	n/a	n/a	
7.2.3	Entertainment and media market/th pop. 15–69	n/a	n/a	
7.2.4	Printing and other media, % manufacturing	n/a	n/a	
7.2.5	Creative goods exports, % total trade	0.6	57 ●	
7.3	**Online creativity**	1.8	88	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	1.1	92	
7.3.2	Country-code TLDs/th pop. 15–69	0.1	121 ○	
7.3.3	GitHub commit pushes received/mn pop. 15–69	1.2	96	
7.3.4	Mobile app creation/bn PPP$ GDP	4.8	56	

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/global_innovation_index/en/2022. 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 Cambodia.

Missing data for Cambodia

Code	Indicator name	Economy year	Model year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2021	Global Entrepreneurship Monitor
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2018	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	n/a	2019	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
2.2.3	Tertiary inbound mobility, %	n/a	2019	UNESCO Institute for Statistics
4.1.1	Finance for startups and scaleups	n/a	2021	Global Entrepreneurship Monitor
4.2.1	Market capitalization, % GDP	n/a	2020	World Federation of Exchanges
4.3.2	Domestic industry diversification	n/a	2019	United Nations Industrial Development Organization
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2020	World Intellectual Property Organization
6.2.5	High-tech manufacturing, %	n/a	2019	United Nations Industrial Development Organization
7.1.1	Intangible asset intensity, top 15, %	n/a	2021	Brand Finance
7.2.1	Cultural and creative services exports, % total trade	n/a	2020	World Trade Organization and United Nations Conference on Trade and Development
7.2.2	National feature films/mn pop. 15–69	n/a	2019	OMDIA
7.2.3	Entertainment and media market/th pop. 15–69	n/a	2021	PwC, GEMO
7.2.4	Printing and other media, % manufacturing	n/a	2019	United Nations Industrial Development Organization

Outdated data for Cambodia

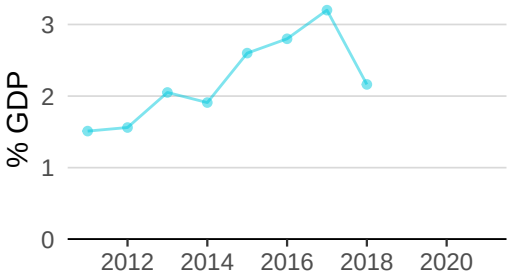
Code	Indicator name	Economy year	Model year	Source
2.1.1	Expenditure on education, % GDP	2018	2020	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2019	2020	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2015	2020	UNESCO Institute for Statistics
2.3.2	Gross expenditure on R&D, % GDP	2015	2020	UNESCO Institute for Statistics
3.2.1	Electricity output, GWh/mn pop.	2019	2020	International Energy Agency
4.2.3	Venture capital recipients, deals/bn PPP$ GDP	2020	2021	Refinitiv

Code	Indicator name	Economy year	Model year	Source
4.2.4	Venture capital received, value, % GDP	2020	2021	Refinitiv
5.1.1	Knowledge-intensive employment, %	2019	2021	International Labour Organization
5.1.2	Firms offering formal training, %	2016	2019	World Bank Enterprise Surveys
5.1.3	GERD performed by business, % GDP	2015	2020	UNESCO Institute for Statistics
5.1.4	GERD financed by business, %	2015	2019	UNESCO Institute for Statistics
5.1.5	Females employed w/advanced degrees, %	2019	2021	International Labour Organization
5.2.3	GERD financed by abroad, % GDP	2015	2019	UNESCO Institute for Statistics
5.3.5	Research talent, % in businesses	2015	2020	UNESCO Institute for Statistics
6.1.1	Patents by origin/bn PPP$ GDP	2018	2020	World Intellectual Property Organization
7.1.2	Trademarks by origin/bn PPP$ GDP	2019	2020	World Intellectual Property Organization

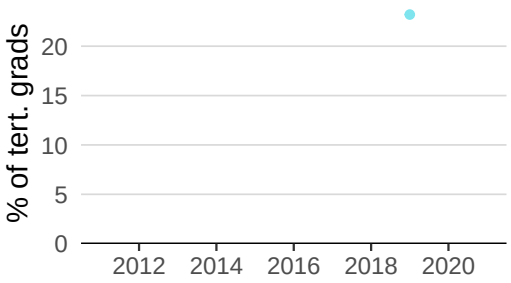
CAMBODIA'S INNOVATION SYSTEM

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

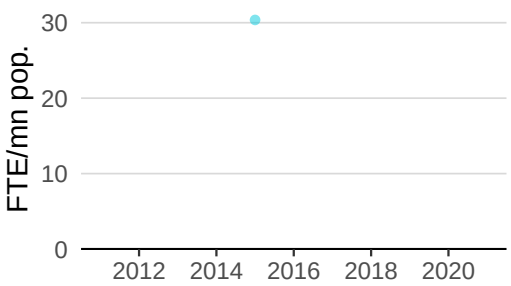
Innovation inputs



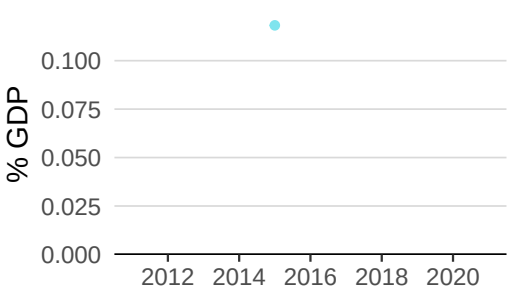
2.1.1 Expenditure on education was equal to 2.2% GDP in 2018–down by 32 percentage points from the year prior–and equivalent to an indicator rank of 122.



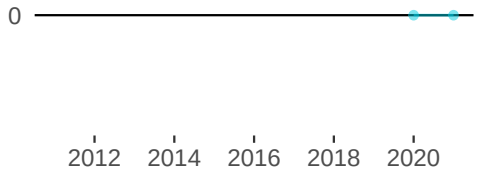
2.2.2 Graduates in science and engineering was equal to 23.2% of tert. grads in 2019 and equivalent to an indicator rank of 47.



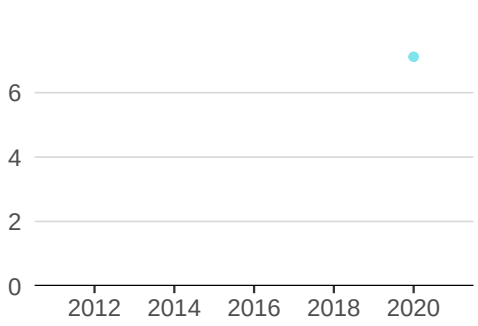
2.3.1 Researchers was equal to 30.4 FTE/mn pop. in 2015 and equivalent to an indicator rank of 102.



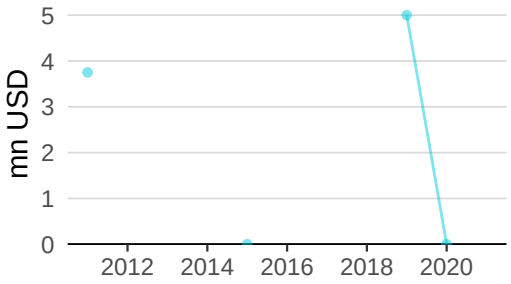
2.3.2 Gross expenditure on R&D was equal to 0.1% GDP in 2015 and equivalent to an indicator rank of 103.



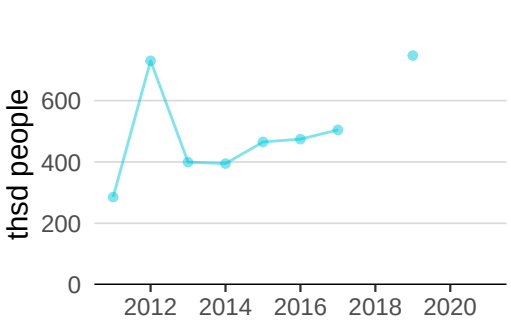
2.3.4 QS university ranking was equal to 0.0 in 2021–effectively unchanged from the year prior–and equivalent to an indicator rank of 72.



3.1.1 ICT access was equal to 7.1 in 2020 and equivalent to an indicator rank of 96.

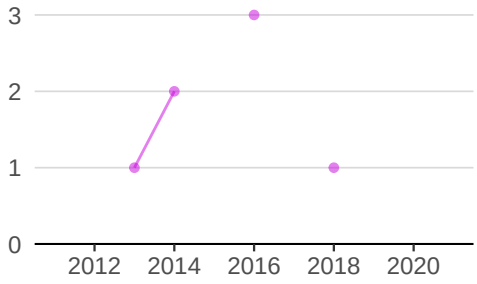


4.2.4 Venture capital received was equal to 0.0 mn USD in 2020–down by 100 percentage points from the year prior–and equivalent to an indicator rank of 82.

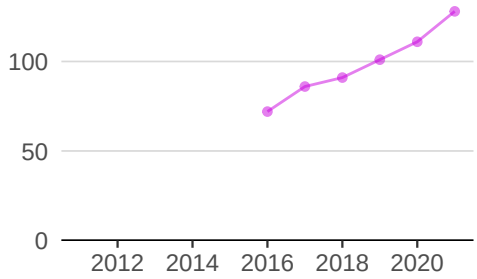


5.1.1 Knowledge-intensive employment was equal to 746.8 thsd people in 2019 and equivalent to an indicator rank of 110.

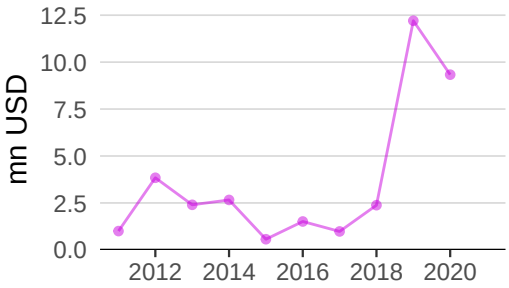
Innovation outputs



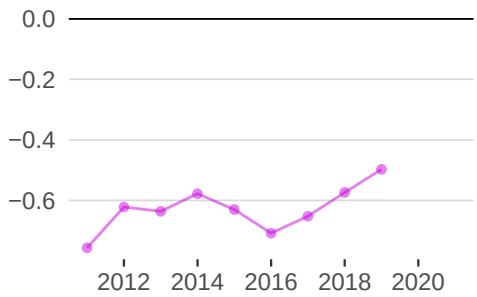
6.1.1 Patents by origin was equal to 1.0 in 2018 and equivalent to an indicator rank of 128.



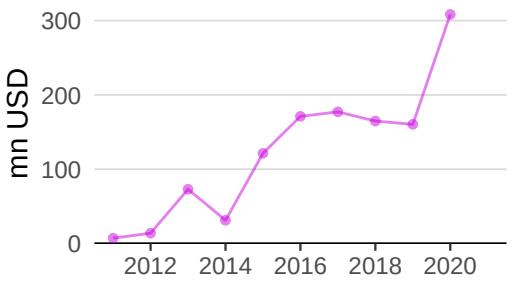
6.1.5 Citable documents H-index was equal to 128.0 in 2021–up by 15 percentage points from the year prior–and equivalent to an indicator rank of 98.



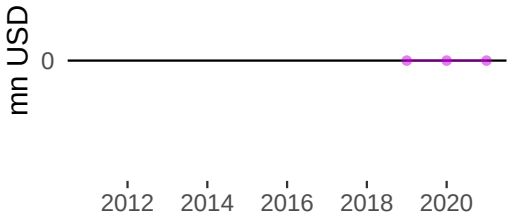
6.3.1 Intellectual property receipts was equal to 9.3 mn USD in 2020–down by 24 percentage points from the year prior–and equivalent to an indicator rank of 76.



6.3.2 Production and export complexity was equal to -0.5 in 2019–up by 13 percentage points from the year prior–and equivalent to an indicator rank of 86.



6.3.3 High-tech exports was equal to 308.4 mn USD in 2020–up by 92 percentage points from the year prior–and equivalent to an indicator rank of 68.



7.1.3 Global brand value was equal to 0.0 mn USD in 2021–effectively unchanged from the year prior–and equivalent to an indicator rank of 77.

CAMBODIA'S INNOVATION TOP PERFORMERS

2.3.3 Global corporate R&D investors

Firm	Industry	R&D	R&D Growth	R&D Intensity	Rank

No observations

Source: European Commission's Joint Research Centre (https://iri.jrc.ec.europa.eu/scoreboard/2021-eu-industrial-rd-investment-scoreboard).

2.3.4 QS university ranking

University	Score	Rank

No observations

Source: QS Quacquarelli Symonds Ltd (https://www.topuniversities.com/university-rankings/world-university-rankings/2022).

7.1.1 Intangible asset intensity, top 15

Firm	Rank

No observations

Source: Brand Finance (https://brandirectory.com/reports/gift-2021).

7.1.3 Global brand value, top 5,000

Brand	Industry	Rank

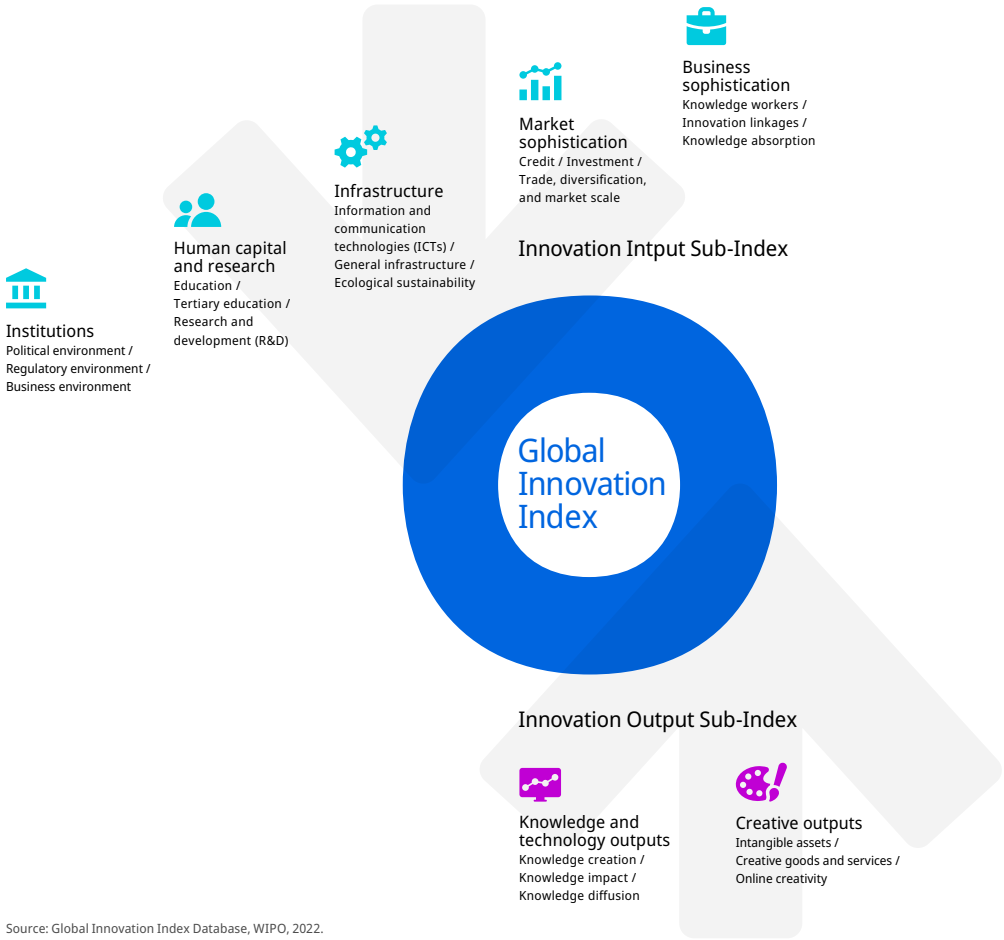
No observations

Source: Brand Finance (https://brandirectory.com).

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 Database, WIPO, 2022.

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.