GLOBAL INNOVATION INDEX 2019

THE PHILIPPINES

54th The Philippines ranks 54th among the 129 economies featured in the GII 2019.

The Global Innovation Index (GII) is a ranking of world economies based on 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 the Philippines over the past three years, noting that data availability and the GII model influence year-on-year comparisons of the GII ranks. The confidence interval for the Philippines' ranking in the GII 2019 is between 47 and 57.

The Philippines' Rankings, 2017 - 2019

	GII	Innovation Inputs	Innovation Outputs
2019	54	76	42
2018	73	82	68
2017	73	83	65

- The Philippines performs better in Innovation Outputs than Inputs.
- This year the Philippines ranks 76th in Innovation Inputs, better than last year and compared to 2017.
- As for Innovation Outputs, the Philippines ranks 42nd. This position is better than last year and compared to 2017.

6th The Philippines ranks 6th among the 26 lower middle-income economies.

12th The Philippines ranks 12th among the 15 economies in South East Asia, East Asia, and Oceania.

The Philippines comes closer to the top 50 this year, gaining several positions from last year. For the first time, it outperforms on innovation relative to GDP. While some changes to the GII model explain a small part of this leap, newly available metrics give a more thorough assessment of the country's innovation performance, which itself shows some signs of progress (page 9).

This year the Philippines improves in almost all areas of the GII and gains top ranks in High-technology imports, Research talent, and High-technology exports where it ranks 1st. Four other indicators rank in the top 10: Firms offering formal training, Labor productivity growth, Information and communication technology (ICT) services exports, and Creative goods exports (pages 6 and 7).

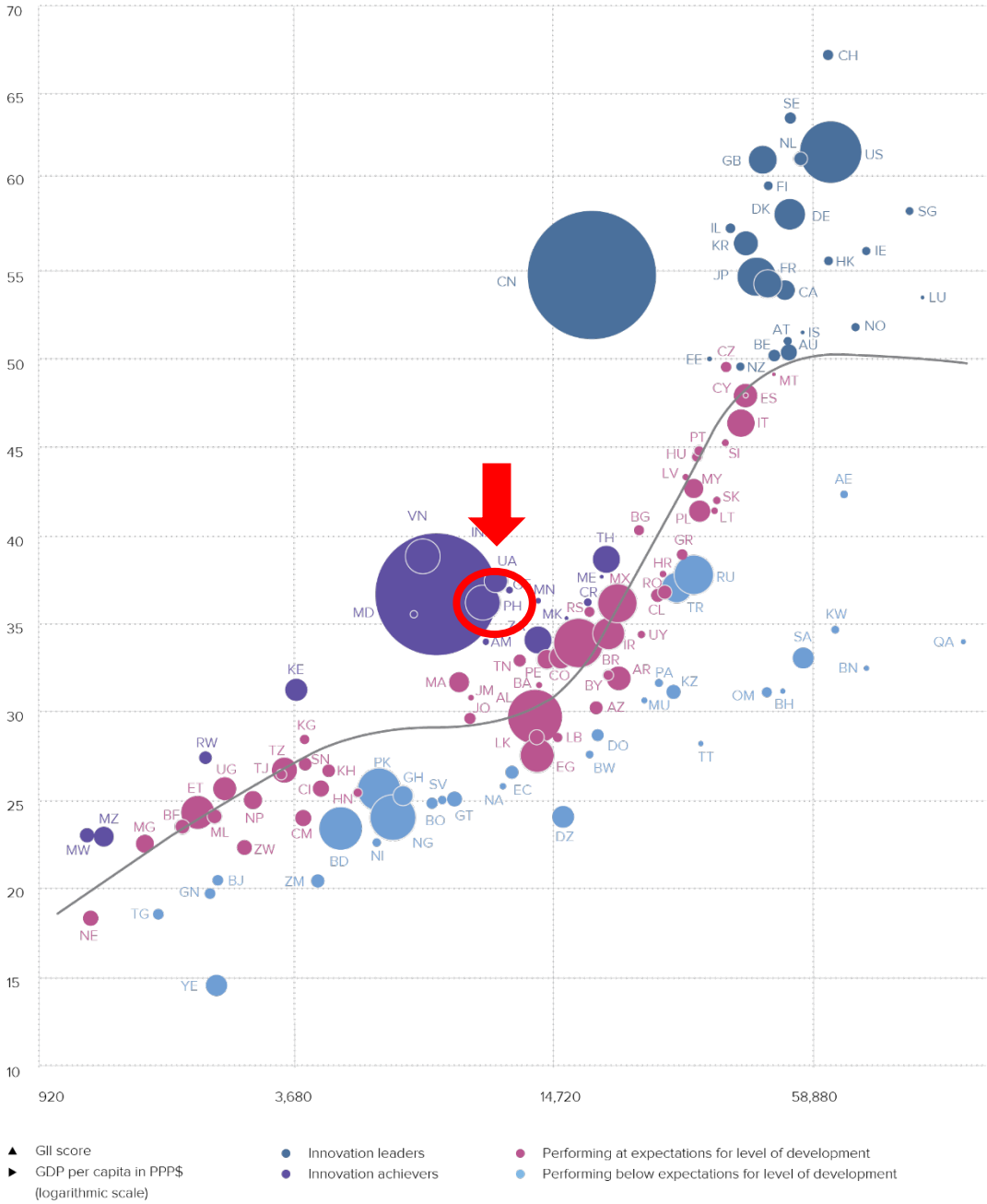
A number of areas of opportunity for the Philippines still exist and include several variables that capture the credit and investment climate, including Ease of getting credit and Venture capital deals. Other important areas for improvement are Global R&D companies and Scientific and technical articles (pages 6 and 7).

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 considered Innovation under-performers relative to GDP.

Relative to GDP, the Philippines performs above its expected level of development.

GII scores and GDP per capita in PPP US$
(bubbles sized by population)



▲ GII score
► GDP per capita in PPP$ (logarithmic scale)

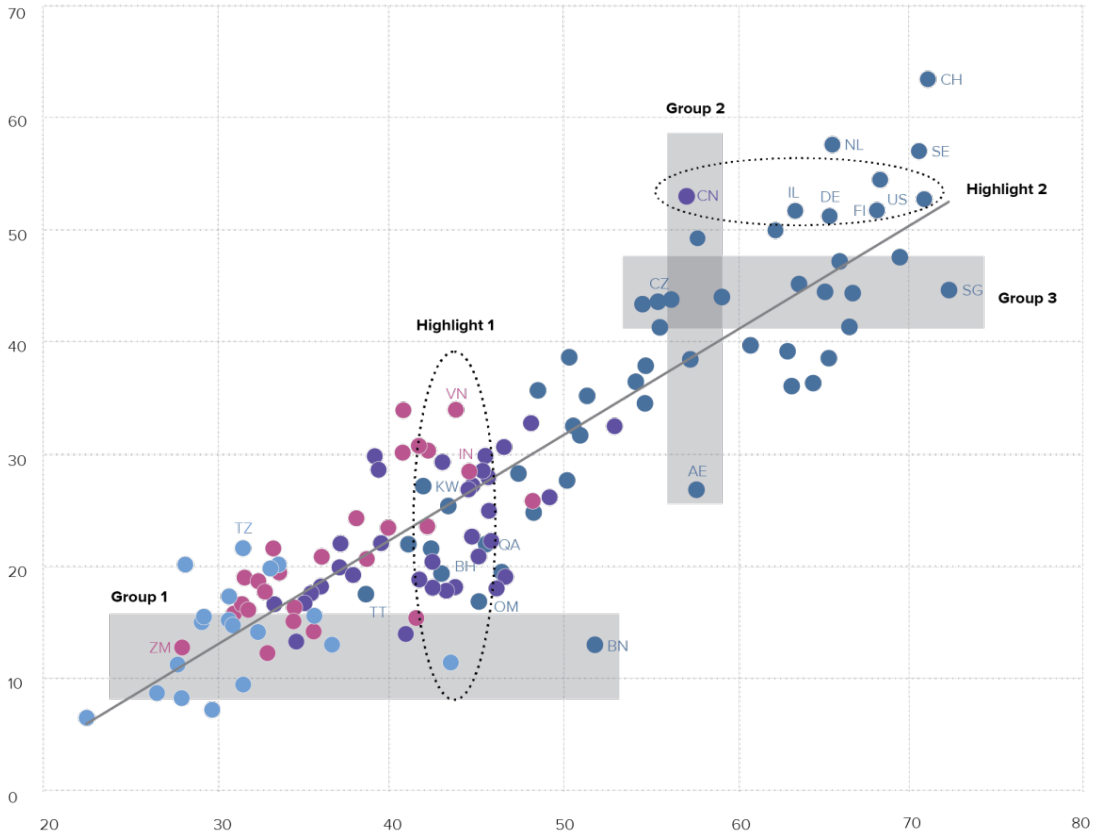
- Innovation leaders
- Innovation achievers
- Performing at expectations for level of development
- Performing below expectations for level of development

EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

The chart below shows the relationship between innovation inputs and innovation outputs, indicating which economies best translate innovation inputs into innovation outputs. Economies appearing above the line are effectively translating their costly innovation investments into more and higher-quality outputs. In contrast, those below the line are not effectively translating innovation inputs into outputs.

The Philippines produces more innovation outputs relative to its level of innovation investments.

Innovation input/output performance by income group, 2019



▲ Output score
▶ Input score

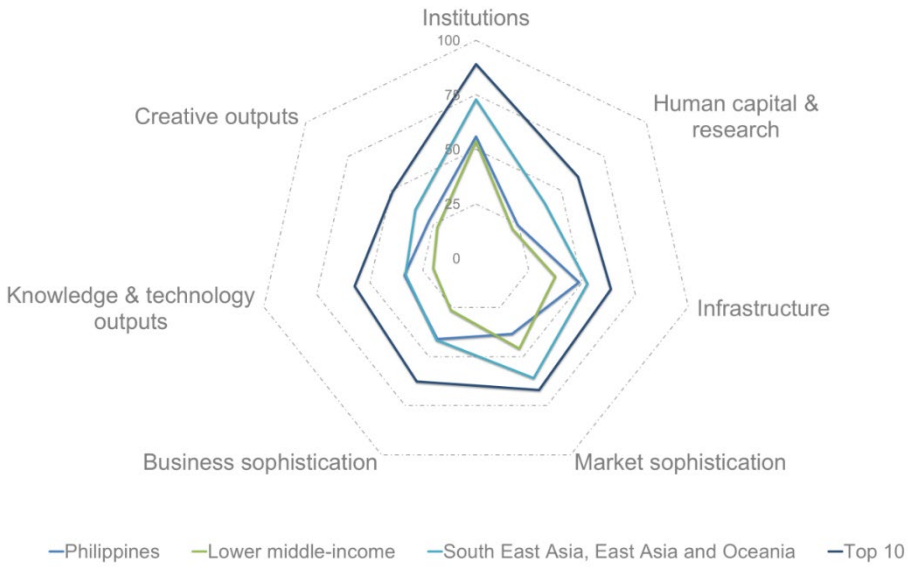
● High income
● Upper-middle income
● Lower-middle income
● Low income

— Fitted values

AE	United Arab Emirates	CZ	Czech Republic	NL	Netherlands	TZ	United Republic of Tanzania
BH	Bahrain	DE	Germany	OM	Oman	US	United States of America
BN	Brunei Darussalam	FI	Finland	QA	Qatar	VN	Viet Nam
CH	Switzerland	IL	Israel	SE	Sweden	ZM	Zambia
CN	China	IN	India	SG	Singapore		
		KW	Kuwait	TT	Trinidad and Tobago		

BENCHMARKING THE PHILIPPINES TO OTHER LOWER MIDDLE-INCOME ECONOMIES AND THE SOUTH EAST ASIA, EAST ASIA, AND OCEANIA REGION

The Philippines' scores in the seven GII pillars



Lower middle-income economies

The Philippines has high scores in 6 out of 7 GII pillars: Institutions, Human capital & research, Infrastructure, Business sophistication, Knowledge & technology outputs, and Creative outputs, which are above the average of the lower middle-income group.

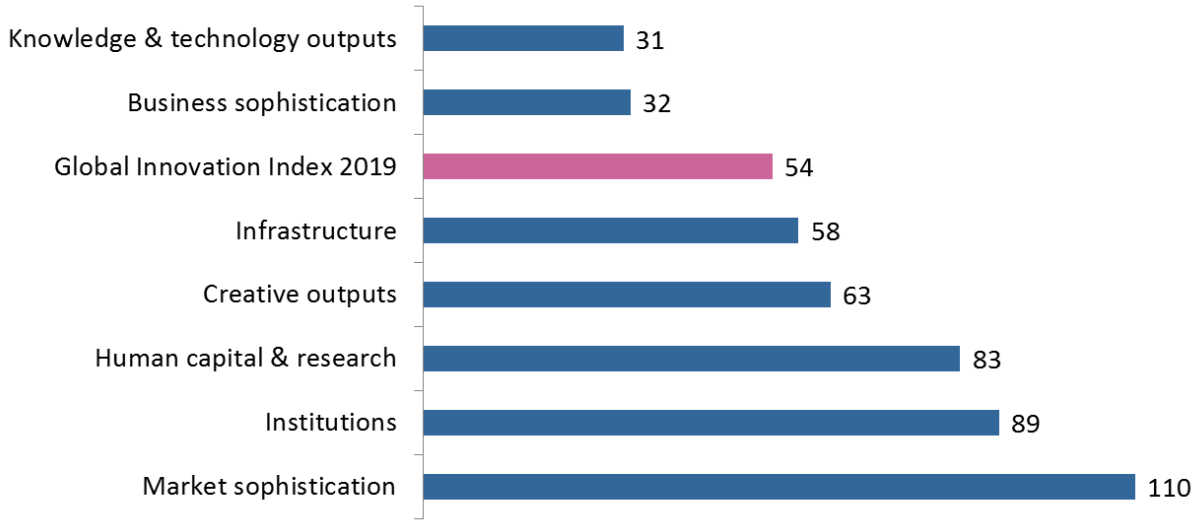
South East Asia, East Asia, and Oceania Region

Compared to other economies in the South East Asia, East Asia, and Oceania region, the Philippines performs above average in 1 out of 7 GII pillars: Knowledge & technology outputs.

The Philippines ranks in the top 25 in the following areas: Trade, competition, & market scale, Knowledge absorption, and Knowledge diffusion.

OVERVIEW OF THE PHILIPPINES' RANKINGS IN THE 7 GII AREAS

The Philippines performs the best in Knowledge & technology outputs and its weakest performance is in Market sophistication.



*The highest possible ranking in each pillar is 1.

THE PHILIPPINES' INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the Philippines' strengths and weaknesses in the GII 2019.

Strengths

Code	Indicator name	Rank
2.2.2	Graduates in science & engineering, %	18
3.1.4	E-participation*	19
4.3	Trade, competition, & market scale	20
4.3.1	Applied tariff rate, weighted mean, %	18
5.1.2	Firms offering formal training, % firms	9
5.3	Knowledge absorption	14
5.3.2	High-tech imports, % total trade	5
5.3.5	Research talent, % in business enterprise	6
6.2.1	Growth rate of PPP$ GDP/worker, %, 3-year average	10
6.3	Knowledge diffusion	14
6.3.2	High-tech net exports, % total trade	1
6.3.3	ICT services exports, % total trade	8
7.2.5	Creative goods exports, % total trade	8

Weaknesses

Code	Indicator name	Rank
1.2.3	Cost of redundancy dismissal, salary weeks	111
1.3.1	Ease of starting a business*	119
2.1.1	Expenditure on education, % GDP	112
2.2.3	Tertiary inbound mobility, %	108
2.3.3	Global R&D companies, top 3, in mn US$	43
4.1	Credit	126
4.1.1	Ease of getting credit*	128
4.1.3	Microfinance gross loans, % GDP	76
4.2	Investment	118
4.2.3	Venture capital deals/bn PPP$ GDP	68
6.1.4	Scientific & technical articles/bn PPP$ GDP	123
6.2.2	New businesses/th pop. 15–64	91

STRENGTHS

- GII strengths for the Philippines are found in six of the seven GII pillars.
- Several of them are in Business sophistication (32), where strengths are sub-pillar Knowledge absorption (14) and indicators Firms offering formal training (9), High-tech imports (5), and Research talent (6).
- Other four strengths of the Philippines are in Knowledge & technology outputs (31). Here, relative strengths are sub-pillar Knowledge diffusion (14) and indicators Labor productivity growth (10), ICT services exports (8), and High-tech exports. In the latter, the Philippines ranks 1st globally.
- In Human capital & research (83), the Philippines' only strength is indicator Graduates in science & engineering (18).
- In Infrastructure (58), a GII strength of the country is indicator E-participation (19).
- In Market sophistication (110), relative strengths are sub-pillar Trade, competition, & market scale (20) and indicator Applied tariff rate (18).
- In Creative outputs (63), the Philippines shows GII strength in indicator Creative goods exports (8).

WEAKNESSES

- The Philippines' weaknesses in the GII are found in four of the seven GII pillars.
- Several relative weaknesses are in Market sophistication (110), the lowest ranked GII pillar for this country. Here GII weaknesses are sub-pillars Credit (126) and Investment (118). At the indicator level, Ease of getting credit (128), Microfinance gross loans (76), and Venture capital deals (68) are also GII weaknesses.
- In Institutions (89), the Philippines' weaknesses are indicators Cost of redundancy dismissal (111) and Ease of starting a business (119).
- In Human capital & research (83), the Philippines present three weaknesses in indicators Expenditure on education (112), Tertiary inbound mobility (108), and Global R&D companies (43).
- In Knowledge & technology outputs (31), the Philippines' weaknesses are found in two indicators: Scientific & technical articles (123) and New businesses (91).

PHILIPPINES

GII 2019 rank

54

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$	GDP per capita, PPP$	GII 2018 rank
42	**76**	**Lower middle**	**SEAO**	**106.5**	**956.0**	**8,935.9**	**73**

		Score/Value	Rank	
INSTITUTIONS		**56.0**	**89**	
1.1	**Political environment**	**49.9**	**84**	
1.1.1	Political and operational stability*	59.6	98	
1.1.2	Government effectiveness*	45.0	73	
1.2	**Regulatory environment**	**54.6**	**99**	
1.2.1	Regulatory quality*	42.5	69	
1.2.2	Rule of law*	35.4	90	
1.2.3	Cost of redundancy dismissal, salary weeks	27.4	111	○
1.3	**Business environment**	**63.6**	**89**	
1.3.1	Ease of starting a business*	72.0	119	○ ◇
1.3.2	Ease of resolving insolvency*	55.2	58	◆
HUMAN CAPITAL & RESEARCH		**24.6**	**83**	
2.1	**Education**	**33.3**	**[102]**	
2.1.1	Expenditure on education, % GDP	2.7	112	○
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	n/a	
2.1.3	School life expectancy, years	12.7	83	
2.1.4	PISA scales in reading, maths, & science	n/a	n/a	
2.1.5	Pupil-teacher ratio, secondary	23.5	96	
2.2	**Tertiary education**	**34.5**	**55**	
2.2.1	Tertiary enrolment, % gross	35.3	75	
2.2.2	Graduates in science & engineering, %	28.7	18	●
2.2.3	Tertiary inbound mobility, %	0.1	108	○
2.3	**Research & development (R&D)**	**6.2**	**72**	
2.3.1	Researchers, FTE/mn pop.	187.7	78	
2.3.2	Gross expenditure on R&D, % GDP	0.1	98	
2.3.3	Global R&D companies, avg. exp. top 3, mn US$	0.0	43	○ ◇
2.3.4	QS university ranking, average score top 3*	19.9	51	◆
INFRASTRUCTURE		**48.5**	**58**	◆
3.1	**Information & communication technologies(ICTs)**	**68.5**	**60**	◆
3.1.1	ICT access*	47.5	94	
3.1.2	ICT use*	44.7	78	◆
3.1.3	Government's online service*	88.2	30	◆
3.1.4	E-participation*	93.8	19	● ◆
3.2	**General infrastructure**	**34.2**	**67**	
3.2.1	Electricity output, kWh/mn pop.	878.8	97	
3.2.2	Logistics performance*	39.3	59	
3.2.3	Gross capital formation, % GDP	27.5	31	
3.3	**Ecological sustainability**	**42.8**	**48**	◆
3.3.1	GDP/unit of energy use	13.3	19	◆
3.3.2	Environmental performance*	57.7	71	
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	1.2	61	◆
MARKET SOPHISTICATION		**38.3**	**110**	
4.1	**Credit**	**8.8**	**126**	○ ◇
4.1.1	Ease of getting credit*	5.0	128	○ ◇
4.1.2	Domestic credit to private sector, % GDP	47.8	72	
4.1.3	Microfinance gross loans, % GDP	0.0	76	○
4.2	**Investment**	**30.9**	**118**	○
4.2.1	Ease of protecting minority investors*	43.3	105	◇
4.2.2	Market capitalization, % GDP	84.3	18	◆
4.2.3	Venture capital deals/bn PPP$ GDP	0.0	68	○
4.3	**Trade, competition, & market scale**	**75.2**	**20**	● ◆
4.3.1	Applied tariff rate, weighted avg., %	1.7	18	● ◆
4.3.2	Intensity of local competition†	75.0	27	◆
4.3.3	Domestic market scale, bn PPP$	956.0	27	

		Score/Value	Rank	
BUSINESS SOPHISTICATION		**40.9**	**32**	◆
5.1	**Knowledge workers**	**46.1**	**44**	◆
5.1.1	Knowledge-intensive employment, %	25.2	55	
5.1.2	Firms offering formal training, % firms	59.8	9	● ◆
5.1.3	GERD performed by business, % GDP	0.0	72	
5.1.4	GERD financed by business, %	36.9	50	
5.1.5	Females employed w/advanced degrees, %	12.4	57	
5.2	**Innovation linkages**	**22.6**	**71**	
5.2.1	University/industry research collaboration†	57.5	25	◆
5.2.2	State of cluster development†	50.0	48	
5.2.3	GERD financed by abroad, %	1.8	80	
5.2.4	JV-strategic alliance deals/bn PPP$ GDP	0.0	43	
5.2.5	Patent families 2+ offices/bn PPP$ GDP	0.0	76	
5.3	**Knowledge absorption**	**54.1**	**14**	● ◆
5.3.1	Intellectual property payments, % total trade	0.7	55	
5.3.2	High-tech imports, % total trade	23.2	5	● ◆
5.3.3	ICT services imports, % total trade	0.8	83	
5.3.4	FDI net inflows, % GDP	2.6	65	
5.3.5	Research talent, % in business enterprise	63.2	6	● ◆
KNOWLEDGE & TECHNOLOGY OUTPUTS		**33.7**	**31**	◆
6.1	**Knowledge creation**	**11.5**	**64**	
6.1.1	Patents by origin/bn PPP$ GDP	0.4	82	
6.1.2	PCT patents by origin/bn PPP$ GDP	0.0	90	
6.1.3	Utility models by origin/bn PPP$ GDP	1.6	15	
6.1.4	Scientific & technical articles/bn PPP$ GDP	0.9	123	○
6.1.5	Citable documents H-index	13.4	54	
6.2	**Knowledge impact**	**43.2**	**38**	
6.2.1	Growth rate of PPP$ GDP/worker, %	4.9	10	● ◆
6.2.2	New businesses/th pop. 15-64	0.3	91	○
6.2.3	Computer software spending, % GDP	0.3	55	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	4.4	61	
6.2.5	High- & medium-high-tech manufactures, %	0.4	25	◆
6.3	**Knowledge diffusion**	**46.5**	**14**	● ◆
6.3.1	Intellectual property receipts, % total trade	0.0	87	
6.3.2	High-tech net exports, % total trade	32.7	1	● ◆
6.3.3	ICT services exports, % total trade	5.5	8	● ◆
6.3.4	FDI net outflows, % GDP	1.3	48	◆
CREATIVE OUTPUTS		**27.7**	**63**	
7.1	**Intangible assets**	**41.3**	**63**	
7.1.1	Trademarks by origin/bn PPP$ GDP	30.7	75	
7.1.2	Industrial designs by origin/bn PPP$ GDP	0.9	71	
7.1.3	ICTs & business model creation†	68.9	32	◆
7.1.4	ICTs & organizational model creation†	61.7	39	◆
7.2	**Creative goods & services**	**26.6**	**40**	◆
7.2.1	Cultural & creative services exports, % total trade	0.1	92	
7.2.2	National feature films/mn pop. 15-69	0.8	86	
7.2.3	Entertainment & Media market/th pop. 15-69	2.6	50	◆
7.2.4	Printing & other media, % manufacturing	0.6	87	
7.2.5	Creative goods exports, % total trade	7.0	8	● ◆
7.3	**Online creativity**	**1.4**	**99**	
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	0.3	101	
7.3.3	Wikipedia edits/mn pop. 15-69	3.8	89	
7.3.4	Mobile app creation/bn PPP$ GDP	1.4	63	

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 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.

DATA AVAILABILITY AND GII MODEL

The following tables list data that are missing or are outdated for the Philippines.

Three indicators that were not available in the GII 2018 become available this year: High-tech imports, High-tech exports, and Creative goods exports.

Missing data

Code	Indicator name	Country year	Model year	Source
2.1.2	Government funding/pupil, secondary, % GDP/cap	n/a	2015	UNESCO Institute for Statistics
2.1.4	PISA scales in reading, maths & science	n/a	2015	OECD Programme for International Student Assessment (PISA)

Outdated data

Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	2009	2015	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2014	2016	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2016	2017	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	2008	2016	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2013	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2013	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.3	GERD performed by business, % GDP	2013	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.4	GERD financed by business, %	2013	2016	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.5	Females employed w/advanced degrees, %	2016	2017	International Labour Organization
5.2.3	GERD financed by abroad, %	2013	2016	UNESCO Institute for Statistics
5.3.5	Research talent, % in business enterprise	2013	2017	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
6.2.5	High- & medium-high-tech manufactures, %	2015	2016	United Nations Industrial Development Organization
7.2.2	National feature films/mn pop. 15–69	2013	2017	UNESCO Institute for Statistics
7.2.4	Printing & other media, % manufacturing	2015	2016	United Nations Industrial Development Organization

Model changes

The table below provides a summary of the adjustments to the GII 2019 framework.

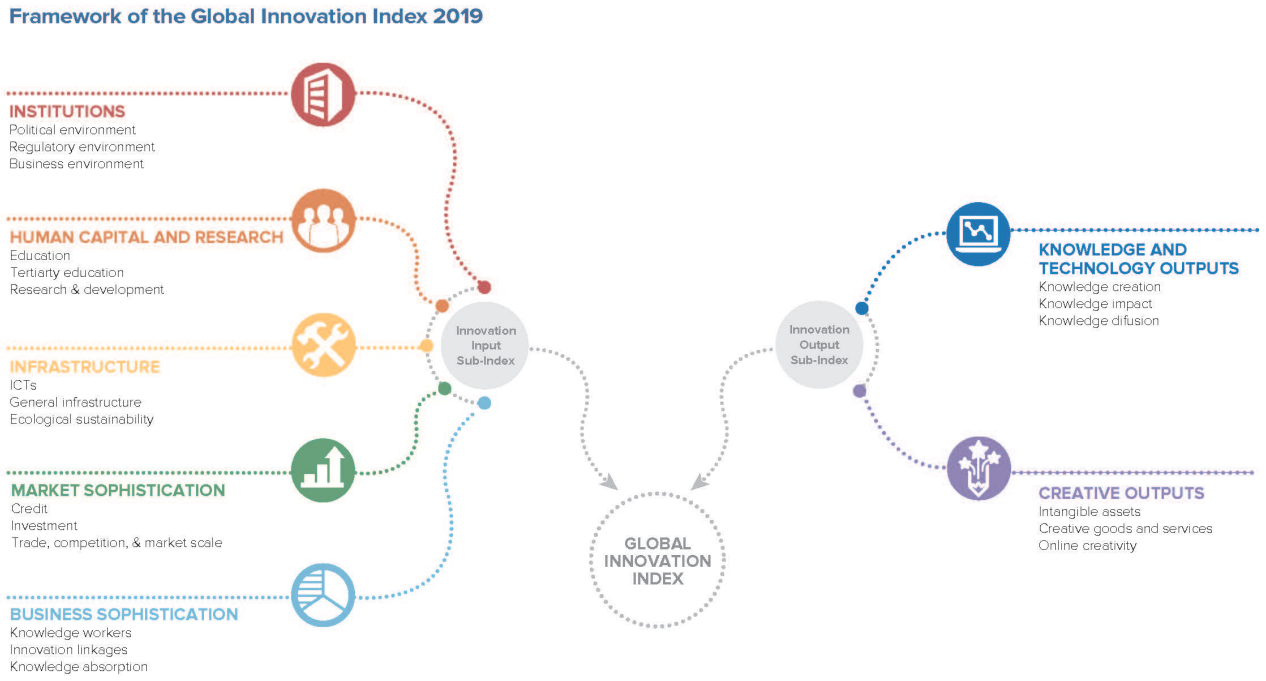
Changes to the GII 2019 framework

	GII 2018	Adjustment		GII 2019
1.1.1	Political stability & safety	Replaced	1.1.1	Political & operational stability
3.3.2	Environmental performance	Indicator changed at source	3.3.2	Environmental performance
5.3.1	Intellectual property payments, % total trade	Methodology change	5.3.1	Intellectual property payments, % total trade (3 year avg.)
5.3.2	High-tech imports, % total trade	Methodology change	5.3.2	High-tech imports, % total trade
6.2.1	Growth rate of PPP$ GDP/worker, %	Methodology change	6.2.1	Growth rate of PPP$ GDP/worker, % (3 year avg.)
6.3.1	Intellectual property receipts, % total trade	Methodology change	6.3.1	Intellectual property receipts, % total trade (3 year avg.)
7.3.4	Mobile app creation/bn PPP$ GDP	Methodology change	7.3.4	Mobile app creation/bn PPP$ GDP

ABOUT THE GLOBAL INNOVATION INDEX

The Global Innovation Index (GII) is co-published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO), a specialized agency of the United Nations. In 2019, the GII presents its 12th edition devoted to the theme **Creating Healthy Lives—The Future of Medical Innovation**.

Recognizing that innovation is a key driver of economic development, the GII aims to provide a rich innovation ranking and 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 countries 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 includes 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 containing three sub-pillars.