Global Innovation Index 2022

MYANMAR

116th Myanmar ranks 116th 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 Myanmar 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 Myanmar in the GII 2022 is between ranks 108 and 118.

Rankings for Myanmar (2020–2022)

GIIYR	GII	Innovation inputs	Innovation outputs
2020	129	129	120
2021	127	128	120
2022	116	122	104

- Myanmar performs better in innovation outputs than innovation inputs in 2022.
- This year Myanmar ranks 122nd in innovation inputs, higher than both 2021 and 2020.
- As for innovation outputs, Myanmar ranks 104th. This position is higher than both 2021 and 2020.

31st Myanmar ranks 31st among the 36 lower-middle-income group economies.

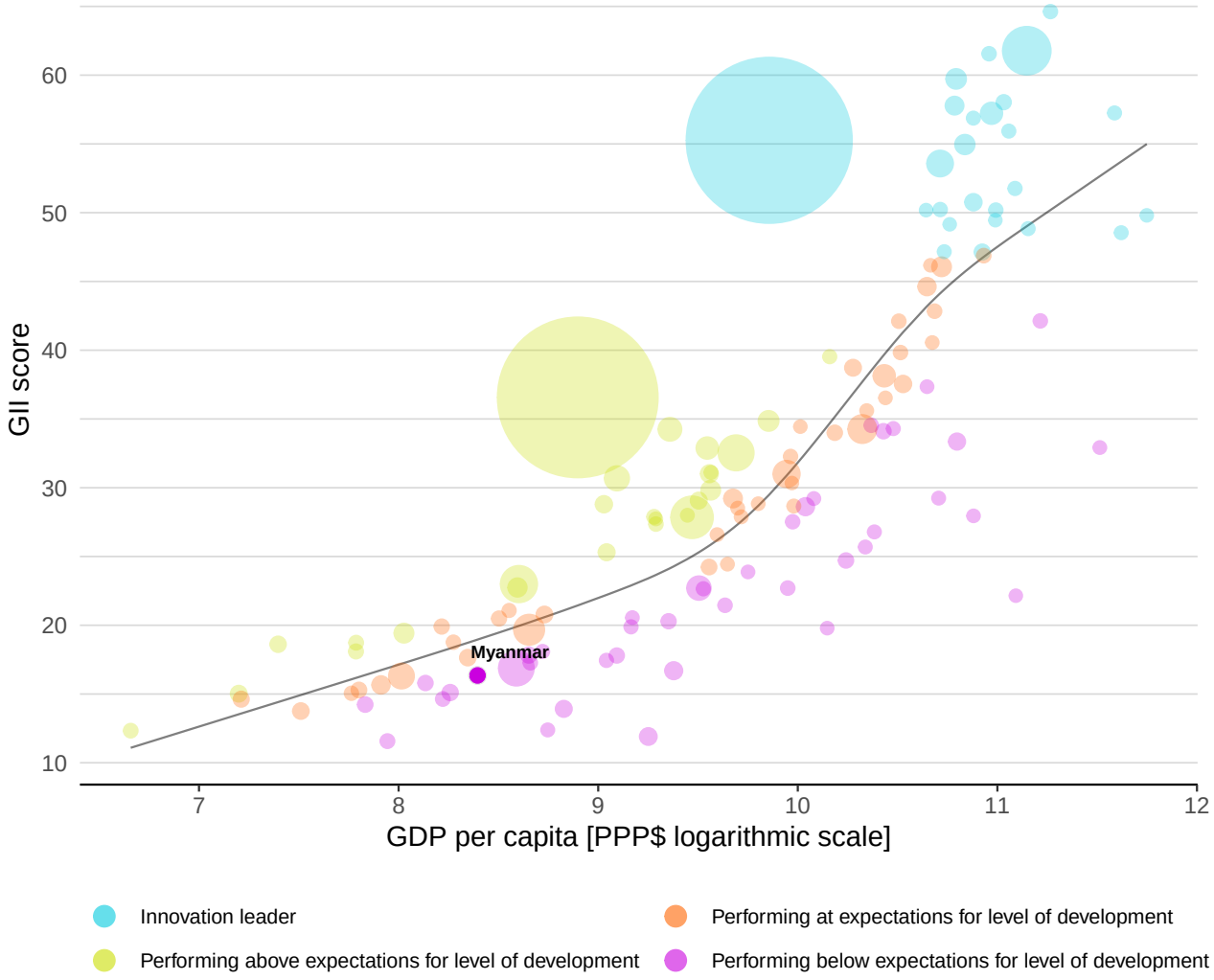
17th Myanmar ranks 17th among the 17 economies in South East Asia, East Asia, and Oceania.

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, Myanmar's performance is below expectations for its level of development.

The positive relationship between innovation and development

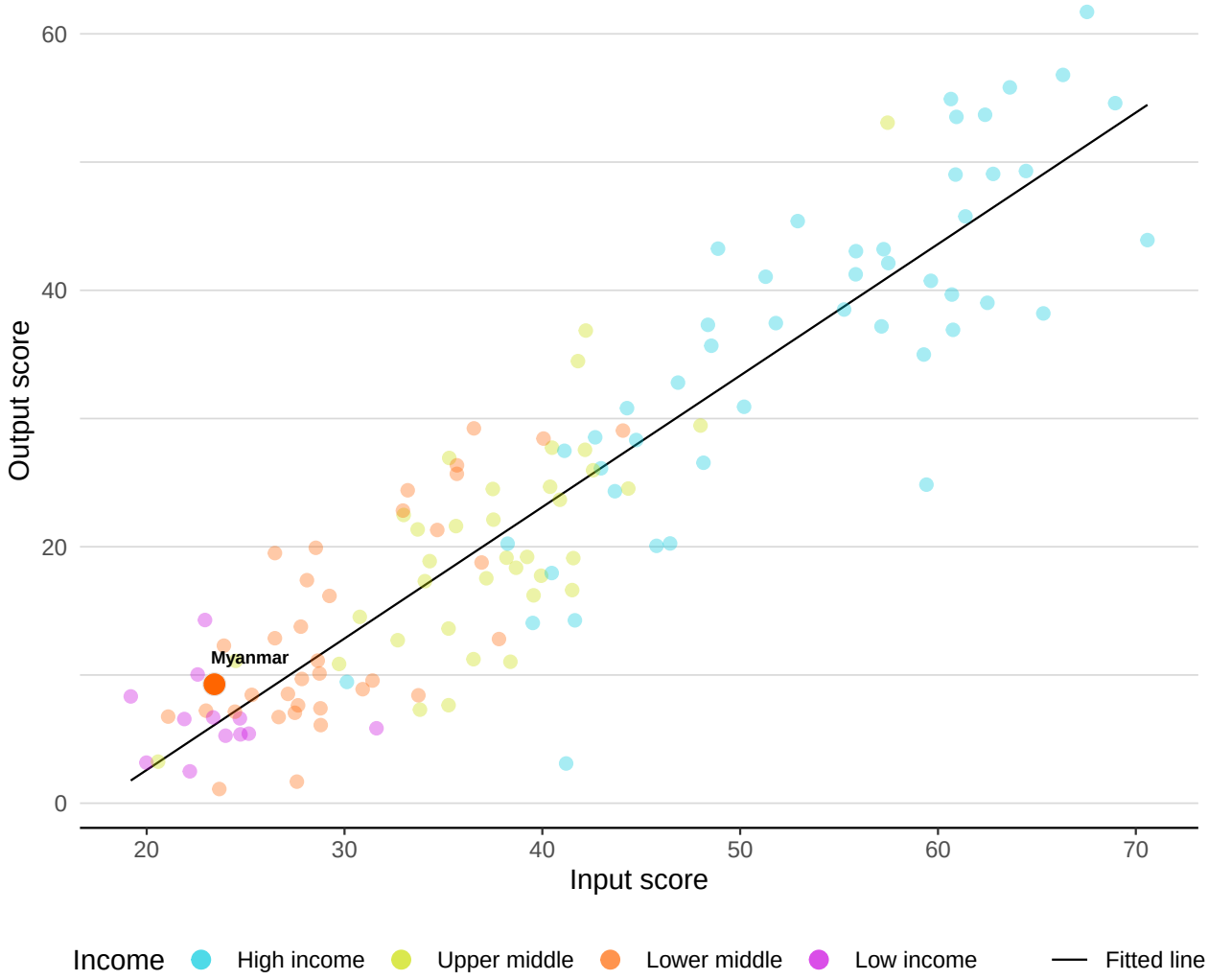


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

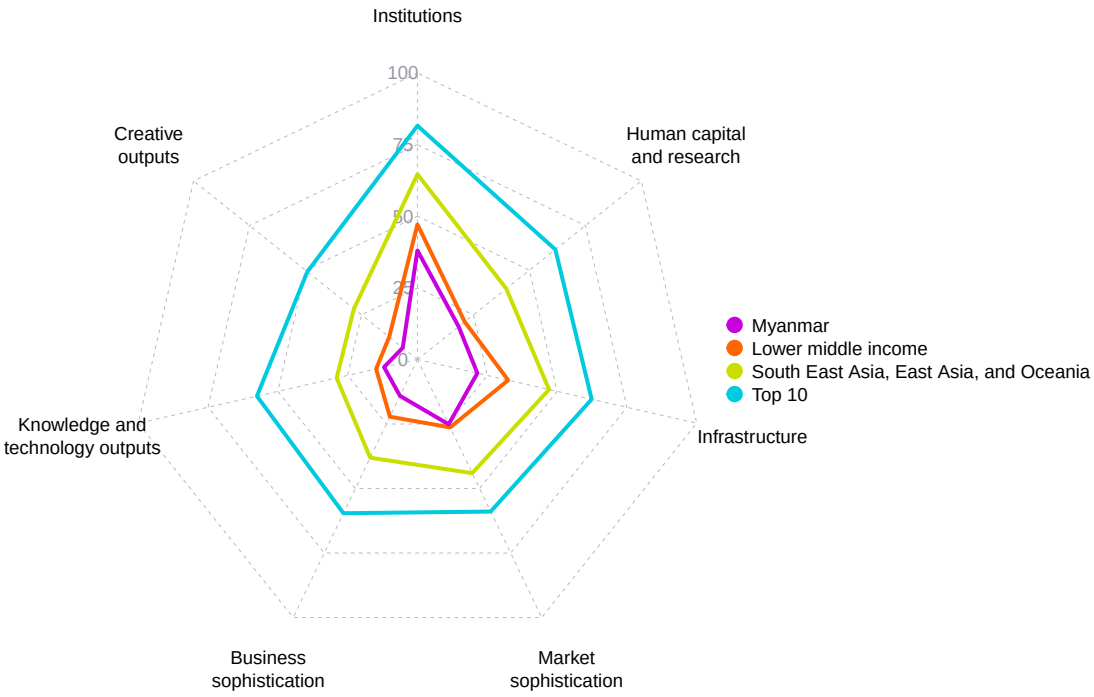
Myanmar produces more innovation outputs relative to its level of innovation investments.

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 Myanmar



Lower-middle-income group economies

Myanmar performs below the lower-middle-income group average in all GII pillars.

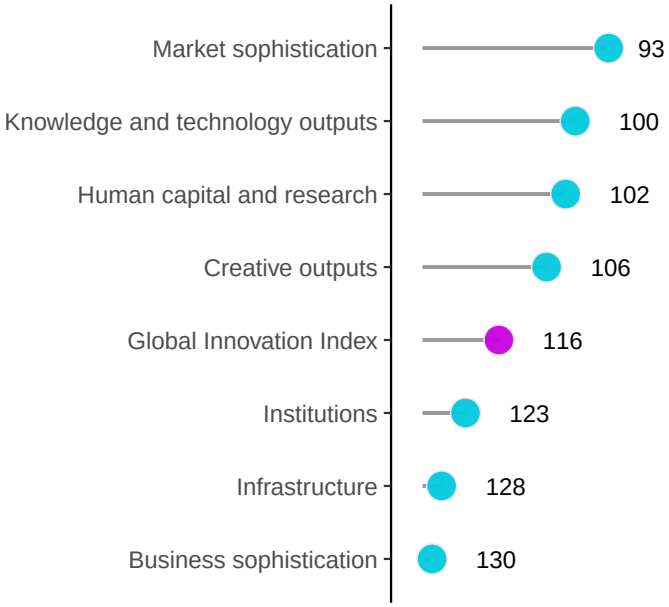
South East Asia, East Asia, and Oceania

Myanmar performs below the regional average in all GII pillars.

OVERVIEW OF RANKINGS IN THE SEVEN GII 2022 AREAS

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

The seven GII pillar ranks for Myanmar



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

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

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

INNOVATION STRENGTHS AND WEAKNESSES

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

Strengths and weaknesses for Myanmar

Strengths			Weaknesses		
Code	**Indicator name**	**Rank**	**Code**	**Indicator name**	**Rank**
2.2.2	Graduates in science and engineering, %	12	1.1.1	Political and operational stability	129
3.2.3	Gross capital formation, % GDP	15	2.2.3	Tertiary inbound mobility, %	111
3.3.1	GDP/unit of energy use	48	2.3.3	Global corporate R&D investors, top 3, mn USD	38
4.1.3	Loans from microfinance institutions, % GDP	20	2.3.4	QS university ranking, top 3	72
4.2.4	Venture capital received, value, % GDP	48	3.1.3	Government's online service	127
4.3.1	Applied tariff rate, weighted avg., %	57	3.1.4	E-participation	128
4.3.3	Domestic market scale, bn PPP$	62	3.3.2	Environmental performance	129
5.3.4	FDI net inflows, % GDP	58	5.1.2	Firms offering formal training, %	99
6.2.1	Labor productivity growth, %	37	5.1.4	GERD financed by business, %	100
7.2.5	Creative goods exports, % total trade	54	5.2.1	University-industry R&D collaboration	126
			5.2.5	Patent families/bn PPP$ GDP	101

GII 2022 rank

Myanmar

116

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP$ (bn)	GDP per capita, PPP$
104	122	Lower middle	SEAO	54.8	237.0	4,426

		Score/ Value	Rank	
Institutions		**38.1**	**123**	◇
1.1	**Political environment**	35.9	127	◇
1.1.1	Political and operational stability*	43.6	129	○ ◇
1.1.2	Government effectiveness*	28.2	124	◇
1.2	**Regulatory environment**	46.2	115	
1.2.1	Regulatory quality*	29.2	106	
1.2.2	Rule of law*	15.5	125	◇
1.2.3	Cost of redundancy dismissal	23.1	100	
1.3	**Business environment**	32.0	[105]	
1.3.1	Policies for doing business†	32.0	117	
1.3.2	Entrepreneurship policies and culture*	n/a	n/a	
Human capital and research		**18.4**	**102**	
2.1	**Education**	24.1	126	◇
2.1.1	Expenditure on education, % GDP	2.1	124	◇
2.1.2	Government funding/pupil, secondary, % GDP/cap	11.3	95	
2.1.3	School life expectancy, years	10.7	99	
2.1.4	PISA scales in reading, maths and science	n/a	n/a	
2.1.5	Pupil-teacher ratio, secondary	27.2	113	◇
2.2	**Tertiary education**	30.7	68	
2.2.1	Tertiary enrolment, % gross	18.8	98	
2.2.2	Graduates in science and engineering, %	33.7	12	● ◆
2.2.3	Tertiary inbound mobility, %	0.0	111	○
2.3	**Research and development (R&D)**	0.5	106	
2.3.1	Researchers, FTE/mn pop.	31.9	101	
2.3.2	Gross expenditure on R&D, % GDP	0.1	95	
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		**21.4**	**128**	◇
3.1	**Information and communication technologies (ICTs)**	26.0	[132]	
3.1.1	ICT access*	n/a	n/a	
3.1.2	ICT use*	n/a	n/a	
3.1.3	Government's online service*	25.9	127	○ ◇
3.1.4	E-participation*	26.2	128	○ ◇
3.2	**General infrastructure**	20.7	106	
3.2.1	Electricity output, GWh/mn pop.	448.8	111	
3.2.2	Logistics performance*	11.6	117	◇
3.2.3	Gross capital formation, % GDP	32.3	15	●
3.3	**Ecological sustainability**	17.6	108	
3.3.1	GDP/unit of energy use	12.2	48	●
3.3.2	Environmental performance*	19.4	129	○ ◇
3.3.3	ISO 14001 environmental certificates/bn PPP$ GDP	0.1	128	
Market sophistication		**25.1**	**93**	
4.1	**Credit**	15.3	99	
4.1.1	Finance for startups and scaleups*	n/a	n/a	
4.1.2	Domestic credit to private sector, % GDP	27.4	101	
4.1.3	Loans from microfinance institutions, % GDP	1.5	20	●
4.2	**Investment**	5.3	73	
4.2.1	Market capitalization, % GDP	n/a	n/a	
4.2.2	Venture capital investors, deals/bn PPP$ GDP	0.0	85	
4.2.3	Venture capital recipients, deals/bn PPP$ GDP	0.0	66	
4.2.4	Venture capital received, value, % GDP	0.0	48	●
4.3	**Trade, diversification, and market scale**	54.7	72	
4.3.1	Applied tariff rate, weighted avg., %	1.8	57	● ◆
4.3.2	Domestic industry diversification	70.7	85	
4.3.3	Domestic market scale, bn PPP$	237.0	62	●

		Score/ Value	Rank	
Business sophistication		**14.1**	**130**	○ ◇
5.1	**Knowledge workers**	7.1	126	◇
5.1.1	Knowledge-intensive employment, %	5.2	119	◇
5.1.2	Firms offering formal training, %	5.9	99	○ ◇
5.1.3	GERD performed by business, % GDP	n/a	n/a	
5.1.4	GERD financed by business, %	0.0	100	○ ◇
5.1.5	Females employed w/advanced degrees, %	7.2	86	
5.2	**Innovation linkages**	11.4	128	◇
5.2.1	University-industry R&D collaboration†	20.8	126	○ ◇
5.2.2	State of cluster development and depth†	31.8	123	◇
5.2.3	GERD financed by abroad, % GDP	0.0	79	
5.2.4	Joint venture/strategic alliance deals/bn PPP$ GDP	0.0	103	
5.2.5	Patent families/bn PPP$ GDP	0.0	101	○ ◇
5.3	**Knowledge absorption**	23.8	93	
5.3.1	Intellectual property payments, % total trade	0.3	80	
5.3.2	High-tech imports, % total trade	7.8	77	
5.3.3	ICT services imports, % total trade	1.0	87	
5.3.4	FDI net inflows, % GDP	2.5	58	●
5.3.5	Research talent, % in businesses	n/a	n/a	
Knowledge and technology outputs		**12.0**	**100**	
6.1	**Knowledge creation**	2.7	[120]	
6.1.1	Patents by origin/bn PPP$ GDP	n/a	n/a	
6.1.2	PCT patents by origin/bn PPP$ GDP	n/a	n/a	
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	n/a	
6.1.4	Scientific and technical articles/bn PPP$ GDP	2.4	126	
6.1.5	Citable documents H-index	2.7	121	
6.2	**Knowledge impact**	21.8	82	
6.2.1	Labor productivity growth, %	1.8	37	●
6.2.2	New businesses/th pop. 15–64	0.4	102	
6.2.3	Software spending, % GDP	n/a	n/a	
6.2.4	ISO 9001 quality certificates/bn PPP$ GDP	0.8	114	
6.2.5	High-tech manufacturing, %	17.7	67	
6.3	**Knowledge diffusion**	11.4	99	
6.3.1	Intellectual property receipts, % total trade	0.1	67	
6.3.2	Production and export complexity	18.1	108	
6.3.3	High-tech exports, % total trade	1.4	69	
6.3.4	ICT services exports, % total trade	0.4	110	
Creative outputs		**6.6**	**[106]**	
7.1	**Intangible assets**	9.1	[105]	
7.1.1	Intangible asset intensity, top 15, %	n/a	n/a	
7.1.2	Trademarks by origin/bn PPP$ GDP	24.0	88	
7.1.3	Global brand value, top 5,000, % GDP	5.7	66	
7.1.4	Industrial designs by origin/bn PPP$ GDP	n/a	n/a	
7.2	**Creative goods and services**	7.9	[88]	
7.2.1	Cultural and creative services exports, % total trade	0.3	64	
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	0.4	89	
7.2.5	Creative goods exports, % total trade	0.7	54	●
7.3	**Online creativity**	0.1	127	
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	0.1	127	
7.3.2	Country-code TLDs/th pop. 15–69	0.0	127	
7.3.3	GitHub commit pushes received/mn pop. 15–69	0.2	122	
7.3.4	Mobile app creation/bn PPP$ GDP	0.1	100	

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 Myanmar.

Missing data for Myanmar

Code	Indicator name	Economy year	Model year	Source
1.3.2	Entrepreneurship policies and culture	n/a	2021	Global Entrepreneurship Monitor
2.1.4	PISA scales in reading, maths and science	n/a	2018	OECD, PISA
3.1.1	ICT access	n/a	2020	World Intellectual Property Organization
3.1.2	ICT use	n/a	2020	World Intellectual Property Organization
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
5.1.3	GERD performed by business, % GDP	n/a	2020	UNESCO Institute for Statistics
5.3.5	Research talent, % in businesses	n/a	2020	UNESCO Institute for Statistics
6.1.1	Patents by origin/bn PPP$ GDP	n/a	2020	World Intellectual Property Organization
6.1.2	PCT patents by origin/bn PPP$ GDP	n/a	2021	World Intellectual Property Organization
6.1.3	Utility models by origin/bn PPP$ GDP	n/a	2020	World Intellectual Property Organization
6.2.3	Software spending, % GDP	n/a	2021	IHS Markit
7.1.1	Intangible asset intensity, top 15, %	n/a	2021	Brand Finance
7.1.4	Industrial designs by origin/bn PPP$ GDP	n/a	2020	World Intellectual Property Organization
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

Outdated data for Myanmar

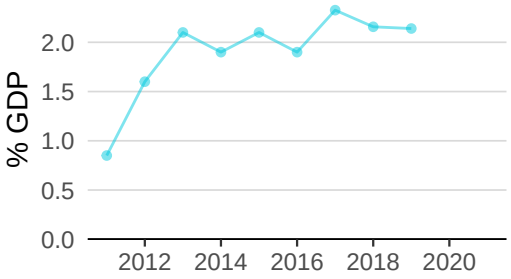
Code	Indicator name	Economy year	Model year	Source
1.3.1	Policies for doing business	2015	2021	World Economic Forum, Executive Opinion Survey (EOS)
2.1.1	Expenditure on education, % GDP	2019	2020	UNESCO Institute for Statistics
2.1.3	School life expectancy, years	2018	2019	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2018	2019	UNESCO Institute for Statistics
2.2.1	Tertiary enrolment, % gross	2018	2019	UNESCO Institute for Statistics
2.2.2	Graduates in science and engineering, %	2018	2020	UNESCO Institute for Statistics
2.2.3	Tertiary inbound mobility, %	2018	2019	UNESCO Institute for Statistics

Code	Indicator name	Economy year	Model year	Source
3.2.1	Electricity output, GWh/mn pop.	2019	2020	International Energy Agency
4.1.3	Loans from microfinance institutions, % GDP	2019	2020	International Monetary Fund, Financial Access Survey (FAS)
4.2.3	Venture capital recipients, deals/bn PPP$ GDP	2020	2021	Refinitiv
4.2.4	Venture capital received, value, % GDP	2020	2021	Refinitiv
4.3.1	Applied tariff rate, weighted avg., %	2019	2020	World Bank
4.3.2	Domestic industry diversification	2018	2019	United Nations Industrial Development Organization
5.1.1	Knowledge-intensive employment, %	2020	2021	International Labour Organization
5.1.2	Firms offering formal training, %	2016	2019	World Bank Enterprise Surveys
5.1.4	GERD financed by business, %	2017	2019	UNESCO Institute for Statistics
5.1.5	Females employed w/advanced degrees, %	2020	2021	International Labour Organization
5.2.1	University-industry R&D collaboration	2014	2021	World Economic Forum, Executive Opinion Survey (EOS)
5.2.2	State of cluster development and depth	2015	2021	World Economic Forum, Executive Opinion Survey (EOS)
5.2.3	GERD financed by abroad, % GDP	2017	2019	UNESCO Institute for Statistics
6.2.2	New businesses/th pop. 15–64	2018	2020	World Bank, Enterpreneurship Database
6.2.5	High-tech manufacturing, %	2018	2019	United Nations Industrial Development Organization
7.1.2	Trademarks by origin/bn PPP$ GDP	2012	2020	World Intellectual Property Organization
7.2.4	Printing and other media, % manufacturing	2011	2019	United Nations Industrial Development Organization

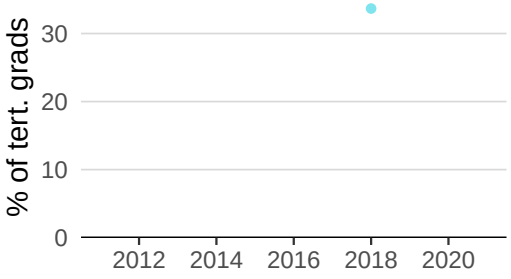
MYANMAR'S INNOVATION SYSTEM

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

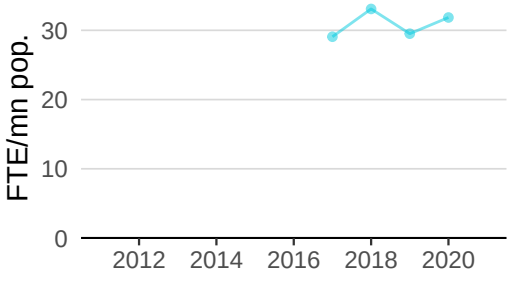
Innovation inputs



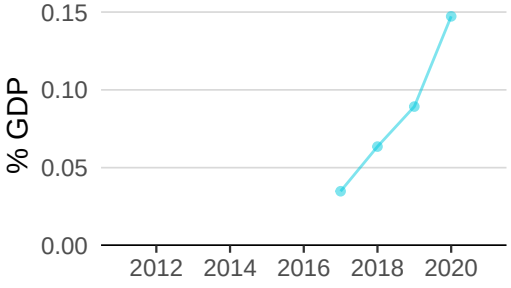
2.1.1 Expenditure on education was equal to 2.1% GDP in 2019–down by 1 percentage point from the year prior–and equivalent to an indicator rank of 124.



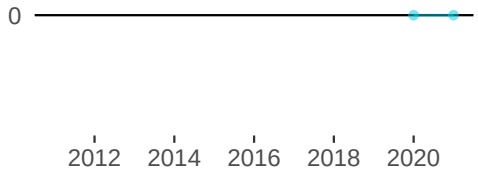
2.2.2 Graduates in science and engineering was equal to 33.7% of tert. grads in 2018 and equivalent to an indicator rank of 12.



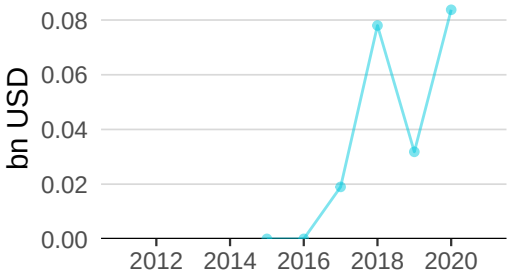
2.3.1 Researchers was equal to 31.9 FTE/mn pop. in 2020–up by 8 percentage points from the year prior–and equivalent to an indicator rank of 101.



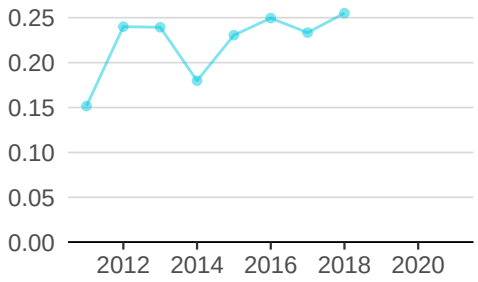
2.3.2 Gross expenditure on R&D was equal to 0.1% GDP in 2020–up by 65 percentage points from the year prior–and equivalent to an indicator rank of 95.



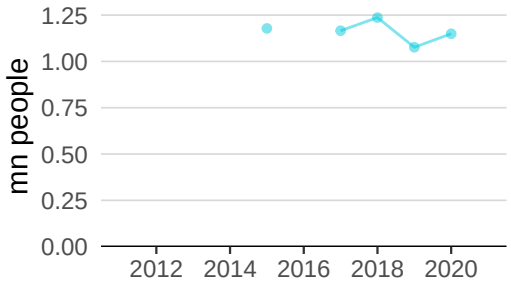
2.3.4 QS university ranking was equal to 0.0 in 2021–effectively unchanged from the year prior–and equivalent to an indicator rank of 72.



4.2.4 Venture capital received was equal to 0.1 bn USD in 2020–up by 163 percentage points from the year prior–and equivalent to an indicator rank of 48.

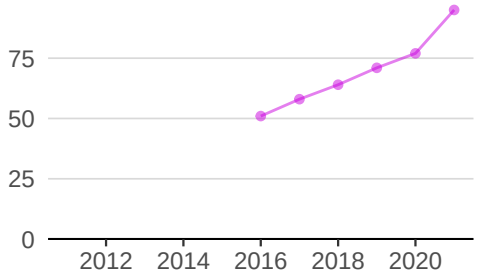


4.3.2 Domestic industry diversification was equal to 0.3 in 2018–up by 9 percentage points from the year prior–and equivalent to an indicator rank of 85.

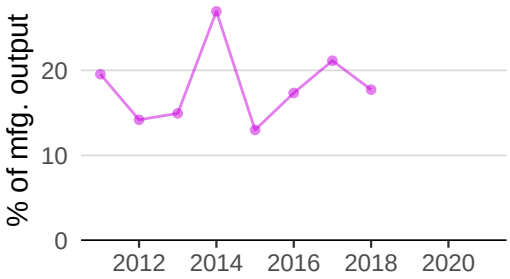


5.1.1 Knowledge-intensive employment was equal to 1.1 mn people in 2020–up by 7 percentage points from the year prior–and equivalent to an indicator rank of 119.

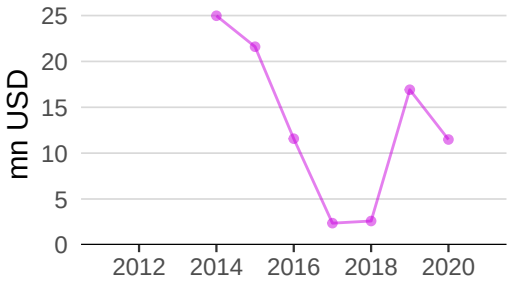
Innovation outputs



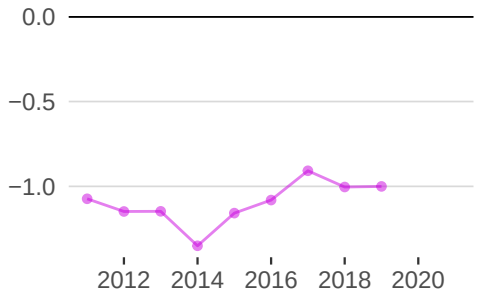
6.1.5 Citable documents H-index was equal to 95.0 in 2021–up by 23 percentage points from the year prior–and equivalent to an indicator rank of 121.



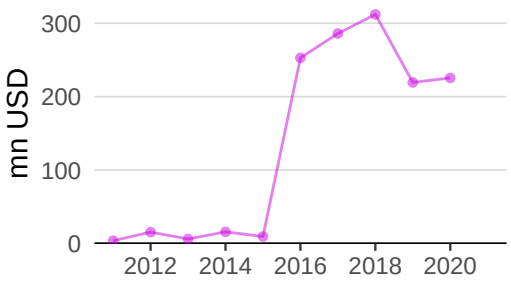
6.2.5 High-tech manufacturing was equal to 17.7% of mfg. output in 2018–down by 16 percentage points from the year prior–and equivalent to an indicator rank of 67.



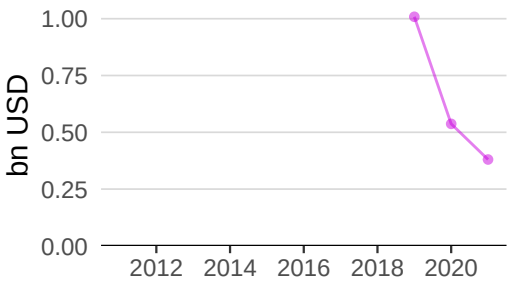
6.3.1 Intellectual property receipts was equal to 11.5 mn USD in 2020–down by 32 percentage points from the year prior–and equivalent to an indicator rank of 67.



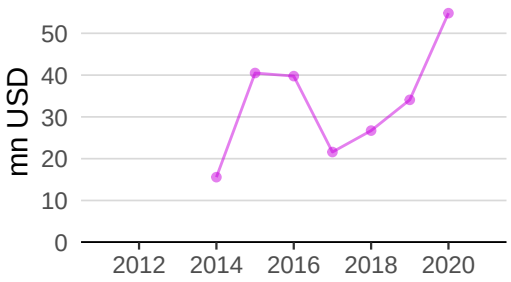
6.3.2 Production and export complexity was equal to -1.0 in 2019–effectively unchanged from the year prior–and equivalent to an indicator rank of 108.



6.3.3 High-tech exports was equal to 225.5 mn USD in 2020–up by 3 percentage points from the year prior–and equivalent to an indicator rank of 69.



7.1.3 Global brand value was equal to 0.4 bn USD in 2021–down by 29 percentage points from the year prior–and equivalent to an indicator rank of 66.



7.2.1 Cultural and creative services exports was equal to 54.8 mn USD in 2020–up by 61 percentage points from the year prior–and equivalent to an indicator rank of 64.

MYANMAR'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

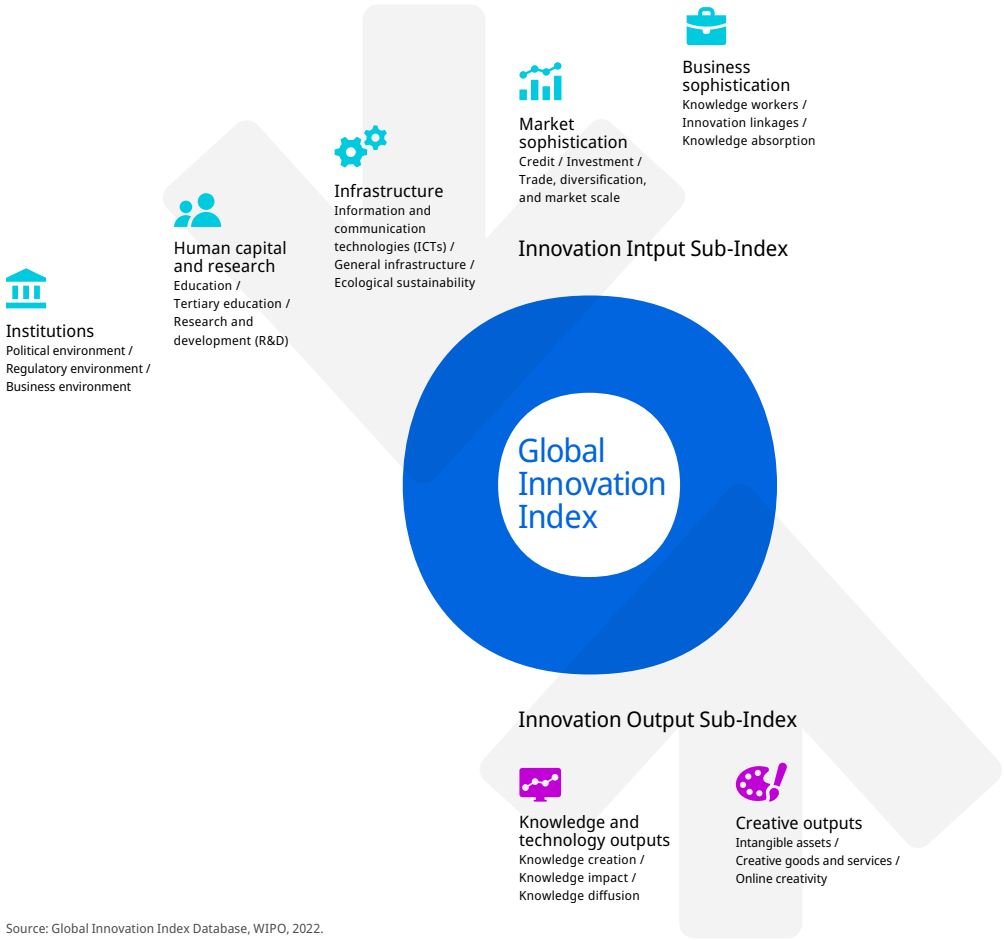
Brand	Industry	Rank
MPT	Telecoms	1
MYANMAR BEER	Beers	2

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

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.