



Global Innovation Index 2021



NETHERLANDS

6th

Netherlands ranks 6th among the 132 economies featured in the GII 2021.

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 Netherlands 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 Netherlands in the GII 2021 is between ranks 6 and 8.

Rankings for Netherlands (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	6	12	3
2020	5	11	4
2019	4	11	2

- Netherlands performs better in innovation outputs than innovation inputs in 2021.
- This year Netherlands ranks 12th in innovation inputs, lower than both 2020 and 2019.
- As for innovation outputs, Netherlands ranks 3rd. This position is higher than last year but lower than 2019.

6th

Netherlands ranks 6th among the 51 high-income group economies.

4th

Netherlands ranks 4th among the 39 economies in Europe.

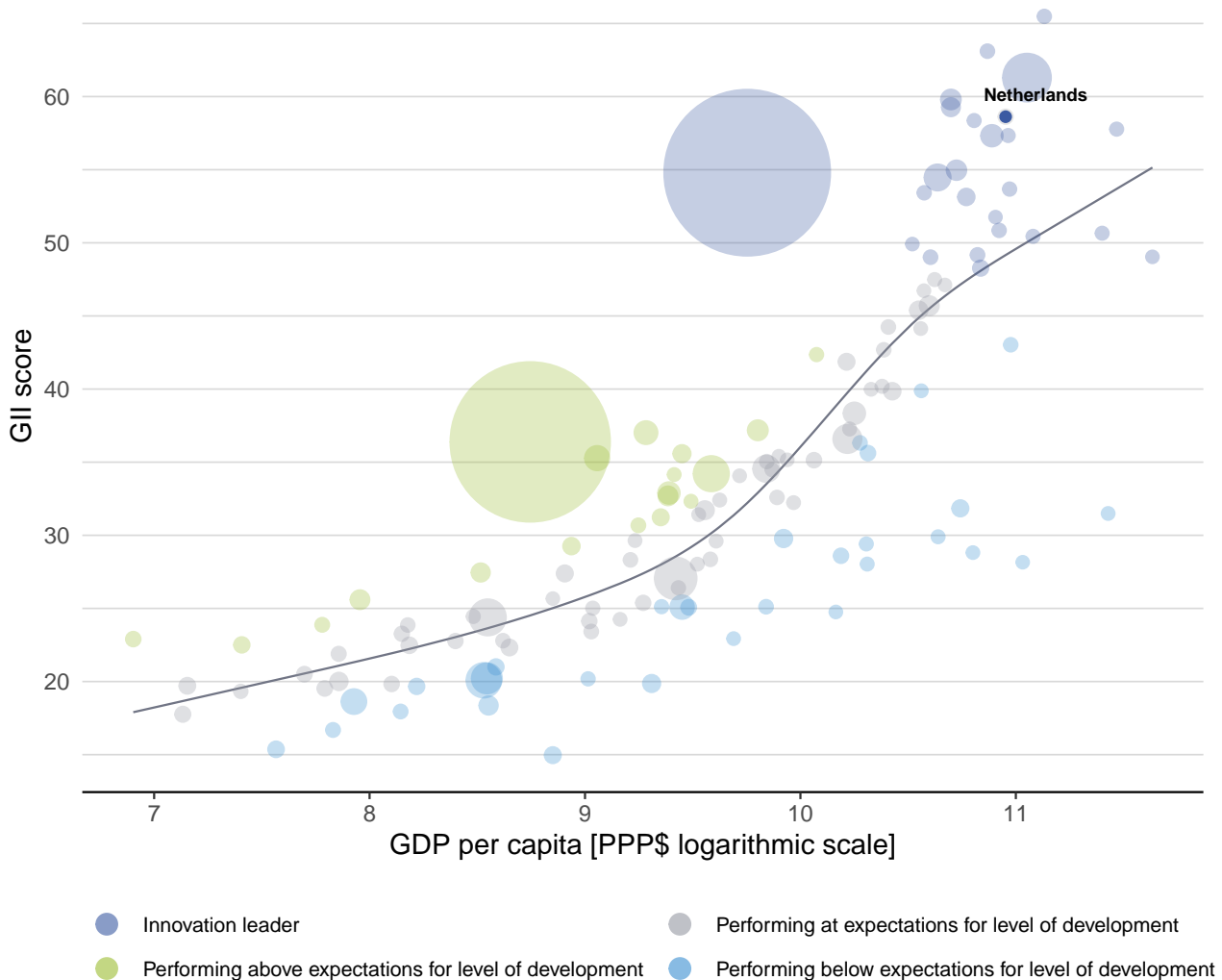


EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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, Netherlands's performance is above expectations for its level of development.

The positive relationship between innovation and development



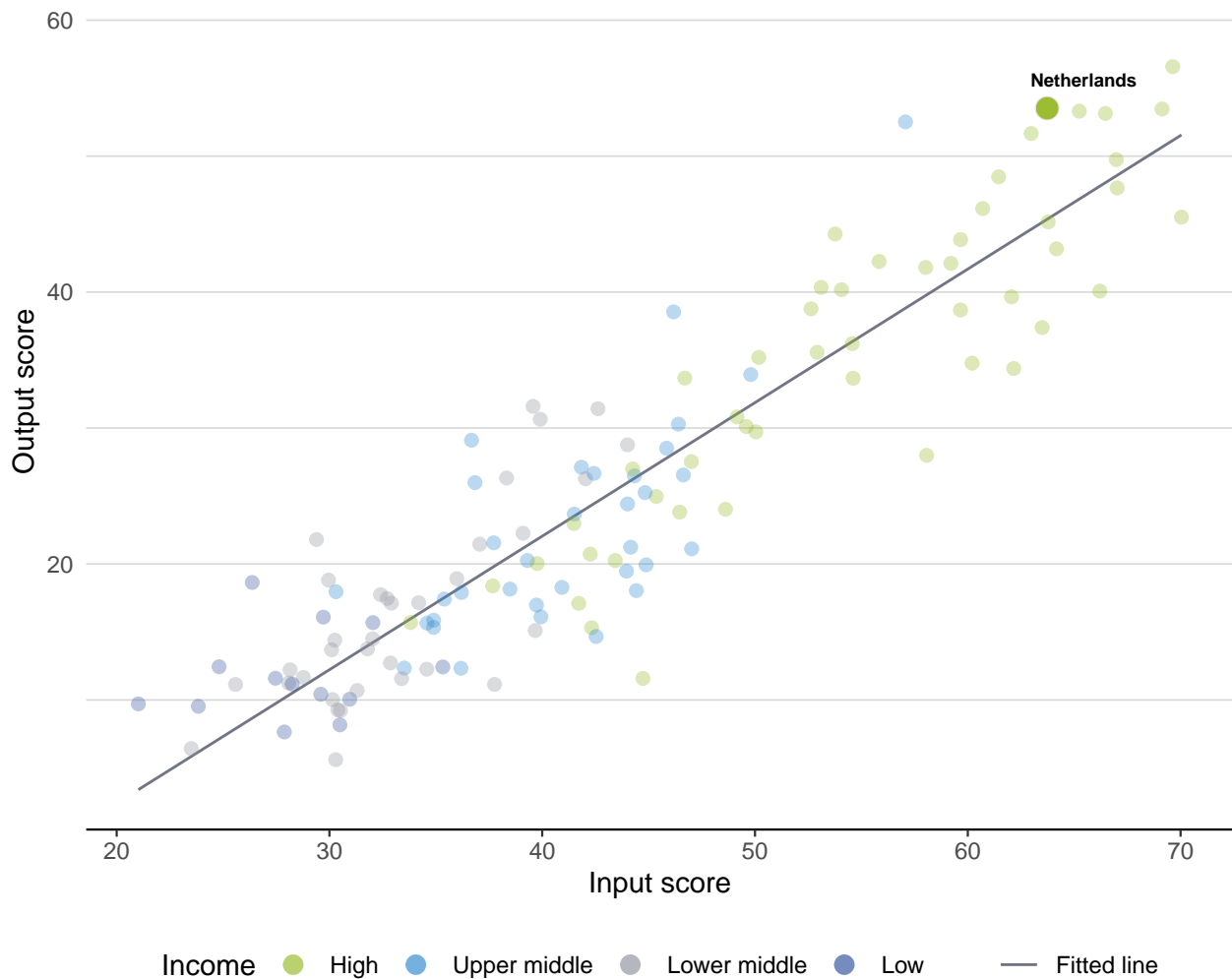


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

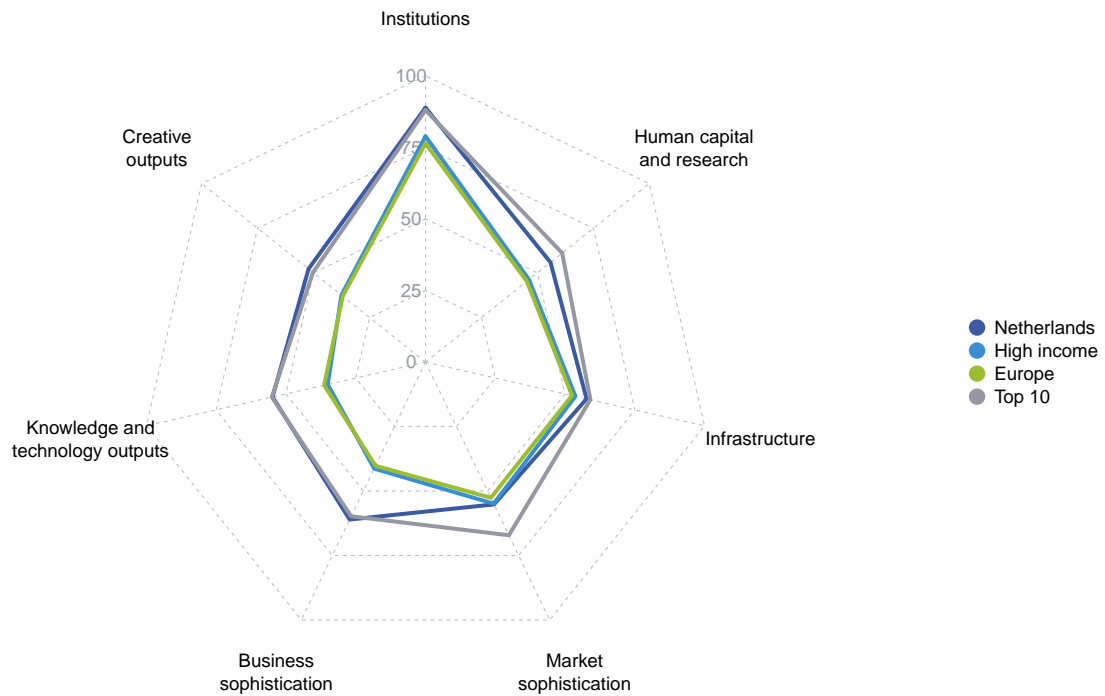
Innovation input to output performance





BENCHMARKING AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND EUROPE

The seven GII pillar scores for Netherlands

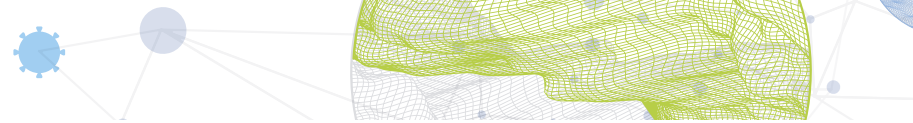


High-income group economies

Netherlands performs above the high-income group average in all GII pillars.

Europe

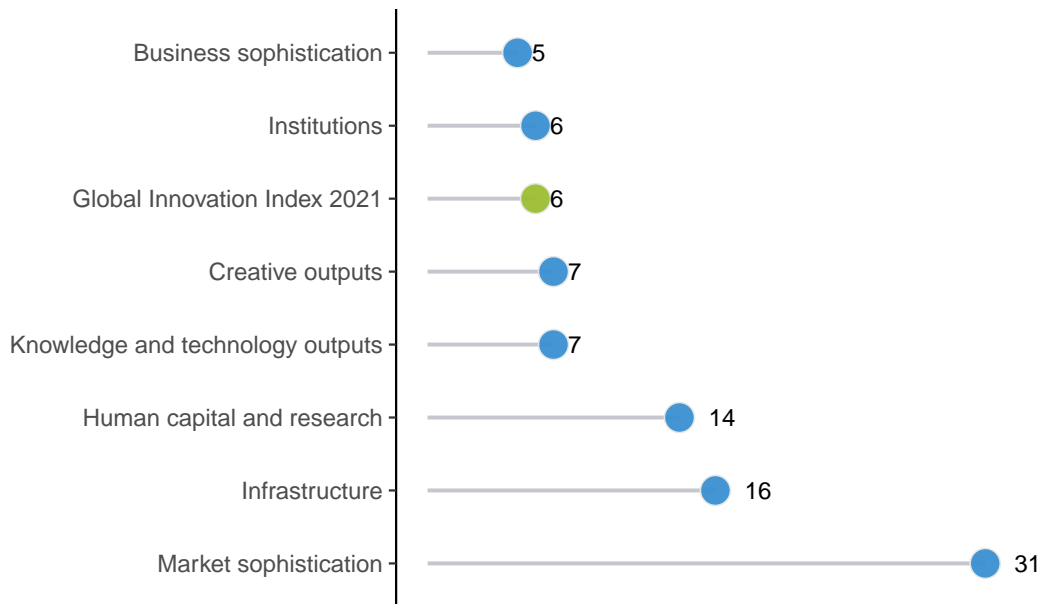
Netherlands performs above the regional average in all GII pillars.



OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

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

The seven GII pillar ranks for Netherlands



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










INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Netherlands in the GII 2021.

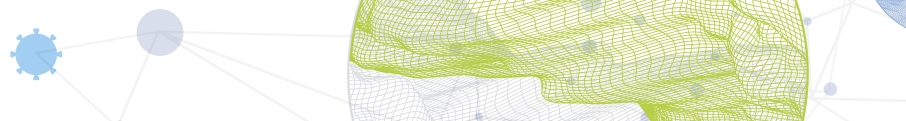
Strengths and weaknesses for Netherlands

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
1.1.2	Government effectiveness	7	1.2.3	Cost of redundancy dismissal	63
1.2.1	Regulatory quality	5	2.1.5	Pupil-teacher ratio, secondary	66
1.3	Business environment	5	2.2.2	Graduates in science and engineering, %	87
1.3.2	Ease of resolving insolvency	7	3.2.3	Gross capital formation, % GDP	79
3.1	Information and communication technologies (ICTs)	4	4.1.1	Ease of getting credit	101
3.1.2	ICT use	6	4.2.1	Ease of protecting minority investors	77
3.2.2	Logistics performance	6	5.3.4	FDI net inflows, % GDP	127
5.2.1	University-industry R&D collaboration	5	6.2.1	Labor productivity growth, %	88
5.3	Knowledge absorption	2	7.1.1	Trademarks by origin/bn PPP\$ GDP	56
5.3.1	Intellectual property payments, % total trade	1	7.2.4	Printing and other media, % manufacturing	57
6.1	Knowledge creation	6			
6.1.5	Citable documents H-index	7			
6.3.1	Intellectual property receipts, % total trade	1			
7.1.4	ICTs and organizational model creation	4			
7.3	Online creativity	3			
7.3.1	Generic top-level domains (TLDs)/th pop. 15–69	5			
7.3.2	Country-code TLDs/th pop. 15–69	1			

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$	GII 2020 rank
3	12	High	EUR	17.1	986.8	57,101	5

	Score/Value	Rank		Score/Value	Rank
 Institutions	88.9	6 ●	 Business sophistication	61.0	5 ●
1.1 Political environment	88.4	9	5.1 Knowledge workers	61.4	13
1.1.1 Political and operational stability*	83.9	13	5.1.1 Knowledge-intensive employment, %	48.9	9
1.1.2 Government effectiveness*	90.6	7 ●	5.1.2 Firms offering formal training, %	n/a	n/a
1.2 Regulatory environment	88.9	14	5.1.3 GERD performed by business, % GDP	1.5	15
1.2.1 Regulatory quality*	92.1	5 ●	5.1.4 GERD financed by business, %	56.7	16
1.2.2 Rule of law*	94.4	9	5.1.5 Females employed w/advanced degrees, %	21.1	28
1.2.3 Cost of redundancy dismissal	15.8	63 ○	5.2 Innovation linkages	54.8	10
1.3 Business environment	89.4	5 ●	5.2.1 University-industry R&D collaboration†	72.4	5 ●
1.3.1 Ease of starting a business*	94.3	22	5.2.2 State of cluster development and depth†	69.0	7
1.3.2 Ease of resolving insolvency*	84.4	7 ●	5.2.3 GERD financed by abroad, % GDP	0.2	15
			5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP	0.1	23
			5.2.5 Patent families/bn PPP\$ GDP	4.7	10
 Human capital and research	55.9	14	5.3 Knowledge absorption	66.9	2 ●◆
2.1 Education	62.4	20	5.3.1 Intellectual property payments, % total trade	8.4	1 ●◆
2.1.1 Expenditure on education, % GDP	5.2	32	5.3.2 High-tech imports, % total trade	11.6	20
2.1.2 Government funding/pupil, secondary, % GDP/cap	21.9	34	5.3.3 ICT services imports, % total trade	2.4	22
2.1.3 School life expectancy, years	18.6	10	5.3.4 FDI net inflows, % GDP	-2.9	127 ○
2.1.4 PISA scales in reading, maths and science	502.5	15	5.3.5 Research talent, % in businesses	70.4	6 ◆
2.1.5 Pupil-teacher ratio, secondary	14.3	66 ○◆	 Knowledge and technology outputs	54.8	7 ●
2.2 Tertiary education	40.1	39	6.1 Knowledge creation	67.7	6 ●
2.2.1 Tertiary enrolment, % gross	87.1	13	6.1.1 Patents by origin/bn PPP\$ GDP	8.9	11
2.2.2 Graduates in science and engineering, %	17.5	87 ○◆	6.1.2 PCT patents by origin/bn PPP\$ GDP	4.1	10
2.2.3 Tertiary inbound mobility, %	11.7	16	6.1.3 Utility models by origin/bn PPP\$ GDP	n/a	n/a
2.3 Research and development (R&D)	65.0	11	6.1.4 Scientific and technical articles/bn PPP\$ GDP	41.3	16
2.3.1 Researchers, FTE/mn pop.	5,796.1	9	6.1.5 Citable documents H-index	68.8	7 ●
2.3.2 Gross expenditure on R&D, % GDP	2.2	15	6.2 Knowledge impact	43.1	18
2.3.3 Global corporate R&D investors, top 3, mn US\$	82.4	9	6.2.1 Labor productivity growth, %	-1.2	88 ○
2.3.4 QS university ranking, top 3*	65.1	13	6.2.2 New businesses/th pop. 15-64	6.4	25
			6.2.3 Software spending, % GDP	0.5	15
			6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP	7.9	34
			6.2.5 High-tech manufacturing, %	50.3	11
 Infrastructure	57.7	16	6.3 Knowledge diffusion	53.5	8
3.1 Information and communication technologies (ICTs)	90.8	4 ●	6.3.1 Intellectual property receipts, % total trade	7.7	1 ●◆
3.1.1 ICT access*	87.3	12	6.3.2 Production and export complexity	66.5	27
3.1.2 ICT use*	88.7	6 ●◆	6.3.3 High-tech exports, % total trade	11.2	15
3.1.3 Government's online service*	90.6	12	6.3.4 ICT services exports, % total trade	3.6	23
3.1.4 E-participation*	96.4	9	 Creative outputs	52.2	7 ●
3.2 General infrastructure	41.1	29	7.1 Intangible assets	51.4	16
3.2.1 Electricity output, GWh/mn pop.	6,642.8	30	7.1.1 Trademarks by origin/bn PPP\$ GDP	42.7	56 ○
3.2.2 Logistics performance*	91.5	6 ●	7.1.2 Global brand value, top 5,000, % GDP	164.6	7
3.2.3 Gross capital formation, % GDP	20.9	79 ○	7.1.3 Industrial designs by origin/bn PPP\$ GDP	4.8	25
3.3 Ecological sustainability	41.3	34	7.1.4 ICTs and organizational model creation†	80.2	4 ●◆
3.3.1 GDP/unit of energy use	13.2	37	7.2 Creative goods and services	36.0	18
3.3.2 Environmental performance*	75.3	11	7.2.1 Cultural and creative services exports, % total trade	1.9	9
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP	2.1	39	7.2.2 National feature films/mn pop. 15-69	7.6	25
			7.2.3 Entertainment and media market/th pop. 15-69	48.9	18
			7.2.4 Printing and other media, % manufacturing	0.9	57 ○
			7.2.5 Creative goods exports, % total trade	3.2	18
 Market sophistication	55.2	31	7.3 Online creativity	70.1	3 ●◆
4.1 Credit	43.0	57	7.3.1 Generic top-level domains (TLDs)/th pop. 15-69	78.9	5 ●◆
4.1.1 Ease of getting credit*	45.0	101 ○◆	7.3.2 Country-code TLDs/th pop. 15-69	100.0	1 ●◆
4.1.2 Domestic credit to private sector, % GDP	100.0	25	7.3.3 Wikipedia edits/mn pop. 15-69	81.1	9
4.1.3 Microfinance gross loans, % GDP	n/a	n/a	7.3.4 Mobile app creation/bn PPP\$ GDP	16.3	30
4.2 Investment	39.5	37			
4.2.1 Ease of protecting minority investors*	58.0	77 ○◆			
4.2.2 Market capitalization, % GDP	110.0	10			
4.2.3 Venture capital investors, deals/bn PPP\$ GDP	0.2	16			
4.2.4 Venture capital recipients, deals/bn PPP\$ GDP	0.0	29			
4.3 Trade, diversification, and market scale	83.0	20			
4.3.1 Applied tariff rate, weighted avg., %	1.8	25			
4.3.2 Domestic industry diversification	94.3	33			
4.3.3 Domestic market scale, bn PPP\$	986.8	26			

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 IV 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

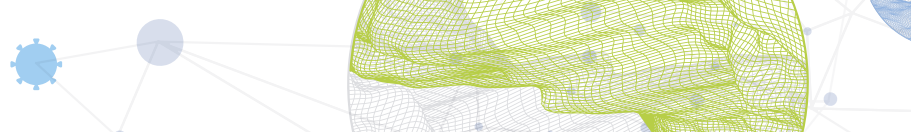
The following tables list data that are either missing or outdated for Netherlands.

Missing data for Netherlands

Code	Indicator name	Economy year	Model year	Source
4.1.3	Microfinance gross loans, % GDP	n/a	2018	Microfinance Information Exchange
5.1.2	Firms offering formal training, %	n/a	2019	World Bank
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2019	World Intellectual Property Organization

Outdated data for Netherlands

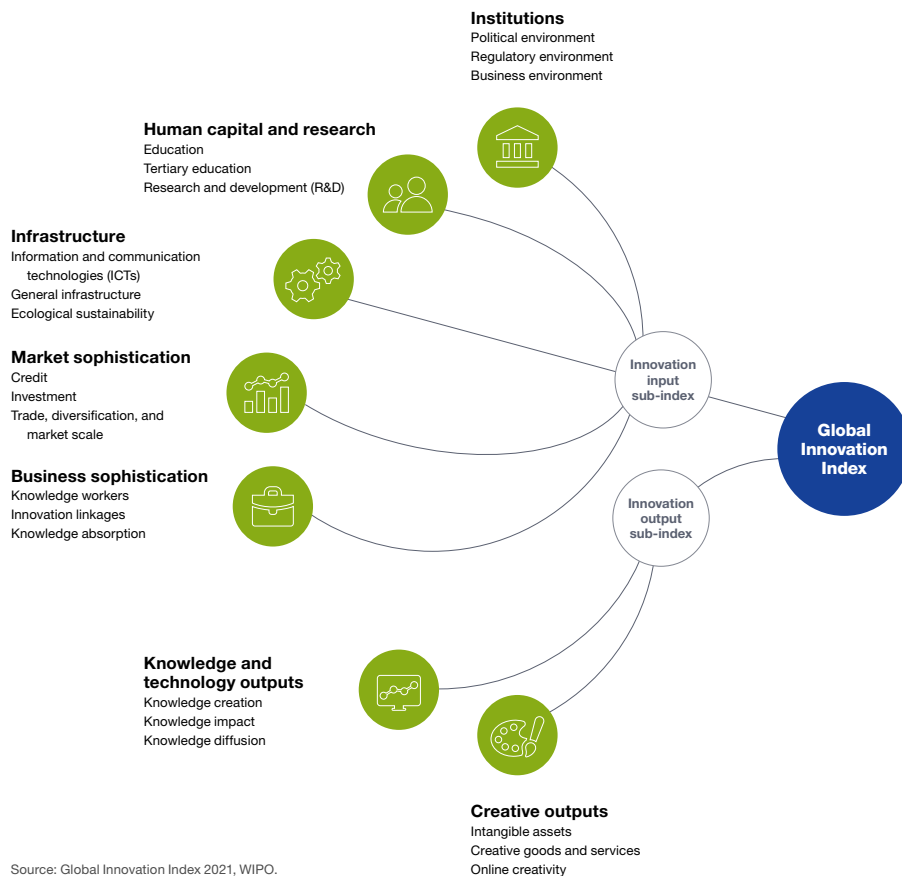
Code	Indicator name	Economy year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	2018	2019	UNESCO Institute for Statistics
4.2.2	Market capitalization, % GDP	2017	2019	World Federation of Exchanges



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.