

NORWAY

20th Norway ranks 20th among the 131 economies featured in the GII 2020.

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 Norway 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 Norway in the GII 2020 is between ranks 20 and 25.

Rankings of Norway (2018–2020)

	GII	Innovation inputs	Innovation outputs
2020	20	15	28
2019	19	13	27
2018	19	13	24

- Norway performs better in innovation inputs than innovation outputs in 2020.
- This year Norway ranks 15th in innovation inputs, lower than last year and lower compared to 2018.
- As for innovation outputs, Norway ranks 28th. This position is lower than last year and lower compared to 2018.

19th Norway ranks 19th among the 49 high-income group economies.

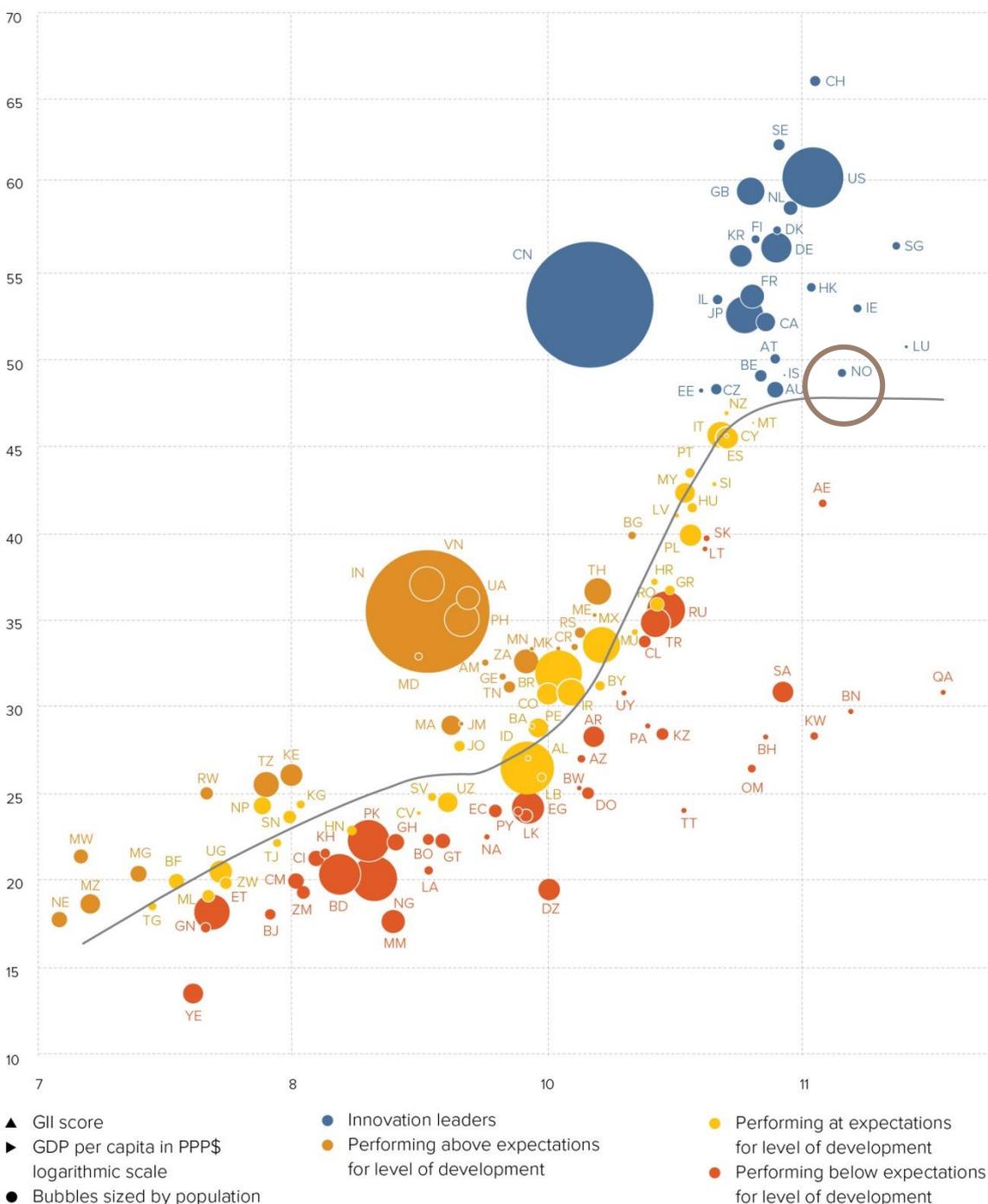
12th Norway ranks 12th among the 39 economies in Europe.

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

The positive relationship between innovation and development

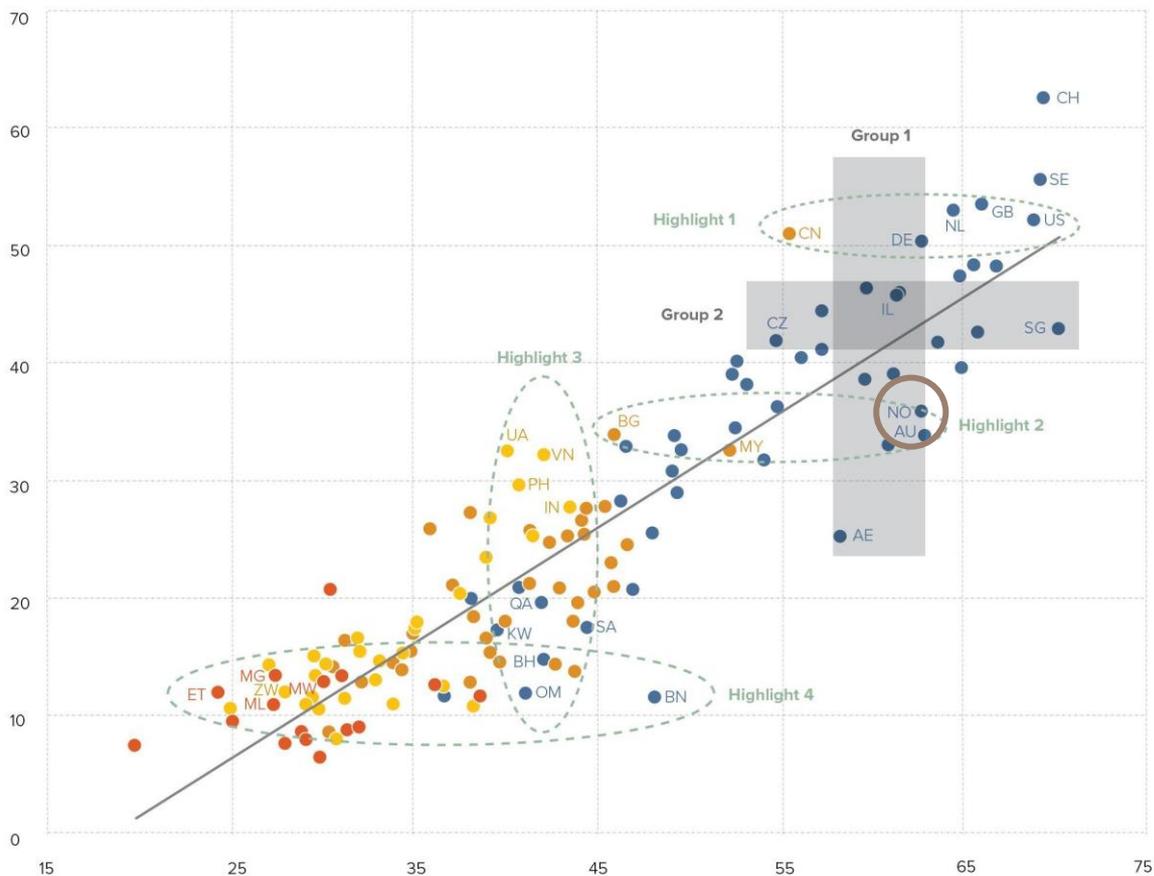


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

Innovation input to output performance, 2020

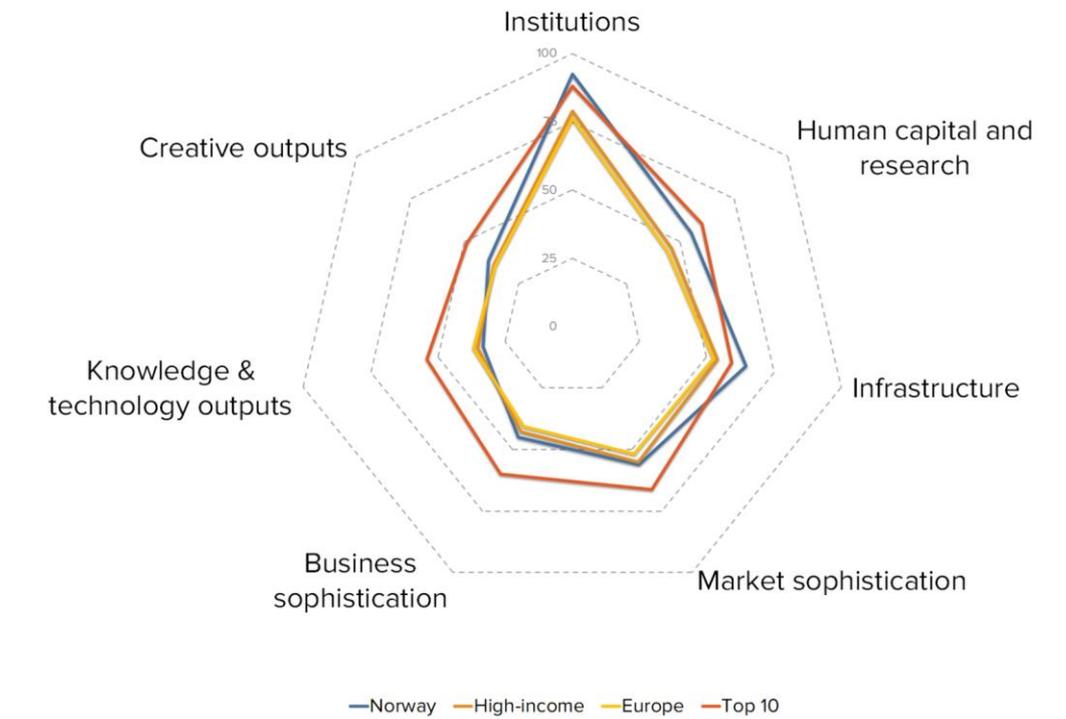


▲ Output score ● High income group ● Lower middle-income group — Fitted values
 ► Input score ● Upper middle-income group ● Low income group

AU	Australia	IN	India	NL	Netherlands	CH	Switzerland
BH	Bahrain	IL	Israel	NO	Norway	UA	Ukraine
BN	Brunei Darussalam	KW	Kuwait	OM	Oman	AE	United Arab Emirates
BG	Bulgaria	MG	Madagascar	PH	Philippines	GB	United Kingdom
CN	China	MW	Malawi	QA	Qatar	US	United States of America
CZ	Czech Republic	ML	Mali	SA	Saudi Arabia	VN	Viet Nam
ET	Ethiopia	MY	Malaysia	SG	Singapore	ZW	Zimbabwe
DE	Germany			SE	Sweden		

BENCHMARKING NORWAY AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND EUROPE

Norway's scores in the seven GII pillars



High-income group economies

Norway has high scores in six out of the seven GII pillars: Institutions, Human capital & research, Infrastructure, Market sophistication, Business sophistication and Creative outputs, which are above average for the high-income group.

Conversely, Norway scores below average for its income group in one GII pillar: Knowledge & technology outputs.

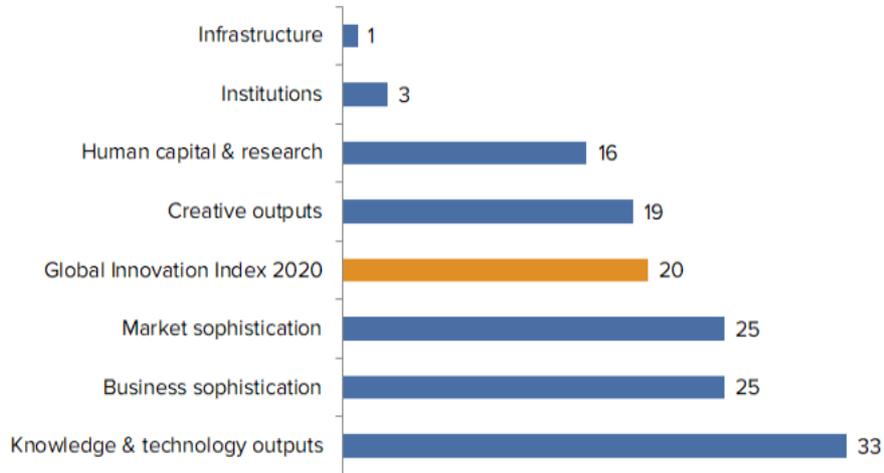
Europe

Compared to other economies in Europe, Norway performs:

- above average in six out of the seven GII pillars: Institutions, Human capital & research, Infrastructure, Market sophistication, Business sophistication and Creative outputs; and
- below average in one out of the seven GII pillars: Knowledge & technology outputs.

OVERVIEW OF NORWAY RANKINGS IN THE SEVEN GII AREAS

Norway performs best in Infrastructure and its weakest performance is in Knowledge & technology outputs.



*The highest possible ranking in each pillar is 1.

INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Norway in the GII 2020.

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
1	Institutions	3	2.2.2	Graduates in science & engineering, %	56
1.1	Political environment	4	2.2.3	Tertiary inbound mobility, %	64
1.1.2	Government effectiveness*	5	4.1.1	Ease of getting credit*	88
1.2	Regulatory environment	4	4.3.2	Intensity of local competition†	65
1.2.2	Rule of law*	2	5.3.1	Intellectual property payments, % total trade	69
1.3	Business environment	3	5.3.2	High-tech imports, % total trade	79
1.3.2	Ease of resolving insolvency*	5	5.3.4	FDI net inflows, % GDP	129
2.1	Education	5	6.2.1	Growth rate of PPP\$ GDP/worker, %	86
2.1.1	Expenditure on education, % GDP	2	6.2.5	High- and medium-high-tech manufacturing, %	57
2.3.1	Researchers, FTE/mn pop.	7	7.1.1	Trademarks by origin/bn PPP\$ GDP	68
3	Infrastructure	1			
3.1.2	ICT use*	5			
3.2	General infrastructure	3			
3.2.1	Electricity output, GWh/mn pop	1			
5.1.1	Knowledge-intensive employment, %	5			
7.2.3	Entertainment & Media market/th pop. 15–69	3			
7.3.3	Wikipedia edits/mn pop. 15–69	1			

STRENGTHS

GII strengths for Norway are found in five of the seven GII pillars.

- Institutions (3): exhibits strengths in the sub-pillars Political environment (4), Regulatory environment (4) and Business environment (3) and in the indicators Government effectiveness (5), Rule of law (2) and Ease of resolving insolvency (5).
- Human capital & research (16): shows strengths in the sub-pillar Education (5) and in the indicators Expenditure on education (2) and Researchers (7).
- Infrastructure (1): demonstrates strengths in the sub-pillar General infrastructure (3) and in the indicators ICT use (5) and Electricity output (1).
- Business sophistication (25): displays strengths in the indicator Knowledge-intensive employment (5).
- Creative outputs (19): reveals strengths in the indicators Entertainment & Media market (3) and Wikipedia edits (1).

WEAKNESSES

GII weaknesses for Norway are found in five of the seven GII pillars.

- Human capital & research (16): exhibits weaknesses in the indicators Graduates in science & engineering (56) and Tertiary inbound mobility (64).
- Market sophistication (25): shows weaknesses in the indicators Ease of getting credit (88) and Intensity of local competition (65).
- Business sophistication (25): demonstrates weaknesses in the indicators Intellectual property payments (69), High-tech imports (79) and FDI net inflows (129).
- Knowledge & technology outputs (33): displays weaknesses in the indicators Growth rate of PPP\$ GDP/worker (86) and High- and medium-high-tech manufacturing (57).
- Creative outputs (19): reveals weaknesses in the indicator Trademarks by origin (68).

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$	GDP per capita, PPP\$	GII 2019 rank
28	15	High	EUR	5.4	410.7	66,947.8	19
				Score/Value	Rank		
INSTITUTIONS				92.5	3		
1.1	Political environment	91.9	4				
1.1.1	Political and operational stability*	91.1	5				
1.1.2	Government effectiveness*	92.3	5				
1.2	Regulatory environment	95.9	4				
1.2.1	Regulatory quality*	88.2	10				
1.2.2	Rule of law*	97.9	2				
1.2.3	Cost of redundancy dismissal, salary weeks	8.7	20				
1.3	Business environment	89.9	3				
1.3.1	Ease of starting a business*	94.3	23				
1.3.2	Ease of resolving insolvency*	85.4	5				
HUMAN CAPITAL & RESEARCH				55.1	16		
2.1	Education	69.9	5				
2.1.1	Expenditure on education, % GDP	8.0	2				
2.1.2	Government funding/pupil, secondary, % GDP/cap	26.8	18				
2.1.3	School life expectancy, years	18.1	11				
2.1.4	PISA scales in reading, maths, & science	496.9	22				
2.1.5	Pupil-teacher ratio, secondary	8.6	17				
2.2	Tertiary education	40.3	42				
2.2.1	Tertiary enrolment, % gross	82.0	16				
2.2.2	Graduates in science & engineering, %	22.1	56				
2.2.3	Tertiary inbound mobility, %	3.2	64				
2.3	Research & development (R&D)	55.0	19				
2.3.1	Researchers, FTE/mn pop	6,466.7	7				
2.3.2	Gross expenditure on R&D, % GDP	2.1	15				
2.3.3	Global R&D companies, avg. exp. top 3, mn \$US	56.2	25				
2.3.4	QS university ranking, average score top 3*	44.4	25				
INFRASTRUCTURE				64.6	1		
3.1	Information & communication technologies (ICTs)	89.3	12				
3.1.1	ICT access*	76.2	38				
3.1.2	ICT use*	88.2	5				
3.1.3	Government's online service*	95.1	9				
3.1.4	E-participation*	97.8	11				
3.2	General infrastructure	58.8	3				
3.2.1	Electricity output, kWh/mn pop	27,634.6	1				
3.2.2	Logistics performance*	76.3	21				
3.2.3	Gross capital formation, % GDP	28.2	33				
3.3	Ecological sustainability	45.7	28				
3.3.1	GDP/unit of energy use	11.0	44				
3.3.2	Environmental performance*	77.7	9				
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP	3.3	30				
MARKET SOPHISTICATION				56.1	25		
4.1	Credit	59.9	16				
4.1.1	Ease of getting credit*	55.0	88				
4.1.2	Domestic credit to private sector, % GDP	144.0	11				
4.1.3	Microfinance gross loans, % GDP	n/a	n/a				
4.2	Investment	41.2	58				
4.2.1	Ease of protecting minority investors*	76.0	21				
4.2.2	Market capitalization, % GDP	65.5	23				
4.2.3	Venture capital deals/bn PPP\$ GDP	0.1	26				
4.3	Trade, competition, and market scale	67.1	46				
4.3.1	Applied tariff rate, weighted avg., %	3.2	66				
4.3.2	Intensity of local competition*	69.3	65				
4.3.3	Domestic market scale, bn PPP\$	410.7	47				
BUSINESS SOPHISTICATION				45.1	25		
5.1	Knowledge workers	58.1	19				
5.1.1	Knowledge-intensive employment, %	52.2	5				
5.1.2	Firms offering formal training, %	n/a	n/a				
5.1.3	GERD performed by business, % GDP	1.1	21				
5.1.4	GERD financed by business, %	42.8	40				
5.1.5	Females employed w/advanced degrees, %	25.2	13				
5.2	Innovation linkages	43.1	22				
5.2.1	University/industry research collaboration*	61.7	21				
5.2.2	State of cluster development*	64.6	19				
5.2.3	GERD financed by abroad, % GDP	0.2	20				
5.2.4	JV-strategic alliance deals/bn PPP\$ GDP	0.1	17				
5.2.5	Patent families 2+ offices/bn PPP\$ GDP	1.9	19				
5.3	Knowledge absorption	34.1	44				
5.3.1	Intellectual property payments, % total trade	0.5	69				
5.3.2	High-tech imports, % total trade	6.7	79				
5.3.3	ICT services imports, % total trade	2.8	11				
5.3.4	FDI net inflows, % GDP	-2.5	129				
5.3.5	Research talent, % in business enterprise	48.9	25				
KNOWLEDGE & TECHNOLOGY OUTPUTS				33.1	33		
6.1	Knowledge creation	42.6	20				
6.1.1	Patents by origin/bn PPP\$ GDP	4.3	26				
6.1.2	PCT patents by origin/bn PPP\$ GDP	1.9	17				
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	n/a				
6.1.4	Scientific & technical articles/bn PPP\$ GDP	21.1	26				
6.1.5	Citable documents H-index	41.1	20				
6.2	Knowledge impact	30.5	40				
6.2.1	Growth rate of PPP\$ GDP/worker, %	0.1	86				
6.2.2	New businesses/th pop. 15-64	8.6	19				
6.2.3	Computer software spending, % GDP	0.0	16				
6.2.4	ISO 9001 quality certificates/bn PPP\$ GDP	6.3	44				
6.2.5	High- and medium-high-tech manufacturing, %	19.6	57				
6.3	Knowledge diffusion	26.2	55				
6.3.1	Intellectual property receipts, % total trade	0.3	28				
6.3.2	High-tech net exports, % total trade	2.8	47				
6.3.3	ICT services exports, % total trade	1.6	65				
6.3.4	FDI net outflows, % GDP	1.2	50				
CREATIVE OUTPUTS				38.7	19		
7.1	Intangible assets	34.1	38				
7.1.1	Trademarks by origin/bn PPP\$ GDP	35.2	68				
7.1.2	Global brand value, top 5,000, % GDP	65.2	28				
7.1.3	Industrial designs by origin/bn PPP\$ GDP	1.4	57				
7.1.4	ICTs & organizational model creation*	77.4	10				
7.2	Creative goods and services	28.7	30				
7.2.1	Cultural & creative services exports, % total trade	0.5	51				
7.2.2	National feature films/mn pop. 15-69	10.1	19				
7.2.3	Entertainment & Media market/th pop. 15-69	94.0	3				
7.2.4	Printing and other media, % manufacturing	1.1	42				
7.2.5	Creative goods exports, % total trade	0.5	64				
7.3	Online creativity	57.9	12				
7.3.1	Generic top-level domains (TLDs)/th pop. 15-69	50.6	15				
7.3.2	Country-code TLDs/th pop. 15-69	61.7	13				
7.3.3	Wikipedia edits/mn pop. 15-69	100.0	1				
7.3.4	Mobile app creation/bn PPP\$ GDP	19.4	26				

NOTES: ● indicates a strength; ○ a weakness; ◆ a strength relative to the other top 25-ranked GII economies; ◇ a weakness relative to the other top 25-ranked GII economies; * 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

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

Missing data

Code	Indicator name	Country 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	2018	World Bank
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2018	World Intellectual Property Organization

Outdated data

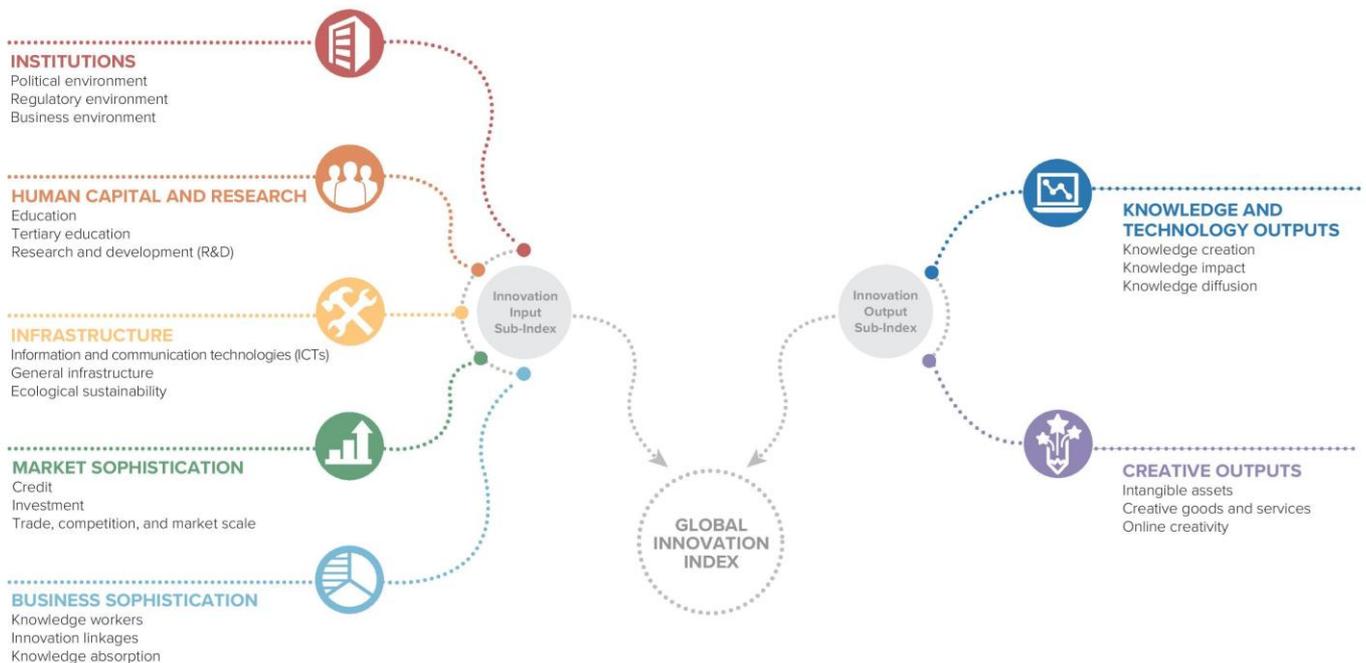
Code	Indicator name	Country year	Model year	Source
2.1.1	Expenditure on education, % GDP	2016	2018	UNESCO Institute for Statistics
2.1.5	Pupil-teacher ratio, secondary	2017	2018	UNESCO Institute for Statistics
5.2.1	University/industry research collaboration [†]	2018	2019	World Economic Forum
5.2.2	State of cluster development [†]	2018	2019	World Economic Forum

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 2020, the GII presents its 13th edition devoted to the theme *Who Will Finance Innovation?*

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.

Framework of the Global Innovation Index 2020



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.

