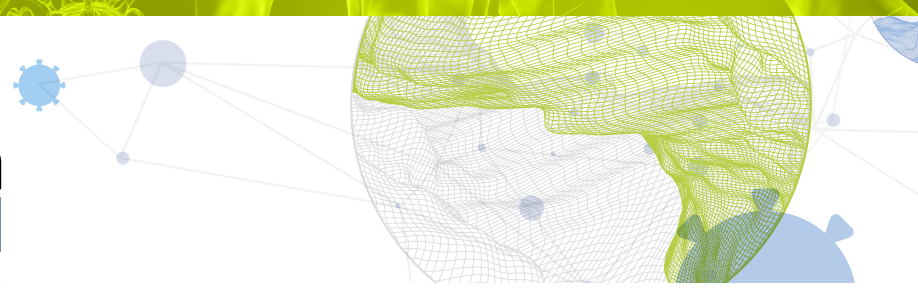




Global Innovation Index 2021



NORWAY

20th Norway ranks 20th 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 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 2021 is between ranks 19 and 23.

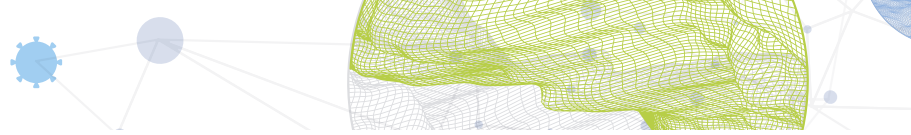
Rankings for Norway (2019–2021)

| | GII | Innovation inputs | Innovation outputs |
|------|-----|-------------------|--------------------|
| 2021 | 20 | 13 | 28 |
| 2020 | 20 | 15 | 28 |
| 2019 | 19 | 13 | 27 |

- Norway performs better in innovation inputs than innovation outputs in 2021.
- This year Norway ranks 13th in innovation inputs, higher than last year but the same as 2019.
- As for innovation outputs, Norway ranks 28th. This position is the same as last year but lower than 2019.

19th Norway ranks 19th among the 51 high-income group economies.

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

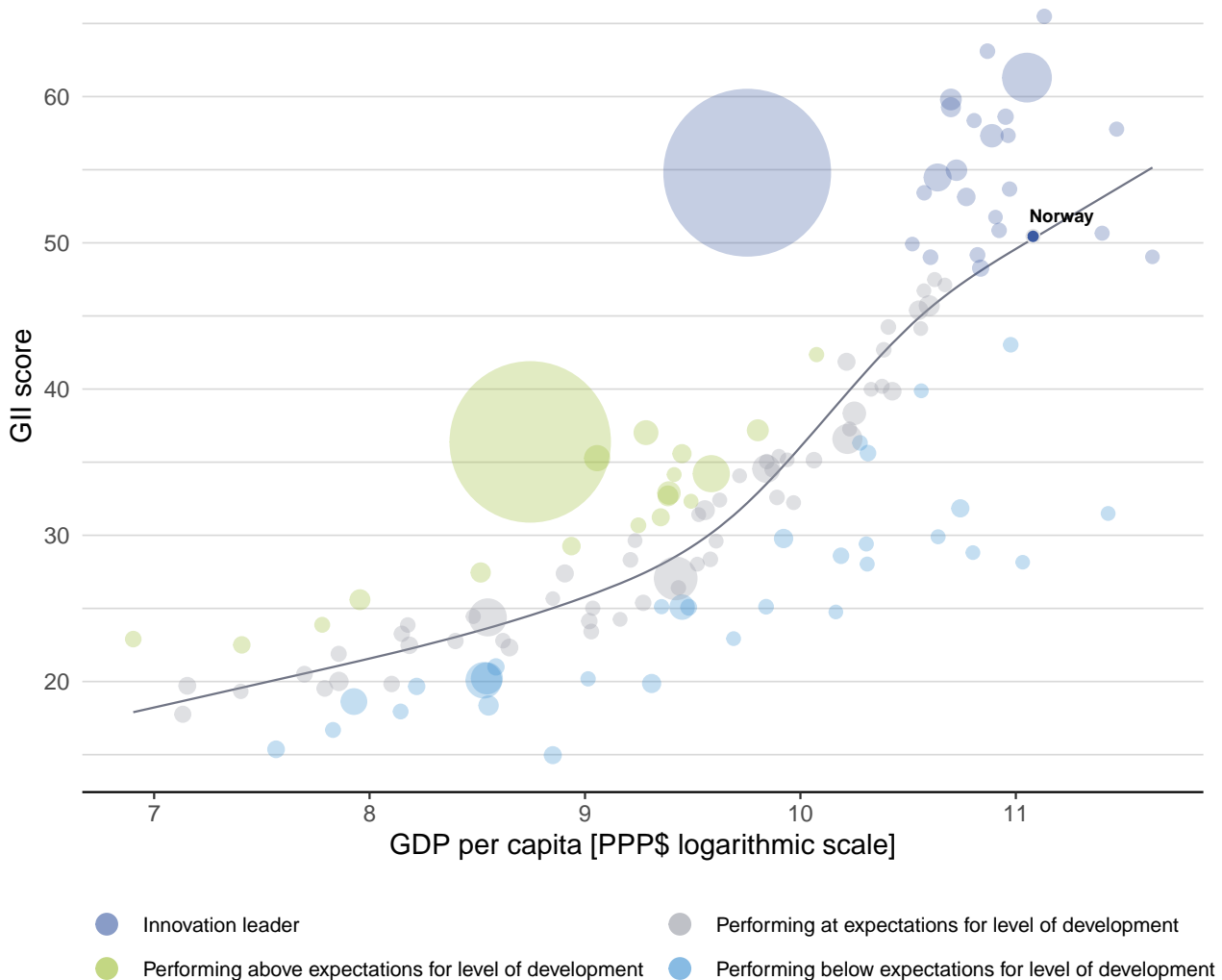


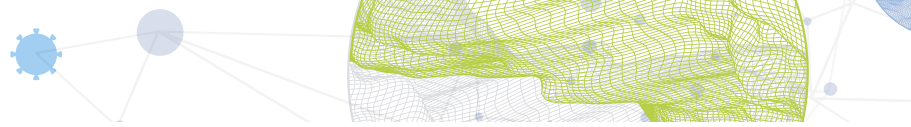
EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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



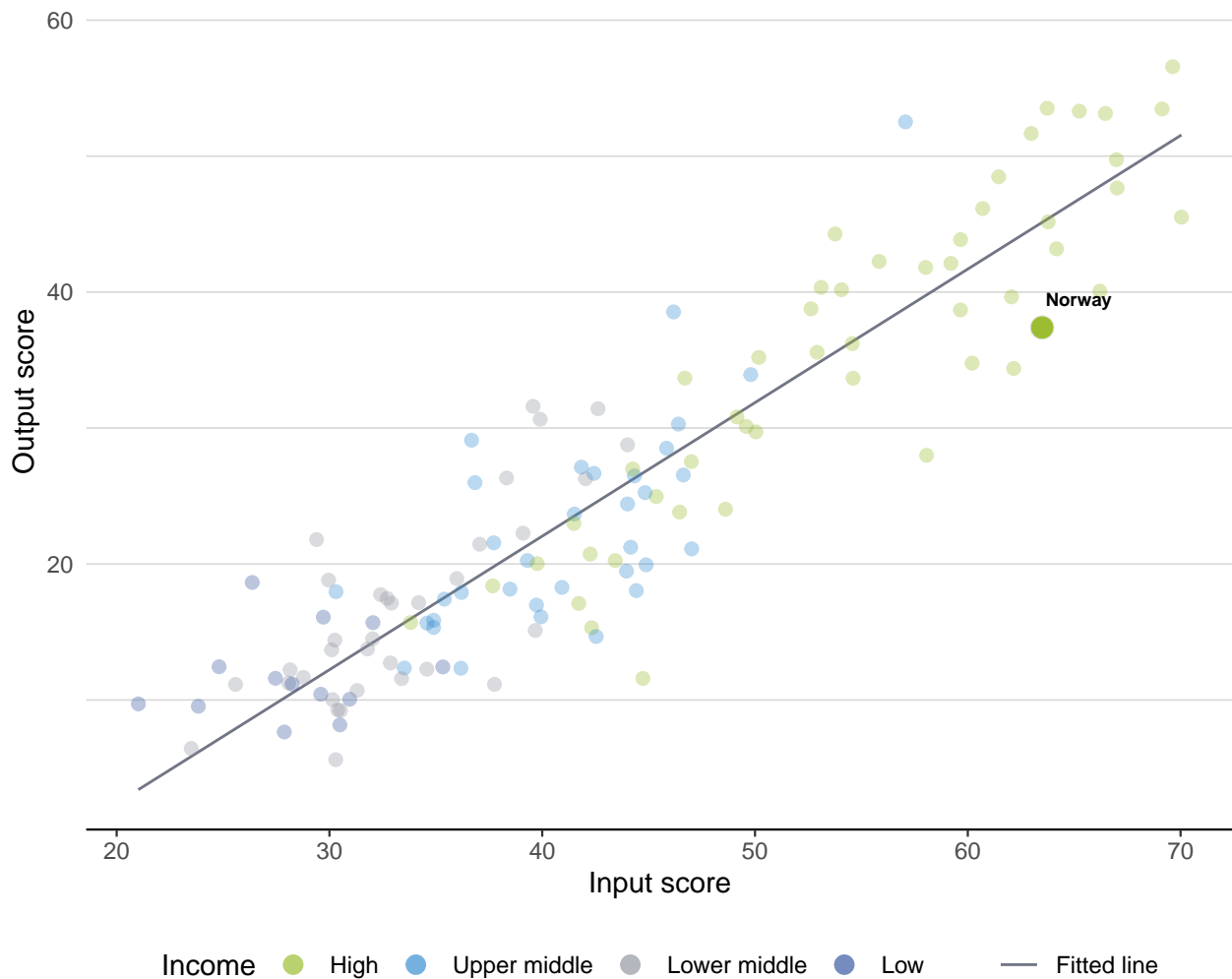


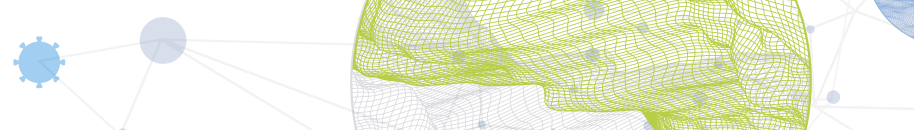
EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

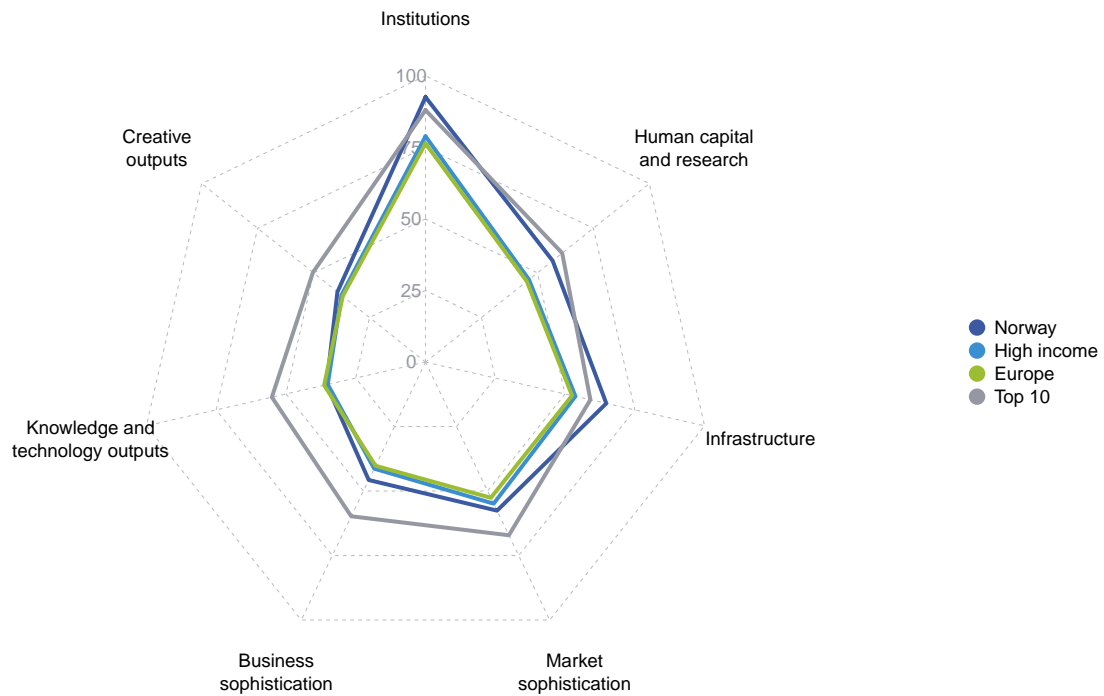
Innovation input to output performance





BENCHMARKING AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND EUROPE

The seven GII pillar scores for Norway

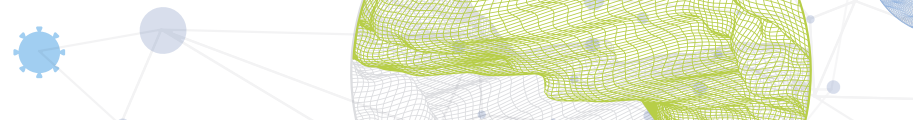


High-income group economies

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

Europe

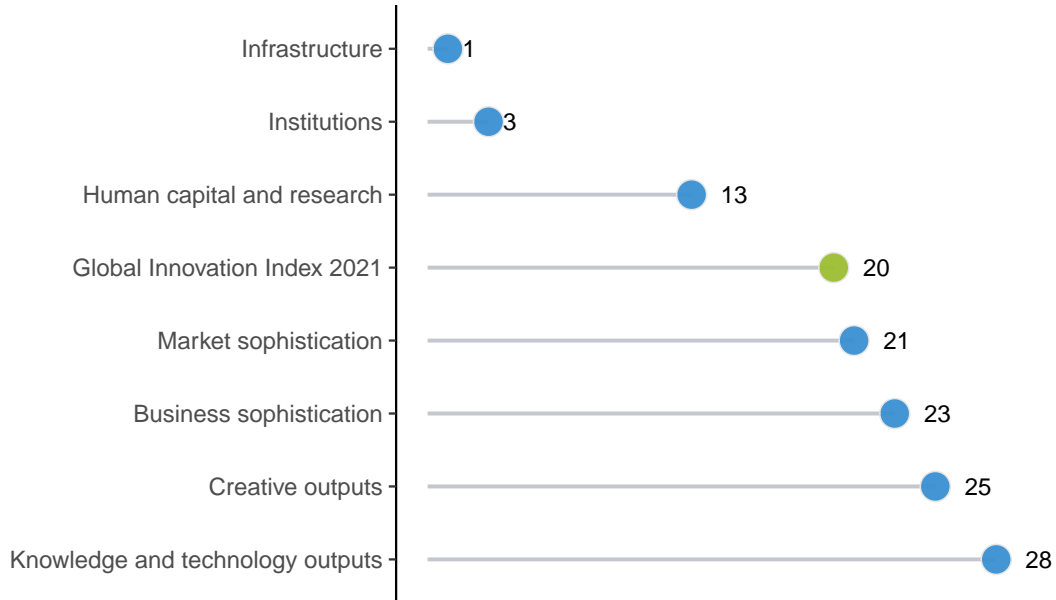
Norway performs above the regional average in six pillars, namely: Institutions; Human capital and research; Infrastructure; Market sophistication; Business sophistication; and, Creative outputs.



OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

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

The seven GII pillar ranks for Norway



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 Norway in the GII 2021.

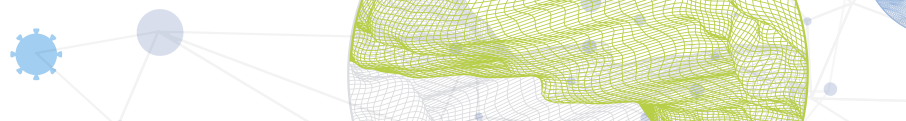
Strengths and weaknesses for Norway

| Strengths | | | Weaknesses | | |
|-----------|--|------|------------|---|------|
| Code | Indicator name | Rank | Code | Indicator name | Rank |
| 1.1 | Political environment | 4 | 2.2.2 | Graduates in science and engineering, % | 62 |
| 1.1.2 | Government effectiveness | 5 | 2.2.3 | Tertiary inbound mobility, % | 57 |
| 1.2 | Regulatory environment | 3 | 4.1.1 | Ease of getting credit | 88 |
| 1.2.1 | Regulatory quality | 7 | 5.3.1 | Intellectual property payments, % total trade | 69 |
| 1.2.2 | Rule of law | 2 | 5.3.2 | High-tech imports, % total trade | 78 |
| 1.3 | Business environment | 3 | 5.3.4 | FDI net inflows, % GDP | 106 |
| 1.3.2 | Ease of resolving insolvency | 5 | 6.2.1 | Labor productivity growth, % | 72 |
| 2.1 | Education | 3 | 7.1.1 | Trademarks by origin/bn PPP\$ GDP | 69 |
| 2.1.1 | Expenditure on education, % GDP | 2 | 7.1.3 | Industrial designs by origin/bn PPP\$ GDP | 60 |
| 3.1.2 | ICT use | 3 | 7.2.5 | Creative goods exports, % total trade | 63 |
| 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 and media market/th pop. 15–69 | 3 | | | |
| 7.3.3 | Wikipedia edits/mn pop. 15–69 | 6 | | | |

| Output rank | Input rank | Income | Region | Population (mn) | GDP, PPP\$ (bn) | GDP per capita, PPP\$ | GII 2020 rank |
|-------------|------------|--------|--------|-----------------|-----------------|-----------------------|---------------|
| 28 | 13 | High | EUR | 5.4 | 349.5 | 64,856 | 20 |

| | Score/ Value | Rank | | Score/ Value | Rank |
|---|-----------------|------|---|-----------------|------|
|  Institutions | 92.6 | 3 |  Business sophistication | 45.7 | 23 |
| 1.1 Political environment | 91.1 | 4 | 5.1 Knowledge workers | 57.6 | 21 |
| 1.1.1 Political and operational stability* | 89.3 | 6 | 5.1.1 Knowledge-intensive employment, % | 51.7 | 5 |
| 1.1.2 Government effectiveness* | 92.0 | 5 | 5.1.2 Firms offering formal training, % | n/a | n/a |
| 1.2 Regulatory environment | 96.8 | 3 | 5.1.3 GERD performed by business, % GDP | 1.1 | 19 |
| 1.2.1 Regulatory quality* | 90.7 | 7 | 5.1.4 GERD financed by business, % | 42.0 | 39 |
| 1.2.2 Rule of law* | 99.0 | 2 | 5.1.5 Females employed w/advanced degrees, % | 25.9 | 12 |
| 1.2.3 Cost of redundancy dismissal | 8.7 | 18 | 5.2 Innovation linkages | 42.6 | 20 |
| 1.3 Business environment | 89.9 | 3 | 5.2.1 University-industry R&D collaboration† | 61.7 | 20 |
| 1.3.1 Ease of starting a business* | 94.3 | 23 | 5.2.2 State of cluster development and depth† | 64.6 | 15 |
| 1.3.2 Ease of resolving insolvency* | 85.4 | 5 | 5.2.3 GERD financed by abroad, % GDP | 0.2 | 27 |
| | | | 5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP | 0.1 | 18 |
| | | | 5.2.5 Patent families/bn PPP\$ GDP | 2.1 | 17 |
|  Human capital and research | 56.8 | 13 | 5.3 Knowledge absorption | 36.9 | 35 |
| 2.1 Education | 75.3 | 3 | 5.3.1 Intellectual property payments, % total trade | 0.5 | 69 |
| 2.1.1 Expenditure on education, % GDP | 7.9 | 2 | 5.3.2 High-tech imports, % total trade | 7.0 | 78 |
| 2.1.2 Government funding/pupil, secondary, % GDP/cap | 26.1 | 14 | 5.3.3 ICT services imports, % total trade | 3.2 | 7 |
| 2.1.3 School life expectancy, years | 18.1 | 12 | 5.3.4 FDI net inflows, % GDP | 1.1 | 106 |
| 2.1.4 PISA scales in reading, maths and science | 496.9 | 22 | 5.3.5 Research talent, % in businesses | 48.9 | 26 |
| 2.1.5 Pupil-teacher ratio, secondary | 8.5 | 16 |  Knowledge and technology outputs | 35.4 | 28 |
| 2.2 Tertiary education | 39.7 | 42 | 6.1 Knowledge creation | 46.7 | 17 |
| 2.2.1 Tertiary enrolment, % gross | 83.0 | 16 | 6.1.1 Patents by origin/bn PPP\$ GDP | 4.5 | 20 |
| 2.2.2 Graduates in science and engineering, % | 21.8 | 62 | 6.1.2 PCT patents by origin/bn PPP\$ GDP | 2.0 | 18 |
| 2.2.3 Tertiary inbound mobility, % | 4.2 | 57 | 6.1.3 Utility models by origin/bn PPP\$ GDP | n/a | n/a |
| 2.3 Research and development (R&D) | 55.5 | 19 | 6.1.4 Scientific and technical articles/bn PPP\$ GDP | 45.4 | 12 |
| 2.3.1 Researchers, FTE/mn pop. | 6,673.7 | 6 | 6.1.5 Citable documents H-index | 41.7 | 20 |
| 2.3.2 Gross expenditure on R&D, % GDP | 2.1 | 16 | 6.2 Knowledge impact | 39.5 | 25 |
| 2.3.3 Global corporate R&D investors, top 3, mn US\$ | 56.1 | 24 | 6.2.1 Labor productivity growth, % | -0.2 | 72 |
| 2.3.4 QS university ranking, top 3* | 42.9 | 28 | 6.2.2 New businesses/th pop. 15-64 | 8.6 | 19 |
| | | | 6.2.3 Software spending, % GDP | 0.5 | 18 |
|  Infrastructure | 64.8 | 1 | 6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP | 7.8 | 35 |
| 3.1 Information and communication technologies (ICTs) | 86.0 | 18 | 6.2.5 High-tech manufacturing, % | 32.9 | 38 |
| 3.1.1 ICT access* | 76.3 | 45 | 6.3 Knowledge diffusion | 20.1 | 54 |
| 3.1.2 ICT use* | 89.3 | 3 | 6.3.1 Intellectual property receipts, % total trade | 0.3 | 31 |
| 3.1.3 Government's online service* | 87.6 | 19 | 6.3.2 Production and export complexity | 54.0 | 43 |
| 3.1.4 E-participation* | 90.5 | 18 | 6.3.3 High-tech exports, % total trade | 3.2 | 46 |
| 3.2 General infrastructure | 61.2 | 3 | 6.3.4 ICT services exports, % total trade | 1.8 | 62 |
| 3.2.1 Electricity output, GWh/mn pop. | 27,518.4 | 1 |  Creative outputs | 39.3 | 25 |
| 3.2.2 Logistics performance* | 76.6 | 21 | 7.1 Intangible assets | 37.4 | 45 |
| 3.2.3 Gross capital formation, % GDP | 26.7 | 34 | 7.1.1 Trademarks by origin/bn PPP\$ GDP | 33.2 | 69 |
| 3.3 Ecological sustainability | 47.2 | 20 | 7.1.2 Global brand value, top 5,000, % GDP | 73.2 | 27 |
| 3.3.1 GDP/unit of energy use | 13.9 | 33 | 7.1.3 Industrial designs by origin/bn PPP\$ GDP | 1.3 | 60 |
| 3.3.2 Environmental performance* | 77.7 | 9 | 7.1.4 ICTs and organizational model creation† | 77.4 | 10 |
| 3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP | 4.1 | 22 | 7.2 Creative goods and services | 27.1 | 32 |
| | | | 7.2.1 Cultural and creative services exports, % total trade | 0.5 | 50 |
|  Market sophistication | 57.6 | 21 | 7.2.2 National feature films/mn pop. 15-69 | 10.1 | 19 |
| 4.1 Credit | 59.2 | 16 | 7.2.3 Entertainment and media market/th pop. 15-69 | 82.8 | 3 |
| 4.1.1 Ease of getting credit* | 55.0 | 88 | 7.2.4 Printing and other media, % manufacturing | 1.1 | 45 |
| 4.1.2 Domestic credit to private sector, % GDP | 151.4 | 9 | 7.2.5 Creative goods exports, % total trade | 0.5 | 63 |
| 4.1.3 Microfinance gross loans, % GDP | n/a | n/a | 7.3 Online creativity | 55.5 | 15 |
| 4.2 Investment | 37.1 | 42 | 7.3.1 Generic top-level domains (TLDs)/th pop. 15-69 | 50.6 | 15 |
| 4.2.1 Ease of protecting minority investors* | 76.0 | 21 | 7.3.2 Country-code TLDs/th pop. 15-69 | 63.0 | 13 |
| 4.2.2 Market capitalization, % GDP | 69.0 | 23 | 7.3.3 Wikipedia edits/mn pop. 15-69 | 84.3 | 6 |
| 4.2.3 Venture capital investors, deals/bn PPP\$ GDP | 0.1 | 21 | 7.3.4 Mobile app creation/bn PPP\$ GDP | 19.5 | 28 |
| 4.2.4 Venture capital recipients, deals/bn PPP\$ GDP | 0.0 | 34 | | | |
| 4.3 Trade, diversification, and market scale | 76.5 | 40 | | | |
| 4.3.1 Applied tariff rate, weighted avg., % | 2.6 | 59 | | | |
| 4.3.2 Domestic industry diversification | 90.6 | 48 | | | |
| 4.3.3 Domestic market scale, bn PPP\$ | 349.5 | 49 | | | |

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

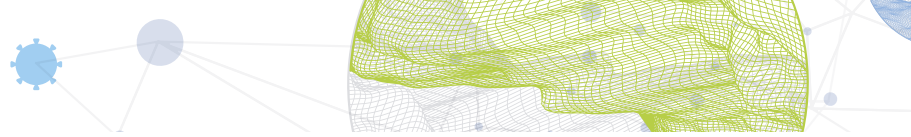
The following tables list data that are either missing or outdated for Norway.

Missing data for Norway

| 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 Norway

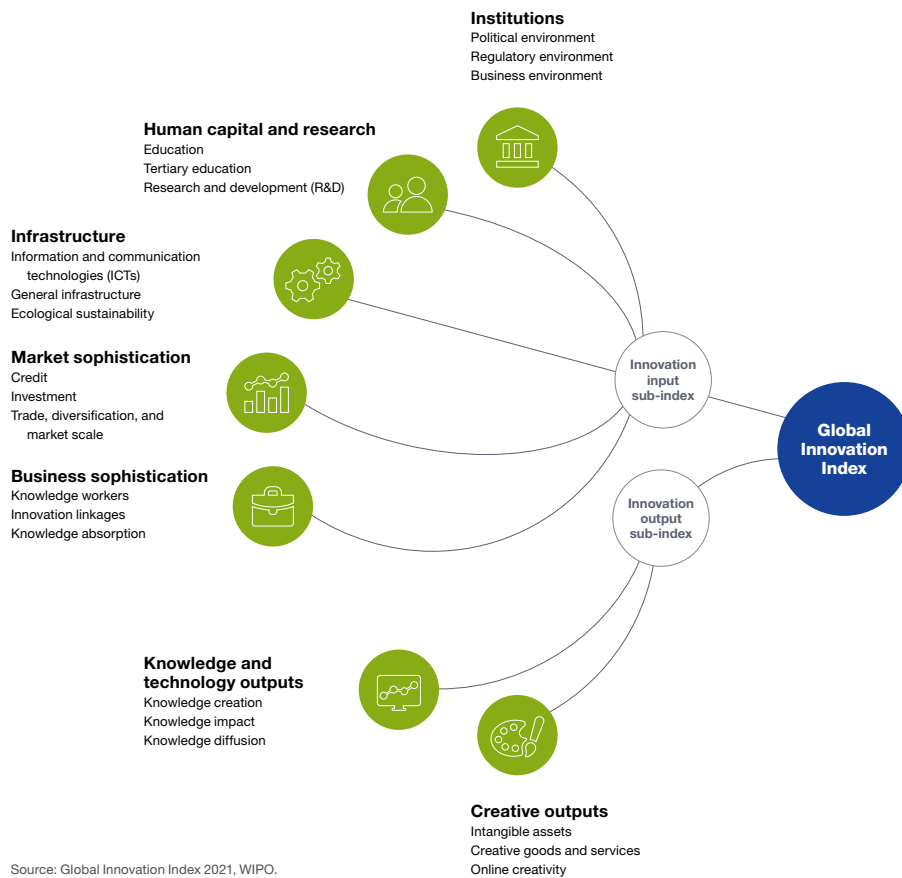
| Code | Indicator name | Economy year | Model year | Source |
|-------|--|--------------|------------|---------------------------------|
| 2.1.5 | Pupil-teacher ratio, secondary | 2018 | 2019 | UNESCO Institute for Statistics |
| 5.2.1 | University-industry R&D collaboration | 2018 | 2020 | World Economic Forum |
| 5.2.2 | State of cluster development and depth | 2018 | 2020 | World Economic Forum |



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.