

GLOBAL INNOVATION INDEX 2019

OMAN

80th Oman ranks 80th 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 Oman 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 Oman's ranking in the GII 2019 is between 76 and 88.

Oman's Rankings, 2017 - 2019

| | GII | Innovation Inputs | Innovation Outputs |
|-------------|------------|------------------------------|-------------------------------|
| 2019 | 80 | 57 | 101 |
| 2018 | 69 | 57 | 75 |
| 2017 | 77 | 62 | 90 |

- Oman performs better in Innovation Inputs than Outputs.
- This year Oman ranks 57th in Innovation Inputs, the same as last year and better compared to 2017.
- As for Innovation Outputs, Oman ranks 101st. This position is worse than last year and compared to 2017.

49th Oman ranks 49th among the 50 high-income economies.

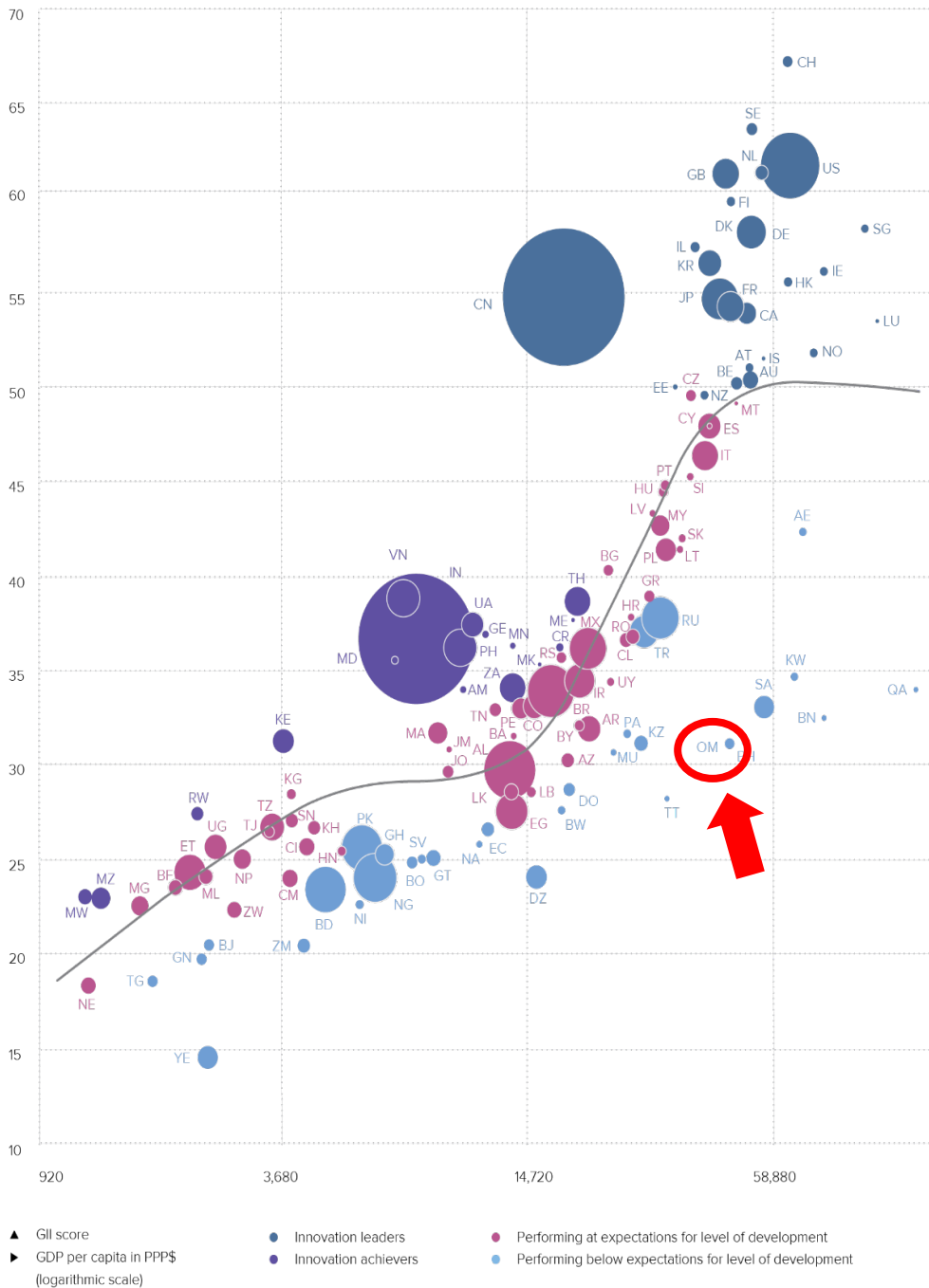
13th Oman ranks 13th among the 19 economies in Northern Africa and Western Asia.

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, Oman performs below its expected level of development.

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

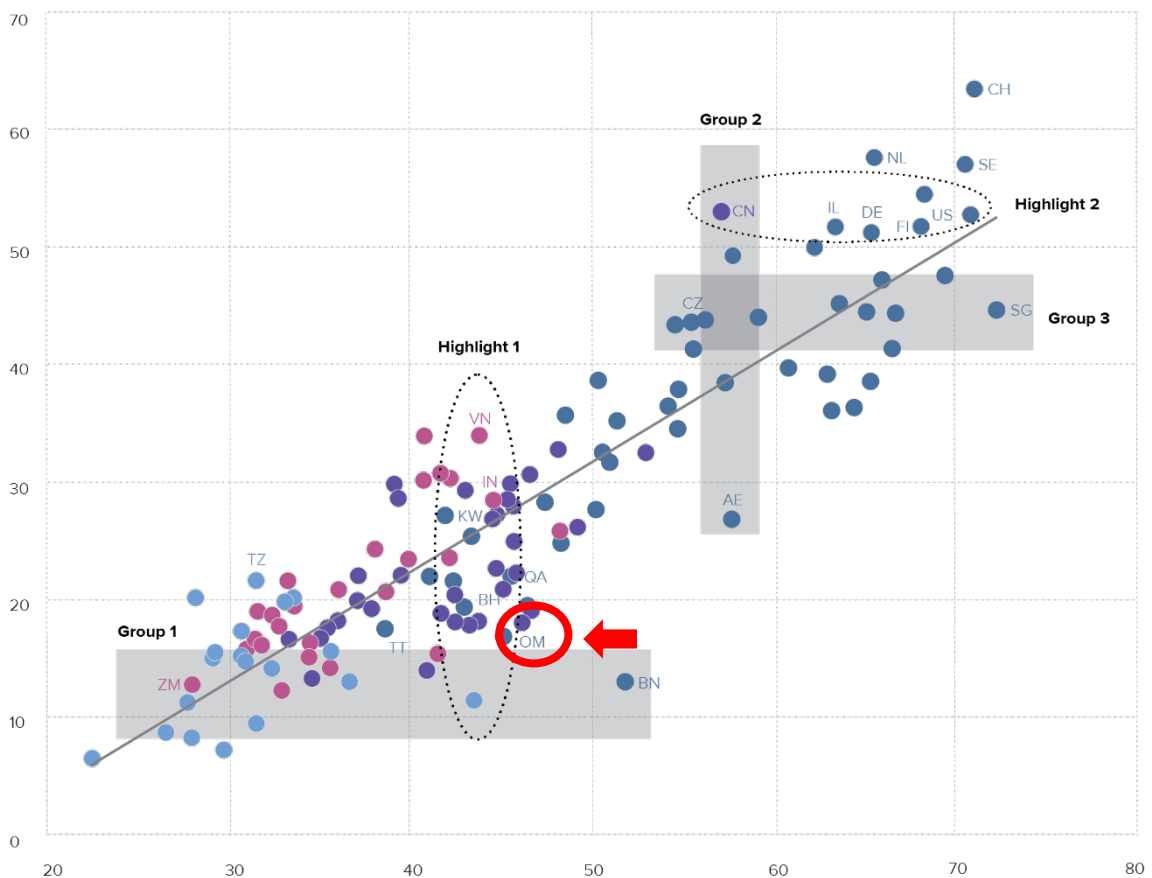


EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

Innovation input/output performance by income group, 2019

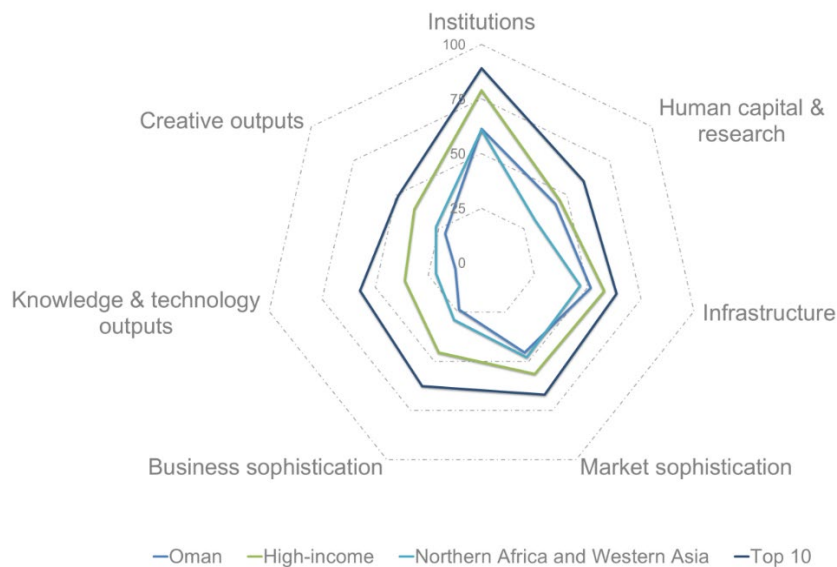


- ▲ Output score
- ▶ Input score
- High income
- Upper-middle income
- Lower-middle income
- Low income
- Fitted values

| | | | |
|-------------------------|-------------------|------------------------|--------------------------------|
| 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 OMAN TO OTHER HIGH-INCOME ECONOMIES AND THE NORTHERN AFRICA AND WESTERN ASIA REGION

Oman's scores in the seven GII pillars



High-income economies

Oman scores below the income group average in all the 7 GII pillars.

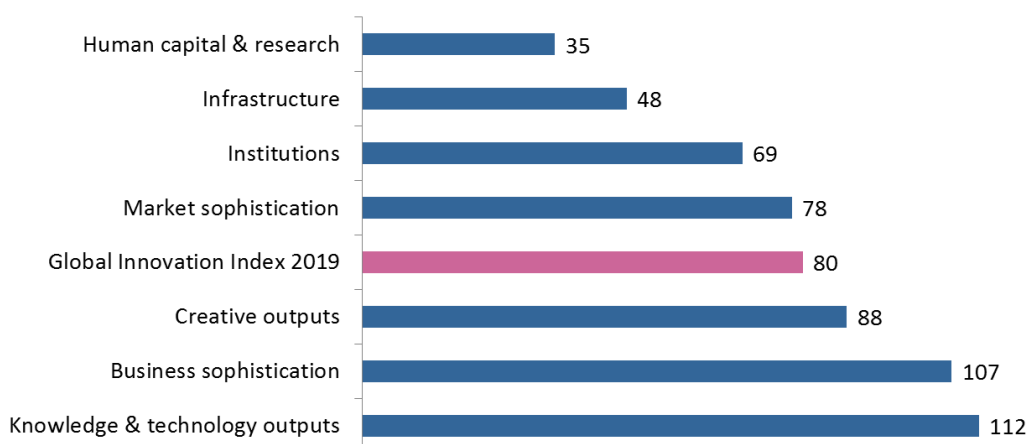
Northern Africa and Western Asia Region

Compared to other economies in the Northern Africa and Western Asia, Oman performs above average in 3 out of the 7 GII pillars: Institutions, Human capital & research, and Infrastructure.

Top ranks are found in sub-pillars Political environment, Education, Tertiary education, Information and communication technologies (ICTs), and General infrastructure where the country ranks in the top 50 worldwide.

OVERVIEW OF OMAN'S RANKINGS IN THE 7 GII AREAS

Oman performs the best in Human capital & research and its weakest performance is in Knowledge & technology outputs.



*The highest possible ranking in each pillar is 1.

OMAN'S INNOVATION STRENGTHS AND WEAKNESSES

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

| Strengths | | |
|-----------|--|------|
| Code | Indicator name | Rank |
| 1.3.1 | Ease of starting a business* | 34 |
| 2.1 | Education | 10 |
| 2.1.1 | Expenditure on education, % GDP | 12 |
| 2.1.2 | Government funding/pupil, secondary, % GDP/cap | 9 |
| 2.1.5 | Pupil-teacher ratio, secondary | 29 |
| 2.2 | Tertiary education | 4 |
| 2.2.2 | Graduates in science & engineering, % | 1 |
| 3.2 | General infrastructure | 24 |
| 3.2.1 | Electricity output, kWh/mn pop | 25 |
| 3.2.3 | Gross capital formation, % GDP | 16 |
| 4.3.1 | Applied tariff rate, weighted mean, % | 21 |
| 5.2.2 | State of cluster development* | 24 |
| 5.2.4 | JV-strategic alliance deals/bn PPP\$ GDP | 27 |

| Weaknesses | | |
|------------|--|------|
| Code | Indicator name | Rank |
| 2.3.3 | Global R&D companies, top 3, in mn US\$ | 43 |
| 4.1.1 | Ease of getting credit* | 110 |
| 5.2.3 | GERD financed by abroad, % | 99 |
| 5.3 | Knowledge absorption | 126 |
| 5.3.3 | ICT services imports, % total trade | 114 |
| 5.3.5 | Research talent, % in business enterprise | 79 |
| 6 | Knowledge & technology outputs | 112 |
| 6.1.1 | Patents by origin/bn PPP\$ GDP | 120 |
| 6.2 | Knowledge impact | 112 |
| 6.2.1 | Growth rate of PPP\$ GDP/worker, %, 3-year average | 110 |
| 6.3.2 | High-tech net exports, % total trade | 109 |
| 7.1.2 | Industrial designs by origin/bn PPP\$ GDP | 109 |
| 7.2.4 | Printing & other media, % manufacturing | 89 |

STRENGTHS

- GII strengths for Oman are found in five of the seven GII pillars.
- All of them are concentrated on the innovation input side of the GII, which measures the investments that countries make to produce more and better innovations.
- Many of these relative strengths are in Human capital & research (35), the best ranked GII pillar for Oman. Here strengths are sub-pillars Education (10) and Tertiary education (4) and four of their indicators: Expenditure on education (12), Government funding per pupil (9), Pupil-teacher ratio (29), and Graduates in science & engineering. In the latter, Oman ranks 1st in the world.
- In Institutions (69), Oman's strength is indicator Ease of starting a business (34).
- In Infrastructure (48), Oman's strengths are sub-pillar General infrastructure (24) and two of its indicators: Electricity output (25) and Gross capital formation (16).
- In Market sophistication (78), indicator Applied tariff rate (21) is a GII strength for Oman.
- In Business sophistication (107), Oman's strengths are indicators State of cluster development (24) and Joint-Venture - strategic alliance deals (27).

WEAKNESSES

- Oman's weaknesses are found in five of the seven GII pillars.
- Pillar Knowledge & technology outputs (112) is a notable GII weaknesses for the country.
- In Knowledge & technology outputs (112), several of Oman's weaknesses are present. These are sub-pillar Knowledge impact (112) and indicators Patents by origin (120), Labor productivity growth (110), and High-tech exports (109).
- Other four weaknesses are found in Business sophistication (107). These are sub-pillar Knowledge absorption (126) as well as indicators R&D financed by abroad (99), ICT services imports (114), and Research talent (79).
- In Creative outputs (88), relative weaknesses are indicators Industrial designs by origin (109) and Printing & other media (89).
- The other GII weaknesses for Oman are indicators Global R&D companies (43) in Human capital & research (35) and Ease of getting credit (110) in Market sophistication (78).

| Output rank | Input rank | Income | Region | Population (mn) | GDP, PPP\$ | GDP per capita, PPP\$ | GII 2018 rank |
|---|--|--------|---------|-----------------|------------|-----------------------|---------------|
| 101 | 57 | High | NAWA | 4.8 | 198.2 | 46,584.0 | 69 |
| | | | | Score/Value | | | Rank |
| INSTITUTIONS | | | | 61.5 | 69 | | |
| 1.1 | Political environment | | 61.3 | 49 | | | |
| 1.1.1 | Political and operational stability* | | 80.7 | 35 | | | |
| 1.1.2 | Government effectiveness* | | 51.6 | 57 | | | |
| 1.2 | Regulatory environment | | 55.5 | 97 | | | |
| 1.2.1 | Regulatory quality* | | 53.2 | 50 | | | |
| 1.2.2 | Rule of law* | | 57.8 | 45 | | | |
| 1.2.3 | Cost of redundancy dismissal, salary weeks | | n/a | n/a | | | |
| 1.3 | Business environment | | 67.6 | 72 | | | |
| 1.3.1 | Ease of starting a business* | | 92.9 | 34 | | | |
| 1.3.2 | Ease of resolving insolvency* | | 42.3 | 88 | | | |
| HUMAN CAPITAL & RESEARCH | | | | 43.3 | 35 | | |
| 2.1 | Education | | 64.4 | 10 | | | |
| 2.1.1 | Expenditure on education, % GDP | | 6.7 | 12 | | | |
| 2.1.2 | Government funding/pupil, secondary, % GDP/cap | | 34.9 | 9 | | | |
| 2.1.3 | School life expectancy, years | | 14.7 | 58 | | | |
| 2.1.4 | PISA scales in reading, maths, & science | | n/a | n/a | | | |
| 2.1.5 | Pupil-teacher ratio, secondary | | 10.0 | 29 | | | |
| 2.2 | Tertiary education | | 61.4 | 4 | | | |
| 2.2.1 | Tertiary enrolment, % gross | | 44.6 | 66 | | | |
| 2.2.2 | Graduates in science & engineering, % | | 44.8 | 1 | | | |
| 2.2.3 | Tertiary inbound mobility, % | | 2.9 | 63 | | | |
| 2.3 | Research & development (R&D) | | 4.0 | 82 | | | |
| 2.3.1 | Researchers, FTE/mn pop | | 244.0 | 75 | | | |
| 2.3.2 | Gross expenditure on R&D, % GDP | | 0.2 | 88 | | | |
| 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* | | 8.6 | 65 | | | |
| INFRASTRUCTURE | | | | 51.3 | 48 | | |
| 3.1 | Information & communication technologies (ICTs) | | 75.8 | 42 | | | |
| 3.1.1 | ICT access* | | 76.6 | 38 | | | |
| 3.1.2 | ICT use* | | 62.2 | 52 | | | |
| 3.1.3 | Government's online service* | | 81.3 | 43 | | | |
| 3.1.4 | E-participation* | | 83.2 | 43 | | | |
| 3.2 | General infrastructure | | 48.0 | 24 | | | |
| 3.2.1 | Electricity output, kWh/mn pop | | 7,722.3 | 25 | | | |
| 3.2.2 | Logistics performance* | | 53.0 | 42 | | | |
| 3.2.3 | Gross capital formation, % GDP | | 31.5 | 16 | | | |
| 3.3 | Ecological sustainability | | 30.0 | 95 | | | |
| 3.3.1 | GDP/unit of energy use | | 7.0 | 84 | | | |
| 3.3.2 | Environmental performance* | | 51.3 | 94 | | | |
| 3.3.3 | ISO 14001 environmental certificates/bn PPP\$ GDP | | 1.2 | 62 | | | |
| MARKET SOPHISTICATION | | | | 45.5 | 78 | | |
| 4.1 | Credit | | 35.0 | 67 | | | |
| 4.1.1 | Ease of getting credit* | | 35.0 | 110 | | | |
| 4.1.2 | Domestic credit to private sector, % GDP | | 75.0 | 42 | | | |
| 4.1.3 | Microfinance gross loans, % GDP | | n/a | n/a | | | |
| 4.2 | Investment | | 36.6 | 94 | | | |
| 4.2.1 | Ease of protecting minority investors* | | 46.7 | 101 | | | |
| 4.2.2 | Market capitalization, % GDP | | 41.3 | 35 | | | |
| 4.2.3 | Venture capital deals/bn PPP\$ GDP | | n/a | n/a | | | |
| 4.3 | Trade, competition, & market scale | | 65.0 | 53 | | | |
| 4.3.1 | Applied tariff rate, weighted avg., % | | 1.7 | 21 | | | |
| 4.3.2 | Intensity of local competition* | | 66.2 | 76 | | | |
| 4.3.3 | Domestic market scale, bn PPP\$ | | 198.2 | 62 | | | |
| BUSINESS SOPHISTICATION | | | | 23.8 | 107 | | |
| 5.1 | Knowledge workers | | 28.7 | [86] | | | |
| 5.1.1 | Knowledge-intensive employment, % | | 18.5 | 77 | | | |
| 5.1.2 | Firms offering formal training, % firms | | n/a | n/a | | | |
| 5.1.3 | GERD performed by business, % GDP | | 0.1 | 64 | | | |
| 5.1.4 | GERD financed by business, % | | 38.5 | 49 | | | |
| 5.1.5 | Females employed w/advanced degrees, % | | n/a | n/a | | | |
| 5.2 | Innovation linkages | | 24.9 | 67 | | | |
| 5.2.1 | University/industry research collaboration* | | 51.0 | 38 | | | |
| 5.2.2 | State of cluster development* | | 60.5 | 24 | | | |
| 5.2.3 | GERD financed by abroad, % | | 0.1 | 99 | | | |
| 5.2.4 | JV-strategic alliance deals/bn PPP\$ GDP | | 0.0 | 27 | | | |
| 5.2.5 | Patent families 2+ offices/bn PPP\$ GDP | | 0.0 | 86 | | | |
| 5.3 | Knowledge absorption | | 18.0 | 126 | | | |
| 5.3.1 | Intellectual property payments, % total trade | | n/a | n/a | | | |
| 5.3.2 | High-tech imports, % total trade | | 4.9 | 108 | | | |
| 5.3.3 | ICT services imports, % total trade | | 0.3 | 114 | | | |
| 5.3.4 | FDI net inflows, % GDP | | 1.4 | 98 | | | |
| 5.3.5 | Research talent, % in business enterprise | | 0.8 | 79 | | | |
| KNOWLEDGE & TECHNOLOGY OUTPUTS | | | | 12.3 | 112 | | |
| 6.1 | Knowledge creation | | 4.2 | 104 | | | |
| 6.1.1 | Patents by origin/bn PPP\$ GDP | | 0.0 | 120 | | | |
| 6.1.2 | PCT patents by origin/bn PPP\$ GDP | | 0.1 | 70 | | | |
| 6.1.3 | Utility models by origin/bn PPP\$ GDP | | n/a | n/a | | | |
| 6.1.4 | Scientific & technical articles/bn PPP\$ GDP | | 2.9 | 105 | | | |
| 6.1.5 | Citable documents H-index | | 6.1 | 88 | | | |
| 6.2 | Knowledge impact | | 20.1 | 112 | | | |
| 6.2.1 | Growth rate of PPP\$ GDP/worker, % | | -3.8 | 110 | | | |
| 6.2.2 | New businesses/th pop. 15-64 | | 2.1 | 48 | | | |
| 6.2.3 | Computer software spending, % GDP | | 0.1 | 101 | | | |
| 6.2.4 | ISO 9001 quality certificates/bn PPP\$ GDP | | 3.5 | 71 | | | |
| 6.2.5 | High- & medium-high-tech manufactures, % | | 0.2 | 61 | | | |
| 6.3 | Knowledge diffusion | | 12.6 | 89 | | | |
| 6.3.1 | Intellectual property receipts, % total trade | | n/a | n/a | | | |
| 6.3.2 | High-tech net exports, % total trade | | 0.1 | 109 | | | |
| 6.3.3 | ICT services exports, % total trade | | 0.3 | 108 | | | |
| 6.3.4 | FDI net outflows, % GDP | | 1.5 | 41 | | | |
| CREATIVE OUTPUTS | | | | 21.5 | 88 | | |
| 7.1 | Intangible assets | | 38.8 | 74 | | | |
| 7.1.1 | Trademarks by origin/bn PPP\$ GDP | | 59.5 | 36 | | | |
| 7.1.2 | Industrial designs by origin/bn PPP\$ GDP | | 0.1 | 109 | | | |
| 7.1.3 | ICTs & business model creation* | | 59.2 | 70 | | | |
| 7.1.4 | ICTs & organizational model creation* | | 52.5 | 71 | | | |
| 7.2 | Creative goods & services | | 6.2 | 97 | | | |
| 7.2.1 | Cultural & creative services exports, % total trade | | n/a | n/a | | | |
| 7.2.2 | National feature films/mn pop. 15-69 | | 1.1 | 79 | | | |
| 7.2.3 | Entertainment & Media market/th pop. 15-69 | | 5.4 | 48 | | | |
| 7.2.4 | Printing & other media, % manufacturing | | 0.6 | 89 | | | |
| 7.2.5 | Creative goods exports, % total trade | | 0.5 | 58 | | | |
| 7.3 | Online creativity | | 1.9 | 85 | | | |
| 7.3.1 | Generic top-level domains (TLDs)/th pop. 15-69 | | 1.7 | 84 | | | |
| 7.3.2 | Country-code TLDs/th pop. 15-69 | | 0.2 | 106 | | | |
| 7.3.3 | Wikipedia edits/mn pop. 15-69 | | 5.7 | 77 | | | |
| 7.3.4 | Mobile app creation/bn PPP\$ GDP | | n/a | n/a | | | |

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

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

Missing data

| Code | Indicator name | Country year | Model year | Source |
|-------|---|--------------|------------|--|
| 1.2.3 | Cost of redundancy dismissal, salary weeks | n/a | 2018 | World Bank |
| 2.1.4 | PISA scales in reading, maths & science | n/a | 2015 | OECD Programme for International Student Assessment (PISA) |
| 4.1.3 | Microfinance gross loans, % GDP | n/a | 2017 | Microfinance Information Exchange |
| 4.2.3 | Venture capital deals/bn PPP\$ GDP | n/a | 2018 | Thomson Reuters |
| 5.1.2 | Firms offering formal training, % firms | n/a | 2013 | World Bank |
| 5.1.5 | Females employed w/advanced degrees, % | n/a | 2017 | International Labour Organization |
| 5.3.1 | Intellectual property payments, % total trade | n/a | 2017 | World Trade Organization |
| 6.1.3 | Utility models by origin/bn PPP\$ GDP | n/a | 2017 | World Intellectual Property Organization |
| 6.3.1 | Intellectual property receipts, % total trade | n/a | 2017 | World Trade Organization |
| 7.2.1 | Cultural & creative services exports, % total trade | n/a | 2017 | World Trade Organization |
| 7.3.4 | Mobile app creation/bn PPP\$ GDP | n/a | 2018 | App Annie |

Outdated data

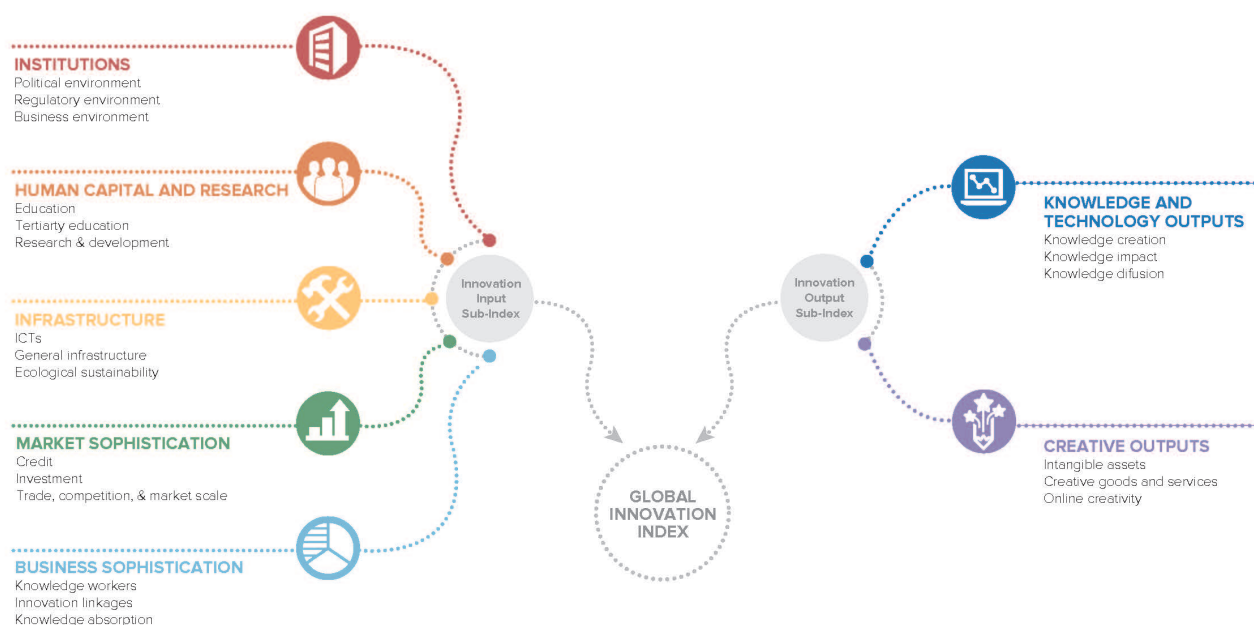
| Code | Indicator name | Country year | Model year | Source |
|-------|--|--------------|------------|---|
| 2.2.1 | Tertiary enrolment, % gross | 2016 | 2017 | UNESCO Institute for Statistics |
| 4.1.2 | Domestic credit to private sector, % GDP | 2016 | 2017 | International Monetary Fund |
| 5.1.1 | Knowledge-intensive employment, % | 2016 | 2017 | Source: International Labour Organization |
| 7.3.3 | Wikipedia edits/mn pop. 15–69 | 2014 | 2017 | Wikimedia Foundation |

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.

Framework of the Global Innovation Index 2019



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.

