MONGOLIA

Mongolia ranks 58th 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 Mongolia 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 Mongolia in the GII 2020 is between ranks 42 and 61.

<table>
<thead>
<tr>
<th>Rankings of Mongolia (2018–2020)</th>
<th>GII</th>
<th>Innovation inputs</th>
<th>Innovation outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>58</td>
<td>65</td>
<td>54</td>
</tr>
<tr>
<td>2019</td>
<td>53</td>
<td>73</td>
<td>44</td>
</tr>
<tr>
<td>2018</td>
<td>53</td>
<td>66</td>
<td>47</td>
</tr>
</tbody>
</table>

- Mongolia performs better in innovation outputs than innovation inputs in 2020.
- This year Mongolia ranks 65th in innovation inputs, higher than last year and higher compared to 2018.
- As for innovation outputs, Mongolia ranks 54th. This position is lower than last year and lower compared to 2018.

Mongolia ranks 5th among the 29 lower middle-income group economies.

Mongolia ranks 12th 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, Mongolia’s performance is above expectations for its level of 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.

Mongolia produces more innovation outputs relative to its level of innovation investments.
BENCHMARKING MONGOLIA AGAINST OTHER LOWER MIDDLE-INCOME GROUP ECONOMIES AND SOUTH EAST ASIA, EAST ASIA, AND OCEANIA

Mongolia’s scores in the seven GII pillars

Lower middle-income group economies

Mongolia 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 lower middle-income group.

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

South East Asia, East Asia, and Oceania

Compared to other economies in South East Asia, East Asia, and Oceania, Mongolia performs:

- above average in two out of the seven GII pillars: Market sophistication and Creative outputs; and
- below average in five out of the seven GII pillars: Institutions, Human capital & research, Infrastructure, Business sophistication and Knowledge & technology outputs.
OVERVIEW OF MONGOLIA RANKINGS IN THE SEVEN GII AREAS

Mongolia performs best in Market sophistication and its weakest performance is in Infrastructure.

INNOVATION STRENGTHS AND WEAKNESSES

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

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weakenes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Code</strong></td>
<td><strong>Indicator name</strong></td>
</tr>
<tr>
<td>1.2.3</td>
<td>Cost of redundancy dismissal, salary weeks</td>
</tr>
<tr>
<td>3.2.3</td>
<td>Gross capital formation, % GDP</td>
</tr>
<tr>
<td>4</td>
<td>Market sophistication</td>
</tr>
<tr>
<td>4.1</td>
<td>Credit</td>
</tr>
<tr>
<td>4.1.3</td>
<td>Microfinance gross loans, % GDP</td>
</tr>
<tr>
<td>4.2.1</td>
<td>Ease of protecting minority investors*</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Firms offering formal training, %</td>
</tr>
<tr>
<td>5.1.5</td>
<td>Females employed w/advanced degrees, %</td>
</tr>
<tr>
<td>6.1.3</td>
<td>Utility models by origin/bn PPP$ GDP</td>
</tr>
<tr>
<td>7.1</td>
<td>Intangible assets</td>
</tr>
<tr>
<td>7.1.1</td>
<td>Trademarks by origin/bn PPP$ GDP</td>
</tr>
<tr>
<td>7.1.3</td>
<td>Industrial designs by origin/bn PPP$ GDP</td>
</tr>
</tbody>
</table>

*The highest possible ranking in each pillar is 1.
STRENGTHS

GII strengths for Mongolia are found in six of the seven GII pillars.

- Institutions (76): exhibits strengths in the indicator Cost of redundancy dismissal (18).
- Infrastructure (87): demonstrates strengths in the indicator Gross capital formation (7).
- Market sophistication (13): displays strengths in the sub-pillar Credit (18) and in the indicators Microfinance gross loans (2) and Ease of protecting minority investors (24).
- Business sophistication (81): shows strengths in the indicators Firms offering formal training (4) and Females employed w/advanced degrees (17).
- Knowledge & technology outputs (84): reveals strengths in the indicator Utility models by origin (1).
- Creative outputs (30): displays strengths in the sub-pillar Intangible assets (12) and in the indicators Trademarks by origin (3), Industrial designs by origin (4) and National feature films (3).

WEAKNESSES

GII weaknesses for Mongolia are found in six of the seven GII pillars.

- Institutions (76): exhibits weaknesses in the indicator Ease of resolving insolvency (120).
- Human capital & research (80): reveals weaknesses in the indicators Gross expenditure on R&D (105), Global R&D companies (42) and QS university ranking (77).
- Infrastructure (87): displays weaknesses in the indicator Logistics performance (116).
- Business sophistication (81): demonstrates weaknesses in the indicators State of cluster development (115) and FDI net inflows (130).
- Knowledge & technology outputs (84): shows weaknesses in the sub-pillars Knowledge impact (122) and Knowledge diffusion (124) and in the indicators PCT patents by origin (100) and High- and medium-high-tech manufacturing (101).
- Creative outputs (30): reveals weaknesses in the indicator Global brand value (80).
MONGOLIA

GL 2020 rank 58

<table>
<thead>
<tr>
<th>Output rank</th>
<th>Input rank</th>
<th>Income</th>
<th>Region</th>
<th>Population (mn)</th>
<th>GDP, PPP$</th>
<th>GDP per capita, PPP$</th>
<th>GL 2019 rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
<td>65</td>
<td>Lower middle</td>
<td>SEAO</td>
<td>3.2</td>
<td>47.2</td>
<td>12,492.2</td>
<td>53</td>
</tr>
</tbody>
</table>

### INSTITUTIONS

- **1.1 Political environment**
  - 55.0 (74)
- **1.2 Regulatory environment**
  - 69.5 (49)
- **1.3 Business environment**
  - 58.4 (110)

### HUMAN CAPITAL & RESEARCH

- **2.1 Education**
  - 4.0 (79)
- **2.2 Research & development (R&D)**
  - 0.6 (110)
- **2.3 General infrastructure**
  - 2.1 Electricity output, kWh/mn pop.
  - 2.2 Logistics performance
  - 2.3 Gross capital formation, % GDP

### INFRASTRUCTURE

- **3.1 ICT access**
  - 53.7 (84)
- **3.2 General infrastructure**
  - 30.9 (47)
- **3.3 Ecological sustainability**
  - 17.0 (116)

### MARKET Sophistication

- **4.1 Credit**
  - 58.2 (18)
- **4.2 Investment**
  - 74.0 (4)
- **4.3 Trade, competition, and market scale**
  - 52.7 (105)

### BUSINESS SOPHISTICATION

- **5.1 Knowledge workers**
  - 36.6 (55)
- **5.2 Innovation linkages**
  - 14.3 (116)
- **5.3 Knowledge absorption**
  - 18.6 (112)

### KNOWLEDGE & TECHNOLOGY OUTPUTS

- **6.1 Knowledge creation**
  - 29.3 (34)
- **6.2 Knowledge impact**
  - 7.9 (122)
- **6.3 Knowledge diffusion**
  - 9.3 (124)

### CREATIVE OUTPUTS

- **7.1 Intangible assets**
  - 50.5 (12)
- **7.2 Creative goods and services**
  - 30.4 (25)
- **7.3 Online creativity**
  - 9.4 (86)

### NOTES

- Indicates a strength
- Indicates 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 I for details, including the year of the data at http://globalinnovationindex.org. Square brackets [ ] indicate that the data minimum coverage (MCC) 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 Mongolia.

### Missing data

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator name</th>
<th>Country year</th>
<th>Model year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.4</td>
<td>PISA scales in reading, maths, &amp; science</td>
<td>n/a</td>
<td>2018</td>
<td>OECD Programme for International Student Assessment (PISA)</td>
</tr>
<tr>
<td>2.3.1</td>
<td>Researchers, FTE/mn pop.</td>
<td>n/a</td>
<td>2018</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators</td>
</tr>
<tr>
<td>4.2.2</td>
<td>Market capitalization, % GDP</td>
<td>n/a</td>
<td>2018</td>
<td>World Federation of Exchanges</td>
</tr>
<tr>
<td>4.2.3</td>
<td>Venture capital deals/bn PPP$ GDP</td>
<td>n/a</td>
<td>2019</td>
<td>Thomson Reuters</td>
</tr>
<tr>
<td>5.2.4</td>
<td>JV–strategic alliance deals/bn PPP$ GDP</td>
<td>n/a</td>
<td>2019</td>
<td>Thomson Reuters</td>
</tr>
<tr>
<td>5.3.5</td>
<td>Research talent, % in business enterprise</td>
<td>n/a</td>
<td>2018</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD – Main Science and Technology Indicators</td>
</tr>
<tr>
<td>6.2.1</td>
<td>Growth rate of PPP$ GDP/worker, %</td>
<td>n/a</td>
<td>2019</td>
<td>The Conference Board</td>
</tr>
<tr>
<td>7.2.1</td>
<td>Cultural &amp; creative services exports, % total trade</td>
<td>n/a</td>
<td>2018</td>
<td>World Trade Organization</td>
</tr>
<tr>
<td>7.2.3</td>
<td>Entertainment &amp; Media market/th pop. 15–69</td>
<td>n/a</td>
<td>2018</td>
<td>PwC</td>
</tr>
</tbody>
</table>

### Outdated data

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator name</th>
<th>Country year</th>
<th>Model year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.1</td>
<td>Expenditure on education, % GDP</td>
<td>2017</td>
<td>2018</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.1.2</td>
<td>Government funding/pupil, secondary, % GDP/cap</td>
<td>2010</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.1.3</td>
<td>School life expectancy, years</td>
<td>2010</td>
<td>2017</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.1.5</td>
<td>Pupil-teacher ratio, secondary</td>
<td>2010</td>
<td>2018</td>
<td>UNESCO Institute for Statistics</td>
</tr>
</tbody>
</table>
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.

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.