The GII indicators are grouped into innovation inputs and outputs. The following table reflects Cameroon’s rankings over time.

<table>
<thead>
<tr>
<th></th>
<th>GII</th>
<th>Input</th>
<th>Output</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>111</td>
<td>115</td>
<td>98</td>
<td>75</td>
</tr>
<tr>
<td>2017</td>
<td>117</td>
<td>117</td>
<td>113</td>
<td>92</td>
</tr>
<tr>
<td>2016</td>
<td>118</td>
<td>118</td>
<td>113</td>
<td>93</td>
</tr>
</tbody>
</table>

- Over the last three years, Cameroon has gradually increased in innovation inputs, placing 115th this year and moving up 2 positions from 2017 and 3 from 2016.
- This year Cameroon improves also in innovation outputs, reaching the 98th position, after ranking 113th for the past two years.
- Cameroon is quite efficient in translating its innovation inputs into outputs. This is shown in the Innovation Efficiency Ratio which positions 75th in the world this year, moving up from the 92nd-93rd spots it held over the last two years. This advancement is partly due to a higher (and improved) ranking in innovation outputs (98th) compared to inputs (115th). Relative to its GII position (111th), Cameroon’s Innovation Efficiency Ratio (75th) seems rather strong.

Note that year-on-year comparisons of the GII ranks are imperfect and influenced by changes in the GII model and data availability.
Benchmarking Cameroon to other lower-middle-income countries and the Sub-Saharan Africa region

Cameroon’s scores by area

Lower-middle-income countries

Cameroon has high scores in the GII area Business Sophistication, in which it scores above the average of the lower-middle-income group.

Top scores in areas such as Innovation linkages are behind this high ranking.

Sub-Saharan Africa region

Compared to other countries in the Sub-Saharan Africa region, Cameroon performs above average in 3 of the 7 GII areas: Business Sophistication, Knowledge & Technology Outputs, and Creative Outputs.

Cameroon’s innovation profile

Strengths

- **Business Sophistication** (61st), the top-ranked GII area for Cameroon, is highlighted as a strength. In this area the country exhibits strong performance in one of its three components – Innovation linkages (66th) – and in the indicator Firms offering formal training (36th).

- In **Market Sophistication** (119th), GII strengths are demonstrated in the indicators Ease of getting credit (61st) and Microfinance gross loans, where Cameroon ranks 30th globally.

- On the innovation input side, comparative GII strengths are also found in two indicators: Graduates in science & engineering (50th) in Human Capital & Research (102nd) and GDP per unit of energy use (65th) in Infrastructure (122nd).

- On the innovation output side, Cameroon shows strengths in both the GII output areas.

- The indicators Scientific & technical articles (62nd), Productivity growth (40th), and ICT services exports (71st) are signaled as GII strengths in Knowledge & Technology Outputs (90th).

- Within Creative Outputs (103rd), strong performance is demonstrated in the indicators Printing & other media (38th) and Country-code TLDs (74th).
Weaknesses

- Most of the relative weaknesses for Cameroon are found on the innovation input side, among three of the five GII input areas.

- **Infrastructure** (122nd), the lowest-ranked area for Cameroon, is signaled as a GII weakness. Here the country performs weakly in one of its components – Information & communication technologies (ICTs) (119th) – as well as in the indicators E-participation (117th), Logistics performance (124th), and Environmental performance (117th).

- **Market Sophistication** (119th) is also identified as a GII weakness. Here two of its three components – Investment (121st) and Trade, competition & market scale (119th) – present weak performance. In addition, one indicator, *Applied tariff rate* (123rd), ranks weakly.

- On the innovation input side, comparative weaknesses also appear in Human Capital & Research (102nd) where the area Research & development - R&D (117th) as well as both its available indicators – Global R&D companies expenditures (40th) and Quality of universities (78th) – are signaled as weak.

- On the innovation output side, Cameroon demonstrates GII weaknesses in four indicators.

- In Knowledge & Technology Outputs (90th), the indicators *PCT patents by origin* (104th) and *High- & medium-high-tech manufactures* (99th) rank relatively weakly.

- The other two indicators – Creative goods exports (122nd) and *Wikipedia edits* (119th) – are relatively weak within Creative Outputs (103rd).

The following figure presents a summary of Cameroon’s ranks in the 7 GII areas, as well as the overall rank in the GII 2018.

**Cameroon’s rank in the GII 2018 and the 7 GII areas**

*Rank 1 is the highest possible in each pillar  
Total number of countries: 126*

- Business sophistication: 61
- Knowledge and technology outputs: 90
- Human capital and research: 102
- Creative outputs: 103
- Global Innovation Index 2018: 111
- Institutions: 112
- Market sophistication: 119
- Infrastructure: 122
Expected vs. Observed Innovation Performance

The GII bubble chart shows the relationship between income levels (GDP per capita) and innovation performance (GII score). The depicted trendline gives an indication of the expected innovation performance at different levels of income. Countries located above the trendline are performing better than what would be expected based on their income level. Countries below the line are Innovation Under-performers relative to GDP.

Relative to GDP, Cameroon performs below its expected level of development.
More and better data improves the ability of a country to understand its strengths and weaknesses and give policymakers greater capacity to plan and adapt public policies accordingly. The GII 2018 covers 126 countries that complied with the minimum indicator coverage of 35 indicators in the Innovation Input Sub-Index (66%) and 18 indicators in the Innovation Output Sub-Index (66%).

The following tables show data for Cameroon that is not available or that is outdated.

### Missing Data

<table>
<thead>
<tr>
<th>Code</th>
<th>Indicator</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>2015</td>
<td>OECD PISA</td>
</tr>
<tr>
<td>2.3.1</td>
<td>Researchers, FTE/mn pop.</td>
<td>n/a</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.3.2</td>
<td>Gross expenditure on R&amp;D, % GDP</td>
<td>n/a</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>4.2.2</td>
<td>Market capitalization, % GDP</td>
<td>n/a</td>
<td>2016</td>
<td>World Bank, World Development Indicators</td>
</tr>
<tr>
<td>5.1.1</td>
<td>Knowledge-intensive employment, %</td>
<td>n/a</td>
<td>2016</td>
<td>ILO, ILOSTAT</td>
</tr>
<tr>
<td>5.1.3</td>
<td>GERD performed by business, % GDP</td>
<td>n/a</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>5.1.4</td>
<td>GERD financed by business, %</td>
<td>n/a</td>
<td>2015</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>5.1.5</td>
<td>Females employed w/advanced degrees, %</td>
<td>n/a</td>
<td>2016</td>
<td>ILO, ILOSTAT</td>
</tr>
<tr>
<td>5.2.3</td>
<td>GERD financed by abroad, %</td>
<td>n/a</td>
<td>2015</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>5.2.5</td>
<td>Patent families 2+ offices/bn PPP$ GDP</td>
<td>n/a</td>
<td>2014</td>
<td>WIPO, Intellectual Property Statistics</td>
</tr>
<tr>
<td>5.3.5</td>
<td>Research talent, % in business enterprise</td>
<td>n/a</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>6.1.3</td>
<td>Utility models by origin/bn PPP$ GDP</td>
<td>n/a</td>
<td>2016</td>
<td>WIPO, Intellectual Property Statistics</td>
</tr>
<tr>
<td>6.2.2</td>
<td>New businesses/th pop. 15–64</td>
<td>n/a</td>
<td>2016</td>
<td>World Bank, Doing Business</td>
</tr>
<tr>
<td>7.2.1</td>
<td>Cultural &amp; creative services exports, % total trade</td>
<td>n/a</td>
<td>2016</td>
<td>WTO, Trade in Commercial Services</td>
</tr>
<tr>
<td>7.2.3</td>
<td>Entertainment &amp; Media market/th pop. 15–69</td>
<td>n/a</td>
<td>2016</td>
<td>PwC's Global Entertainment and Media Outlook, 2017–2021</td>
</tr>
<tr>
<td>7.3.4</td>
<td>Mobile app creation/bn PPP$ GDP</td>
<td>n/a</td>
<td>2017</td>
<td>App Annie Intelligence</td>
</tr>
<tr>
<td>Code</td>
<td>Indicator</td>
<td>Country Year</td>
<td>Model Year</td>
<td>Source</td>
</tr>
<tr>
<td>--------</td>
<td>-------------------------------------------------------------</td>
<td>--------------</td>
<td>------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>2.1.1</td>
<td>Expenditure on education, % GDP</td>
<td>2013</td>
<td>2014</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.1.2</td>
<td>Government funding/pupil, secondary, % GDP/cap</td>
<td>2012</td>
<td>2014</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.1.3</td>
<td>School life expectancy, years</td>
<td>2015</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.2.1</td>
<td>Tertiary enrolment, % gross</td>
<td>2015</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.2.2</td>
<td>Graduates in science &amp; engineering, %</td>
<td>2010</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.2.3</td>
<td>Tertiary inbound mobility, %</td>
<td>2012</td>
<td>2016</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>4.3.1</td>
<td>Applied tariff rate, weighted mean, %</td>
<td>2014</td>
<td>2016</td>
<td>World Bank, World Development Indicators</td>
</tr>
<tr>
<td>5.3.1</td>
<td>Intellectual property payments, % total trade</td>
<td>2015</td>
<td>2016</td>
<td>WTO, Trade in Commercial Services</td>
</tr>
<tr>
<td>5.3.2</td>
<td>High-tech net imports, % total trade</td>
<td>2015</td>
<td>2016</td>
<td>UN COMTRADE</td>
</tr>
<tr>
<td>5.3.3</td>
<td>ICT services imports, % total trade</td>
<td>2015</td>
<td>2016</td>
<td>WTO, Trade in Commercial Services</td>
</tr>
<tr>
<td>6.2.5</td>
<td>High- &amp; medium-high-tech manufactures, %</td>
<td>2008</td>
<td>2015</td>
<td>UNIDO, Industrial Statistics</td>
</tr>
<tr>
<td>6.3.1</td>
<td>Intellectual property receipts, % total trade</td>
<td>2015</td>
<td>2016</td>
<td>WTO, Trade in Commercial Services</td>
</tr>
<tr>
<td>6.3.2</td>
<td>High-tech net exports, % total trade</td>
<td>2015</td>
<td>2016</td>
<td>UN COMTRADE</td>
</tr>
<tr>
<td>6.3.3</td>
<td>ICT services exports, % total trade</td>
<td>2015</td>
<td>2016</td>
<td>WTO, Trade in Commercial Services</td>
</tr>
<tr>
<td>7.2.2</td>
<td>National feature films/mn pop. 15–69</td>
<td>2009</td>
<td>2015</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>7.2.4</td>
<td>Printing &amp; other media, % manufacturing</td>
<td>2008</td>
<td>2015</td>
<td>UNIDO, Industrial Statistics</td>
</tr>
<tr>
<td>7.2.5</td>
<td>Creative goods exports, % total manufacturing</td>
<td>2015</td>
<td>2016</td>
<td>UN COMTRADE</td>
</tr>
<tr>
<td>7.3.3</td>
<td>Wikipedia edits/mn pop. 15–69</td>
<td>2014</td>
<td>2017</td>
<td>Wikimedia Foundation</td>
</tr>
</tbody>
</table>
CAMEROON

GII 2018 rank

Output rank 111
Input rank 111
Income Lower-middle
Region SSF
Efficiency ratio 75
Population (mn) 24.1
GDP, PPP$ 81.6
GDP per capita, PPP$ 3,660.3

Institutions

- Political environment
  - Political stability & safety*
  - Government effectiveness

- Regulatory environment
  - Rule of law*
  - Cost of redundancy dismissal, salary weeks

- Business environment
  - Ease of starting a business*
  - Ease of resolving insolvency*

Human capital & research

- Education
  - Expenditure on education, % GDP
  - Government funding/pupil, secondary, % GDP/cap
  - School life expectancy, years

- Research & development (R&D)
  - Gross expenditure on R&D, % GDP

- ICT access
  - Global R&D companies, top 3, mn US$

Infrastructure

- Information & communication technologies (ICTs)

- General infrastructure
  - Electricity output, kWh/cap

- Logistics performance

- Environmental performance

- ISO 14001 environmental certificates/bn PPP$ GDP

Market sophistication

- Credit
  - Ease of getting credit*

- Investment
  - Venture capital deals/bn PPP$ GDP

- Trade, competition, & market scale
  - Applied tariff rate, weighted mean, %
  - Intensity of local competition

- Mobile app creation/bn PPP$ GDP

Business sophistication

- Knowledge workers

- Knowledge-intensive employment

- Firms offering formal training

- GERD performed by business

- Females employed w/advanced degrees

- Innovation linkages

- University-industry research collaboration

- Scale of cluster development

- GERD financed by abroad

- JV-strategic alliance deals/bn PPP$ GDP

- Patent families + offices/bn PPP$ GDP

Knowledge & technology outputs

- Knowledge creation

- Patents by origin/bn PPP$ GDP

- Utility models by origin/bn PPP$ GDP

- Scientific & technical articles/bn PPP$ GDP

- Citable documents H index

- Knowledge impact

- Growth rate of PPP$ GDP/worker

- New businesses/th pop, 15–64

- Computer software spending

- ISO 9001 quality certificates/bn PPP$ GDP

- High- & medium-high-tech manufactures

- ICT services imports

- ICT services exports

Creative outputs

- Intangible assets

- Trademarks by origin/bn PPP$ GDP

- Industrial designs by origin/bn PPP$ GDP

- PCT patents by origin/bn PPP$ GDP

- ISO 9001 quality certificates/bn PPP$ GDP

- High- & medium-high-tech manufactures

- Chandigarh 

- Computer software spending

- IPR intensity

- Gordon Brown Index

- Creative goods & services

- National feature films/mn pop, 15–69

- Entertainment & Media market/th pop, 15–69

- Printing & other media

- Creative goods exports

- Online creativity

NOTES: Indicates a strength; a weakness; an income group strength; an income group weakness; * an index; a survey question.

Square brackets indicate that the data minimum coverage (DMC) requirements were not met at the sub-pillar or pillar level; see page 75 of this appendix for details.