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 Costa Rica 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 Costa Rica's ranking in the GII 2019 is between 51 and 57.

<table>
<thead>
<tr>
<th></th>
<th>GII</th>
<th>Innovation Inputs</th>
<th>Innovation Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>55</td>
<td>68</td>
<td>48</td>
</tr>
<tr>
<td>2018</td>
<td>54</td>
<td>64</td>
<td>51</td>
</tr>
<tr>
<td>2017</td>
<td>53</td>
<td>57</td>
<td>50</td>
</tr>
</tbody>
</table>

- Costa Rica performs better in Innovation Outputs than Inputs.
- This year Costa Rica ranks 68th in Innovation Inputs, worse than last year and compared to 2017.
- As for Innovation Outputs, Costa Rica ranks 48th. This position is better than last year and compared to 2017.
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, Costa Rica performs above 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.

Costa Rica produces more innovation outputs relative to its level of innovation investments.
BENCHMARKING COSTA RICA TO OTHER UPPER MIDDLE-INCOME ECONOMIES AND THE LATIN AMERICA AND THE CARIBBEAN REGION

Costa Rica’s scores in the seven GII pillars

Upper middle-income economies

Costa Rica has high scores in 5 out of the 7 GII pillars: Institutions, Infrastructure, Business sophistication, Knowledge & technology outputs, and Creative outputs, which are above the average of the upper middle-income group.

Latin America and the Caribbean Region

Compared to other economies in Latin America and the Caribbean, Costa Rica performs above average in all GII pillars but Market sophistication.

Costa Rica ranks in the top 40 in the following areas: Education, Ecological sustainability, Knowledge absorption, Knowledge diffusion, and Creative goods & services.
OVERVIEW OF COSTA RICA’S RANKINGS IN THE 7 GII AREAS

Costa Rica performs the best in Creative outputs and its weakest performance is in Market sophistication.

COSTA RICA’S INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of Costa Rica’s strengths and weaknesses in the GII 2019.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strengths</strong>&lt;br&gt;Code</td>
<td>Indicator name</td>
</tr>
<tr>
<td>2.1.1</td>
<td>Expenditure on education, % GDP</td>
</tr>
<tr>
<td>3.3.1</td>
<td>GDP/unit of energy use</td>
</tr>
<tr>
<td>4.1.1</td>
<td>Ease of getting credit*</td>
</tr>
<tr>
<td>4.3.1</td>
<td>Applied tariff rate, weighted mean, %</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Firms offering formal training, % firms</td>
</tr>
<tr>
<td>5.3.1</td>
<td>Intellectual property payments, % total trade</td>
</tr>
<tr>
<td>6.3.3</td>
<td>ICT services exports, % total trade</td>
</tr>
<tr>
<td>7.1.1</td>
<td>Trademarks by origin/bn PPP$ GDP</td>
</tr>
<tr>
<td>7.2</td>
<td>Creative goods &amp; services</td>
</tr>
<tr>
<td>7.2.1</td>
<td>Cultural &amp; creative services exports, % total trade</td>
</tr>
<tr>
<td>7.2.4</td>
<td>Printing &amp; other media, % manufacturing</td>
</tr>
<tr>
<td>7.1.2</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 Costa Rica are found in six of the seven GII pillars.
- Several of these strengths are in Creative outputs (39), the best ranked pillar for Costa Rica. Here, strengths are sub-pillar Creative goods & services (16) and indicators Trademarks by origin (19), Printing & other media (15), and Cultural & creative services exports – where Costa Rica positions 1st globally.
- In Human capital & research (72), Costa Rica’s strength is indicator Expenditure on education (7).
- In Infrastructure (63), a GII strength is indicator GDP per unit of energy use (15).
- In Market sophistication (85), Costa Rica present two strengths: indicators Ease of getting credit (11) and Applied tariff rate (22).
- In Business sophistication (52), GII strengths are indicators Firms offering formal training (14) and Intellectual property payments (8).
- In Knowledge & technology outputs (56), indicator ICT services exports (7) is a strength for Costa Rica.

WEAKNESSES

- Costa Rica’s weaknesses in the GII are found in six of the seven GII pillars.
- In Institutions (68), Costa Rica’s weaknesses are sub-pillar Business environment (110) and indicator Ease of resolving insolvency (111).
- In Human capital & research (72), two GII weaknesses are found in two important indicators: Graduates in science & engineering (90) and Global R&D companies (43).
- In Infrastructure (63), indicator Gross capital formation (105) is a relative weakness for this country.
- In Market sophistication (85), Costa Rica’s relative weaknesses are sub-pillar Investment (112) as well as indicators Microfinance gross loans (71) and Market capitalization (74).
- In Business sophistication (52), three indicators – R&D financed by business (87), R&D financed by abroad (88), and JV–strategic alliance deals (109) – are GII weaknesses of Costa Rica.
- In Creative outputs (39), only one indicator – Industrial designs by origin (113) – is a relative weakness for this country.
**HUMAN CAPITAL & RESEARCH**  28.5  72

1.1 Political environment.................................  58.4  58
1.1.1 Political and operational stability .................. 70.2  67
1.1.2 Government effectiveness*........................ 52.5  56

1.2 Regulatory environment................................. 69.9  54
1.2.1 Regulatory quality*.................................. 54.0  48
1.2.2 Rule of law*........................................... 58.4  43
1.2.3 Cost of redundancy dismissal, salary weeks ........ 18.7  76

1.3 Business environment.................................... 57.2  110 6
1.3.1 Ease of starting a business*........................ 79.9  108
1.3.2 Ease of resolving insolvency*....................... 34.5  111

**MARKET SOPHICATION**  44.2  85

4.1 Credit......................................................... 37.8  60
4.1.1 Ease of getting credit*................................ 85.0  113
4.1.2 Domestic credit to private sector, % GDP........... 62.0  53
4.1.3 Microfinance gross loans, % GDP.................... 0.0  71

4.2 Investment.................................................. 32.2  112
4.2.1 Ease of protecting minority investors*............. 48.3  99
4.2.2 Market capitalization, % GDP....................... 4.6  74
4.2.3 Venture capital deals/bn PPP$ GDP................... n/a n/a

4.3 Trade, competition, & market scale.................... 62.8  54
4.3.1 Applied tariff rate, weighted avg., %................ 1.8  22
4.3.2 Intensity of local competition...................... 72.9  39
4.3.3 Domestic market scale, bn PPP$....................... 88.7  84

**BUSINESS SOPHICATION**  33.2  52

5.1 Knowledge workers....................................... 37.0  65
5.1.1 Knowledge-intensive employment, %................ 24.4  58
5.1.2 Firms offering formal training, % firms .......... 54.7  14
5.1.3 GERD performed by business, % GDP................ 0.2  54
5.1.4 GERD financed by business, %......................... 2.9  87
5.1.5 Females employed w/advanced degrees, %........... 10.5  63

5.2 Innovation linkages....................................... 18.8  95
5.2.1 University/industry research collaboration*........ 45.1  51
5.2.2 State of cluster development*....................... 49.6  51
5.2.3 GERD financed by abroad, %......................... 1.3  88
5.2.4 JV-strategic alliance deals/bn PPP$ GDP............. 0.0  109
5.2.5 Patent families 2+ offices/bn PPP$ GDP............. 0.0  70

5.3 Knowledge absorption..................................... 43.8  29
5.3.1 Intellectual property payments, % total trade..... 2.8  88
5.3.2 High-tech imports, % total trade.................... 9.1  43
5.3.3 ICT services imports, % total trade.................. 1.4  50
5.3.4 FDI net inflows, % GDP............................... 5.0  30
5.3.5 Research talent, % in business enterprise.......... n/a n/a

**KNOWLEDGE & TECHNOLOGY OUTPUTS**  24.3  56

6.1 Knowledge creation...................................... 5.9  91
6.1.1 Patents by origin/bn PPP$ GDP....................... 0.2  94
6.1.2 PCT patents by origin/bn PPP$ GDP.................. 0.1  57
6.1.3 Utility models by origin/bn PPP$ GDP................. 0.1  49
6.1.4 Scientific & technical articles/bn PPP$ GDP........ 5.0  81
6.1.5 Citable documents H-index............................ 10.1  66

6.2 Knowledge impact........................................... 36.9  62
6.2.1 Growth rate of PPP$ GDP/worker, %.................. 9.3  38
6.2.2 New businesses/th pop. 15-64........................ 2.1  49
6.2.3 Computer software spending, % GDP................ 0.3  46
6.2.4 ISO 9001 quality certificates/bn PPP$ GDP........... 3.6  67
6.2.5 High- & medium-high-tech manufactures, %....... 0.3  41

6.3 Knowledge diffusion..................................... 30.2  30
6.3.1 Intellectual property receipts, % total trade........ 0.0  79
6.3.2 High-tech net exports, % total trade................ 5.7  28
6.3.3 ICT services exports, % total trade................ 6.1  77
6.3.4 FDI net outflows, % GDP............................. 0.7  60

**CREATIVE OUTPUTS**  34.3  39

7.1 Intangible assets........................................... 48.6  41
7.1.1 Trademarks by origin/bn PPP$ GDP.................... 94.1  19
7.1.2 Industrial designs by origin/bn PPPS GDP........... 0.1  113
7.1.3 ITCs & business model creation*.................... 68.3  34
7.1.4 ITCs & organizational model creation*.............. 63.0  36

7.2 Creative goods & services................................ 34.8  16
7.2.1 Cultural & creative services exports, % total trade. 4.2  1
7.2.2 National feature films/mn pop. 15-69................. 3.7  50
7.2.3 Entertainment & Media market/th pop. 15-69........ 5.7  76
7.2.4 Printing & other media, % manufacturing.......... 2.2  15
7.2.5 Creative goods exports, % total trade................ 0.4  65

7.3 Online creativity........................................... 5.1  65
7.3.1 Generic top-level domains (TLDs)/th pop. 15-69.... 11.3  37
7.3.2 Country-code TLDs/th pop. 15-69..................... 1.4  70
7.3.3 Wikipedia edits/mn pop. 15-69......................... 1.0  62
7.3.4 Mobile app creation/bn PPP$ GDP..................... 0.4  73
DATA AVAILABILITY

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

### 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>4.2.3</td>
<td>Venture capital deals/bn PPP$ GDP</td>
<td>n/a</td>
<td>2018</td>
<td>Thomson Reuters</td>
</tr>
<tr>
<td>5.3.5</td>
<td>Research talent, % in business enterprise</td>
<td>n/a</td>
<td>2017</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators</td>
</tr>
<tr>
<td>7.2.3</td>
<td>Entertainment &amp; Media market/th pop. 15–69</td>
<td>n/a</td>
<td>2017</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>2.1.5</td>
<td>Pupil-teacher ratio, secondary</td>
<td>2016</td>
<td>2017</td>
<td>UNESCO Institute for Statistics</td>
</tr>
<tr>
<td>2.3.1</td>
<td>Researchers, FTE/mn pop.</td>
<td>2016</td>
<td>2017</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators</td>
</tr>
<tr>
<td>2.3.2</td>
<td>Gross expenditure on R&amp;D, % GDP</td>
<td>2016</td>
<td>2017</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators</td>
</tr>
<tr>
<td>4.1.3</td>
<td>Microfinance gross loans, % GDP</td>
<td>2016</td>
<td>2017</td>
<td>Microfinance Information Exchange</td>
</tr>
<tr>
<td>4.3.1</td>
<td>Applied tariff rate, weighted mean, %</td>
<td>2016</td>
<td>2017</td>
<td>World Bank</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Firms offering formal training, % firms</td>
<td>2010</td>
<td>2013</td>
<td>World Bank</td>
</tr>
<tr>
<td>5.1.3</td>
<td>GERD performed by business, % GDP</td>
<td>2016</td>
<td>2017</td>
<td>UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators</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>
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.

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.

www.globalinnovationindex.org  GII app for iOS  GII app for android