Global Innovation Index 2022

# TRINIDAD AND TOBAGO

**101st** Trinidad and Tobago ranks 101st among the 132 economies featured in the GII 2022.

**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 Trinidad and Tobago 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 Trinidad and Tobago in the GII 2022 is between ranks 88 and 106.

## Rankings for Trinidad and Tobago (2020–2022)

| GIIYR | GII | Innovation inputs | Innovation outputs |
|---|---|---|---|
| **2020** | 98 | 87 | 111 |
| **2021** | 97 | 97 | 95 |
| **2022** | 101 | 95 | 103 |

- Trinidad and Tobago performs better in innovation inputs than innovation outputs in 2022.
- This year Trinidad and Tobago ranks 95th in innovation inputs, higher than last year but lower than 2020.
- As for innovation outputs, Trinidad and Tobago ranks 103rd. This position is lower than last year but higher than 2020.

**48th** Trinidad and Tobago ranks 48th among the 48 high-income group economies.

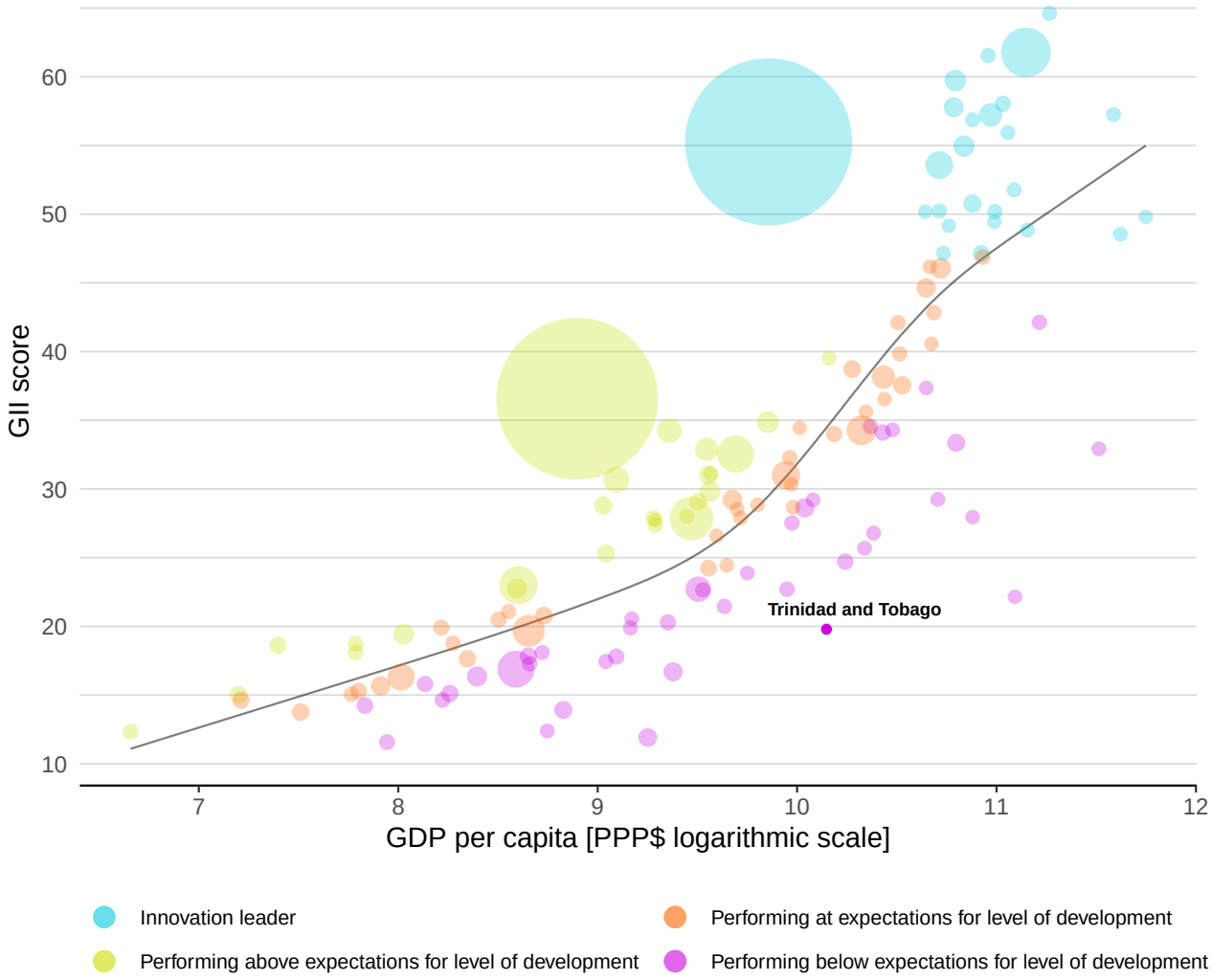
**15th** Trinidad and Tobago ranks 15th among the 18 economies in Latin America and the Caribbean.

# 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, Trinidad and Tobago's performance is below expectations for its level of development.

## The positive relationship between innovation and development

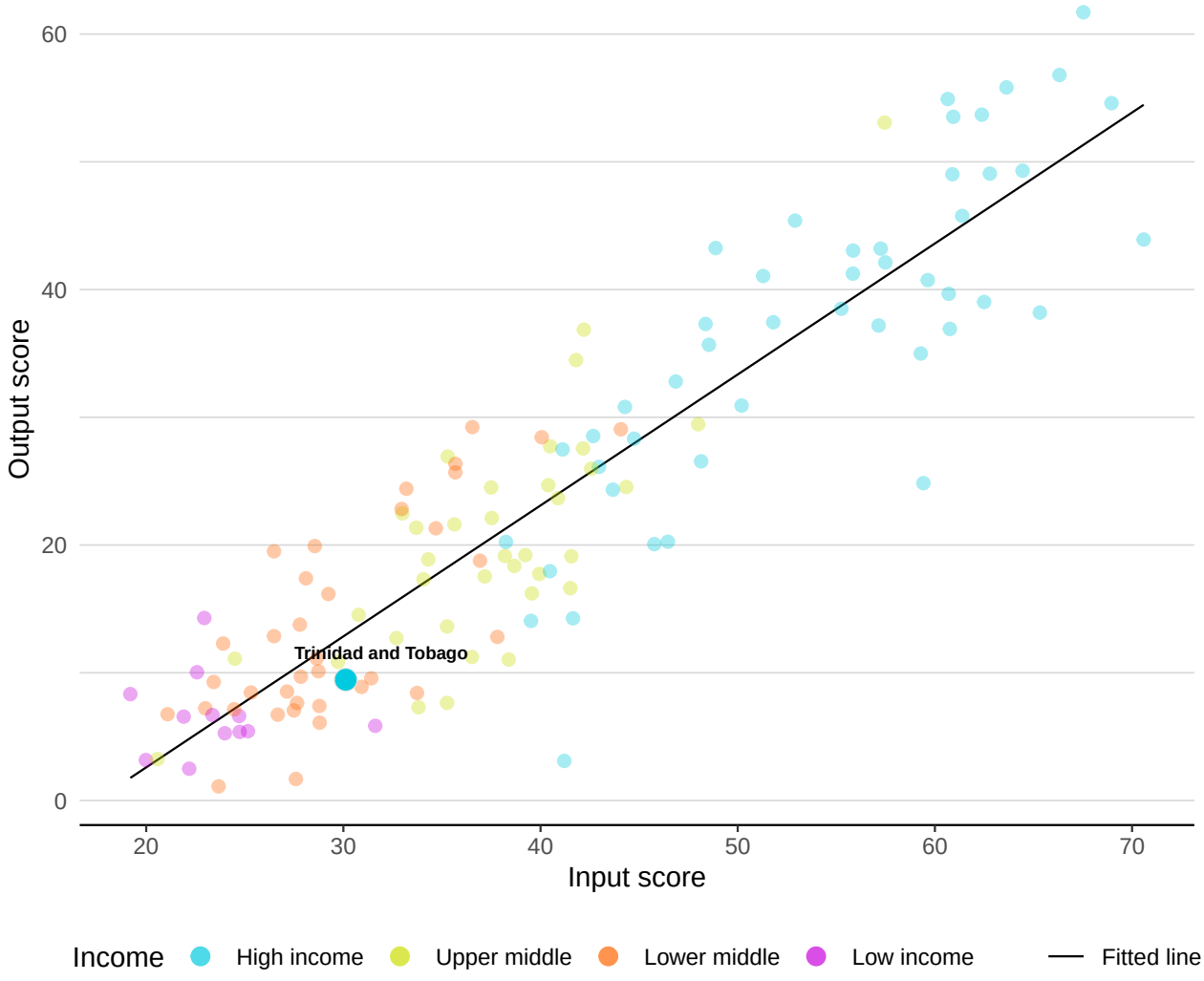


# EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

Trinidad and Tobago produces less innovation outputs relative to its level of innovation investments.

## Innovation input to output performance



# BENCHMARKING AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND LATIN AMERICA AND THE CARIBBEAN

## The seven GII pillar scores for Trinidad and Tobago


### High-income group economies

Trinidad and Tobago performs below the high-income group average in all GII pillars.

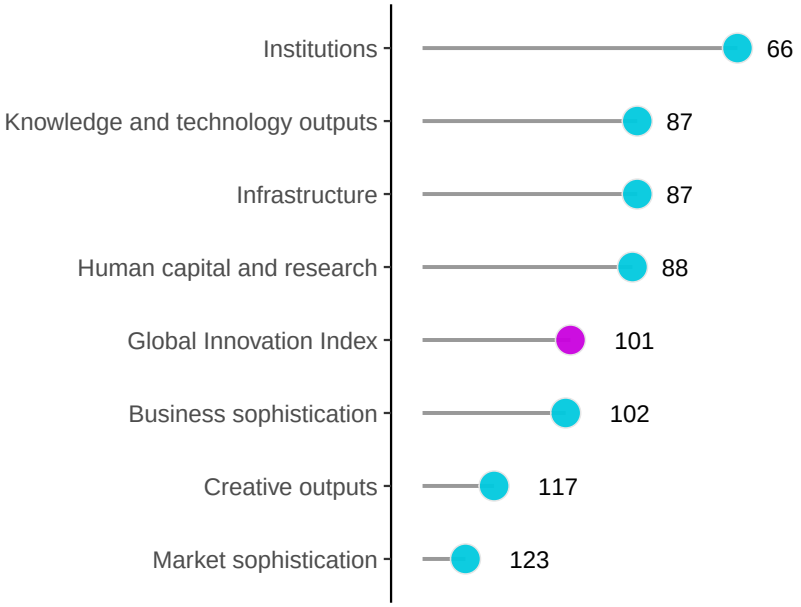
### Latin America and the Caribbean

Trinidad and Tobago performs above the regional average in Institutions.

# OVERVIEW OF RANKINGS IN THE SEVEN GII 2022 AREAS

Trinidad and Tobago performs best in Institutions and its weakest performance is in Market sophistication.

## The seven GII pillar ranks for Trinidad and Tobago




Note: The highest possible ranking in each pillar is 1.

**The full WIPO Intellectual Property Statistics profile for Trinidad and Tobago can be found at:**

https://www.wipo.int/ipstats/en/statistics/country_profile/profile.jsp?code=TT.

# INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the indicator strengths and weaknesses of Trinidad and Tobago in the GII 2022.

## Strengths and weaknesses for Trinidad and Tobago

| Strengths | | | Weaknesses | | |
|---|---|---|---|---|---|
| **Code** | **Indicator name** | **Rank** | **Code** | **Indicator name** | **Rank** |
| 1.1.2 | Government effectiveness | 58 | 2.3.2 | Gross expenditure on R&D, % GDP | 109 |
| 3.1.1 | ICT access | 56 | 2.3.3 | Global corporate R&D investors, top 3, mn USD | 38 |
| 3.2.1 | Electricity output, GWh/mn pop. | 30 | 2.3.4 | QS university ranking, top 3 | 72 |
| 3.3.2 | Environmental performance | 47 | 3.3.1 | GDP/unit of energy use | 130 |
| 5.1.1 | Knowledge-intensive employment, % | 50 | 5.1.3 | GERD performed by business, % GDP | 84 |
| 5.2.4 | Joint venture/strategic alliance deals/bn PPP$ GDP | 39 | 5.3.4 | FDI net inflows, % GDP | 123 |
| 6.2.2 | New businesses/th pop. 15–64 | 32 | 5.3.5 | Research talent, % in businesses | 77 |
| 6.3.1 | Intellectual property receipts, % total trade | 51 | 6.1.1 | Patents by origin/bn PPP$ GDP | 125 |
| 6.3.2 | Production and export complexity | 51 | 6.3.4 | ICT services exports, % total trade | 125 |
| 7.3.1 | Generic top-level domains (TLDs)/th pop. 15–69 | 56 | 7.1.3 | Global brand value, top 5,000, % GDP | 77 |

GII 2022 rank

# Trinidad and Tobago

**101**

| Output rank | Input rank | Income | Region | Population (mn) | GDP, PPP$ (bn) | GDP per capita, PPP$ |
|---|---|---|---|---|---|---|
| 103 | 95 | High | LCN | 1.4 | 35.9 | 25,526 |

| | | Score/ Value | Rank | |
|---|---|---|---|---|
| **Institutions** | | **56.2** | **66** | ◇ |
| **1.1** | **Political environment** | 62.2 | 57 | ● ◇ |
| 1.1.1 | Political and operational stability* | 70.9 | 53 | ◇ |
| 1.1.2 | Government effectiveness* | 53.6 | 58 | ● ◇ |
| **1.2** | **Regulatory environment** | 58.7 | 85 | ◇ |
| 1.2.1 | Regulatory quality* | 41.5 | 82 | ◇ |
| 1.2.2 | Rule of law* | 42.8 | 69 | ◇ |
| 1.2.3 | Cost of redundancy dismissal | 20.5 | 88 | |
| **1.3** | **Business environment** | 47.7 | [66] | |
| 1.3.1 | Policies for doing business† | 47.7 | 70 | |
| 1.3.2 | Entrepreneurship policies and culture* | n/a | n/a | |
| **Human capital and research** | | **23.1** | **88** | ◇ |
| **2.1** | **Education** | 45.2 | 81 | ◇ |
| 2.1.1 | Expenditure on education, % GDP | 4.1 | 73 | |
| 2.1.2 | Government funding/pupil, secondary, % GDP/cap | 18.5 | 61 | |
| 2.1.3 | School life expectancy, years | n/a | n/a | |
| 2.1.4 | PISA scales in reading, maths and science | 423.0 | 54 | ◇ |
| 2.1.5 | Pupil-teacher ratio, secondary | 13.3 | 57 | |
| **2.2** | **Tertiary education** | n/a | [n/a] | |
| 2.2.1 | Tertiary enrolment, % gross | n/a | n/a | |
| 2.2.2 | Graduates in science and engineering, % | n/a | n/a | |
| 2.2.3 | Tertiary inbound mobility, % | n/a | n/a | |
| **2.3** | **Research and development (R&D)** | 1.1 | 94 | ◇ |
| 2.3.1 | Researchers, FTE/mn pop. | 491.8 | 69 | ◇ |
| 2.3.2 | Gross expenditure on R&D, % GDP | 0.1 | 109 | ○ ◇ |
| 2.3.3 | Global corporate R&D investors, top 3, mn USD | 0.0 | 38 | ○ ◇ |
| 2.3.4 | QS university ranking, top 3* | 0.0 | 72 | ○ ◇ |
| **Infrastructure** | | **36.5** | **87** | ◇ |
| **3.1** | **Information and communication technologies (ICTs)** | 67.9 | 83 | ◇ |
| 3.1.1 | ICT access* | 89.1 | 56 | ● |
| 3.1.2 | ICT use* | 59.3 | 74 | ◇ |
| 3.1.3 | Government's online service* | 61.2 | 86 | ◇ |
| 3.1.4 | E-participation* | 61.9 | 84 | ◇ |
| **3.2** | **General infrastructure** | 24.7 | 80 | ◇ |
| 3.2.1 | Electricity output, GWh/mn pop. | 6,564.3 | 30 | ● |
| 3.2.2 | Logistics performance* | 17.2 | 110 | ◇ |
| 3.2.3 | Gross capital formation, % GDP | n/a | n/a | |
| **3.3** | **Ecological sustainability** | 17.1 | 112 | ◇ |
| 3.3.1 | GDP/unit of energy use | 2.0 | 130 | ○ ◇ |
| 3.3.2 | Environmental performance* | 47.8 | 47 | ● |
| 3.3.3 | ISO 14001 environmental certificates/bn PPP$ GDP | 0.6 | 80 | ◇ |
| **Market sophistication** | | **14.2** | **[123]** | |
| **4.1** | **Credit** | 15.6 | [98] | |
| 4.1.1 | Finance for startups and scaleups* | n/a | n/a | |
| 4.1.2 | Domestic credit to private sector, % GDP | 45.0 | 77 | ◇ |
| 4.1.3 | Loans from microfinance institutions, % GDP | n/a | n/a | |
| **4.2** | **Investment** | 4.8 | [81] | |
| 4.2.1 | Market capitalization, % GDP | n/a | n/a | |
| 4.2.2 | Venture capital investors, deals/bn PPP$ GDP | 0.0 | 50 | |
| 4.2.3 | Venture capital recipients, deals/bn PPP$ GDP | n/a | n/a | |
| 4.2.4 | Venture capital received, value, % GDP | n/a | n/a | |
| **4.3** | **Trade, diversification, and market scale** | 22.4 | 124 | ○ ◇ |
| 4.3.1 | Applied tariff rate, weighted avg., % | 8.6 | 109 | ◇ |
| 4.3.2 | Domestic industry diversification | n/a | n/a | |
| 4.3.3 | Domestic market scale, bn PPP$ | 35.9 | 119 | |

| | | Score/ Value | Rank | |
|---|---|---|---|---|
| **Business sophistication** | | **20.5** | **102** | ◇ |
| **5.1** | **Knowledge workers** | 26.0 | 75 | ◇ |
| 5.1.1 | Knowledge-intensive employment, % | 29.8 | 50 | ● ◇ |
| 5.1.2 | Firms offering formal training, % | n/a | n/a | |
| 5.1.3 | GERD performed by business, % GDP | 0.0 | 84 | ○ ◇ |
| 5.1.4 | GERD financed by business, % | 13.6 | 72 | ◇ |
| 5.1.5 | Females employed w/advanced degrees, % | 12.8 | 60 | ◇ |
| **5.2** | **Innovation linkages** | 18.6 | 104 | ◇ |
| 5.2.1 | University-industry R&D collaboration† | 33.6 | 107 | ◇ |
| 5.2.2 | State of cluster development and depth† | 42.3 | 95 | ◇ |
| 5.2.3 | GERD financed by abroad, % GDP | 0.0 | 62 | ◇ |
| 5.2.4 | Joint venture/strategic alliance deals/bn PPP$ GDP | 0.0 | 39 | ● |
| 5.2.5 | Patent families/bn PPP$ GDP | 0.0 | 75 | ◇ |
| **5.3** | **Knowledge absorption** | 16.9 | 129 | ○ ◇ |
| 5.3.1 | Intellectual property payments, % total trade | 0.5 | 67 | |
| 5.3.2 | High-tech imports, % total trade | 6.4 | 100 | |
| 5.3.3 | ICT services imports, % total trade | 0.6 | 106 | ◇ |
| 5.3.4 | FDI net inflows, % GDP | −0.9 | 123 | ○ |
| 5.3.5 | Research talent, % in businesses | 1.4 | 77 | ○ ◇ |
| **Knowledge and technology outputs** | | **14.5** | **87** | ◇ |
| **6.1** | **Knowledge creation** | 3.4 | 115 | ◇ |
| 6.1.1 | Patents by origin/bn PPP$ GDP | 0.0 | 125 | ○ ◇ |
| 6.1.2 | PCT patents by origin/bn PPP$ GDP | 0.1 | 74 | ◇ |
| 6.1.3 | Utility models by origin/bn PPP$ GDP | 0.0 | 71 | ◇ |
| 6.1.4 | Scientific and technical articles/bn PPP$ GDP | 8.2 | 99 | ◇ |
| 6.1.5 | Citable documents H-index | 4.0 | 105 | ◇ |
| **6.2** | **Knowledge impact** | 20.4 | [91] | |
| 6.2.1 | Labor productivity growth, % | −1.1 | 105 | ◇ |
| 6.2.2 | New businesses/th pop. 15–64 | 4.5 | 32 | ● |
| 6.2.3 | Software spending, % GDP | n/a | n/a | |
| 6.2.4 | ISO 9001 quality certificates/bn PPP$ GDP | 2.4 | 80 | ◇ |
| 6.2.5 | High-tech manufacturing, % | n/a | n/a | |
| **6.3** | **Knowledge diffusion** | 19.6 | 75 | ◇ |
| 6.3.1 | Intellectual property receipts, % total trade | 0.1 | 51 | ● |
| 6.3.2 | Production and export complexity | 44.7 | 51 | ● |
| 6.3.3 | High-tech exports, % total trade | 1.9 | 62 | |
| 6.3.4 | ICT services exports, % total trade | 0.2 | 125 | ○ |
| **Creative outputs** | | **4.5** | **117** | ◇ |
| **7.1** | **Intangible assets** | 6.7 | 112 | ◇ |
| 7.1.1 | Intangible asset intensity, top 15, % | n/a | n/a | |
| 7.1.2 | Trademarks by origin/bn PPP$ GDP | 25.6 | 85 | |
| 7.1.3 | Global brand value, top 5,000, % GDP | 0.0 | 77 | ○ ◇ |
| 7.1.4 | Industrial designs by origin/bn PPP$ GDP | 0.4 | 88 | |
| **7.2** | **Creative goods and services** | 1.7 | [117] | |
| 7.2.1 | Cultural and creative services exports, % total trade | n/a | n/a | |
| 7.2.2 | National feature films/mn pop. 15–69 | n/a | n/a | |
| 7.2.3 | Entertainment and media market/th pop. 15–69 | n/a | n/a | |
| 7.2.4 | Printing and other media, % manufacturing | n/a | n/a | |
| 7.2.5 | Creative goods exports, % total trade | 0.1 | 84 | |
| **7.3** | **Online creativity** | 2.8 | 76 | ◇ |
| 7.3.1 | Generic top-level domains (TLDs)/th pop. 15–69 | 4.3 | 56 | ● |
| 7.3.2 | Country-code TLDs/th pop. 15–69 | 1.1 | 84 | ◇ |
| 7.3.3 | GitHub commit pushes received/mn pop. 15–69 | 2.9 | 73 | ◇ |
| 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 appendices for details, including the year of the data, at https://www.wipo.int/global_innovation_index/en/2022. 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 indicators that are either missing or outdated for Trinidad and Tobago.

## Missing data for Trinidad and Tobago

| Code | Indicator name | Economy year | Model year | Source |
|---|---|---|---|---|
| 1.3.2 | Entrepreneurship policies and culture | n/a | 2021 | Global Entrepreneurship Monitor |
| 2.1.3 | School life expectancy, years | n/a | 2019 | UNESCO Institute for Statistics |
| 2.2.1 | Tertiary enrolment, % gross | n/a | 2019 | UNESCO Institute for Statistics |
| 2.2.2 | Graduates in science and engineering, % | n/a | 2020 | UNESCO Institute for Statistics |
| 2.2.3 | Tertiary inbound mobility, % | n/a | 2019 | UNESCO Institute for Statistics |
| 3.2.3 | Gross capital formation, % GDP | n/a | 2021 | International Monetary Fund |
| 4.1.1 | Finance for startups and scaleups | n/a | 2021 | Global Entrepreneurship Monitor |
| 4.1.3 | Loans from microfinance institutions, % GDP | n/a | 2020 | International Monetary Fund, Financial Access Survey (FAS) |
| 4.2.1 | Market capitalization, % GDP | n/a | 2020 | World Federation of Exchanges |
| 4.2.3 | Venture capital recipients, deals/bn PPP$ GDP | n/a | 2021 | Refinitiv |
| 4.2.4 | Venture capital received, value, % GDP | n/a | 2021 | Refinitiv |
| 4.3.2 | Domestic industry diversification | n/a | 2019 | United Nations Industrial Development Organization |
| 5.1.2 | Firms offering formal training, % | n/a | 2019 | World Bank Enterprise Surveys |
| 6.2.3 | Software spending, % GDP | n/a | 2021 | IHS Markit |
| 6.2.5 | High-tech manufacturing, % | n/a | 2019 | United Nations Industrial Development Organization |
| 7.1.1 | Intangible asset intensity, top 15, % | n/a | 2021 | Brand Finance |
| 7.2.1 | Cultural and creative services exports, % total trade | n/a | 2020 | World Trade Organization and United Nations Conference on Trade and Development |
| 7.2.2 | National feature films/mn pop. 15–69 | n/a | 2019 | OMDIA |
| 7.2.3 | Entertainment and media market/th pop. 15–69 | n/a | 2021 | PwC, GEMO |
| 7.2.4 | Printing and other media, % manufacturing | n/a | 2019 | United Nations Industrial Development Organization |
| 7.3.4 | Mobile app creation/bn PPP$ GDP | n/a | 2021 | data.ia |

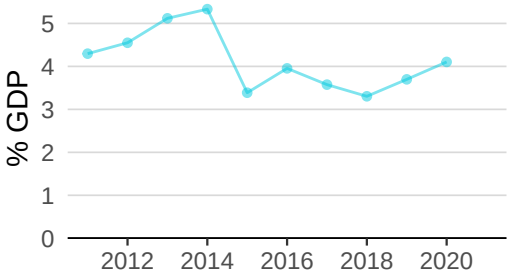
## Outdated data for Trinidad and Tobago

| Code | Indicator name | Economy year | Model year | Source |
|---|---|---|---|---|
| 2.1.4 | PISA scales in reading, maths and science | 2015 | 2018 | OECD, PISA |
| 2.3.1 | Researchers, FTE/mn pop. | 2019 | 2020 | UNESCO Institute for Statistics |
| 2.3.2 | Gross expenditure on R&D, % GDP | 2019 | 2020 | UNESCO Institute for Statistics |
| 3.2.1 | Electricity output, GWh/mn pop. | 2019 | 2020 | International Energy Agency |
| 4.3.1 | Applied tariff rate, weighted avg., % | 2013 | 2020 | World Bank |
| 5.1.1 | Knowledge-intensive employment, % | 2016 | 2021 | International Labour Organization |
| 5.1.3 | GERD performed by business, % GDP | 2018 | 2020 | UNESCO Institute for Statistics |
| 5.1.4 | GERD financed by business, % | 2018 | 2019 | UNESCO Institute for Statistics |
| 5.1.5 | Females employed w/advanced degrees, % | 2016 | 2021 | International Labour Organization |
| 5.2.3 | GERD financed by abroad, % GDP | 2018 | 2019 | UNESCO Institute for Statistics |
| 5.3.2 | High-tech imports, % total trade | 2015 | 2020 | United Nations Comtrade Database |
| 5.3.5 | Research talent, % in businesses | 2018 | 2020 | UNESCO Institute for Statistics |
| 6.1.3 | Utility models by origin/bn PPP$ GDP | 2018 | 2020 | World Intellectual Property Organization |
| 6.3.3 | High-tech exports, % total trade | 2015 | 2020 | United Nations Comtrade Database |
| 7.2.5 | Creative goods exports, % total trade | 2015 | 2020 | United Nations Comtrade Database |

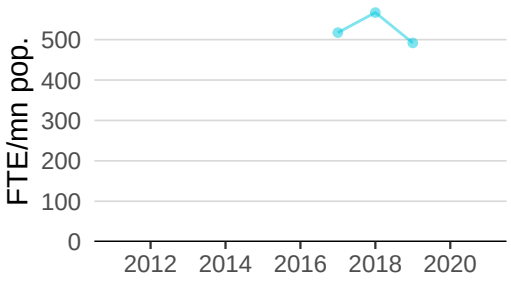
# TRINIDAD AND TOBAGO'S INNOVATION SYSTEM

As far as practicable, the plots below present unscaled indicator data.

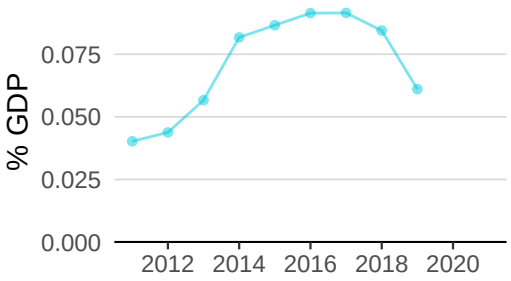
## Innovation inputs



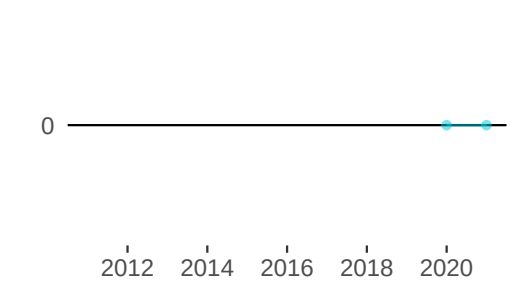

**2.1.1 Expenditure on education** was equal to 4.1% GDP in 2020–up by 11 percentage points from the year prior–and equivalent to an indicator rank of 73.



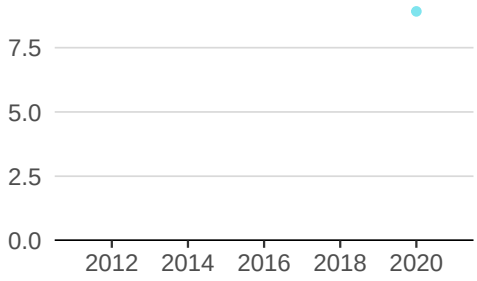

**2.3.1 Researchers** was equal to 491.8 FTE/mn pop. in 2019–down by 13 percentage points from the year prior–and equivalent to an indicator rank of 69.



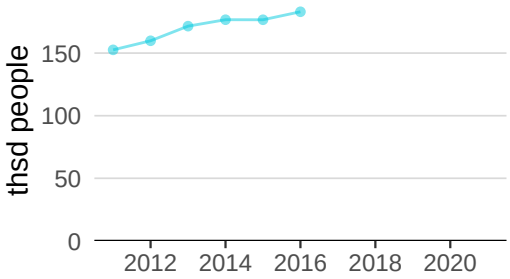

**2.3.2 Gross expenditure on R&D** was equal to 0.1% GDP in 2019–down by 28 percentage points from the year prior–and equivalent to an indicator rank of 109.




**2.3.4 QS university ranking** was equal to 0.0 in 2021–effectively unchanged from the year prior–and equivalent to an indicator rank of 72.

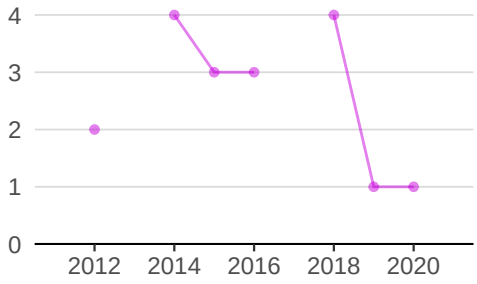



**3.1.1 ICT access** was equal to 8.9 in 2020 and equivalent to an indicator rank of 56.

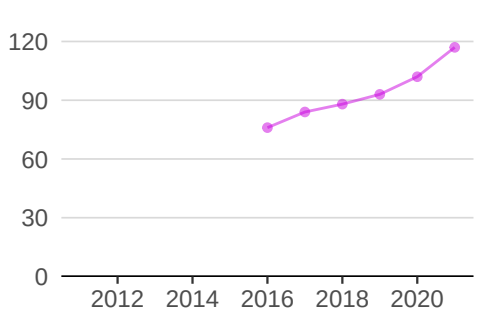



**5.1.1 Knowledge-intensive employment** was equal to 183.0 thsd people in 2016–up by 4 percentage points from the year prior–and equivalent to an indicator rank of 50.

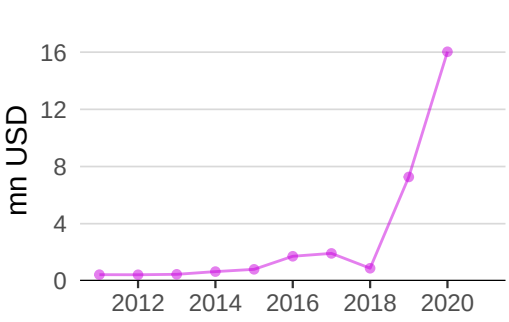
## Innovation outputs



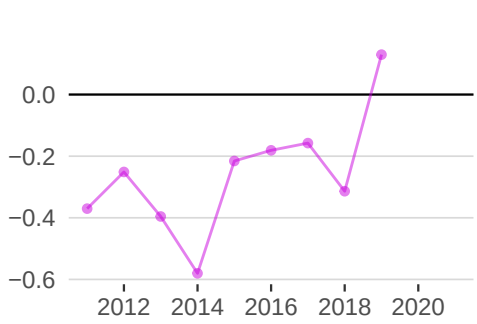

**6.1.1 Patents by origin** was equal to 1.0 in 2020–effectively unchanged from the year prior–and equivalent to an indicator rank of 125.



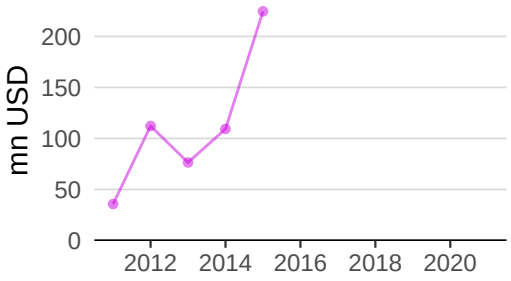

**6.1.5 Citable documents H-index** was equal to 117.0 in 2021–up by 15 percentage points from the year prior–and equivalent to an indicator rank of 105.



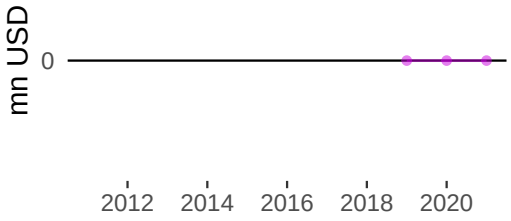

**6.3.1 Intellectual property receipts** was equal to 16.0 mn USD in 2020–up by 120 percentage points from the year prior–and equivalent to an indicator rank of 51.




**6.3.2 Production and export complexity** was equal to 0.1 in 2019–up by 141 percentage points from the year prior–and equivalent to an indicator rank of 51.




**6.3.3 High-tech exports** was equal to 224.5 mn USD in 2015–up by 105 percentage points from the year prior–and equivalent to an indicator rank of 62.




**7.1.3 Global brand value** was equal to 0.0 mn USD in 2021–effectively unchanged from the year prior–and equivalent to an indicator rank of 77.

# TRINIDAD AND TOBAGO'S INNOVATION TOP PERFORMERS

## 2.3.3 Global corporate R&D investors

| Firm | Industry | R&D | R&D Growth | R&D Intensity | Rank |
|---|---|---|---|---|---|

No observations

Source: European Commission's Joint Research Centre (https://iri.jrc.ec.europa.eu/scoreboard/2021-eu-industrial-rd-investment-scoreboard).

## 2.3.4 QS university ranking

| University | Score | Rank |
|---|---|---|

No observations

Source: QS Quacquarelli Symonds Ltd (https://www.topuniversities.com/university-rankings/world-university-rankings/2022).

## 7.1.1 Intangible asset intensity, top 15

| Firm | Rank |
|---|---|

No observations

Source: Brand Finance (https://brandirectory.com/reports/gift-2021).

## 7.1.3 Global brand value, top 5,000

| Brand | Industry | Rank |
|---|---|---|

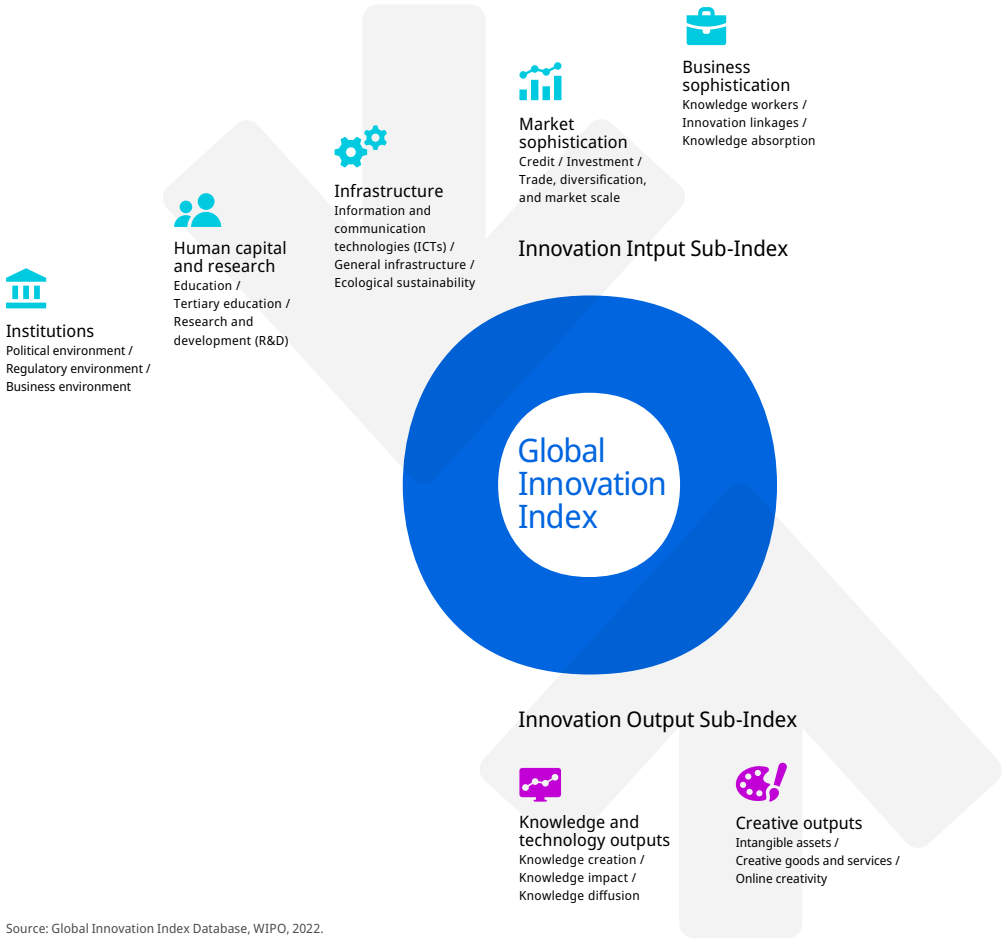
No observations

Source: Brand Finance (https://brandirectory.com).

# 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.




Source: Global Innovation Index Database, WIPO, 2022.

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.