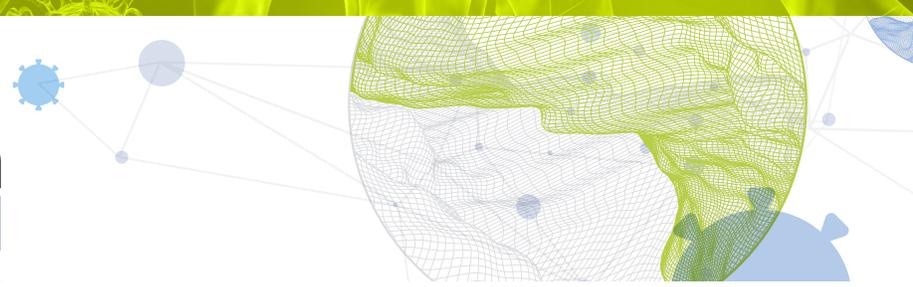




# Global Innovation Index 2021



## SPAIN

**30th** Spain ranks 30th among the 132 economies featured in the GII 2021.

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 Spain 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 Spain in the GII 2021 is between ranks 29 and 30.

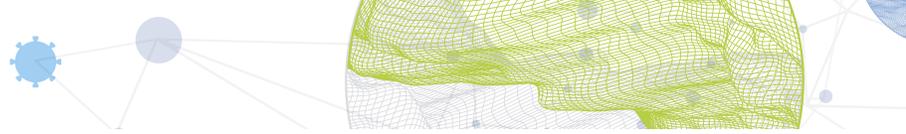
### Rankings for Spain (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	30	28	29
2020	30	27	27
2019	29	25	28

- Spain performs better in innovation inputs than innovation outputs in 2021.
- This year Spain ranks 28th in innovation inputs, lower than both 2020 and 2019.
- As for innovation outputs, Spain ranks 29th. This position is lower than both 2020 and 2019.

**29th** Spain ranks 29th among the 51 high-income group economies.

**19th** Spain ranks 19th among the 39 economies in Europe.

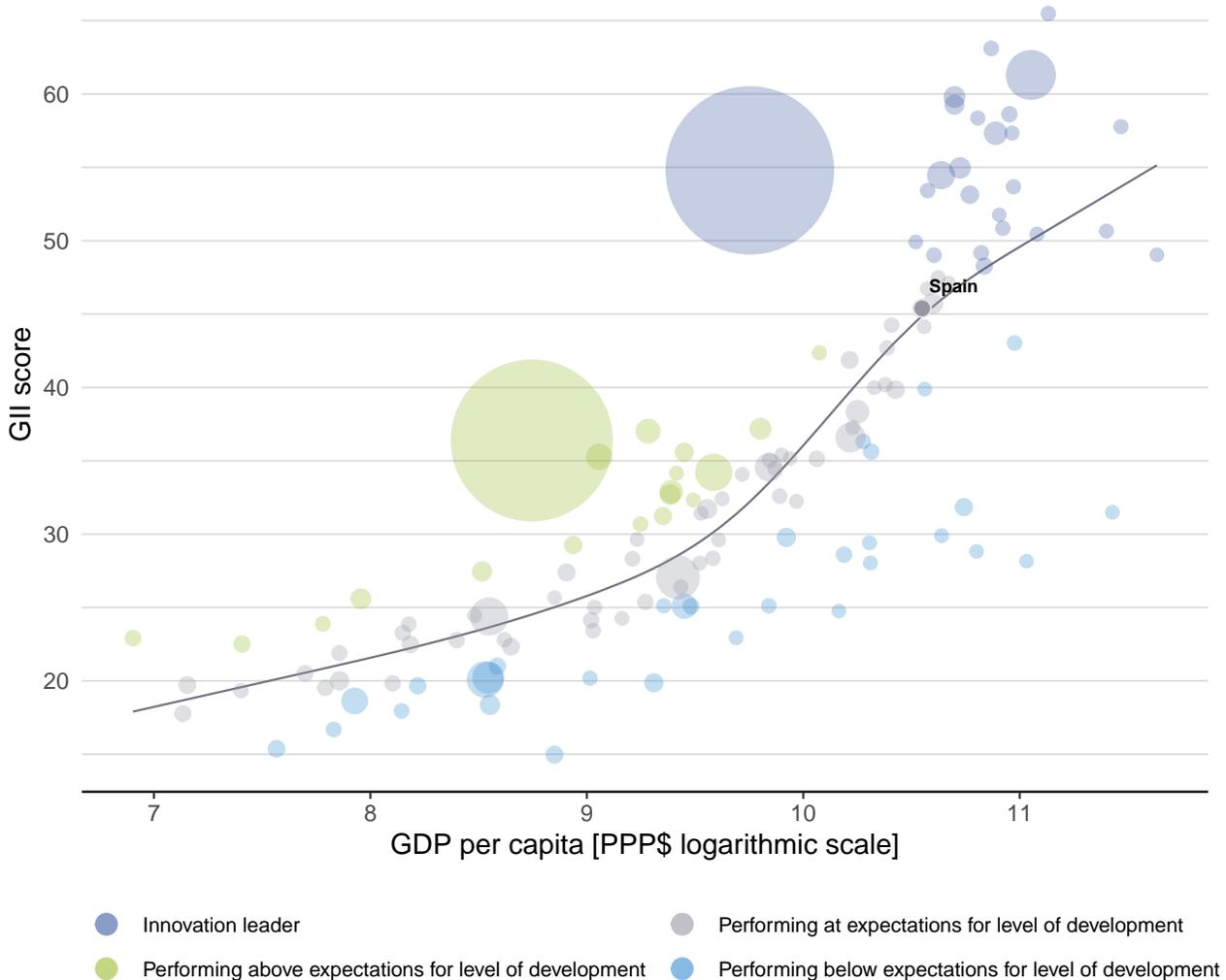


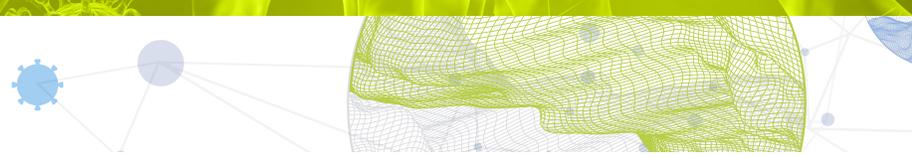
## EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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, Spain's performance is at expectations for its level of development.

### The positive relationship between innovation and development



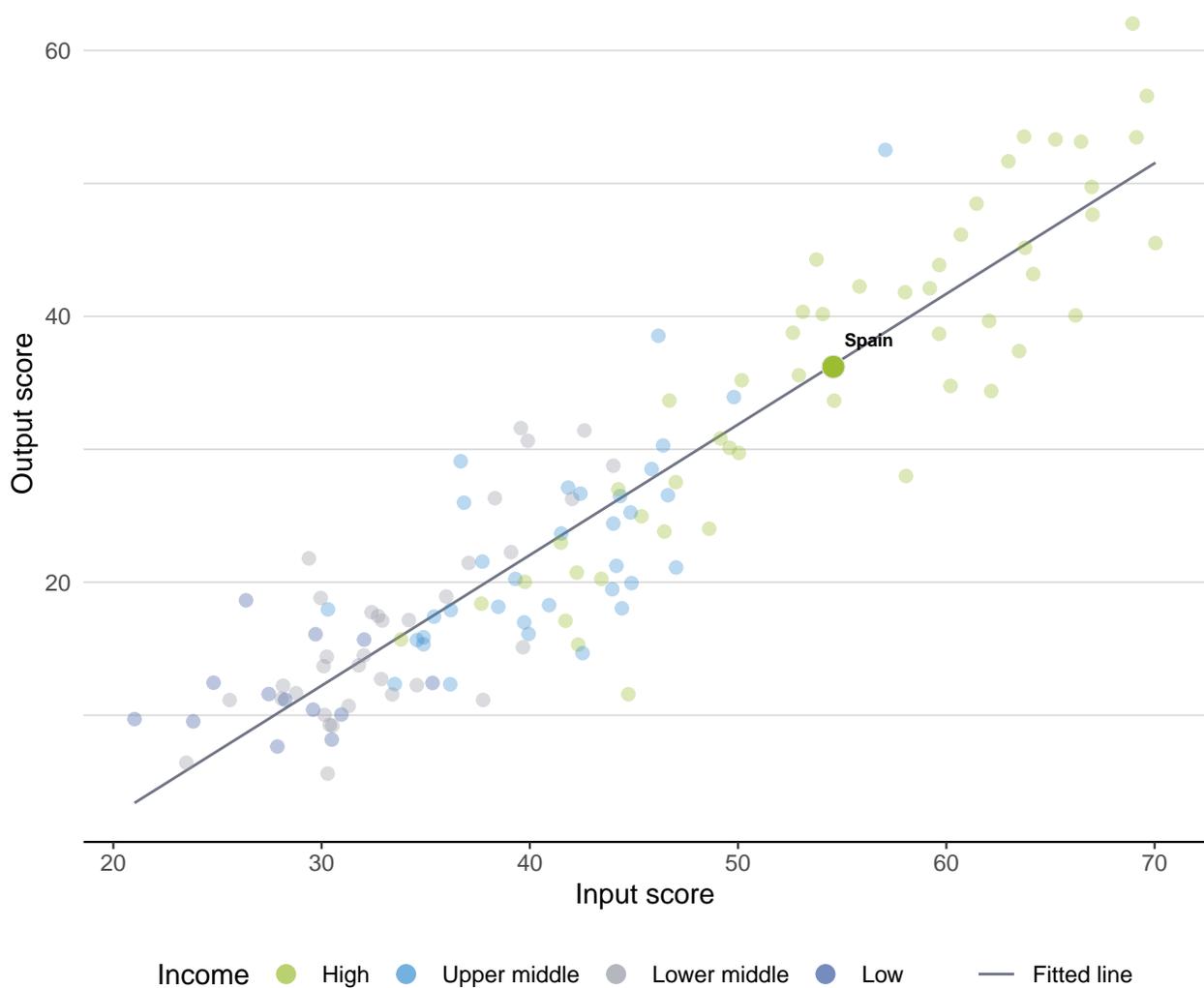


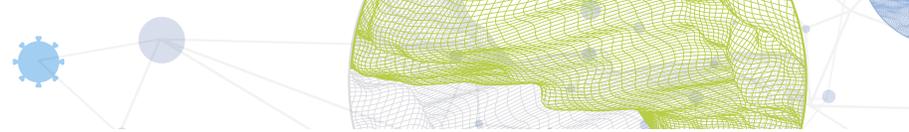
## EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

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

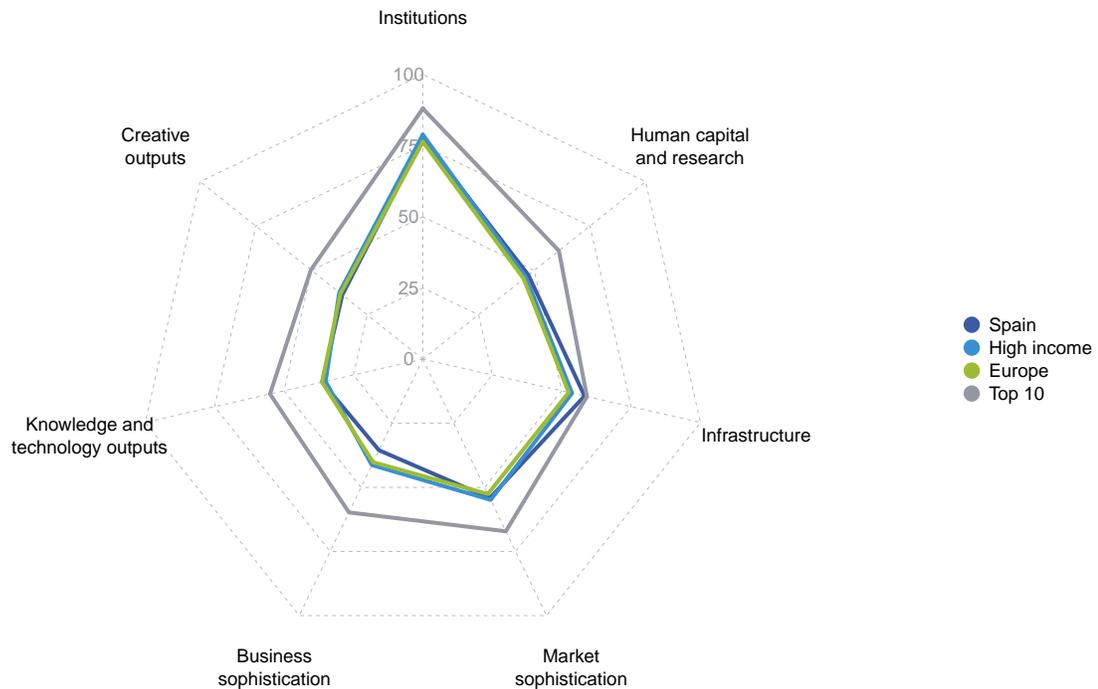
### Innovation input to output performance





# BENCHMARKING AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND EUROPE

## The seven GII pillar scores for Spain

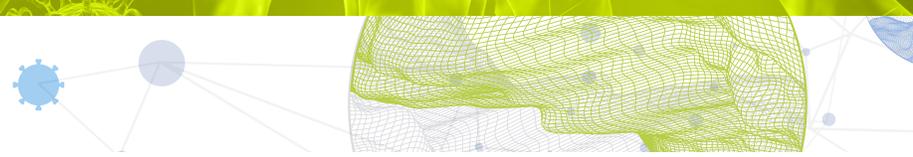


### High-income group economies

Spain performs above the high-income group average in three pillars, namely: Human capital and research; Infrastructure; and, Knowledge and technology outputs.

### Europe

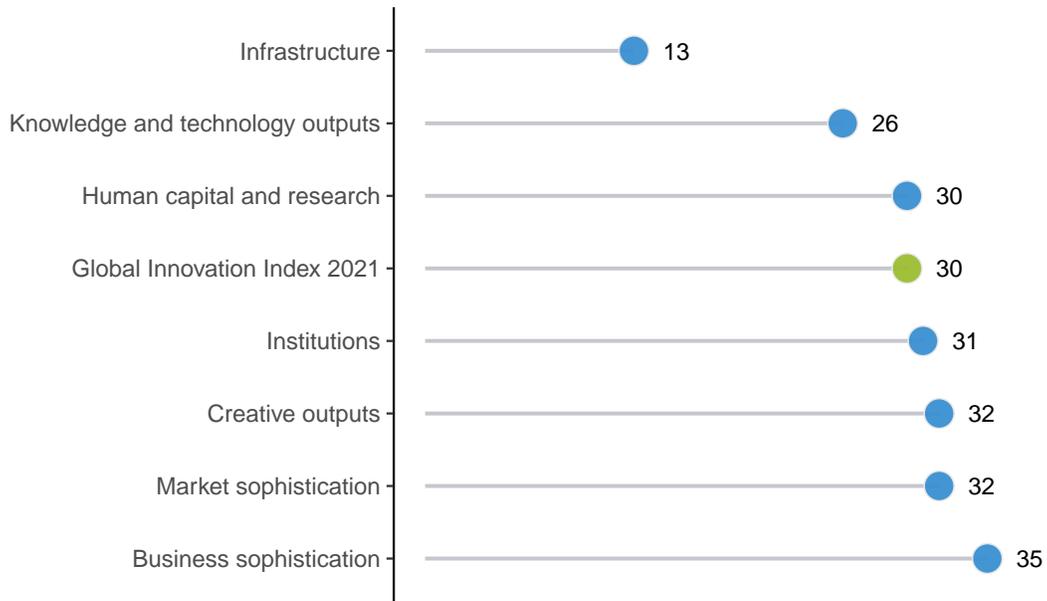
Spain performs above the regional average in four pillars, namely: Institutions; Human capital and research; Infrastructure; and, Market sophistication.



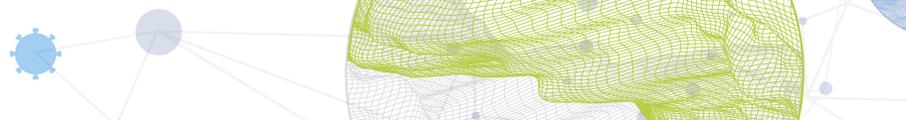
## OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

Spain performs best in Infrastructure and its weakest performance is in Business sophistication.

### The seven GII pillar ranks for Spain



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



## INNOVATION STRENGTHS AND WEAKNESSES

The table below gives an overview of the strengths and weaknesses of Spain in the GII 2021.

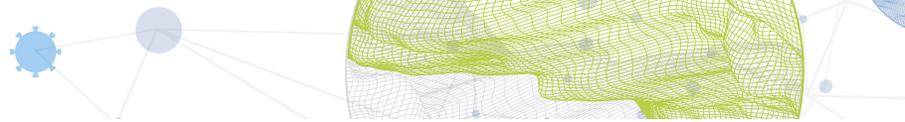
### Strengths and weaknesses for Spain

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
1.3.2	Ease of resolving insolvency	17	1.2.3	Cost of redundancy dismissal	73
2.1.3	School life expectancy, years	13	1.3.1	Ease of starting a business	75
2.2.1	Tertiary enrolment, % gross	7	2.1.1	Expenditure on education, % GDP	61
2.3.3	Global corporate R&D investors, top 3, mn US\$	14	2.1.2	Government funding/pupil, secondary, % GDP/cap	55
3.1.2	ICT use	17	2.2.3	Tertiary inbound mobility, %	61
3.3	Ecological sustainability	10	3.2.3	Gross capital formation, % GDP	87
3.3.2	Environmental performance	14	4.1.1	Ease of getting credit	74
3.3.3	ISO 14001 environmental certificates/bn PPP\$ GDP	15	4.2	Investment	72
4.3	Trade, diversification, and market scale	12	5.2.1	University-industry R&D collaboration	70
4.3.3	Domestic market scale, bn PPP\$	16	5.3.2	High-tech imports, % total trade	82
6.1.5	Citable documents H-index	11	6.2.1	Labor productivity growth, %	107
6.2.3	Software spending, % GDP	4			
7.1.3	Industrial designs by origin/bn PPP\$ GDP	12			

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$	GII 2020 rank
29	28	High	EUR	46.8	1,773.4	38,143	30

	Score/ Value	Rank		Score/ Value	Rank
 <b>Institutions</b>	77.5	31	 <b>Business sophistication</b>	35.5	35
<b>1.1 Political environment</b>	73.0	37	<b>5.1 Knowledge workers</b>	47.3	29
1.1.1 Political and operational stability*	73.2	44	5.1.1 Knowledge-intensive employment, %	33.8	42
1.1.2 Government effectiveness*	72.8	32	5.1.2 Firms offering formal training, %	n/a	n/a
<b>1.2 Regulatory environment</b>	76.6	35	5.1.3 GERD performed by business, % GDP	0.7	32
1.2.1 Regulatory quality*	71.0	30	5.1.4 GERD financed by business, %	49.5	28
1.2.2 Rule of law*	72.5	31	5.1.5 Females employed w/advanced degrees, %	23.1	20
1.2.3 Cost of redundancy dismissal	17.4	73 ○	<b>5.2 Innovation linkages</b>	25.0	47
<b>1.3 Business environment</b>	83.1	25	5.2.1 University-industry R&D collaboration†	41.8	70 ○
1.3.1 Ease of starting a business*	86.9	75 ○ ◇	5.2.2 State of cluster development and depth†	57.8	29
1.3.2 Ease of resolving insolvency*	79.2	17 ●	5.2.3 GERD financed by abroad, % GDP	0.1	39
<b>Human capital and research</b>	47.4	30	5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP	0.0	53
<b>2.1 Education</b>	56.0	46	5.2.5 Patent families/bn PPP\$ GDP	0.6	32
2.1.1 Expenditure on education, % GDP	4.2	61 ○	<b>5.3 Knowledge absorption</b>	34.3	45
2.1.2 Government funding/pupil, secondary, % GDP/cap	19.1	55 ○	5.3.1 Intellectual property payments, % total trade	1.3	28
2.1.3 School life expectancy, years	17.8	13 ●	5.3.2 High-tech imports, % total trade	6.7	82 ○
2.1.4 PISA scales in reading, maths and science	482.3	29	5.3.3 ICT services imports, % total trade	1.7	42
2.1.5 Pupil-teacher ratio, secondary	11.5	44 ○	5.3.4 FDI net inflows, % GDP	2.5	70
<b>2.2 Tertiary education</b>	42.1	36	5.3.5 Research talent, % in businesses	38.1	35
2.2.1 Tertiary enrolment, % gross	91.1	7 ●	<b>Knowledge and technology outputs</b>	36.2	26
2.2.2 Graduates in science and engineering, %	22.3	57	<b>6.1 Knowledge creation</b>	38.1	25
2.2.3 Tertiary inbound mobility, %	3.5	61 ○	6.1.1 Patents by origin/bn PPP\$ GDP	1.6	45
<b>2.3 Research and development (R&amp;D)</b>	44.1	23	6.1.2 PCT patents by origin/bn PPP\$ GDP	0.8	29
2.3.1 Researchers, FTE/mn pop.	3,080.5	32	6.1.3 Utility models by origin/bn PPP\$ GDP	1.3	17
2.3.2 Gross expenditure on R&D, % GDP	1.2	31	6.1.4 Scientific and technical articles/bn PPP\$ GDP	37.7	22
2.3.3 Global corporate R&D investors, top 3, mn US\$	71.5	14 ●	6.1.5 Citable documents H-index	60.0	11 ●
2.3.4 QS university ranking, top 3*	43.4	26	<b>6.2 Knowledge impact</b>	42.6	20
<b>Infrastructure</b>	58.2	13 ●	6.2.1 Labor productivity growth, %	-2.4	107 ○ ◇
<b>3.1 Information and communication technologies (ICTs)</b>	85.3	19	6.2.2 New businesses/th pop. 15-64	3.1	46
3.1.1 ICT access*	85.7	19	6.2.3 Software spending, % GDP	0.6	4 ● ◆
3.1.2 ICT use*	82.1	17 ●	6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP	15.4	18
3.1.3 Government's online service*	88.8	17	6.2.5 High-tech manufacturing, %	35.3	34
3.1.4 E-participation*	84.5	36	<b>6.3 Knowledge diffusion</b>	28.0	42
<b>3.2 General infrastructure</b>	37.6	34	6.3.1 Intellectual property receipts, % total trade	0.6	26
3.2.1 Electricity output, GWh/mn pop.	5,820.4	37	6.3.2 Production and export complexity	63.0	32
3.2.2 Logistics performance*	82.8	17	6.3.3 High-tech exports, % total trade	3.8	43
3.2.3 Gross capital formation, % GDP	20.3	87 ○	6.3.4 ICT services exports, % total trade	3.2	31
<b>3.3 Ecological sustainability</b>	51.7	10 ●	<b>Creative outputs</b>	36.2	32
3.3.1 GDP/unit of energy use	14.7	24	<b>7.1 Intangible assets</b>	44.6	30
3.3.2 Environmental performance*	74.3	14 ●	7.1.1 Trademarks by origin/bn PPP\$ GDP	47.2	48
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP	6.4	15 ● ◆	7.1.2 Global brand value, top 5,000, % GDP	95.4	21
<b>Market sophistication</b>	54.2	32	7.1.3 Industrial designs by origin/bn PPP\$ GDP	9.6	12 ● ◆
<b>4.1 Credit</b>	49.3	35	7.1.4 ICTs and organizational model creation†	63.4	34
4.1.1 Ease of getting credit*	60.0	74 ○	<b>7.2 Creative goods and services</b>	21.2	47
4.1.2 Domestic credit to private sector, % GDP	94.7	27	7.2.1 Cultural and creative services exports, % total trade	1.2	25
4.1.3 Microfinance gross loans, % GDP	n/a	n/a	7.2.2 National feature films/mn pop. 15-69	7.3	28
<b>4.2 Investment</b>	28.0	72 ○	7.2.3 Entertainment and media market/th pop. 15-69	31.0	23
4.2.1 Ease of protecting minority investors*	72.0	27	7.2.4 Printing and other media, % manufacturing	1.2	39
4.2.2 Market capitalization, % GDP	58.6	27	7.2.5 Creative goods exports, % total trade	0.8	52
4.2.3 Venture capital investors, deals/bn PPP\$ GDP	0.0	42	<b>7.3 Online creativity</b>	34.3	31
4.2.4 Venture capital recipients, deals/bn PPP\$ GDP	0.0	47	7.3.1 Generic top-level domains (TLDs)/th pop. 15-69	28.3	22
<b>4.3 Trade, diversification, and market scale</b>	85.2	12 ●	7.3.2 Country-code TLDs/th pop. 15-69	17.7	32
4.3.1 Applied tariff rate, weighted avg., %	1.8	25	7.3.3 Wikipedia edits/mn pop. 15-69	73.0	31
4.3.2 Domestic industry diversification	94.1	34	7.3.4 Mobile app creation/bn PPP\$ GDP	15.0	35
4.3.3 Domestic market scale, bn PPP\$	1,773.4	16 ● ◆			

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 IV 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

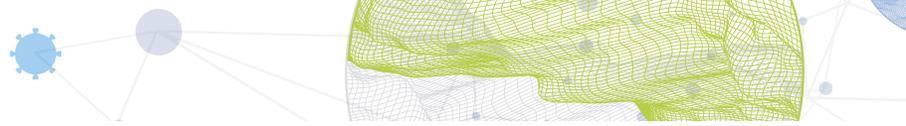
The following tables list data that are either missing or outdated for Spain.

### Missing data for Spain

Code	Indicator name	Economy year	Model year	Source
4.1.3	Microfinance gross loans, % GDP	n/a	2018	Microfinance Information Exchange
5.1.2	Firms offering formal training, %	n/a	2019	World Bank

### Outdated data for Spain

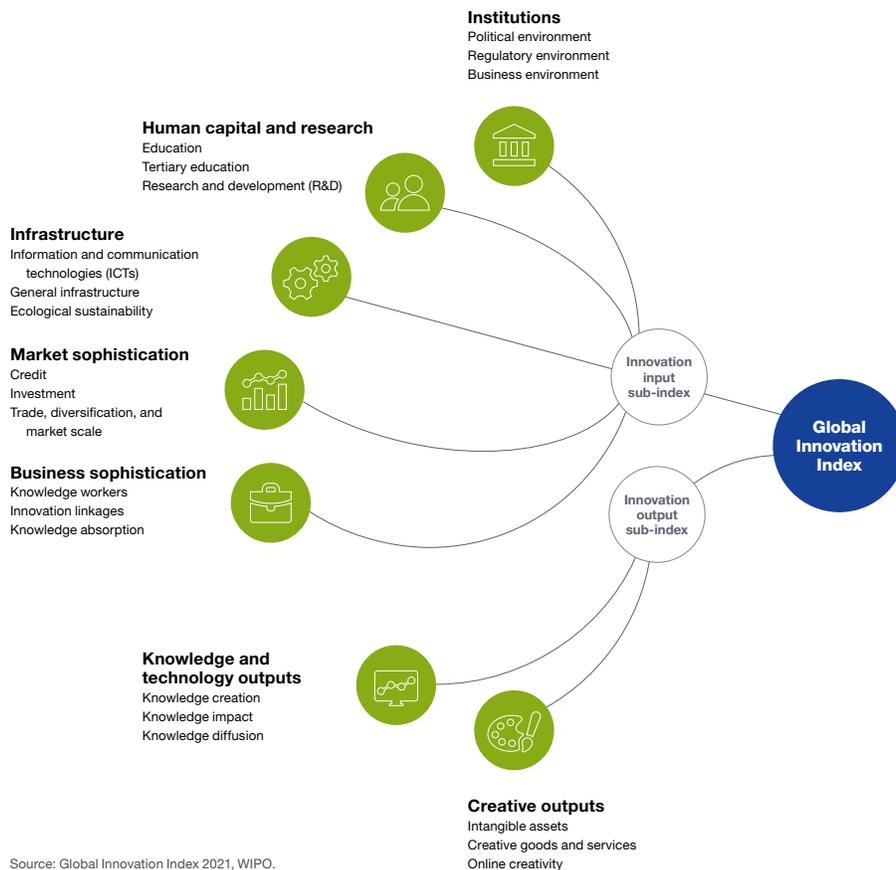
Code	Indicator name	Economy year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	2018	2019	UNESCO Institute for Statistics



## 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.



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.