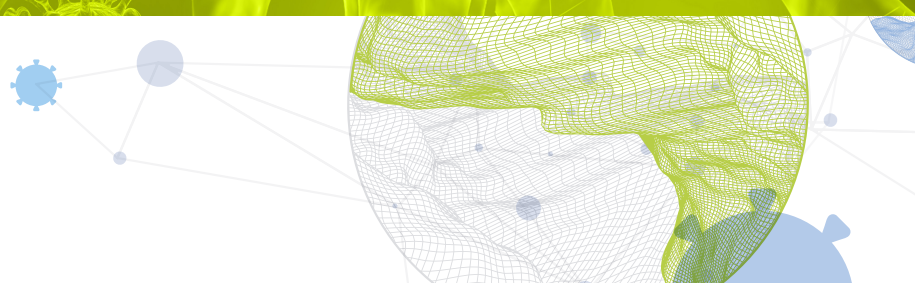




Global Innovation Index 2021



NEW ZEALAND

26th

New Zealand ranks 26th 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 New Zealand 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 New Zealand in the GII 2021 is between ranks 26 and 30.

Rankings for New Zealand (2019–2021)

	GII	Innovation inputs	Innovation outputs
2021	26	19	32
2020	26	19	33
2019	25	18	32

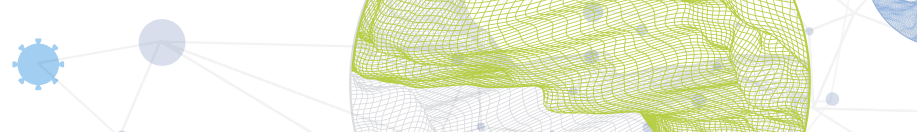
- New Zealand performs better in innovation inputs than innovation outputs in 2021.
- This year New Zealand ranks 19th in innovation inputs, the same as last year but lower than 2019.
- As for innovation outputs, New Zealand ranks 32nd. This position is higher than last year but the same as 2019.

25th

New Zealand ranks 25th among the 51 high-income group economies.

7th

New Zealand ranks 7th among the 17 economies in South East Asia, East Asia, and Oceania.

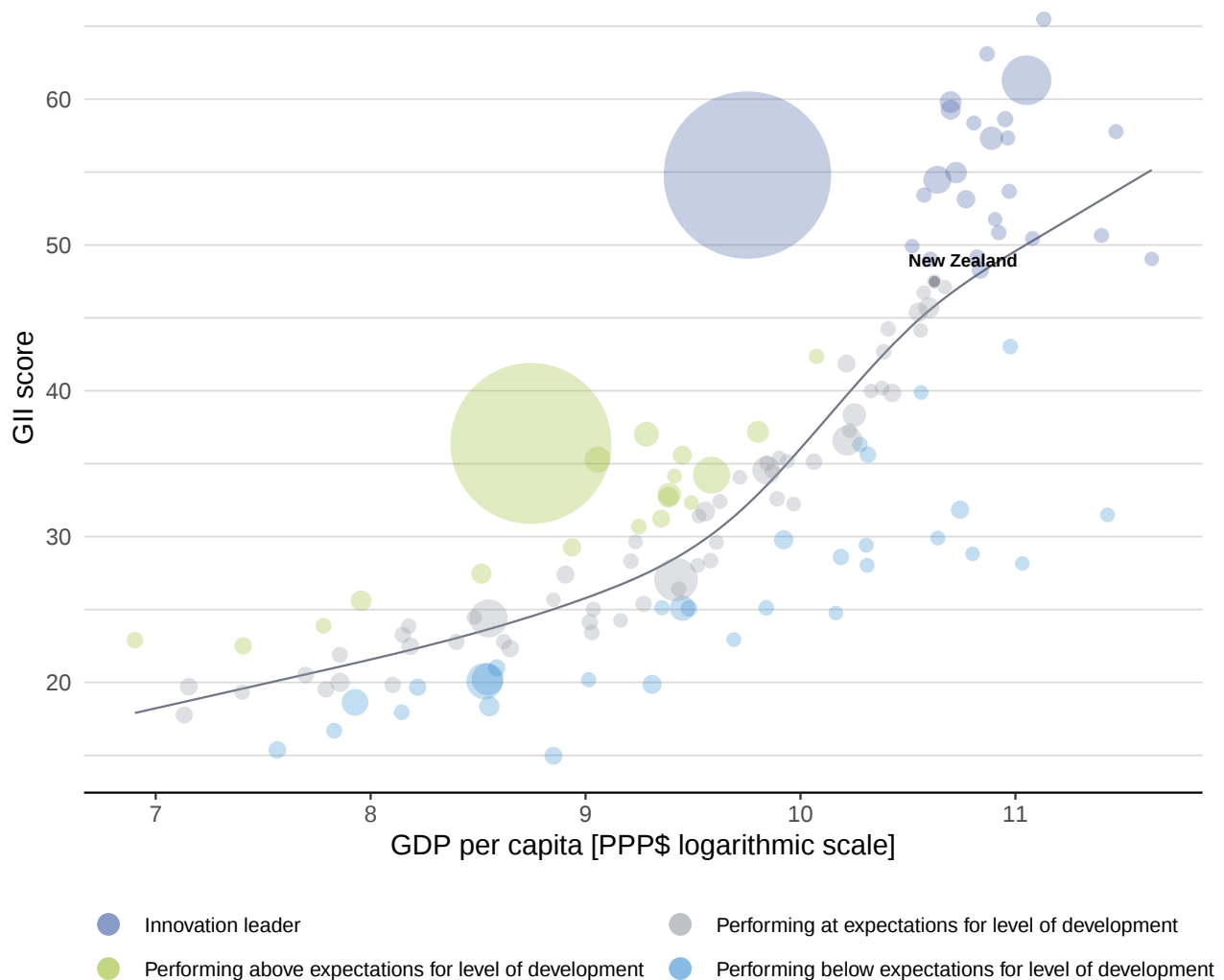


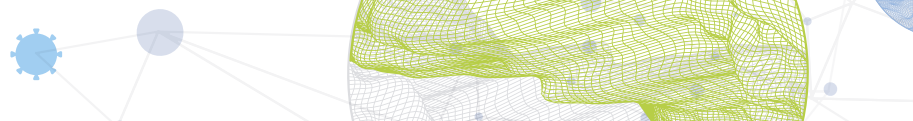
EXPECTED VS. OBSERVED INNOVATION PERFORMANCE

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

The positive relationship between innovation and development



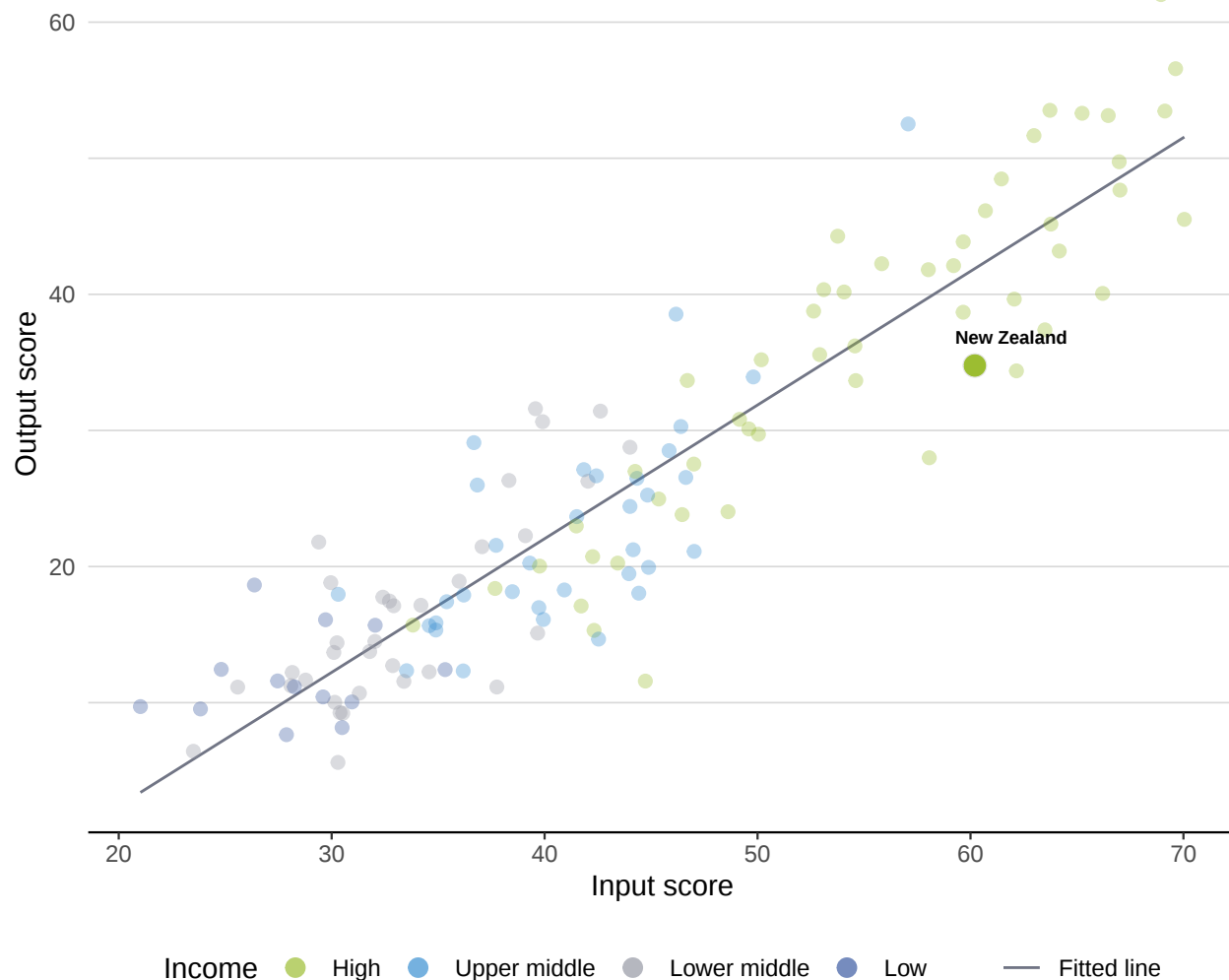


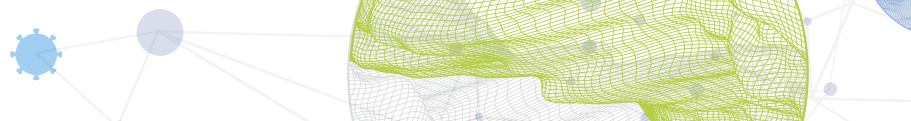
EFFECTIVELY TRANSLATING INNOVATION INVESTMENTS INTO INNOVATION OUTPUTS

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.

New Zealand produces less innovation outputs relative to its level of innovation investments.

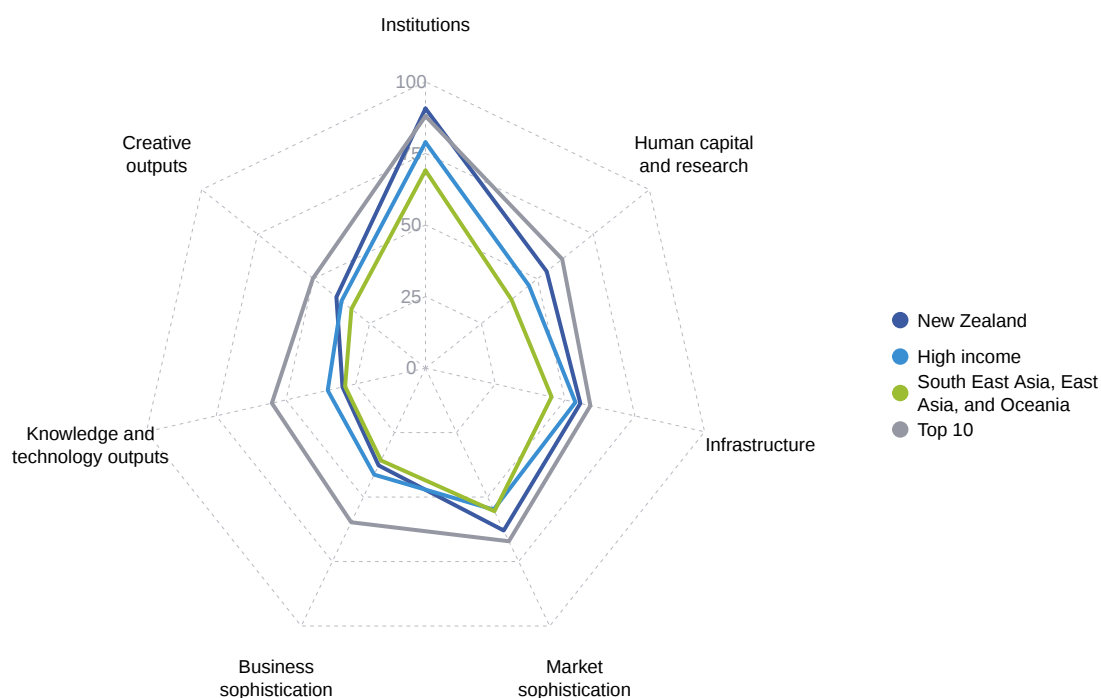
Innovation input to output performance





BENCHMARKING AGAINST OTHER HIGH-INCOME GROUP ECONOMIES AND SOUTH EAST ASIA, EAST ASIA, AND OCEANIA

The seven GII pillar scores for New Zealand

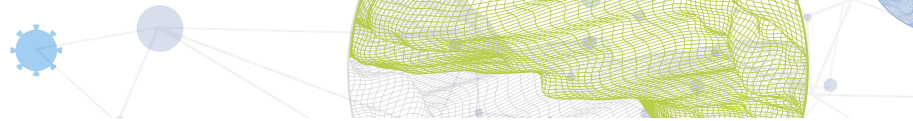


High-income group economies

New Zealand performs above the high-income group average in five pillars, namely: Institutions; Human capital and research; Infrastructure; Market sophistication; and, Creative outputs.

South East Asia, East Asia, and Oceania

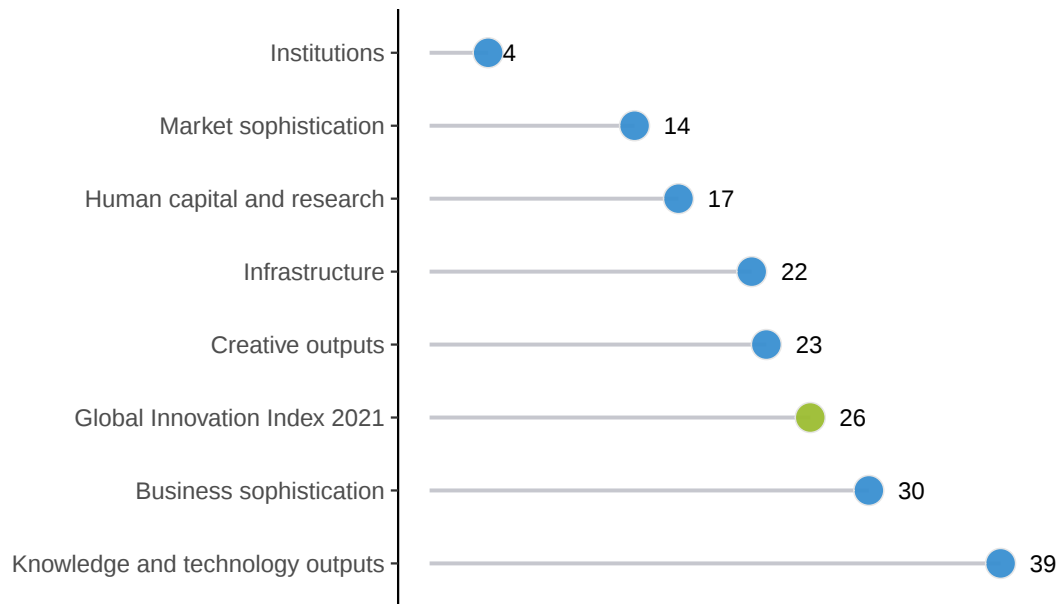
New Zealand performs above the regional average in all GII pillars.



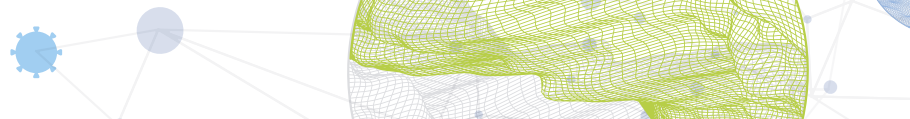
OVERVIEW OF RANKINGS IN THE SEVEN GII 2021 AREAS

New Zealand performs best in Institutions and its weakest performance is in Knowledge and technology outputs.

The seven GII pillar ranks for New Zealand



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 New Zealand in the GII 2021.

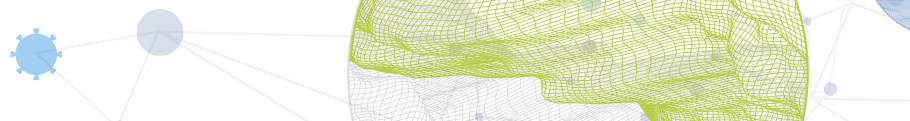
Strengths and weaknesses for New Zealand

Strengths			Weaknesses		
Code	Indicator name	Rank	Code	Indicator name	Rank
1.1	Political environment	7	2.1.5	Pupil-teacher ratio, secondary	63
1.1.1	Political and operational stability	2	2.2.2	Graduates in science and engineering, %	65
1.2	Regulatory environment	2	3.2.3	Gross capital formation, % GDP	85
1.2.1	Regulatory quality	3	3.3.1	GDP/unit of energy use	73
1.2.2	Rule of law	6	4.3.2	Domestic industry diversification	83
1.2.3	Cost of redundancy dismissal	1	5.2.2	State of cluster development and depth	69
1.3.1	Ease of starting a business	1	5.3.4	FDI net inflows, % GDP	103
2.2.3	Tertiary inbound mobility, %	6	6.2.5	High-tech manufacturing, %	71
3.1	Information and communication technologies (ICTs)	6	6.3.4	ICT services exports, % total trade	77
3.1.4	E-participation	4	7.2.1	Cultural and creative services exports, % total trade	59
4.1	Credit	4			
4.1.1	Ease of getting credit	1			
4.1.2	Domestic credit to private sector, % GDP	6			
4.2.1	Ease of protecting minority investors	3			
6.2.2	New businesses/th pop. 15–64	4			

Output rank	Input rank	Income	Region	Population (mn)	GDP, PPP\$ (bn)	GDP per capita, PPP\$	GII 2020 rank
32	19	High	SEAO	4.8	205.5	41,072	26

		Score/ Value	Rank			Score/ Value	Rank
	Institutions	90.7	4		Business sophistication	37.7	30
1.1 Political environment		90.1	7	5.1 Knowledge workers		42.2	[41]
1.1.1 Political and operational stability*		94.6	2	5.1.1 Knowledge-intensive employment, %		n/a	n/a
1.1.2 Government effectiveness*		87.8	11	5.1.2 Firms offering formal training, %		n/a	n/a
1.2 Regulatory environment		97.3	2	5.1.3 GERD performed by business, % GDP	⊙	0.8	28
1.2.1 Regulatory quality*		92.7	3	5.1.4 GERD financed by business, %	⊙	46.4	33
1.2.2 Rule of law*		96.4	6	5.1.5 Females employed w/advanced degrees, %	⊙	19.5	32
1.2.3 Cost of redundancy dismissal		8.0	1	5.2 Innovation linkages		33.6	28
1.3 Business environment		84.7	19	5.2.1 University-industry R&D collaboration†		59.0	24
1.3.1 Ease of starting a business*		100.0	1	5.2.2 State of cluster development and depth†		46.0	69
1.3.2 Ease of resolving insolvency*		69.5	33	5.2.3 GERD financed by abroad, % GDP	⊙	0.1	37
				5.2.4 Joint venture/strategic alliance deals/bn PPP\$ GDP		0.1	19
				5.2.5 Patent families/bn PPP\$ GDP		1.5	25
	Human capital and research	54.2	17	5.3 Knowledge absorption		37.4	32
2.1 Education		66.9	11	5.3.1 Intellectual property payments, % total trade		1.6	20
2.1.1 Expenditure on education, % GDP		6.3	12	5.3.2 High-tech imports, % total trade		10.8	25
2.1.2 Government funding/pupil, secondary, % GDP/cap		21.3	40	5.3.3 ICT services imports, % total trade		1.7	44
2.1.3 School life expectancy, years		18.9	8	5.3.4 FDI net inflows, % GDP		1.2	103
2.1.4 PISA scales in reading, maths and science		502.9	13	5.3.5 Research talent, % in businesses	⊙	31.2	42
2.1.5 Pupil-teacher ratio, secondary	⊙	13.6	63				
2.2 Tertiary education		47.9	17		Knowledge and technology outputs	29.7	39
2.2.1 Tertiary enrolment, % gross		83.0	17	6.1 Knowledge creation		39.4	23
2.2.2 Graduates in science and engineering, %		21.4	65	6.1.1 Patents by origin/bn PPP\$ GDP		1.5	49
2.2.3 Tertiary inbound mobility, %		19.7	6	6.1.2 PCT patents by origin/bn PPP\$ GDP		1.5	22
2.3 Research and development (R&D)		47.6	21	6.1.3 Utility models by origin/bn PPP\$ GDP		n/a	n/a
2.3.1 Researchers, FTE/mn pop.	⊙	5,529.5	10	6.1.4 Scientific and technical articles/bn PPP\$ GDP		50.6	9
2.3.2 Gross expenditure on R&D, % GDP	⊙	1.3	27	6.1.5 Citable documents H-index		34.8	28
2.3.3 Global corporate R&D investors, top 3, mn US\$		48.0	32	6.2 Knowledge impact		32.5	56
2.3.4 QS university ranking, top 3*		49.8	18	6.2.1 Labor productivity growth, %		0.5	58
	Infrastructure	55.5	22	6.2.2 New businesses/th pop. 15–64		17.8	4
3.1 Information and communication technologies (ICTs)		90.6	6	6.2.3 Software spending, % GDP		0.3	45
3.1.1 ICT access*		87.9	10	6.2.4 ISO 9001 quality certificates/bn PPP\$ GDP		4.5	60
3.1.2 ICT use*		82.9	15	6.2.5 High-tech manufacturing, %		16.0	71
3.1.3 Government's online service*		92.9	10	6.3 Knowledge diffusion		17.3	64
3.1.4 E-participation*		98.8	4	6.3.1 Intellectual property receipts, % total trade		0.7	24
3.2 General infrastructure		41.5	26	6.3.2 Production and export complexity		46.9	54
3.2.1 Electricity output, GWh/mn pop.		9,126.1	17	6.3.3 High-tech exports, % total trade		1.7	65
3.2.2 Logistics performance*		84.9	15	6.3.4 ICT services exports, % total trade		1.2	77
3.2.3 Gross capital formation, % GDP		20.7	85				
3.3 Ecological sustainability		34.3	48		Creative outputs	39.8	23
3.3.1 GDP/unit of energy use		9.5	73	7.1 Intangible assets		45.6	26
3.3.2 Environmental performance*		71.3	19	7.1.1 Trademarks by origin/bn PPP\$ GDP		83.8	19
3.3.3 ISO 14001 environmental certificates/bn PPP\$ GDP		1.3	60	7.1.2 Global brand value, top 5,000, % GDP		46.0	37
	Market sophistication	63.0	14	7.1.3 Industrial designs by origin/bn PPP\$ GDP		1.5	56
4.1 Credit		83.5	4	7.1.4 ICTs and organizational model creation†		71.3	18
4.1.1 Ease of getting credit*		100.0	1	7.2 Creative goods and services		20.1	52
4.1.2 Domestic credit to private sector, % GDP		160.0	6	7.2.1 Cultural and creative services exports, % total trade		0.4	59
4.1.3 Microfinance gross loans, % GDP	n/a	n/a	n/a	7.2.2 National feature films/mn pop. 15–69		6.1	37
4.2 Investment		34.1	52	7.2.3 Entertainment and media market/th pop. 15–69		52.5	13
4.2.1 Ease of protecting minority investors*		86.0	3	7.2.4 Printing and other media, % manufacturing		1.5	27
4.2.2 Market capitalization, % GDP		46.6	36	7.2.5 Creative goods exports, % total trade		0.5	64
4.2.3 Venture capital investors, deals/bn PPP\$ GDP		0.1	35	7.3 Online creativity		47.9	23
4.2.4 Venture capital recipients, deals/bn PPP\$ GDP		0.1	27	7.3.1 Generic top-level domains (TLDs)/th pop. 15–69		32.2	20
4.3 Trade, diversification, and market scale		71.2	57	7.3.2 Country-code TLDs/th pop. 15–69		64.6	10
4.3.1 Applied tariff rate, weighted avg., %		0.9	9	7.3.3 Wikipedia edits/mn pop. 15–69		80.8	10
4.3.2 Domestic industry diversification		78.0	83	7.3.4 Mobile app creation/bn PPP\$ GDP		9.7	46
4.3.3 Domestic market scale, bn PPP\$		205.5	63				

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

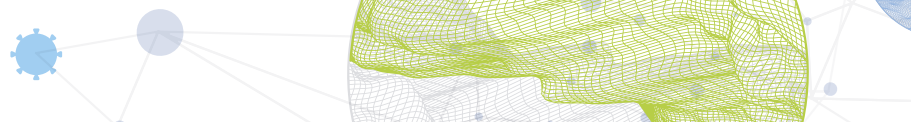
The following tables list data that are either missing or outdated for New Zealand.

Missing data for New Zealand

Code	Indicator name	Economy year	Model year	Source
4.1.3	Microfinance gross loans, % GDP	n/a	2018	Microfinance Information Exchange
5.1.1	Knowledge-intensive employment, %	n/a	2019	International Labour Organization
5.1.2	Firms offering formal training, %	n/a	2019	World Bank
6.1.3	Utility models by origin/bn PPP\$ GDP	n/a	2019	World Intellectual Property Organization

Outdated data for New Zealand

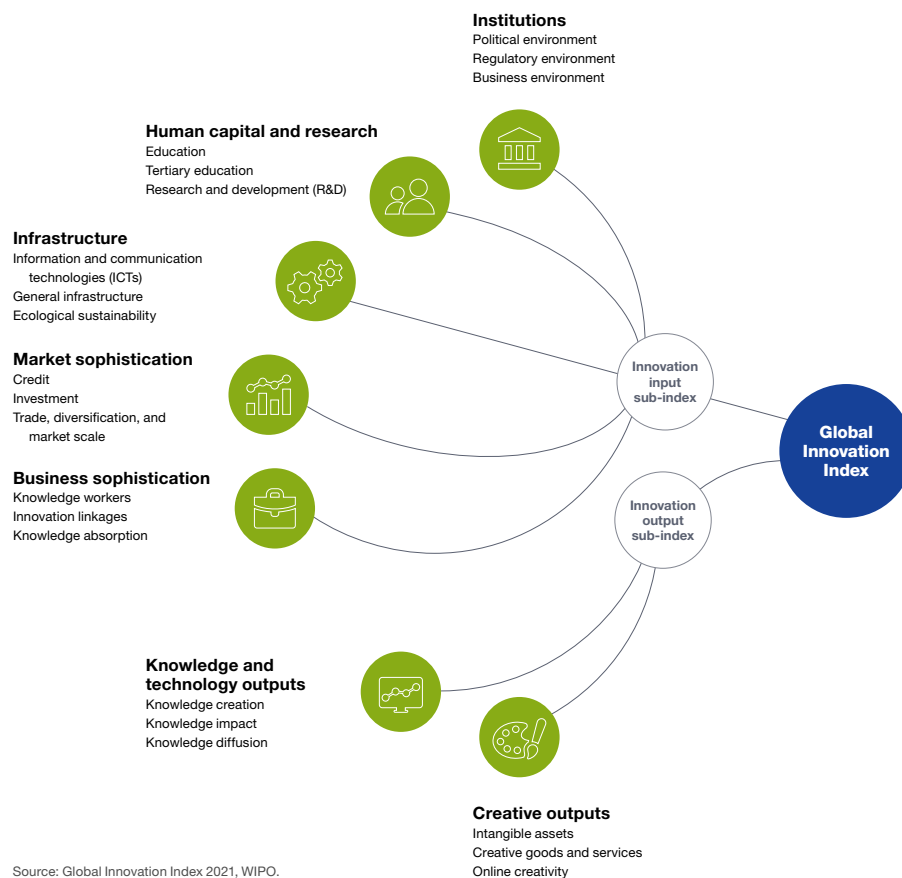
Code	Indicator name	Economy year	Model year	Source
2.1.5	Pupil-teacher ratio, secondary	2018	2019	UNESCO Institute for Statistics
2.3.1	Researchers, FTE/mn pop.	2017	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
2.3.2	Gross expenditure on R&D, % GDP	2017	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.3	GERD performed by business, % GDP	2018	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.4	GERD financed by business, %	2017	2018	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators
5.1.5	Females employed w/advanced degrees, %	2013	2019	International Labour Organization
5.2.3	GERD financed by abroad, % GDP	2017	2018	UNESCO Institute for Statistics
5.3.5	Research talent, % in businesses	2017	2019	UNESCO Institute for Statistics; Eurostat; OECD - Main Science and Technology Indicators



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.